Quality Improvement Intervention Programme (QIIP™) for Intrapartum Care

ANTOINETTE DU PREEZ

12016772

Submitted in fulfilment of the requirements for the degree

Doctor of Philosophy

in the

School of Nursing Science of

North-West University, Potchefstroom Campus

PROMOTER: **PROF. HC KLOPPER**

CO-PROMOTER: **PROF. SJC VAN DER WALT**

December 2010

Potchefstroom

DECLARATION

I hereby solemnly declare that this thesis, entitled *Quality improvement intervention programme (QIIP ™) for intrapartum care,* presents the work carried out by myself and to the best of my knowledge does not contain any material written by another person except where due reference is made. I declare that all the sources used or quoted in this study are acknowledge in the bibliography; that the study has been approved by the Ethics Committee of both North-West University and the Department of Health, North West province; and that I have complied with the ethical standards set by both institutions.

_____

Antoinette du Preez

December 2010

ACKNOWLEDGEMENTS

"I can do all things through Christ who strengthens me."

- Philippians 4:13 -

I am overwhelmed with emotion when I reflect on my doctoral study, as this is a journey that no person can undertake on their own. To allow me to undertake this academic task, I was able to surround myself with a wonderful support system comprising many different people. Each of them played an integral part in this work.

My sincere thanks and gratitude to:

- Yolandé, my remarkable daughter for all the unconditional love and patience I receive each day from you. For your encouragement when I needed it and your understanding when I was not able to attend all your school sporting events. I am so proud of you.
- My parents and parents-in-law for all their encouragement and prayers. My parents for your support during my scholarly activities over the past years and believing in me while giving me the opportunities to develop to my full potential. I am so grateful to be your daughter.
- My brothers, J.J. and Bennie for all the messages of encouragement when I needed them most. What a privilege to be your sister.
- My friends Martie and Bakkies Groenewald, Sarita and Danie Liebenberg, Christa and Erlo Paul, Charmaine and Rudi van der Westhuizen, Christa en Hannes Botes, Zelda de Witt and Susan Badenhorst, thank you for your encouragement and prayers.
- Prof. Hester Klopper, my promoter and school director for your visionary leadership. Your vision and scholarly role is truly a remarkable model. I honour you for your wisdom and constant inspiration.

- Prof. Christa van der Walt, my co-promoter, for your assistance with my academic development.

- Dr Petra Bester and Dr Emmerentia du Plessis for your help during the qualitative data collection process. All the hours spent driving to various hospitals in the province while waiting for appointments was time well spent thanks to your motivation and insight. To Petra, a real expert in her field, for the co-coding of the qualitative data.

- Dr Suria Ellis, Head of the Statistical Consultation Service, North-West University, Potchefstroom Campus, for all the friendly consultations and patient explanations of the quantitative data analysis.

- Prof. Casper Lessing for the checking of the bibliographical references.

- Linton Davies for the language and technical editing of my thesis. Thank you for the excellent quality and prompt delivery of the product.

- Louise Vos for all your friendly and efficient assistance in the library. Thank you for all the hours you spent searching for the articles I needed.

- Mart-Mari Schutte, Lezyda Venter and Mechelle Brits for your assistance in transcribing the interviews for me.

- My colleagues at the School of Nursing Science for their support and daily encouragement. Karin Minnie for all the words of wisdom, Ingrid van der Walt for presenting my classes throughout the year and Gediena de Wet for all the bottomless cups of coffee you prepared.

- The North- West University Institutional Research Office for the financial assistance for completing this thesis.

- All the midwives working in North West province, you are passionate enough to make a difference despite the practice environment not always being positive. I admire you for your determination and courage to make a difference despite daily challenges.

Safe motherhood is the right of every pregnant woman and deserves the commitment of her family, community, professional health care workers, management and the government to ensure the fabric of their society. The "Quality Improvement Intervention Programme for Intrapartum Care" - QIIP™ - is not just a name but a hallmark for the gold standard in quality intrapartum care.

Antoinette du Preez

ABSTRACT

Maternal and perinatal mortality is one of the biggest challenges to public health, especially in developing countries. South Africa's health care system is struggling to meet the "health for all" criteria against a backdrop of staff shortages (especially midwives) in an HIV/AIDS epidemic. These factors, together with the economic constraints of a developing country, places great demands on delivering cost-effective, safe, quality intrapartum care that exceeds expectations. The challenge for the manager is to organise the available resources to render the best quality of care cost effectively within the shortest period of time. Various reasons exist for the alarming shortage of nurses and midwives globally and also in South Africa. Unhealthy practice environments are the main cause of the problem as such environments have an impact on the job satisfaction of the midwives as well on patient satisfaction. In the turmoil of the health care system, patients are demanding greater quality of care and are insisting not only on excellent clinical skills, but also on empathetic and personalised care.

This research was conducted to make a meaningful contribution to the body of knowledge, specifically knowledge related to quality intrapartum care through the development of a **Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™). The research was conducted in two phases including five objectives. The first objective gave a theoretical foundation of quality intrapartum care. The second objective included a situational analysis of the resources (personnel and equipment) and determine the quality improvement initiatives that could be implemented for intrapartum care. The third objective determined the practice environment in maternity units at Level 2 hospitals in the North West province that may influence quality intrapartum care. The fourth and last objective of Phase 1 determined the perceptions of management and midwives regarding the facilitating and impeding factors that influence the quality of intrapartum care. From the data that emerged from the first four objectives, specific themes kept repeating themselves, namely structure (what must be in place, e.g. infrastructure and human resources), process (what we do, e.g. life-long learning and implementation of policies) and outcome (the results, e.g. patient satisfaction and a positive

practice environment). These collectively contribute to the quality of intrapartum care rendered.

Phase 2 consisted of the development of a "**Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™)" for intrapartum care. In this phase the data from the first four objectives were used to develop the QIIP™. The QIIP™ will be marketed as an accreditation tool for maternity units to measure themselves against the best in the world. Qualifying for QIIP™ accreditation means improving the quality of intrapartum care resulting in satisfied patients, the establishment of a positive practice environment and a decrease in the Maternal Mortality Rate (MMR).

[Keywords: quality of care, intrapartum, positive practice environment]

OPSOMMING

Moederlike en perinatale mortaliteit is een van die grootste uitdagings in publieke gesondheidsorg, veral in ontwikkelende lande. Suid Afrika se gesondheidssisteem sukkel om die "Gesondheid vir Almal" kriteria te bereik veral binne die konteks van personeel tekortkominge, (veral vroedvroue) binne die MIV/VIGS epidemie. Dit word verwag om tesame met die ekonomiese beperkings van 'n ontwikkelende land koste-effektiewe, veilige kwaliteit intrapartumsorg te lewer wat alle verwagtinge oortref. Die uitdaging vir die hospitaal bestuur is om so vinnig as moontlik die beste, koste-effektiewe gehaltesorg te lewer met die beskikbare hulpbronne. Verskeie redes bestaan vir die geweldige tekort aan verpleegkundiges en vroedvroue wêreldwyd en ook in Suid-Afrika. Ongesonde praktykomgewings is een van die sleutelfaktore wat 'n invloed het op die werksbevrediging van vroedvroue sowel as pasiënt tevredenheid. Pasiënte dring aan op hoër gehalte gesondheidsorg wat empatiese en persoonlike aandag tesame met uitstekende kliniese vaardighede binne die warrelwind gesondheidsdiens insluit.

Hierdie navorsing is uitgevoer om 'n betekenisvolle bydra tot die kennisvlak, veral ten opsigte van kwaliteit intrapartumsorg, te maak met die ontwikkeling van QIIP™. Die navorsing het uit twee fases met vyf doelwitte bestaan. Die eerste doelwit het die teoretiese begronding vir kwaliteit intrapartumsorg ingesluit. Die tweede doelwit het 'n situasie-analise oor hulpbronne (personeel en toerusting) asook die kwaliteits verbeterings inisiatiewe vir intrapartumsorg ingesluit. Die derde doelwit het die invloed van die praktykomgewing in die verloskunde eenhede in die vlak 2 hospitale in die Noordwes provinsie bepaal. Die vierde en laaste doelwit van fase een het die fasiliterende en belemmende faktore wat 'n invloed op die gehalte intrapartumsorg vanuit die persepsies van die hospitaal bestuur en die vroedvroue bepaal. Vanuit die data wat verkry is uit die voorafgaande vier doelwitte het sekere temas herhaaldelik opgeduik wat bydra om die gehalte intrapartumsorg te verbeter naamlik: struktuur (wat moet in plek wees byvoorbeeld infrastruktuur en menslike hulpbronne), proses (wat doen ons byvoorbeeld lewenslange leer en implementering van beleide) en uitkomste (wat is die resultate byvoorbeeld pasiënt tevredenheid en 'n positiewe praktykomgewing).

In fase twee is die “Quality Improvement Intervention Programme“ (QIIP™) vir intrapartumsorg ontwikkel. Die bevindinge van die eerste vier doelwitte is gebruik vir die ontwikkeling van QIIP™. QIIP™ sal bemark word as ‘n akkreditasie handleiding om verloskunde eenhede die geleentheid te bied om hulself teen die bestes ter wêreld te meet om sodoende die gehalte intrapartumsorg te verbeter wat lei na pasiënt tevredenheid, vestiging van ‘n positiewe praktykomgewing en ‘n verlaging in die moederlike mortaliteit.

[**Sleutelwoorde**: kwaliteitsorg, intrapartum, positiewe praktykomgewing].

ABBREVIATIONS

A

AIDS Acquired Immune Deficiency Syndrome

ASQ American Society for Quality

ANC African National Congress

ANCC American Nurses Credentialing Centre

ANOVA Analysis of variance

B

BBA Born Before Arrival

BFI Baby-Friendly Initiative

BPG Best Practice Guidelines

BSC Balanced Score Card

BSCI Balanced Score Card Institute

C

CBOs Community-based organisations

CEMD Confidential Enquiry into Maternal Deaths

CNO Chief Nurse Officer

COHSASA Council for Health Service Accreditation for Southern Africa

CTG Cardiotocography

D

DENOSA Democratic Nursing Organisation of South Africa

DoH Department of Health

DTI Department of Trade and Industry

DVT Deep vein trombosis

E

EBP Evidence-Based Practice

EFQM European Foundation for Quality Management

EMS Emergency Medical Services

ESMOE Essential Steps in the Management of Obstetric Emergencies

F

FBC Full blood count

H

Hb Haemoglobin

HIV Human Immunodeficiency Virus

HSRC Human Science Research Council

I

ICM International Confederation of Midwives

IMPAC Integrated Management of Pregnancy and Childbirth

IQM Institute of Medicine

J

JBI Joanna Briggs Institute

JCAHO Joint Commission on the Accreditation of Health Care Organizations

K

KMO Kaizer-Meyer-Olkin

M

M Mean

MCV Mean Cell Volume

MDGs Millennium Development Goals

MMR Maternal Mortality Rate

MRC Medical Research Council

N

NGO Non-governmental organisation

NHS National Health Service

NWI Nursing Work Index

NWU North-West University

P

PEP Perinatal Education Programme

PES-NWI Practice Environment Scale of the Nurse Work Index

PPH Postpartum haemorrhage

PPIP Perinatal problem identification programme

PMTCT Prevention of mother-to-child transmission

Q

QIA Quality Improvement Agency

QIIP™ Quality Improvement Intervention Programme

QBoK Quality Body of Knowledge

R

RM4CAST Registered Midwife Forecast

RNAO Registered Nurses Association of Ontario

RN4CAST Registered Nurse Forecast

S

SANC South African Nursing Council

SAEM South African Excellence Model

SD Standard deviation

SES Socio-economic status

SPSS Statistical Package for Social Science

STTI Sigma Theta Tau International

T

TQM Total Quality Management

U

US United States of America

UNICEF United Nations Children's Fund

W

WHO World Health Organisation

CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES – ON CD

AVAILABLE ON THE INTERACTIVE CD .....

Appendix A	**Ethical approval: NWU – 0015 – 08 – S1 (Prof HC Klopper)**
Appendix B	**Ethical approval: North West Department of Health**
Appendix C	**Permission to conduct research at Potchefstroom Hospital**
Appendix D	**Permission to conduct research at Klerksdorp/Tshepong Hospital**
Appendix E	**Permission to conduct research at Rustenburg Hospital**
Appendix F	**Permission to conduct research at Mafikeng/Bophelong Hospital Complex**
Appendix G	**Information leaflet and consent for non-clinical research**
Appendix H	**Field notes of focus group interviews**
Appendix I	**Transcription of interview**
Appendix J	**Quality improvement intervention situational analysis (QIIP™) for a clinical facility**
Appendix K	**RM4CAST questionnaire**
Appendix L	**Application form for QIIP™ accreditation**

CHAPTER 1

CHAPTER 1

SCIENTIFIC GROUNDING OF THE RESEARCH

1.1 INTRODUCTION

The aim of this study is to develop a Quality Improvement Intervention Programme (QIIP™) for Intrapartum Care. The chapter provides an overview of the study, and starts with the background and rational followed by the problem statement which explains the need for this study. The research aim and objectives flow from the problem statement. The objectives are followed by the meta-theoretical, theoretical and methodological assumptions of the researcher. An outline of the research design and method as well as the context, rigour, ethical considerations and research report lay out conclude Chapter One.

1.2 BACKGROUND TO AND RATIONALE FOR THE STUDY

Health care delivery systems are rapidly changing all over the world. In developed countries such as the United States of America (US) “Centers of Excellence” are formally recognised through accreditation programmes such as the magnet programme, which acknowledges hospitals that excel in the rendering of quality care. As a result of this excellence in quality care, statistics show a curb in the maternal mortality rate. However, this is not the case in developing countries such as South Africa. In order to meet the Millennium Development Goal five (MDG 5), which is aimed at reducing the maternal mortality rate, quality improvement initiatives must be put into place. In this study a **Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™) is developed for intrapartum care which will facilitate the rendering of quality intrapartum care.

Maternal mortality rate

“Safe motherhood is a human right. We must empower women and ensure choices ... Our task and the task of many like us, many hundreds of thousands like us, is to ensure that in the next decade safe motherhood is not regarded as [a] fringe issue, but as a central issue” (Wolfensohn, 1998). Although this statement was made ten years ago, it is even more relevant today. Therefore health professionals involved in maternity care are obliged to ensure that the strategies known to reduce maternal mortality are applied. In 2000, the UN

Millennium Declaration was signed by 189 countries. Through this initiative, eight MDGs were identified, of which improving maternal health was one of the priorities (Travis *et al.* 2004:900). MDG 5 is related to other MDGs (WHO, 2010a). MDG 4 focuses on reducing mortality of children under five years, which is also applicable as newborn deaths make up to 37% of all deaths under the age of five years. Of these, the majority of all neonatal deaths occur within the first week after birth and the other 25% occur within the first 24 hours after birth (WHO, 2009). Intertwined with the research is the influence of MDG 6, which focuses on combating HIV/AIDS, an indirect cause of maternal deaths (WHO, 2010a). This study focuses mostly on MDG 5, although the intrapartum care a pregnant woman receives has an direct influence on the outcome of the newborn baby. The aim of MDG 5 is to achieve an improvement of 75% in maternal health by 2015. However, now at the halfway mark of this timeframe, maternal mortality in South Africa has increased in all provinces, as stated in *Saving Mothers: Third Report on Confidential Enquiries into Maternal Deaths in South Africa 2002-2004* (SA, 2006a:3). Dubbelman (2010) echoes the point that South Africa is failing to reach the MDGs – with only five years to go these targets seem unlikely to be reached both by South Africa and the rest of the African continent.

The death of a mother is a tragedy for every family, community and country. In First World countries, the maternal mortality rates are estimated to be in single figures per 100 000 live births. Canada, for example, has a maternal death rate of 6/100 000 and Australia 9/100 000 (UNICEF, 2007). In contrast, the estimate for the maternal mortality rate for sub-Saharan Africa is 980 per 100 000 live births (UNICEF, 2007). The maternal mortality rate (MMR) in South Africa is currently estimated at 230/100 000 (UNICEF, 2007; WHO, 2006; Hines & Crump, 2004:214). The MMR in South Africa is “far too high”, as clearly shown in *Saving Mothers: Report on Confidential Enquiries into Maternal Deaths in South Africa* (SA, 2001:1), where a woman has a 1:22 chance of dying during childbirth (WHO, 2010a). HIV/AIDS is the leading cause of maternal mortality at 43,7% (SA, 2009a:3). The epidemic has changed maternity services forever, with an increased workload on an already overburdened work force and a resource-constrained infrastructure (SA, 2006b:7). Other factors contributing to maternal deaths in South Africa are complications of hypertension (15,7%), obstetric haemorrhage (antepartum and postpartum 12,4%), pregnancy-related sepsis (9,0%) and pre-existing maternal disease (6,0%) (SA, 2009a:3). Prof. Jack Moodley, Chairperson of the National Committee on Confidential Enquiries into Maternal Deaths in South Africa, emphasises that most maternal and perinatal deaths and morbidities in South Africa are preventable (SA, 2003:iv). This has been echoed by many perinatologists and experts in the field of epidemiology. Lessons learned from the *Saving Mothers: Report on Confidential*

Enquiries into Maternal Deaths in South Africa (SA, 2009a:4) indicate priority areas for quality improvement interventions, of which quality intrapartum care is crucial.

Quality of intrapartum care

South Africa faces a major challenge to reduce these MMR statistics. The high MMR in South Africa raises the question of the quality of intrapartum care. All mothers, whether their pregnancies are normal or complicated, need good quality maternity services to ensure their health and the health of their newborn babies (WHO, 1998). Initiatives should be put in place to facilitate quality intrapartum care. The quality of intrapartum care is instrumental in decreasing MMR.

The Department of Health (DoH) (SA, 2002a:8) published *Guidelines for Maternity Care in South Africa* in 2002 as a baseline for quality maternity care, which include intrapartum care. These guidelines are based on available research and adapted for South African context. However, evidence from the latest *Saving Mothers* report (SA, 2009b:3) indicates that the MMR is rising despite the quality improvement initiatives of the DoH.

Maternity care in South Africa is not at the standard that it should be, and mothers and babies too are dying. The *Saving Babies* report (SA, 2003:19) emphasises that the factor underlying most of the perinatal deaths is poor quality of care, whether antenatal, intrapartum or postpartum. There are various reasons for the poor quality of care, namely lack of personnel, under-resourced facilities, lack of knowledge and low morale. Earlier Philpott (2001:68) highlighted the issue of substandard care and raised a warning:

"We encourage pregnant women to come to our clinics and hospitals. We offer this care because we believe we can give them the best opportunity of having a live, healthy baby. This is a very serious undertaking … Many midwives and doctors are providing the best care possible. But there is evidence from the perinatal deaths reported at our Perinatal Review Meetings that some health workers are providing care that is of a very poor standard. As a result we are not fulfilling our responsibilities to our people."

One of the things influencing the quality of intrapartum care in South Africa is the complexity of the health care situation, especially with regard to maternal and child health. The World Bank (2005) confirms that health care workers with midwifery skills are the key to reducing the MMR. The midwives render the majority of maternity care in South Africa without adequate support and facilities, with no relief system and with increasing demands for health care (Theron, 1999:336). This is most evident in remote rural areas. It is often an overwhelming situation for midwives and more and more of them are choosing to work in the

cities or to leave the country to work overseas. This is contributing to an increase in the patient/staff ratio. This research focuses on the development of a quality improvement intervention programme (QIIP™) to promote quality in intrapartum care. The display of the acronym QIIP™ and the relevant rating of the quality of care will indicate the level of care to the community, the patient and the hospital staff.

Patient/staff ratio

South African nursing is in crisis. Steenkamp (2007:1) stresses that the shortage of nurses, and of midwives as specialists in particular, is responsible for a major reduction in the quality of care rendered. This crisis is leading to substandard care. Some of the reasons for substandard care are the emigration of specialist nurses such as midwives and the quality of education (Adams & Kennedy, 2006:19). Research conducted by the Health Sciences Research Council (HSRC) confirms that the emigration of nurses and midwives is a major reason for staff shortages. Skilled professionals emigrating from developing to developed countries gain experience and new knowledge. Some leave the country never to return as a matter of survival and having a better quality of life (Adams & Kennedy, 2006:19; Breier *et al.* 2009:43). Although recognition has been given to the vital role that midwives play in maternity units, little attention has been given to quality improvement initiatives.

Currently the SANC database has 88 000 midwives on its register, but the register fails to distinguish between practising midwives from other nurses who were trained as midwives but are not practising as such. The SANC records lump the skills of a midwife together with those of a neonatal nurse and/or obstetric nurse – skills which are certainly different, according to midwifery stalwarts (Fayers, 2006:8). According to the South African Nursing Council (SANC), the nursing manpower equalled 1:468 in 2006 to the geographic distribution of the population of South Africa (SANC, 2006), while the World Health Organisation (WHO, 2008a) propose a figure of 200:100 000 nurses to population. In South Africa only 1 751 out of 88 000 nurses registered at the SANC indicate midwifery as their area of specialisation (Masilo, 2007), which is a major concern due to the high MMR. According to *Saving Mothers: Third Report on Confidential Enquiries into Maternal Deaths in South Africa*, advanced midwives must be considered as having scarce skills (SA, 2006b:314).

The World Bank (2005) stated that women are most in need of skilled care during and after birth, when most maternal deaths occur. They emphasise that the most crucial intervention is the attendance at birth by a skilled health care worker with specific midwifery skills (UN, 2000:16; SA, 2007b:7; WHO, 2010a). Skilled attendants must be able to provide quality care that must include: assisting families to make appropriate plans for the birth, including plans

for immediate referral to a hospital offering comprehensive emergency obstetric and neonatal care if this becomes needed; having norms for the management of normal childbirth; avoidance of iatrogenic complications; and management of life-threatening complications. The availablity of adequate skilled attendants that reduce the staff:patient ratio will have an impact on the quality of intrapartum care rendered.

The quality of intrapartum care rendered depends on having an adequate number of midwives available as well as their competencies. Fullerton *et al.* (2005:3) state that of the knowledge and practice of birth attendants varies widely. Fayers (2006:8) emphasises that the criterion must not be quantity but quality. Dr ME Tshabala-Msimang, the former South African Minister of Health, referred to a great need for health care providers to improve their skills and called for the ongoing education and orientation of midwives and doctors (SA, 2002a:ii). Midwives have an important role to play in narrowing the gap between what is known and what is practiced (Fullerton *et al.* 2005:8). Midwifery lecturers are instrumental in knowledge utilisation and knowledge transfer to put research into practice and thereby improve the quality of intrapartum care. As a midwifery lecturer working in the North West province, it is the author's passion to develop a **Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™) for intrapartum care to improve the quality of care and thus reduce the maternal mortality rate.

Levels of hospitals

The location of midwifery units is also a variable that must be taken into consideration. In the complex health care system in South Africa there are different levels of hospitals which function differently and offer different resources and staffing (see Figure 1.1).

Level 1 hospitals refer patients to Level 2 hospitals and Level 2 hospitals refer patients to Level 3 hospitals. The focus of this research is on Level 2 hospitals as 52% of all maternal deaths occur in Level 2 hospitals in South Africa (SA, 2006b:203). Level 2 hospitals can handle complicated deliveries and have more resources and specialists available than Level 1 hospitals, but do not have the same resources (staffing and equipment) as Level 3 hospitals, which have full-time specialists available on the premises 24 hours per day.

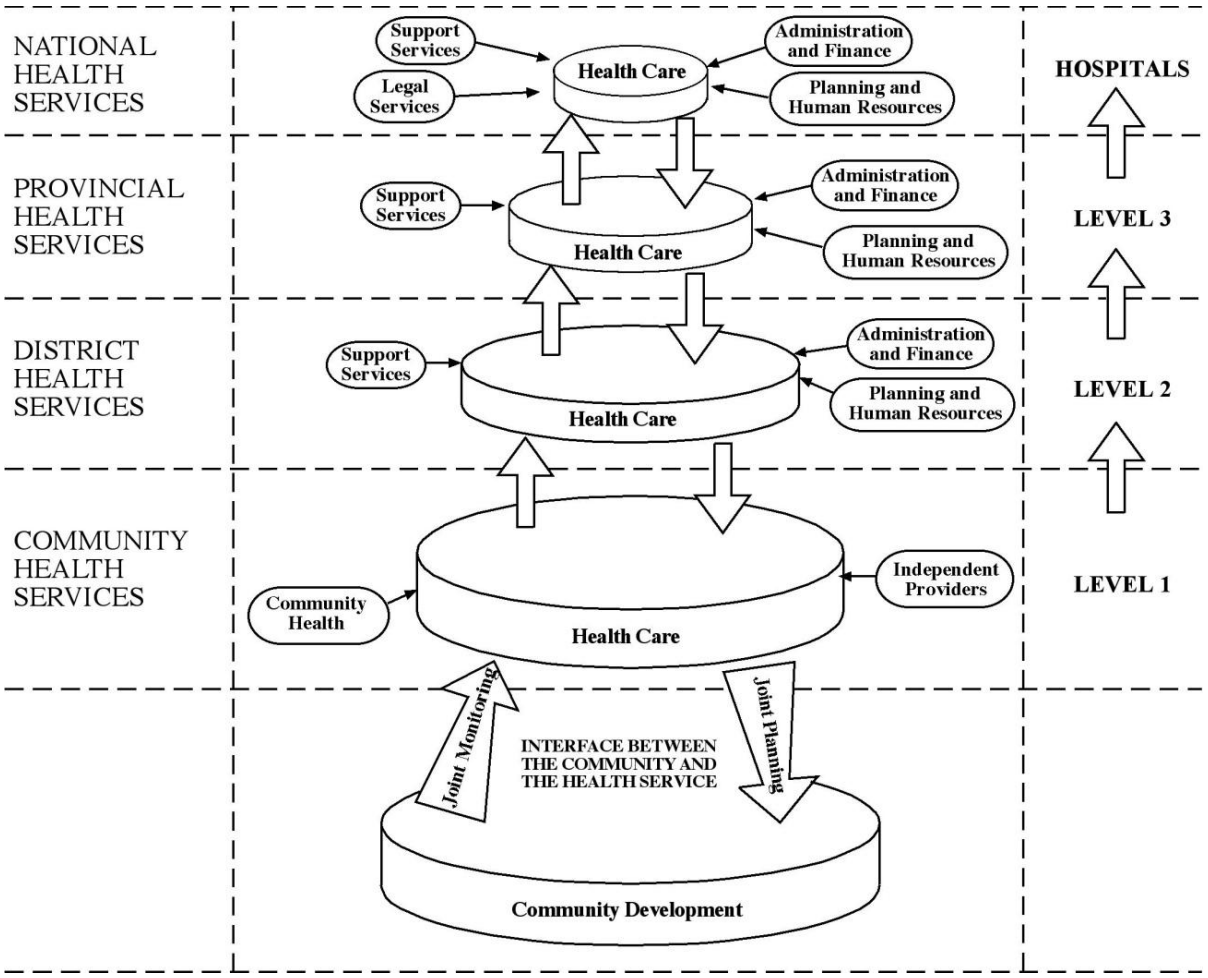


Figure 1.1 Different levels of the health care system

(Adapted from ANC,1994:60).

Quality improvement strategies

Internationally and nationally, various quality improvement programmes have been implemented to improve the quality of care rendered by health care facilities, such as the *Magnet Recognition Programme* in the US (Aiken *et al.* 1994:771), *Saving Mothers: Report on Confidential Enquiries into Maternal Deaths in South Africa* (SA, 2002b; 2006b; 2009a)*, Guidelines for Maternity Care in South Africa* (SA, 2000; 2002a; 2007b)*, Saving Babies: Perinatal Care Survey of South Africa* (2009b) and the *Batho Pele Principles* (SA, 1997b:1) in South Africa*.* Various quality improvement strategies must be put into practice in order to improve the quality of maternity care rendered and thus reduce maternal mortality. In order to deliver optimal care, it is important to make use of the best possible evidence to improve the practice. Evidence-based health care is continually evolving and expanding, and it is increasingly being grounded in practice and directed at improving health care for individuals

globally. The following definition by Sackett (in Pearson *et al.* (2005:208) confirms the above statements: *"The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.*"

To benchmark the quality of care at health care facilities, appropriate strategies must be put in place to get the approval of the accredited programme for which they apply. Accreditation as a quality improvement strategy empowers health care providers and management to see how their efforts can contribute to providing their community with quality care (Zerebi & Marquez, 2005:20). Shaw (2004:1) is of the opinion that accreditation has proven to be a valuable instrument for quality improvement in many settings. However, before a facility can be accredited, a QIIP™ is needed for quality intrapartum care.

The development of a QIIP™ for intrapartum care specifically to improve the quality of maternity care for the South African public takes into consideration the *Guidelines for Maternity Care in South Africa* (SA, 2000; 2002a; 2007b) and *Batho Pele principles* (SA,1997b) issued by the DoH, as well as evidence-based practices and best practice guidelines that are available to curb the MMR. HIV in South Africa makes this context unique as it is the leading cause of maternal mortality. Once the South African Minister of Health has approved recommendations made by the *Saving Mothers reports* (SA, 2009a:4), it is the task of the provincial departments of health to implement these recommendations at all levels of health care institutions. The DoH (SA, 2006c:306) emphasised that the implementation of the recommendations is a key factor in reducing maternal mortality in South Africa. Currently no such a programme exists despite the need to improve the quality of intrapartum care.

The author's vision is to develop an accreditation programme for the midwifery units in South Africa to become centres of excellence in midwifery, but first a QIIP™ for intrapartum care must be developed as it will form the basis of accreditation for centres of excellence. Accreditation is an objective method of verifying the status of health service providers and their compliance with accepted standards (Shaw, 2004:ii).

Based on the background discussed above, the problem statement can be formulated as follows.

1.3 PROBLEM STATEMENT

With more than 500 000 women dying during childbirth every year mainly in developing countries, maternal mortality is a serious problem. Various factors such as a lack of access to trained health care workers and modern medical facilities are leading causes of the maternal mortality crisis (World Bank, 2005). This problem is receiving further international recognition in Goal 5 of the MDGs developed by the WHO, which aims to improve maternal health globally by reducing the maternal mortality rate by 75% by 2015.

In developing countries such as South Africa, the DoH has put certain quality improvement strategies such as the *Saving Mothers* reports (2001-2009), the *Saving Babies* reports (2003-2009)*, Maternity Guidelines for South Africa* (2000-2007) and *Batho Pele Principles* (SA,1997b) into place to improve the quality of care rendered in the intrapartum period. However, despite the initiatives by the DoH (SA, 2006c:42), as indicated in the key strategic issues (the 10-point plan, improving the quality of care (point 3) and reducing the morbidity and mortality rates through strategic interventions (point 6), the MMR in South Africa has still been increasing. This is also the case in the North West province (SA, 2006b:231).

Evidence shows that mothers die due to the lack of quality of the intrapartum care rendered. It is evident that a lack of action-orientated quality improvement strategies will affect the quality of midwifery care rendered. The high MMR is an indicator of poor quality of care. Evidence of the substandard quality of intrapartum care is published in government initiatives such as the *Saving Mothers* reports, research statements as well as media publications. The DoH, with government, identified key problems and made recommendations for their solution in *Saving Mothers: Second Report on Confidential Enquiries into Maternal Deaths in South Africa 1999-2001* (SA, 2002b:ix). However, in *Saving Mothers: Third Report on Confidential Enquiries into Maternal Deaths in South Africa 2002-2004* (SA, 2006b:xii), the same problems are identified and the same recommendations are made, with no indication that the recommendations in the previous report have been implemented. Midwives, who are the backbone of the midwifery services, have a great responsibility to improve the quality of midwifery care and thus reduce the MMR.

The North West province is particularly vulnerable, given that there are no provincial (Level 3) hospitals in the province. The referral of mothers to Level 3 hospitals outside the province further increases the problem. However, there are four district (Level 2) hospitals in the province that act as referral hospitals for community hospitals (Level 1) (see Figure 1.1). It is also evident that most maternal deaths occur in Level 2 hospitals (SA, 2006b:203).

The problem seems to be that despite the quality improvement initiatives by the DoH, there has been an increase in the MMR in all the provinces in South Africa during the last decade (SA, 2006c:vii; 3). The North West province has a higher MMR (185/100 000) than the mean rate for South Africa (142/100 000) (SA, 2006b:231). This poses a challenge for quality improvement strategies in South Africa. Taking into consideration that no quality improvement intervention programme can succeed without a rating scale, it is important that new quality improvement strategies in this regard be developed to improve the quality of intrapartum care in developing countries such as South Africa.

Based on the above-mentioned problem statement and supporting literature, the following central question emerges:

What will a **Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™) for intrapartum care entail?

In order to answer this question, the following research questions need to be answered:

1) What is quality intrapartum care according to the literature?

2) What resources (staffing and equipment) and quality improvement initiatives are available for intrapartum care at Level 2 public hospitals of the North West province?

3) What does the practice environment in the maternity units at Level 2 public hospitals in the North West province entail?

4) What do the staff (midwives) and management regard as facilitating and impeding factors influencing quality intrapartum care at Level 2 public hospitals in the North West province?

1.4 RESEARCH AIM AND OBJECTIVES

To answer the research questions, the aim of this study is to develop a **Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™) for intrapartum care at Level 2 hospitals of the North West province. The aim of this study is achieved through the following objectives:

1.4.1 PHASE 1

Conduct a situational analysis to:

- explore and describe quality intrapartum care from a theoretical perspective;
- analyse existing resources (personnel and equipment) and determine the quality improvement initiatives for intrapartum care at Level 2 public hospitals in the North West province;
- determine the practice environment in maternity units at Level 2 public hospitals in the North West province that may influence the quality of intrapartum care;
- determine the perceptions among staff and management of facilitating and impeding factors influencing the quality of intrapartum care at Level 2 public hospitals in the North West province.

1.4.2 PHASE 2

Programme development

- Develop a **Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™) for intrapartum care.

1.5. CENTRAL THEORETICAL STATEMENT

In conducting the situational analysis, staffing and resources were analysed, the status of quality improvement initiatives, the practice environment, and facilitating and impeding factors were determined to set the basis for the development of a QIIP™ for intrapartum care.

1.6 RESEARCHER'S ASSUMPTIONS

Research and intellectual enquiry free from norms and values are impossible to achieve (Fowler *et al*. 1990:174). It is important, however, that the norms and values of the researcher do not influence the results of the research (LoBiondo-Wood & Haber, 2002:129). All research is interpretive and will be guided by the researcher's set of beliefs and feelings about the world and how it should be studied (Denzin & Lincoln, 2005:23). This also applies to the development of a QIIP™ for intrapartum care at Level 2 hospitals in the North West province.

Substandard quality of care in the intrapartum period lead to an increase in maternal mortality. In order to improve intrapartum care, quality improvement initiatives should focus

on midwifery units which render good quality care. Once this QIIP™ has been developed it must be implemented, and only then can it lead to quality improvement and thus a reduction of maternal mortality. The government, management, staff and community should work together in their endeavour to deliver quality intrapartum care.

The researcher has explicitly formulated the meta-theoretical, theoretical and methodological assumptions of this specific research to facilitate a clear and easy-to-understand process for readers and researchers.

1.6.1 Meta-theoretical assumptions

The researcher's view of the self and others (the participants in this study) are rooted in Christianity and states her view of people (individuals, families and community), society, health and nursing to clarify the point of departure of this study.

- **View of people**

The researcher sees a person (in this study the pregnant woman and the professional health care worker (midwife) as a holistic being. The pregnant woman is a unique God-created human being who is experiencing pregnancy through the grace of God. The midwife leads the pregnant woman during labour with academic knowledge and clinical competency to support her in an empathetic and respectful manner and to render quality maternity (intrapartum) care. Through the implementation of a QIIP™ the pregnant woman receives the best intrapartum care she deserves.

- **View of the environment (society)**

The researcher believes that society consists of an *internal* and *external* environment. The quality of intrapartum care rendered is determined through interaction between the internal and external environment (Randse Afrikaanse University, 1992:7). In this research the environment comprises two components, namely the pregnant woman and the midwife.

The *internal* environment of the pregnant woman and her foetus includes the totality (physical, mental, social and spiritual) of her view of the quality of intrapartum care that she receives in the midwifery unit.

The *external* environment of the pregnant woman and her foetus refers to the physical and socio-cultural beliefs which set the background to her expectations regarding the quality of intrapartum care that she experiences in the midwifery unit.

The *internal* environment of the midwife includes her beliefs, values, norms, skills and knowledge as well as her passion for rendering quality intrapartum care.

The *external* environment of the midwife includes the practice environment such as the resources and infrastructure of the physical setting where she acts as a practising midwife and gives quality intrapartum care.

In this research, the focus is on a QIIP™ to improve the quality of intrapartum care rendered in midwifery units which will influence the external environment.

- **View of health**

The World Health Organisation (WHO) defines health as a state of total "physical, mental and social wellbeing, and not merely the absence of disease of infirmity" (Berslow, 1972:347; Saracci, 1997:314). Health is also a universal human right (Saracci, 1997:314; Page & McCandlish, 2006:305). The health of the pregnant woman can be viewed as being on a continuum of health/illness that ranges from minimum to maximum health. The different dimensions of health (physical, mental, social and spiritual) are not necessarily at the same level. The pregnant woman in labour can experience good health in one dimension and less health in another. Saracci (1997:314) stresses that health as defined by the WHO, which links it to the real world of health and disease, is measurable by means of appropriate indicators such as mortality, morbidity and quality of life. This provides a reference against which to gauge how far health programmes incorporate and meet the requirements of health equity.

In this research study, the focus is on developing the QIIP™ to improve the intrapartum care which the pregnant woman receives and thus on how the provision of high-quality intrapartum care can reduce maternal mortality while ensuring that the pregnant women and neonate experience optimal health.

- **View of nursing**

Nursing is the professional conduct of the registered nurse and midwife to care for the patient with academic proficiency and clinical competency to achieve optimal health, through interaction and functional activities aimed at the maintenance, promotion and rehabilitation of health (adapted from Chidrawi, 2000:10). In this research, the aim is to facilitate health care workers (midwives) to render quality intrapartum care for the pregnant woman and newborn baby.

The midwife plays an integral role in rendering quality intrapartum care. In order to provide the best possible intrapartum care to the pregnant woman, she needs to be well prepared with the optimal knowledge and skills to guide her in performing the intrapartum practices. The midwife practices within a specific intrapartum context with specific resources which are subject to *internal* (knowledge and attitudes) and *external* conditions (staffing, equipment and organisation). The midwife must strive to deliver comprehensive quality intrapartum care that will enhance the pregnant woman's intrapartum experience as an uplifting, safe and joyful one.

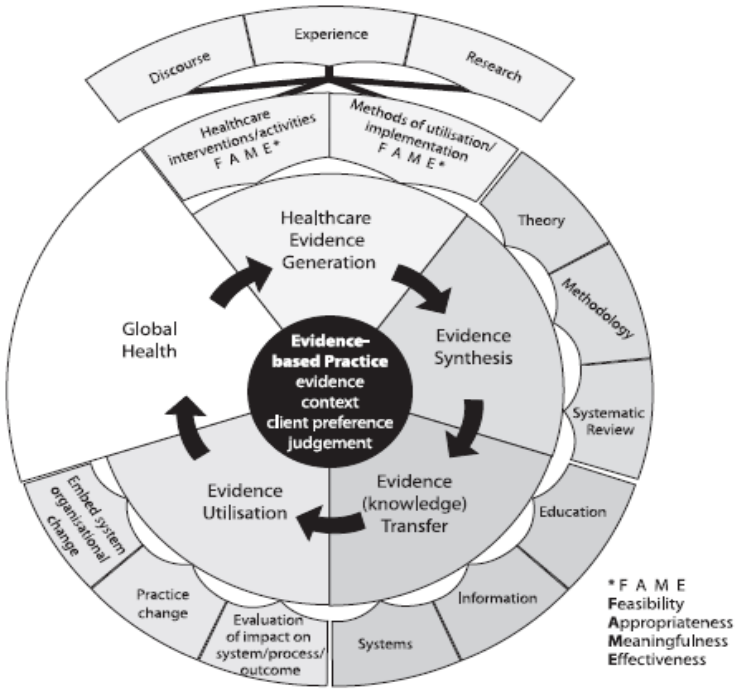
1.6.2 Theoretical assumptions

Theories are a systematic way of looking at the world and describing events. In this study various models and theories were investigated and the following are used as a framework:

- The Joanna Briggs Institute (JBI) model of evidence-based health care (Pearson *et al.* 2005:207-215).

As part of rendering quality intrapartum care, EBP is displayed through the JBI model. The JBI model adopts a pluralistic approach to evidence which includes quantitative and qualitative research as well as expert opinions (Pearson *et al*. 2005:211). The designers of the JBI model conceptualise the components of evidence-based health care as a cyclical process which includes

- Health care evidence generation
- Evidence synthesis
- Evidence (knowledge) transfer
- Evidence utilisation (see Figure 1.2) (Pearson *et al*. 2005:209).



ɜ 1 Conceptual model of evidence-based healthcare.

Figure 1.2 Conceptual model for evidence-based health care

(Pearson *et al.* 2005:209)

Each component includes specific essential elements. Health care evidence generation must meet the FAME criteria, namely feasibility, appropriateness, meaningfulness and effectiveness, and should include methods of utilisation.

Evidence synthesis includes theory, methodology and systematic review. Evidence (knowledge) transfer refers to education, information and systems. Evidence utilisation includes components such as the evaluation of the impact on the system, process outcomes, practice change and organisational change.

In this research, the evidence is generated from findings of the different steps followed to compile the QIIP™ for intrapartum care. This includes findings of quantitative and qualitative research studies which are regarded as rigorously generated evidence together with tests derived from opinion, experience and expertise as a form of evidence (Pearson *et al*. 2005:211). The JBI model includes any indication that the practice complies with FAME (feasible, appropriate, meaningful, effective) principles as a form of evidence.

The theory in this research is based on a pluralistic approach to evidence as advocated by Pearson *et al*. (2005:211). Evidence from both quantitative and qualitative methods, together

with opinions from different research participants, are acknowledged as evidence. These different findings are used as part of the development of the QIIP™ for intrapartum care.

Evidence (knowledge) transfer in this research project is addressed by publishing journal articles and presenting papers at scientific conferences. Workshops and seminars for policymakers, managers and midwives are planned to transfer the generated knowledge.

Evidence utilisation will lead to the implementation of the QIIP™ in other hospitals (also inclusive of Level 1 hospitals) in the North West province and other provinces to improve the quality of intrapartum care in South Africa with the potential of reducing maternal mortality.

1.6.3 Concept clarification

Because concepts tend to have different meanings and different interpretations, concepts which are used in this research study are defined below (quality of care, quality intrapartum care, midwife, intrapartum, positive practice environment, evidence-based practice, best practice guidelines, knowledge utilisation and programme).

- **Quality of care**

Quality of care in health care can be described as “striving for and reaching excellent standards of care” (Feld, 2007; Wang, 2010). Quality of care involves not only evaluating the outcome, but reducing the risk. The use of appropriate tests and treatments continually improve personal health care in all fields of medicine (Feld, 2007; Wang 2010). The future of quality health care includes accreditation of hospitals. Through accreditation, standards are set to make sure that proper procedures and the patient-to-staff ratio are met. Continuous improvement of patient care is the driving force behind standards and quality health care (Wang, 2010). In this research quality of care strives to improve the standards and current performance of staff to ensure that the patient (the pregnant woman) receives the best possible care in a resource-constrained context by complying to QIIP™ standards.

- **Quality intrapartum care**

The intrapartum care that a midwife provides is determined by the midwife’s perception of the pregnant woman’s physical condition (anatomy and pathophysiology). This is combined with personal experience and the teaching of competent lecturers and mentors who provide a knowledge base to guide personal practice (Fullerton *et al.* 2005). The intrapartum context addresses social, environmental, ethical and cultural issues that influence the intrapartum care of the pregnant woman (Fullerton *et al.* 2005). For this research a new definition was

developed: ”Quality intrapartum care must be based on the best possible evidence, given the resources (organisational, human and financial), to provide an uplifting birth experience both for the mother and midwife in a safe and positive practice environment, in which the patient is treated with dignity and worth while delivering a healthy neonate and reducing maternal mortality”.

- **Midwife**

The researcher strongly agrees with the International Confederation of Midwives' (ICM, 2005) definition of a midwife namely: “A midwife is a person who, having been regularly admitted to a midwifery educational programme, duly recognised in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practise midwifery.”

Midwifery is recognised as a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labour and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and the infant. This care includes preventive measures, the promotion of normal birth, the detection of complications in mother and child, the accessing of medical care or other appropriate assistance and the carrying out of emergency measures (ICM, 2005).

The midwife has an important task in health counselling and education, not only for the woman, but also for the family and the community. This work should involve antenatal education and preparation for parenthood and may extend to women's health, sexual or reproductive health and child care.

“A midwife may practice in any setting including the home, community, hospitals, clinics or health units” (ICM, 2005; Fraser *et al.* 2010:5). In South Africa and in the context of this research, a midwife is a clinically skilled and academically trained person who has achieved the academic requirements of an institution of higher education. After successful completion of the academic requirements, the midwife is registered with the South African Nursing Council (SANC, 1990) under regulation R2488 which outlines the scope of practice for South African midwives. Although all the midwives in South Africa practice in accordance with regulation R2488, they have different academic curricula, namely those who undergo university training and obtain B.Cur, B.SocSc or BA Nursing degrees and those who received their comprehensive four-year diploma training from the various nursing colleges in the

country under regulation R425 (SANC, 1988). A registered midwife in South Africa can obtain an additional qualification in Midwifery and Neonatal Nursing Science and be registered as an advanced midwife under regulation R212 (SANC, 1993).

- **Evidence-based practice**

In evidence-based health care, evidence-based practice involves clinical decision-making, which includes the best available evidence in the context (intrapartum, South Africa, public sector) in which the care is rendered, client preference as well as the health professional's (midwife's) judgement (Pearson *et al.* 2005:209).

- **Best practice guidelines**

Best practice guidelines (BPGs) according to the Registered Nurses Association of Ontario (RNAO), are systematically developed statements based on the best available evidence to develop decision tools within a specific context (RNAO, 2005:91).

Grimshaw *et al*. (1995:56) explain that these clinical guidelines have the potential to improve the quality of care (intrapartum) rendered by health care professionals (midwives) as well as the patient outcome (mother and foetus/neonate).

In this study, existing best practice guidelines relating to quality care were investigated and adapted in the development of a QIIP™ to improve intrapartum care.

- **Intrapartum period**

The intrapartum period starts with the onset of labour and lasts until the end of birth (Peiperl, 2000; Woods, 1993:1). This period consists of four stages: the first stage is labour which is divided into three phases, namely the latent phase (0-3 cm cervical dilatation), the active phase (4-10 cm cervical dilatation) and the transitional phase (8-10 cm cervical dilatation). The second stage lasts from full cervical dilatation until the birth of the baby. The third stage of labour lasts from the birth of the baby until the delivery of the placenta. The beginning of the puerperium is called the fourth stage. This is usually the first hour after delivery of the placenta and refers primarily to the period in which homeostasis is re-established (Modjadji in De Kock & Van der Walt, 2004:12-6; Fraser *et al.* 2010:649). The first six hours of the puerperium are part of the intrapartum period in this research.

- **Intrapartum practices**

These are the practices that are included to ensure safe delivery from the first stage until the delivery of the baby (Bennet & Brown, 2001:35-36; Fraser *et al.* 2010:441). For the purpose of this research, they include all the practices that take place from the first stage until the first six hours after the fourth stage. Fullerton *et al.* (2005) define midwifery (intrapartum practises) as an art based on common sense, tradition and women-centred approaches to caring.

- **Positive practice environment**

The International Council of Nurses identifies positive practice environments as quality work places equal quality patient care. Unhealthy working environments are identified as a key factor that drives nurses and midwives away from the workplace and profession (Baumann, 2007; WHO, 2010b). On the opposite end of the spectrum there are environments that attract and retain nurses and midwives and those are called positive practice environments. Evidence indicates that positive practice environments enhance job satisfaction and benefit patient outcomes (Aiken *et al.* 2001:46; Adams & Kennedy, 2006:11; Baumann, 2007:9; Liu *et al.* 2010:117). This research investigated practice environment in the maternity units of Level 2 hospitals in the North West province.

- **Programme**

The American Heritage Dictionary (2009) defines a programme as a "system of projects or services intended to meet a public need or a series of steps to be carried out or goals to be accomplished". Another explanation of a programme is: "A plan of activities for an event or a series of events" (Macmillan Dictionary, 2010). The programme in this research is based on the curriculum development programme of Uys and Gwele (2005:24-29).

1.6.4 Methodological assumptions

The researcher's methodological assumptions are based on the Botes model (1992:36-42) as adapted from Mouton and Marais (1992:22).

The Botes model can increase the validity and reliability of research since it is specifically developed for nursing science (Botes, 1992:36). The Botes model advocates research that leads to new knowledge, which serves to improve the practice. The research activities according to Botes (1992:36-42) are arranged on three levels.

The first level is the nursing practice where this research is done. Research activities are focused on the promotion, maintenance and restoration of health. At this level the midwives rendering quality intrapartum care take the patients' beliefs and culture into consideration. The activities are not based solely on scientific knowledge, but also on pre-scientific knowledge and interpretations (Botes, 1992:39).

The second level focuses on the practice environment in which the midwives work as well as the clinical setting (Level 2 hospitals) where the pregnant women receive the intrapartum care. The situational analysis gives us a baseline of the clinical environment (staffing and resources), while the interviews with management and the midwives give us an understanding of the facilitating and impeding factors that influence quality intrapartum care. According to Botes (1992:39), the practical usefulness of the research serves as a criterion for internal validity.

The third level represents the paradigmatic perspective in which this research has been done. *Nursing Theory for the Whole Person* (Oral Roberts University, 1990:136-142) forms the basis of the meta-theoretical statements.

The steps in curriculum development in nursing (Uys & Gwele, 2005:24-29) are used as an overarching method for the development of a QIIP™ for intrapartum care.

- **Curriculum development in nursing**

The model of curriculum development described by Uys and Gwele (2005:24-29) is used as an overarching method for the programme development. Firstly, it is the process of deciding the content within a specific (intrapartum) context. Aspects that must be taken into consideration are tasks, roles, expectations, resources, time and space. These curriculum developments at the institutional level have as their ultimate goal the improvement of the situation (practice). This process includes evaluation and thorough descriptive documentation (Uys & Gwele, 2005:24).

Role-players in this curriculum development include the following:

- Nurse educators at all levels – in the North West province they are the midwifery lecturers at the university and nursing colleges.
- Current and past students – taking into consideration their experiences and obtaining their support for the implementation.

- Health care personnel – improving the understanding of the vision and mission. Midwives working in maternity units are part of the mission and vision of their units and hospitals.
- Community members are acknowledged for their support for change.

Other role players who can be incorporated from time to time are (Uys & Gwele, 2005:26):

- Curriculum experts
- Subject specialists
- Political leaders
- Representatives of the professional regulatory body
- Professional and labour organisations.

It is important that this process does not take place in isolation, and therefore regular feedback meetings with the rest of the staff are important. Input from the various stakeholders is thus important to develop the curriculum (Uys & Gwele, 2005:26).

This process is divided into five steps:

Step 1: Establish the context and foundations

Step 2: Formulate the outcomes or objectives

Step 3: Operationalise the criteria for quality intrapartum care and develop a macro-content

Step 4: Develop a micro-content

Step 5: Plan for the evaluation of implementation and outcomes

These steps are discussed in detail in Chapter 6.

1.7 RESEARCH DESIGN

A **quantitative** research design as well as a **qualitative** research design is used to reach the goal of this study. In this research, the researcher **explores**, **describes** and **explains** the phenomenon from a universal as well as a **contextual** perspective.

1.7.1 Quantitative inquiry

Knapp (1998:5) explain that quantitative research are facts, observations, and experiences that are substance of nursing practice concerning health promotion, health restoration and health care systems. Quantitative researchers collect data in the form of numbers and use statistical types of data analysis (Terre Blanche *et al.* 2008:47).

Quantitative methods are used for the situational analysis that is conducted to determine what staffing, equipment, quality improvement initiatives and practice environment present in the maternity units of Level 2 public hospitals in the North West province (Polit & Beck, 2004:658). Once the data is collected it is coded into numerical forms, to which statistical analyses is applied to determine the significance of the findings (Terre Blanche *et al.* 2008:563).

1.7.2 Qualitative inquiry

A **qualitative** research design was used during the focus groups and interviews with staff and management during the development of the QIIP™. The qualitative research approach stresses the socially constructed nature of reality and the close relationship between the researcher and the participants in a given situation, and helps the researcher to explore the working experience of the population under study, such as facilitative aspects and the constraints on quality intrapartum care. The researcher had the opportunity to embed the study in the everyday social world of the participants (Denzin & Lincoln, 2005:10-12). Polit and Beck (2004:659) also emphasise that the researcher decides which participants yield the richest data according to the research question. An open and honest working relationship between the researcher and the participants is one of the building blocks of the qualitative approach to research. The researcher spent a great deal of time with the participants to understand aspects of their working experience in the hospitals (in this study the management and midwives working in maternity units in Level 2 hospitals in the North West province of South Africa), as recommended by Cheek (in Denzin & Lincoln, 2005:401). The method of data gathering also depends on who the participants should be (management and midwives), as well as how the data should be gathered (focus groups and interviews) (Polit & Beck, 2004:659).

1.7.3 Exploratory

A research design that is ***exploratory*** in nature explores the dimensions of the phenomena regarding the quality of intrapartum care and interventions needed to improve quality. After

observing and describing the phenomena, prelimary investigations are made into the relatively unknown phenomena (Polit & Beck, 2004:718; Terre Blanche *et al.* 2008:559) which are then continued to be developed or refined. This type of research aims to understand the factors that influence the phenomena: in this research it involved exploring the current status of maternity units at Level 2 hospitals in the North West province.

1.7.4 Descriptive

The research design is ***descriptive*** so as to provide a clear picture of what the current situation is in the maternity units at Level 2 hospitals in the North West province. By conducting the situational analysis, an accurate portrayal of the characteristics of persons (midwives), situations and/or the frequency with which certain phenomena occur are described (Polit & Beck, 2004:716). In this research, descriptive statistics summarise the characteristics of the situation that have an impact on quality intrapartum care (Knapp, 1998:159; Terre Blanche *et al.* 2008:558).

1.7.5 Contextual

Finally, the research is ***contextual*** in nature, focussing as it does on Level 2 hospitals in the North West province, and therefore no universal claims are made. However, it is anticipated that the data from the situational analysis can inform a successful roll-out of the QIIP™ in similar contexts. In Section 1.7.7 there is a detailed discussion of the setting.

Since the proclamation of the *White Paper on Transformation in National Health* in April 1997 (SA, 1997a:7), major changes in the health systems were made. Consolidation of 14 fragmented health administrations led to the establishment of one national and nine provincial health departments (SA, 1997a:7). The Department of Health (SA, 2006b:vii) indicated that the South African government had instituted free maternity services as from 1996; nonetheless, there has been *no decline* in the number of maternal mortalities in the last decade. This leads to the obvious question: “What are we doing wrong?” (SA, 2006b:vii).

Due to the legacies of the past, health facilities in South Africa face specific obstacles when it comes to providing quality maternity care. The Council for Health Service Accreditation for Southern Africa (COHSASA) described the problems faced in the South African context as finance, physical infrastructure, medication, consumable supplies and staffing shortages (Keegan, 2006). One of the key recommendations made in *Saving Mothers: Third Report on Confidential Enquiries into Maternal Deaths in South Africa 2002-2004* emphasises that staffing and equipment norms must be established for each level of care for every institution

concerned with the care of pregnant women (SA, 2006b:xii, 23). The North West province is known as a resource-poor province with large rural areas (SA, 2006b:281). The pregnant women in the North West province must travel great distances to deliver their babies in hospitals (see Section 1.7.6).

1.7.6 Context

South Africa has nine provinces, one of which is the North West province (see Figure 1.3). Stats SA (2010) reported that South Africa's population grew by 530 000 in the last year from June 2009, with a total of 49,99 million people. South Africa has a unique distribution of citizens making up its population.

Figure 1.3 Map of the nine provinces in South Africa (www.google.co.za/imgres)

Blacks make up 79,3% (39 136 200) of the population as provided by Stats SA Mid-Year report (2009). Coloured South Africans and white South Africans are more or less equally represented in the population, namely 9,0% (4 433 100) and 9,1% (4 472 100) respectively. Indians/Asians comprise 2% (1 279 100) of the population. Of this population an estimate of 51% (about 25,66%) are women. According to Stats SA (2010) about 31% of the population are younger than 15 years of age and 7,6% (3,8 million) are older than 60 years. The infant mortality rate was estimated at 46,9 per 1 000 live births (SA Stats, 2010). In South Africa the biggest percentage of the population (±80%) are serviced by the public sector, who depend on free health care services, which include free maternity services (IMCSA, 2008). The population of the North West province according to health districts, as determine by the census survey conducted in 1996, together with the level of hospitals and obstetric services, are presented in Table 1.1.

Table.1.1 **The North West province is divided into districts as determined by the census survey conducted in 1996 regarding the levels of hospitals with maternity services**

DISTRICTS	SUB-DISTRICT	HOSPITALS WITH OBSTETRIC SERVICES	HOSPITAL LEVEL	POPULATION
DR KENNETH KAUNDA (Southern)	Klerksdorp	Klerksdorp	Level 2**	334 497
	Potchefstroom	Potchefstroom	Level 2**	166 772
	Ventersdorp	Ventersdorp	Level 1 - community***	31 726
	Wolmaransstad	Nic Bodenstein	Level 1 – community***	79 913
NAKA MODIRI MALEMA (Central)	Mafikeng	Mafikeng	Level 2**	255 658
	Lichtenburg	Coligny	Level 1 – community***	129 978
	Delareyville	General de la Rey	Level 1 – district*	151 444
		Gelukspan	Level 1 – district*	
		Thusong	Level 1 – district*	
	Zeerust	Zeerust	Level 1 – district*	132 893
		Lehurutshe	Level 1 - district*	

DISTRICTS	SUB-DISTRICT	HOSPITALS WITH OBSTETRIC SERVICES	HOSPITAL LEVEL	POPULATION
BOJANALA DISTRICT (Bojanala)	Brits	Brits	Level 1 – district*	165 417
	Rustenburg	Rustenburg	Level 2**	370 910
		Koster	Level 1 – community***	
	Moses Kotane	George Stegmann Moreteletsi	Level 1 – district* Level 1 – district*	203 218

RUTH SEGOMOTSI MOMPHATI DISTRICT (Bophirima)	**Ganyesa**	**Bray**	**Level 1 – community*** **	
		Ganyesa	**Level 1 – district***	**100 030**
		Piet Plessis	**Level 1 – community*** **	
		Stella	**Level 1- community*** **	
	Kudumane	**Tshwarango**	**Level 1 – district***	**143 867**
		Schweizer-Reneke	**Level 1 – district***	**81 851**
	Taung	**Reivilo**	**Level 1 – community*** **	**201 276**
		Taung	**Level 1 – district***	
	Vryburg	**Vryburg**	**Level 1 – district***	**602060**

* Level 1 hospitals are indicated as “Level 1 – district”.

**Level 2 hospitals are indicated as “Level 2”.

***Community hospitals are indicated as “Level 1 - community”

This research was conducted in the North West province, since it is a resource-poor province with no Level 3 referral hospital. The Level 2 hospitals in the province act as referral hospitals (see Table 1.1). The North West province showed an increase in the number of maternal deaths during the triennium 2002-2004, when a total of 326 deaths were reported (Department of Health, 2006b:281). For this research, the focus is on all four Level 2 hospitals in the North West province because most maternal deaths occur at Level 2 hospitals (SA, 2006b:203). As the research design is contextual in nature, the research setting is described.

1.7.7 Setting

Three levels of hospitals are available in South Africa, namely Level 1, Level 2 and Level 3 hospitals (see Figure 1.1):

- A Level 1 hospital, sometimes called a district hospital, especially in the rural areas, acts a basis for the health district (SA, 2000:14).

- A Level 2 hospital is sometimes called a regional hospital, as it serves as a basis for the region (SA, 2000:15).

- A level 3 hospital is a big referral hospital.

The improvement and modernisation of health systems lie at the heart of efforts by the international development community to help poor countries such as South Africa to reach their 2015 Millennium Development Goals (Shaw, 2004:ii). Although different settings have different resources, the mother and the newborn baby are still the ones who must receive quality intrapartum care in order not to become a maternal and neonatal mortality statistic. The United Nations emphasises that health workers with midwifery skills are the key to reducing maternal mortality (UN, 2000:17). Travis *et al.* (2004:900) maintain that the health systems of low-income countries are fragile and fragmented and that they find it difficult to deliver the quality of services to those in need. Shaw (2004:ii) stresses that the challenge is to balance the roles of health care professionals, policy makers, members of the community and other stakeholders in enhancing the quality of, and setting the standard for, the health sector. The quality of intrapartum care depends, among other things, on available resources, staffing, leadership styles, the level of education, skills, specialist knowledge and the attitude of the midwives and health personnel working in these units.

Some provinces in South Africa, such as the North West province, are particularly vulnerable, because they have no Level 3 hospitals and referrals for specialised care must be made to larger hospitals outside the province. It is therefore important that the Level 1 and Level 2 hospitals provide high quality of care within their limited resources to adequately perform their pivotal role in reducing maternal mortality. According to *Saving Mothers: Third Report on Confidential Enquiries into Maternal Deaths in South Africa 2002-2004* (SA, 2006b:202), Level 3 hospitals had a slight decrease of 5% from 1999-2001 to 2002-2004. Level 2 showed an increase and at Level 1 no change occurred. The survey and outcomes at the level of care where maternal deaths occur indicated that 52% of these deaths occur in Level 2 hospitals in South Africa (SA, 2006b:203).

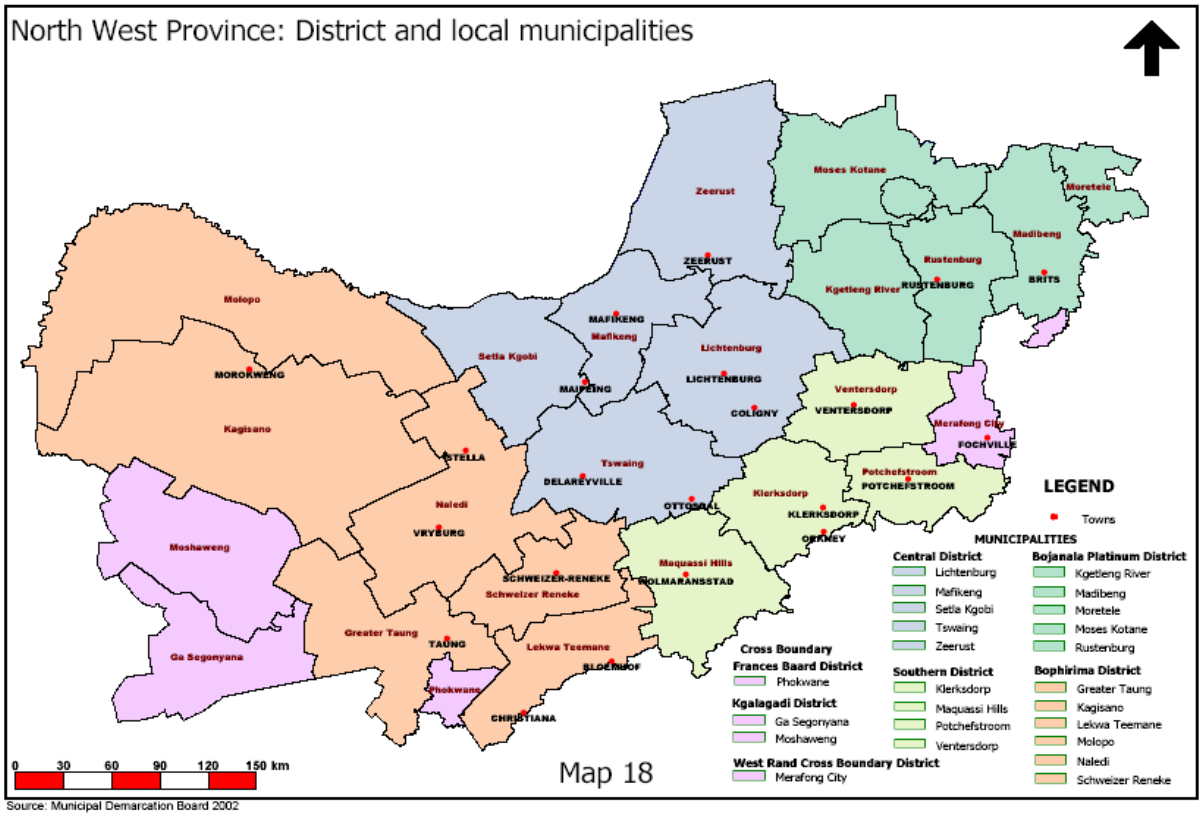
The problem seems to be that the different levels of hospitals available in South Africa lead to a discrepancy in skills and equipment available, which is associated with the level of care provided. This is especially a problem in the public hospitals, where the lives of mothers and newborns depend on the quality of care provided. It is important to take into consideration the different levels of hospitals, equipment and transport of the applicable referral systems, and the budgets, leadership style, policy implementation, education of midwives and

utilisation of available knowledge. Sometimes all the necessary knowledge and equipment are available, while the quality of care is still substandard. The *Saving Mothers report* (SA, 2002b:35) emphasises that transport and referral problems cause an increase in maternal mortality. These problems arise because Level 1 and Level 2 hospitals are expected to deliver care that they are neither skilled nor equipped to deliver (SA, 2002b:35). This causes a discrepancy between the levels of care provided, with a resultant increase in maternal mortality due to the substandard quality of care. The problem of midwives not delivering the standard of care that is expected from them is more complex than just a lack of knowledge. Factors such as unequal distribution of staff, absentee profiles, inadequate equipment and medication as well as an influx of patients make the (maternity) situation more complex. The complexity of the maternity services makes it difficult to implement the health plan for South Africa as stipulated in the *White Paper on Transformation in National Health* (SA, 1997:7). The aim must be to deliver appropriate quality intrapartum care for the specific level. In order to set certain standards, the midwives, health care facilities, community and government must work together to bring about the changes.

1.7.8 Population

The North West province is one of South Africa's nine provinces. It is the sixth most populous province (SA, 2006b:281), and the largest part of the population lives in mainly rural areas (SA, 2006b:281). The North West province is divided into four health districts (see figure.1.4), namely:

- The Dr Kenneth Kaunda (previously the Southern region)
- Naka Modiri Malema (previously Mafikeng)
- Bojanala
- The Ruth Segomotsi Momphati district (previously Bophirima).



Source: Municipal Demarcation Board 2002

Figure 1.4 The four health districts of the North West province

According to the statistical census survey in South Africa (SSA), the North West province has a population of about 3 669 349 (SA, 2006b:281). The total female population is estimated at a figure of 1 847 798, of whom 990 000 are females in the reproductive age of between 15-49 years. Rustenburg is situated in the Bojanala region, Mafikeng in the Naka Modiri Malema district and Klerksdorp and Potchefstroom are situated in the Dr Kenneth Kaunda district. These are the more urban areas in the North West province.

Klerksdorp's population is 334 497, Potchefstroom's is 166 772, Mafikeng's is 255 658 and Rustenburg's population is 370 910 (SA, 2002b:5).

1.7.9 Hospitals in the North West province

The health system of the North West province consists of four Level 2 hospitals, 17 Level 1 district hospitals and nine community hospitals.

The four Level 2 hospitals are the following:

- Potchefstroom and Klerksdorp hospitals in the Dr Kenneth Kaunda district
- Mafikeng hospital in the Naka Modiri Malema district
- Rustenburg hospital (Job Tabane Provincial Hospital) in the Bojanala district.

This research was conducted in the North West province, since it is a resource-poor province with no Level 3 referral hospital. The Level 2 hospitals in the province act as referral hospitals. The North West province showed an increase in the number of maternal deaths during the triennium 2002-2004, when a total of 326 deaths were reported, with most maternal deaths occurring at Level 2 hospitals (SA, 2006b:281). This research focused on the maternity units of the four Level 2 hospitals in the North West province (see Table 1.2).

Table 1.2 Hospitals, staff and technology available for deliveries in the North West province

HOSPITAL	Level	Total population midwives (*N*)	Advanced midwives (ADM)	Equipment and medical doctors	Deliveries per month
KLERKSDORP	2	14	7	Theatres, Sonograph, CTG monitor, Intensive care units, Specialists	±380
POTCHEFSTROOM	2	14	5	Theatres, CTG monitor, Intensive care units, Medical practitioners	±200
RUSTENBURG JOB TABANE PROVINCIAL HOSPITAL	2	15	1	Theatres, Community practitioners, Sonograph CTG monitor, Specialist	±358
MAFIKENG	2	12	8	Theatres, Community practitioners, CTG monitor	±257

Klerksdorp Hospital is a Level 2 hospital with high technology equipment available in every maternity room and the antenatal ward, including a sonograph in the obstetric unit. Specialists are available 24 hours per day in the hospital and there is a laboratory on the premises. Fourteen registered midwives work in the maternity ward, conducting an average of 380 deliveries per month. Seven of these midwives have an advanced qualification in midwifery.

Potchefstroom hospital is a Level 2 hospital and also has high-technology equipment. There is, however, no sonograph available in the maternity ward, nor specialists on 24 hour duty, but there is a private gynaecologist available for consultation. Only five of the 14 midwives have an additional qualification in advanced midwifery. There is, however, an intensive care unit available, along with transport if it is necessary for a patient to be transferred to a Level 3 hospital. Fourteen registered midwives work in this maternity unit, conducting approximately 200 deliveries per month.

Rustenburg and Mafikeng hospitals have 16 and 20 registered midwives respectively, conducting approximately 358 and 257 deliveries per month. All four hospitals act as referral hospitals for the Level 1 and community hospitals of the district. These hospitals (Level 1 and community hospitals) do not have high technology services such as a 24-hour laboratory or specialists on the premises.

1.8 RESEARCH METHOD

Various methods were used to conduct this research. First a **survey** was conducted to determine the situational analysis in the North West province. The staffing and resources, together with quality improvement initiatives were determined. A detailed description of the survey is given in Chapter 3 (see Section 3.4).

Next, the RM4CAST **questionnaire** was used to determine the practice environment in the maternity wards. The practice environment is discussed in Chapter 4 (see Section 4.5).

Thereafter focus group and individual **interviews** were conducted with management and midwives to determine the facilitating and impeding factors that influence quality of care. These are described in Chapter 5 (see Section 5.4).

Table 1.3 Research methods followed to develop the Quality Improvement Intervention Programme™ for intrapartum care

PHASE 1	OBJECTIVE	DATA COLLECTION	POPULATION AND SAMPLE	DATA ANALYSIS	RIGOUR	METHODS DISCUSSED IN MORE DETAIL
	Objective 1		***Population***:			
Situational analysis	*Explore and describe quality intrapartum care through a literature review*	Literature review	Multiple electronic data Search engines, e.g. EBSCO HOST, Nexus, Emerald, Medline, Academic Premier Research, CINAHL ***Sampling:*** Quantitative and qualitative research reports Purposive sampling according to criteria • Quality • Midwifery • Labour/labor • Intrapartum • BPG • EBP (Burns & Grove, 2009: 355-356)	Content Analysis (Mouton & Marais, 1992; Burns & Grove, 2009:528)	Inductive (Terre Blanche *et al.* 2008:8, Burns & Grove, 2009:6-7) and deductive reasoning (Terre Blanche *et al*. 2008:4, Burns & Grove, 2009:34-35)	**Chapter 2**

PHASE 1	OBJECTIVE 2	DATA COLLECTION	POPULATION AND SAMPLE	DATA ANALYSIS	RIGOUR	METHODS DISCUSSED IN MORE DETAIL
Situational analysis	*To determine the existing resources (personnel and equipment) as well as the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North West province*.	Situational analysis by means of checklist (Burns & Grove, 2009:402-403) based on literature review	***Population:*** Midwifery units in all four Level 2 hospitals in the North West province ***Sampling:*** All-inclusive sample of all four midwifery units at Level 2 hospitals in the North West province	Descriptive statistics • Frequency • Mode • Mean • Median (Burns & Grove, 2009:471-473)	Checklist Face validity Content validity (Terre Blanche *et al.* 2008:90-93)	**Chapter 3**

PHASE 1	OBJECTIVE 3	DATA COLLECTION	POPULATION AND SAMPLE	DATA ANALYSIS	RIGOUR	METHODS DISCUSSED IN MORE DETAIL
Situational analysis	*To determine the practice environment that may influence the quality of intrapartum care available at Level 2 public hospitals in the North West province*	Situational analysis *-Budget* ***-****Staffing* • Duty roster • Day/night staff • Part time • Overtime • Leave *-Equipment* • Checklist (Burns & Grove, 2009:402-403) *-Practice environment* • RM4CAST questionnaire	***Population:*** Midwifery units in all four Level 2 public hospitals in the North West province ***Sampling:*** All-inclusive sample of the four midwifery units at Level 2 hospitals in the North West province	Descriptive Statistics • Frequency • Mode • Mean • Median (Burns & Grove, 2009:471-473)	Checklist Face validity Content validity Criterion-related validity Construct validity (Terre Blanche *et al.* 2008:90-93; Burns & Grove, 2009:379). RM4CAST reliability of the PES-NWI Cronbach's alpha (Lake, 2002:920).	**Chapter 4**

PHASE 1	OBJECTIVE 4	DATA COLLECTION	POPULATION AND SAMPLE	DATA ANALYSIS	RIGOUR	METHODS DISCUSSED IN MORE DETAIL
Situational analysis	*To explore and describe facilitating and impeding factors influencing the quality of intrapartum care in their institution*	Focus group interviews and/or individual interviews with • hospital management (CEO, Nursing Service Manager) • unit managers (Kvale, 1996:292) • Focus groups with midwives (Krueger 1994:39-161; Greeff in De Vos, 2002:308; Litosseliti, 2003:8-15)	***Population:*** • Hospital management (CEO, Nursing Service Manager) • Unit managers • Midwives In Midwifery units in Level 2 hospitals in the North West province ***Sampling:*** All the midwives **N=76** and managers(CEO, Nursing Service Manager and Unit Manager) **N=12** willing to participate	Open coding for interviews (Cresswell, 2003:192-193; Burns & Grove, 2009:522-523).	Credibility Transferability Dependability Confirmability (Klopper, 2008:69-70; Krefting, 1991:215-221; Lincoln & Guba, 1985:290)	**Chapter 5**

PHASE 1	OBJECTIVE 5	DATA COLLECTION	POPULATION AND SAMPLE	DATA ANALYSIS	RIGOUR	METHODS DISCUSSED IN MORE DETAIL
Programme development	*Develop a QIIP™ for Intrapartum care*	Using data from objectives 1-4 Curriculum development • *Step 1* Establish the context • *Step 2* Formulate the outcomes • *Step 3* Develop a macro-curriculum • *Step 4* Develop a micro-curriculum • *Step 5* Evaluation of QIIP™ (Uys & Gwele, 2005:27)	***Population:*** Retrieval of multiple electronic data bases and hard copy search Input from stakeholders • Subject • Research • Instrument • Policy • Political specialist ***Sampling:*** Theoretical sampling (Strauss & Corbin, 1990:177-193)	Content analysis (Burns & Grove, 2009:528) Deductive and inductive logic	Inductive (Terre Blanche *et al.* 2008:8, Burns & Grove, 2009:6-7) and deductive reasoning (Terre Blanche *et al*. 2008:4, Burns & Grove, 2009:34-35) Analysis Synthesis from objective 1-4	**Chapter 6**

1.9 RIGOUR

The researcher used the framework of Guba and Lincoln (2005:290-311), which is supported by Krefting (1991:214-222), Morse *et al.* (2002:1-19) and Botes (1995:143-147), to describe strategies to enhance rigour in this study. According to Guba and Lincoln's framework (2005:290-311), the researcher questioned herself about the following basic standards and measures that are outlined in each chapter:

- Is the research well defined to ensure theoretical validity?
- Can the research findings be trusted? Was credibility assured when the population was chosen and the data collected and analysed? What is the authority of the researcher?
- Can the research findings be applied elsewhere? Are the findings transferable to another maternity ward in a public hospital?
- How consistent are the research findings? Can the researcher depend on the data being the same if repeated elsewhere in another maternity ward in another public hospital?
- Are the research findings neutral? Was the research done without prejudice and can it therefore be said that it has operational validity?

The rigour of each method is fully described in Chapter 4 and Chapter 5.

1.10 ETHICAL CONSIDERATIONS

An overview of the ethical considerations is provided in this research study. Generally accepted international ethical principles in health research were applied, as outlined in the Helsinki Declaration and described in DENOSA (1998:1-8), Burns and Grove (2005:181-198) and Brink *et al.* (2006:30-43).

1.10.1 Code of ethics

The researcher made a conscious and deliberate decision to adhere to local, national and international ethical standards. Constant awareness of the ethical considerations was maintained throughout the research process.

1.10.2 International ethical governance

International ethical guidelines of the International Council of Nurses (ICN) (2006b, 1-2), the Helsinki Ethical Declaration and the Nuremburg Code (Guidelines for postgraduate studies, North-West University, 2008:33-34) that stipulate the handling of human subjects in medical research were followed by the researcher.

1.10.3 National ethical governance

At national level, the researcher adhered to the code of ethics as stipulated by the Medical Research Council (MRC) (Guidelines for post-graduate studies, North-West University, 2005:31), the Department of Health (Ethics committee: North-West University, 2006:1) and the Democratic Nursing Association of South Africa (DENOSA, 1998).

1.10.4 The University's code of ethics

As a registered PhD candidate of North-West University (Potchefstroom campus) the researcher adhered to the ethical code of the University as stipulated by statute. A research proposal was submitted to the School of Nursing Science ethics committee, after which it was sent to the North-West University ethics committee, Potchefstroom campus. The University issued an ethics number **NWU-0015-08-S1** (Appendix A).

1.10.5 North West Department of Health

Nine months after the researcher requested ethical approval from the North West Department of Health, it was granted (Appendix B).

1.10.6 Selected hospitals in the North West province

Having received ethical approval from the North West Department of Health, the researcher made appointments with the four Level 2 Hospitals in the province to obtain permission to conduct the research in their institutions. Six months passed before all the institutions granted permission for the research to be done (Appendixes C, D, E, F).

1.10.7 The responsibility of the researcher to protect the rights of the participants

- **Informed consent**: Before any data collection was done, the participants were provided with information leaflets and consent forms requesting their consent to voluntarily participate in the study. Participants received appropriate and adequate information both verbally and in writing (Appendix G). Data were collected only once written consent had been obtained (Burns & Grove, 2009:201, 204). Participants were assured that they could withdraw at any stage if they wished, without any prejudice (Brink *et al.*2006:31).

- **Anonymity and confidentiality**: The names of the participants (midwives and members of the hospital management) correlating with which Level 2 hospital will not be divulged. Assurance was given that there would be no clues as to the identity of the participants as codes were used (Burns & Grove, 2009:196). The participant's had the opportunity to express their wish to be informed about the research findings in which case they had the opportunity to write their name and address on a form. There is however no link between the focus group or interview and the participants information. Audiotapes and scripts were kept safe until data collection was completed and thereafter they were destroyed.

- **Privacy**: Participants (midwives and members of the hospital management) had the right to determine the conditions under which private information would be shared and the extent to which this information would be shared.

- **Benefits**: The benefits derived from participating in the study were communicated to the participants (midwives and hospital management) and authorities (North West Department of Health). The maternity wards participating in this research would receive a QIIP™ grading indicating the quality intrapartum care they rendered.

- **Protection from discomfort and harm**: The right to protection from discomfort and harm is based on the ethical principle of beneficence, which dictate that one do good and most important do no harm (Burns & Grove, 2009:198). The researcher therefore tried to conduct the research study without any harm or discomfort and bring a positive balance of benefits in comparison to harm, The information that is shared will not influence the participants work relationships with colleagues and other members of the management team (Babbie, 2007:63). As the information is not sensitive by nature, no known risks were foreseen during the study. However,

participants (midwives and management) were protected from psychological harm, and if psychological harm were identified, they would be referred to appropriate psychological services. The participants could withdraw at any time during the research study.

- **Right to fair treatment:**

  The ethical principle of justice forms the bases for the right to fair treatment. This principle underlines that each person or participant should be treated fairly and receives what he or she is due (Burns & Grove, 2009:198). In this research there was a fair selection of the population and the specifically the participants. As the participants were directly related to the research problem they were chosen to participant in the research (Brink *et al.* 2006:33).

  The researcher did not chose the participants because they will specifically benefit from the research (Brink *et al.* 2006:33), however benefits derived from participating in the study will be communicated to participants (midwives and hospital management) and authorities (North West province Department of Health).

1.10.8 The researcher's responsibility to do research of a high quality

- **High standards with regard to planning, implementing and reporting of research**

Planning, implementing and reporting on research were carefully conducted. The proposal for the research was approved by the Doctoral Committee of the School of Nursing Science and the work was supervised by two experienced researchers.

- **Displaying integrity by stating supporting and opposing views**

Various points of view found in the literature and during data collection, are spelt out.

- **Acting honestly regarding results**

No results have been disguised, fabricated or falsified, and all participants, co-workers and sponsors have been acknowledged. Plagiarism and copyright as described in the Guidelines for Postgraduate Studies (North-West University, 2008:28-29) are acknowledged.

1.10.9 The researcher's responsibility to share the results

- **Giving feedback on the research**

After giving informed consent, each participant had the choice of whether they wanted to be informed individually about the results by the researcher. The results of the research will thus be shared in the form of a report with all the participants who submitted their addresses as well as with the management of the various hospitals and the North West Department of Health.

- **Distribution of information regarding this research**

These research results will be distributed to other scientists and service providers (hospitals and midwives) through journal articles, workshops and congress papers.

- **Implementation of the QIIP™**

Implementation of the QIIP™ for intrapartum care developed in this study should improve and thus benefit pregnant woman and neonates by reducing MMR and perinatal mortality rate, and provide a positive practice environment for the staff working in the maternity units.

1.11 LAYOUT OF THE RESEARCH REPORT

This thesis consists of the following chapters listed here to orientate the reader.

Chapter 1 Scientific grounding of the research

Chapter 2 Literature review

Chapter 3 Existing resources (personnel and equipment), as well as the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North West province.

Chapter 4 The practice environment that may influence the quality of intrapartum care at Level 2 hospitals in the North West province.

Chapter 5 Facilitating and impeding factors influencing the quality of intrapartum care provided at Level 2 hospitals in the North West province.

Chapter 6 **Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™) for intrapartum care.

Chapter 7 Evaluation of the study, limitations of the study, recommendations for practice, research, education and policy

1.12 SUMMARY

In this chapter, the reader is presented with the scientific grounding for the development of the Quality Improvement Intervention Programme (QIIP™) for intrapartum care. The background and problem statement, aims and objectives followed the research questions. The researcher's declared the meta-theoretical, theoretical and methodological assumptions. The research design and research methodology applicable to the whole of the research study were discussed, and the detailed methods for each objective are discussed in the relevant chapters. The rigour and ethical considerations applicable to the research study and the layout of the research report conclude Chapter 1.

The first objective of Phase 1 is discussed in Chapter 2: Literature review.

CHAPTER 2

CHAPTER 2

LITERATURE REVIEW

(Phase 1: Objective 1)

2.1 INTRODUCTION

Chapter 1 presented the problem statement, objectives, paradigmatic perspective as well as an overview of the research design and research method that were used in this research.

In Chapters 2, 3, 4 and 5 the research method, results and conclusions of the first five steps that constitute Phase 1 are discussed. The first objective of Phase 1 was to investigate and describe quality intrapartum care. This was accomplished by conducting a literature review. The literature review forms the basis (theoretical validity) for the development of the checklist for the situational analysis (Objective 2 and Objective 3 of Phase 1). Table 2.1 gives Objectives 1 to 4 of Phase 1 and Objective 5 of Phase 2 of the study.

Table 2.1 Structure of the research study – Objectives of Phases 1 and 2

PHASE 1: SITUATIONAL ANALYSIS	PHASE 2: PROGRAMME DEVELOPMENT
Objective 1 *To explore and describe the quality of intrapartum care through a literature review.*	**Objective 5** *Develop a QIIP™ for intrapartum care.*
Objective 2 *To determine existing resources (personnel, equipment) as well as the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North West province.*	
Objective 3 *To determine the practice environment that may influence the quality of intrapartum care at Level 2 hospitals in the North West province.*	

Objective 4 *To explore and describe facilitating and impeding factors influencing the quality of intrapartum care in the institutions.*	

This research was conducted to make a meaningful contribution to the body of knowledge of nursing science, specifically knowledge related to quality intrapartum care through the development of a QIIP™. The outcome of this chapter forms a theoretical framework of quality intrapartum care as applied to QIIP™. The search strategy of the extensive literature review is described.

2.2. SEARCH STRATEGY

A literature review was conducted as the research method of choice to address the problem (Torraco, 2005:358). The search strategy included the following:

- Keywords: Midwifery, labor/labour, intrapartum, quality of care, evidence-based practices, intervention, best practice guidelines
- The databases identified those that represent the field of health science, specifically midwifery and quality care, and included: EBSCO HOST, Emerald, Medline, Academic Premier Research, CINAHL, Cochrane Library and Nexus.
- Inclusion criteria: different forms of evidence including research and non-research evidence grounded in practice and striving towards improving health care were included. In the search for best available scientific evidence, primary research studies in peer-reviewed journals were used (Pearson *et al.* 2005:207). Non-research evidence included summaries of research such as literature reviews, expert opinions, human and organisational experiences, practitioner experience and expertise as well as patient experiences. The knowledge domain consists of personal, aesthetic and ethical knowledge, which are reflected by the expertise, experience and values of individual practitioners or collective professional authorities.

- Only papers published in English were included. Unpublished literature and grey literature, e.g. policy documents, reports and dissertations, were scanned for relevant information.
- Parameters: The past 15 years 1995-2010 (major changes have occurred during this period).
- The search was conducted between 2007 and 2010.

The utilisation of keywords in various combinations revealed numerous articles focusing on a range of issues relating to the quality of intrapartum care. As this is an emerging topic, it is more likely to lead to a preliminary conceptualisation of the topic that offers a new perspective (Torraco, 2005:357, 364; Billay & Myrick, 2008:258). Themes applicable to this research are reflected in box 2.1:

Box 2.1 Theoretical perspective on quality intrapartum care

- **Quality of care**
- **Quality improvement and quality assurance**
- **Quality models**
  - General quality models
  - TQM
  - Hospital-specific quality models
  - Quality models for intrapartum care
- **Intrapartum care**
  - Elements of intrapartum care
  - Risky intrapartum practices
  - Essential equipment for intrapartum care
- **Positive practice environments**
  - Definition
  - Strategies for the development of positive practice environment
- **Patient outcomes**
  - Staff outcomes
  - Organisational outcomes

Knowledge generated by this research will form the basis for the development of an intervention programme (QIIP™) to resolve (improve) health (intrapartum) problems and lead to quality health (intrapartum) care (Graves, 2008:17). Before QIIP™ can be developed it is important to take a step back and determine the meaning of quality, and understand the various quality models and the importance of a positive practice environment in rendering quality intrapartum care.

2.3 QUALITY HEALTH CARE

This section explores and describes the historical background of the development of quality care as stated in the literature. First, the agreed definition of quality care was explored. According to Longman English Dictionary, quality is something (a person or service) that is very good (Summers, 1995:1155). De Geyndt (1995:2) elaborates on this and states that the definition dictates the contents and judgements, and advocates that the criteria be used in evaluating the quality of care rendered.

Quality care is a multidimensional and multifaceted concept interwoven with value judgements of what quality care entails. As early as the 19th century, Florence Nightingale improved health care through hygiene, sanitation, dietary improvements and discipline and organisation in hospital routine (De Geyndt, 1995:10). This simple approach greatly improves the reduction in hospital mortality. The US was the first country to institutionalise its concerns regarding the improvement of quality care. Different countries developed different quality standards to improve the quality of care in hospitals. The definition of quality care is first given here so that the reader can understand the researcher's view of what quality entails.

2.3.1 Definitions of quality health care

Much time and effort have been spend over decades on criticising old definitions and developing new definitions of quality (See table 2.1). Donabedian (1966) was the first author to develop a definition of quality, while Hulton *et al.* (2000:9) proposed a new definition for quality of care within the maternal health context.

Table 2.2 Definitions of quality of care

YEAR	AUTHOR	DEFINITION	CONTRIBUTION
1966	Donabedian	*"Quality of care is the extent to which actual care is in conformity with present criteria for good care"* (Donabedian, 1966:166).	Includes evaluation in the definition
1990	Donabedian	Seven pillars of quality, namely (Donabedian, 1990:1115): • Efficacy – the ability to care to improve health • Effectiveness – the degree to which health improvements are realised • Efficiency – to obtain the best health improvement at the lowest cost • Optimality – balancing cost and benefits • Accessibility – optimal patient-staff relationship including cost-effective care • Legitimacy – conformity to social preferences influencing the individual, family and community • Equity – fairness regarding the quality of care rendered.	Pillars of quality of care
1990	Institute of Medicine (IQM)	*"Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired outcomes and are consistent with current professional knowledge"* (Institute of Medicine, 1990:4).	Knowledge is linked to quality care
1995	De Geyndt	Quality of health care was largely defined as the absence or shortage of financial, material and human inputs (De Geyndt, 1995:3).	Linked organisational structure, process and outcomes
1999	Coyle	Indicators such as personal value, worth, dignity and control experienced by patients are included in the definition (Coyle, 1999:118).	Criteria are set against which care is evaluated

YEAR	AUTHOR	DEFINITION	CONTRIBUTION
2000	Hulton *et al.*	*"Quality of care is the degree to which maternal health services for individuals and populations increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and uphold basic reproductive rights"* (Hulton *et al.* 2000:9).	Specific for intrapartum care
2005	Fullerton *et al.*	Intrapartum care is based on the midwife's perception of the pregnant woman's physical condition (anatomy and pathophysiology), combined with personal experience together with the wisdom of competent lecturers and mentors, to provide a knowledge base to guide personal practice (Fullerton *et al.* 2005). The intrapartum context addresses social, environmental, ethical and cultural issues influencing the intrapartum care of the pregnant woman (Fullerton *et al.* 2005).	Specific for intrapartum care
2007	Feld	Quality of care in health care can be described as "striving for and reaching excellent standards of care" (Feld, 2007; Wang, 2010). Quality of care is not only evaluating the outcome, but reducing the risk.	Improves personal health care in all fields of medicine
2010	Wang	The future of quality health care includes accreditation of hospitals. Through the accreditation, standards are set to make sure that proper procedures and patient:staff ratio are met (Wang, 2010).	Driving force behind developing standards

In research articles (De Geyndt, 1995:3; Hariharan *et al.* 2004:302; Messick & Kramer, 2005:275), Donabediun's definition is mostly referred to regarding quality of care, while Hulton's definition was the first to be used in the intrapartum context. During the past five years since 2005, no new definition regarding quality intrapartum care was found in the literature review. Taking into consideration the above definitions of quality care, it is evident

that it is difficult to derive a perfect definition, but a new definition for this research is formulated as follows: ”Quality intrapartum care must be based on the best possible evidence, given the resources (organisational, human and financial), to provide an uplifting birth experience both for the mother and midwife in a safe and positive practice environment, in which the patient is treated with dignity and worth while delivering a healthy neonate and reducing maternal mortality”.

Using this definition, the researcher could explore the pre-requisites of quality care.

2.3.2 Pre-requisites of quality care

De Geyndt (1995:10) argues that the point in the care-giving process, the physical location, the time when patient care can be measured and the importance of a quality improvement structure are factors to take into consideration when determining the unit of analysis. The four most important variables of analysis are the personnel, the clinical setting, programmes in the institution and the target group.

2.3.2.1 Personnel

South Africa’s health care system is nurse-driven: at present nurses outnumber physicians 5 to 1, and the majority of health services are rendered by nurses rather than doctors (Dohrn *et al.* 2009:27). The midwives in the maternity unit provide the care to the pregnant women. The WHO (1997:9) has stated that the midwife appears to be the most appropriate and cost-effective health care provider to render care during the antenatal, intrapartum and postpartum periods. In order to render quality intrapartum care, two elements are important, namely (a) technical performance, which includes skills and knowledge in choosing the appropriate strategies of care, and (b) the interpersonal relationship between the patient and the health care worker (De Geyndt, 1995:10; SA, 2007b:9). This leads to the expectation that the midwives should be clinically competent, have received EBP in-service training and are committed to lifelong learning (Baramee & Blegen, 2003:389; Parkhurst *et al.* 2005:128). The increase in skilled attendance at birth was identified as the sole process indicator that guides the progress in achieving the MDG of reducing MMR (Parkhurst *et al.* 2005:130). For a positive outcome during the intrapartum period, midwives must be empowered with the necessary knowledge and skills to render quality intrapartum care (Matthews *et al.* 2006:182). In the HIV/AIDS context it has become clear that nurses (midwives) are insufficiently empowered, due to limited resources, to play their key roles effectively (Dohrn *et al.* 2009:27). It is expected that practising South African midwives be registered with the

South African Nursing Council (SANC, 2006), that they will take the Batho Pele Principles (SA, 1997b) and the Patient Right Charter (SA, 1996) into consideration and that they will care for their patients with dignity and respect. The midwifery workforce has issues of its own, which will be discussed later in the chapter, which influence the quality of care rendered; the clinical setting is the next pre-requisite to be discussed.

2.3.2.2 Clinical setting

The clinical setting is where care is provided. This includes primary or first level contact, for example clinics, health care centers and private consulting rooms. Ambulatory specialised care involves hospital outpatients, emergency clinics and free-standing diagnostic and therapeutic facilities as well as acute inpatient hospital care (De Geyndt, 1995:10). Accreditation of health care facilities and continuous quality improvement systems are used to analyse the systems that are in place and the processes used in these fixed facilities. The accessibility of maternity services plays a large role in the maternal outcome (Parkhurst *et al.* 2005:130; Wang, 2010). Within the public context it is important that the health facilities operate at a certain level of care that is acceptable to the patients, the midwives and the government. Dr Molefi Sefularo, former Deputy Minister of Health, stated that government is committed to upgrading tertiary hospitals so that they are the most desirable places to work in South Africa (Sefularo, 2009:7).

2.3.2.3 Health care initiatives

The National Health Policy regarding quality care organised health care programmes such as HIV/AIDS, the Prevention-of-Mother-to-Child-Transmission Programme (PMTCT), the Safe Motherhood initiative, breastfeeding, and the Perinatal Problem Identification Programme (PPIP), *Maternity Guidelines for South Africa*, the *Confidential Enquiry into Saving Mothers* and *Saving Babies Report*, maternal and child health and family planning are stimulators of quality improvement. These initiatives by the South African Government were developed to improve the quality of care rendered to pregnant women; however, it is necessary that these initiatives be implemented in all practises (SA, 2009a; SA 2009b; SA, 2007a, SA, 2007b). The aim of these initiatives is to decrease MMR and safe the life of mothers and neonates.

2.3.2.4 Target groups/Community engagement

Target groups who must receive high-quality care should be determined, namely the individual, the family and the community of a specific geographical area (WHO, 2008b:3).

Target groups and specific programmes often go hand-in-hand (De Geyndt, 1995:11). The midwives who render quality care in a specific geographical area need to communicate with the community to determine their expectations and provide them with the necessary information (Hulton *et al.* 2000:44). The various communities have different socio-economic backgrounds and therefore their needs vary. In the North West province, which is a rural area consisting mainly of people with a low income, patients use the intrapartum care rendered by the public Level 2 hospitals (Pretorius, 2001:155). The pregnant women (patients) in lower socio-economic group are the main users of public hospitals and do not have the choice of paying for private doctors or alternative intrapartum (health) care.

2.3.3 The socio-economic status (SES) of patients

Maternal care is a basic right for every woman despite her SES (Antezana & Haines, 1997:1163; Padarath *et al.* 2003:6; Derr, 2010). The WHO (2008a:1) reported that inequity of SES throughout the world is one of the signs associated with the high incidence of maternal mortality, while reflecting the gap between rich and poor. The association between SES and health outcomes at the individual level has been reported throughout the world. A strong inverse association between SES and morbidity and mortality has been reported over time in different countries (Szwarcwald, 2002:177). Developing countries lead with 99% maternal deaths worldwide, with more than half of these deaths occurring in sub-Saharan Africa. This has led to attempts by the WHO to reduce health inequalities as a central goal of health policies and the development of programmes to achieve a more equitable share of good health (Szwarcwald, 2002:177). In the “Health for All” value system, human rights, health security, equity, ethics and gender, health is central to development (Antezana & Haines, 1997:1163; Dohrn *et al.* 2009:27). The WHO has adopted the strategy of “Health for All”, which focuses on reducing health inequalities between countries. Over the past few years this initiative of improving health and reducing health inequalities worldwide is now considered as a priority (Szwarcwald, 2002:177). Research conducted by Szwarcwald (2002:180) focuses not only on the measurement of socio-economic inequalities in health within a population, but also on the evaluation of the health system performance in reducing health inequalities. Although government and midwives cannot do anything about pregnant women’s socio-economic status, midwives can provide them with the necessary health education to better their situation within their limited finances.

All countries have the challenge of addressing poverty and improving maternity services to reduce maternal mortality (SA, 2006a: iii). South Africa has had free maternal services for pregnant women since 1994, yet the maternal morbidity and mortality statistics show that

more mothers are dying every year, either due to better reporting of maternal deaths or to an increase in the actual numbers (SA, 2006a:vii; SA, 2009a:3). The maternal mortality ratio is an important health status indicator and a critical measure of human development that is internationally comparable.

All pregnant women are at risk of obstetric complications and therefore need effective access to essential maternity care. Hulton *et al.* (2000:3) respond that the existence of such care does not guarantee the outcome, but that high-quality care will improve the outcome through adequate treatment and early utilisation. Hulton *et al.* (2000:5) argue that in practice the same hospitals or clinics that render essential maternity care also carry out normal births. It is thus likely that a woman's experience of the care that she received during the birth of her baby will influence her future health-seeking behaviour (Hulton *et al.* 2000:40). This may lead to delay, when in labour, in seeking help or staying at home a little longer or travelling a bit further to a clinic or hospital where the patient thinks the care is of a higher standard. This is also the case in the North West province, which consists mainly of remote rural areas and where pregnant women have to travel long distances to reach a health care facility in time to receive appropriate care as result of their SES (Pretorius, 2001:17, 18; SA, 2009a:3).

Its important to acknowledge that effective appropriate intrapartum care is one of the most important means to reduce maternal mortality and that the poor quality of care received in a normal uncomplicated delivery may impact negatively on the maternal and neonatal outcome if the timing is delayed as a result of substandard care (Hulton *et al.* 2000:5). In South Africa the *Saving Mothers Reports* and *Saving Babies Reports* over the past 10 years have shown evidence of avoidable factors, missed opportunities and substandard care that have contributed to the rise in the MMR (SA, 2002b; SA, 2006b; SA, 2009a, SA, 2009b). Pretorius (2001:16,17) state that mothers hesitate to seek care when pregnant and in labour and this has a direct result on the maternal and neonatal mortality rate.

The MMR is defined as the annual number of maternal deaths per 100 000 live births (SA, 2002b:26). In recognition of the existing need to reduce maternal mortality in South Africa, maternal deaths were made notifiable from 1 October 1997 in terms of the National Policy Health Act, No. 116 of 1990 (SA, 2006b:ix). The aim of the *Confidential Enquiry into Maternal Deaths* (CEMD) can be defined as a systematic, multidisciplinary, anonymous investigation of maternal deaths occurring in a specific geographical area which identifies the associated numbers, causes and factors (SA, 2006a:2). The MMR for South Africa for the triennium 2005-2007 showed an increase of 20,1% compared to the previous triennium (2002-2004). The "big five" causes remained the same, namely: (1) non-pregnancy-related infections – mainly HIV/AIDS (43,7%); (2) complications of hypertension (15,7%); (3) obstetric

haemorrhage (12,4%), (4) pregnancy-related sepsis (9,0%), and (5) pre-existing maternal disease (6,0%) (SA, 2009a:3). In the case of HIV/AIDS poverty may increase vulnerability and risky behaviour, for example generating income as sex worker (RHRP, 2010). In 2009 the MMR in South Africa was 150/100 000 live births (SA, 2009a:5). This raises the question as to why women do not access the maternity services provided by the government, or why they access the services late and consequently suffer avoidable outcomes (death).

Quality may also have an impact on the time of arrival at the hospital/clinic (maternity ward), and that late arrivals may cause inadequate assessment of baseline findings such as vital signs and blood tests (Hulton *et al*. 2000:6). Furthermore, Hulton *et al*. (2000:6) state that women who arrive late at the hospital/clinic may have an undiagnosed complication which usually leads to a bad outcome. This may be the result of poor communication between health care professionals and patients where patients wanted to stay at home as long as possible before going into the hostile environment of the maternity ward (Vera, 1993:40). In many parts of South Africa, and also in the North West province, not all patients have their own transport and are therefore dependent on public transport, which is not always available or too costly for them. As the North West province has large rural areas, hospital facilities are not always within walking distance and the patients (pregnant women) must travel great distances to reach the facilities (Pretorius, 2001:17, SA, 2009a:3). The fact that the North West province does not have Level 3 hospitals, the patients are referred to hospitals outside the province when specialised care is needed. This is an indication of poor quality of care in these circumstances, and an outcome of preventing maternal mortality partly depends on the quality of care at the health care facilities (Hulton *et al.* 2000:6).

In First World countries researchers acknowledge that it is difficult to measure the quality of care rendered, but have established a framework to guide health care services in reviewing the quality of their care so as to improve their quality of care through critical evaluation of their activities (Hulton *et al.* 2000:1). In the “Framework for the evaluation of quality of care in Maternity services” Hulton *et al.* (2000:1) state that the institutions that fall short in rendering quality care can then implement this framework to bring the practice up to an acceptable standard. A strategy to improve the quality of (intrapartum) care is quality improvement and quality assurance.

2.4 QUALITY IMPROVEMENT AND QUALITY ASSURANCE

Quality improvement and quality assurance are initiatives that are developed by various researches in different contexts and implemented to improve the quality of care currently rendered.

2.4.1 Quality assurance versus quality improvement

Quality assurance and improvement procedures in hospitals, together with accreditation procedures, are in place to protect the community (Woodward *et al.* 2000:94). A paradigm shift is necessary to motivate quality improvement efforts from the traditional assurance approach. De Geyndt (1995:22) distinguishes between the external stimuli from an accreditation body or legal authority which causes behaviour that differs from internal stimuli as result of managerial and organisational expectations to meet customers' (patients') expectations and to excel continuously and effectively. Furthermore, De Geyndt (1995:22) states that quality assurance responds to professional and legal mandates, while quality improvement focuses on the interrelation of work processes, and taking responsibility and ownership to improve the work done. Quality improvement must be an integral part of every health care worker (midwife), and it must also be a collective managerial responsibility in addition to being a legal or professional mandate.

Table 2.3 Differences between quality assurance and quality improvement

	QUALITY ASSURANCE	QUALITY IMPROVEMENT
Legitimacy	Legal mandate Professional authority (SANC)	Collective responsibility Customer satisfaction Employee empowerment
Motivation	Useful tool Accreditation Regulator as consumer	Way of thinking, philosophy Excellence driven and competent Heightened satisfaction of multiple internal and external customers
Source of error	Employee	Process and system
Attitude	Required, defensive Externally imposed	Chosen, proactive Internally orientated
Means	Meet standards Inspect and repair	Meet performance expectations Prevention
Leadership and usess	Remove bad apples Clinical outcomes	Common and special causes Processes

Scope	Selected departments Professional specialties	Organisation wide Total work process
Characteristics	Assess quality of patient care Focus on specific department Performance: meet prescribed standards	Proactive Excel beyond national standards Increase everybody's performance

(Adapted from De Geyndt, 1995:22).

Quality improvement concentrates on the concept of "customer" and defines quality in terms of meeting and exceeding customer's needs and expectations. Organisational needs and objectives are met if customers' expectations are met. These customers can be either internal or external to the organisation. Internal customers are the employees who render the service, while external customers are not employed by the health service, for example the patients, referral physician, family and the community (De Geyndt, 1995:22).

(De Geyndt, 1995:22) distinguishes quality assurance as being primarily focused on meeting the standards and targets of the health service. Quality assurance is an ongoing activity that serves as the eyes of upper management. Quality assurance activities are executed in all development processes to help maintain an expected level of effectiveness (Wikipedia, 2008e). In this approach committees are often established to inspect performance and investigate clinical outcomes and to determine why programme outcomes are unsatisfactory and why there seems to be a lack of support.

Research conducted by Adeyi and Morrow (1997:1636) in Nigeria indicated an absence of local standards of practice for intrapartum care which midwives should adhere to on a daily basis. Research conducted by Du Preez (2004:33) found that *Guidelines for Maternity Care in South Africa* were distributed by the Department of Health in 2000 to act as a guideline to improve the quality of care in maternity services and to reduce the maternal and neonatal mortality in the country for implementation in 2002. However, *Guidelines for Maternity Care in South Africa* was not implemented in all the clinics and hospitals as proposed by the Department of Health (SA, 2000:1).

In 2002 and 2007 follow-up *Guidelines for maternity Care in South Africa* was published which were adapted to include the latest research findings on maternity care (SA, 2002a:1; SA, 2007b).

Adeyi and Morrow (1997:1636) reported that research conducted to evaluate an initiative to improve the quality of care indicated that task observation is more resource-intensive and

intrusive that records. While new records reflect the current situation, old records reflect the previous situation.

For the purpose of quality improvement efforts of each health centre (maternity unit), a large number of indicators based on each task in the process of intrapartum care are used. Adeyi and Morrow (1997:1636) suggest that a “Pareto chart” be used as a self-evaluation tool to show which tasks are being performed and which are not.

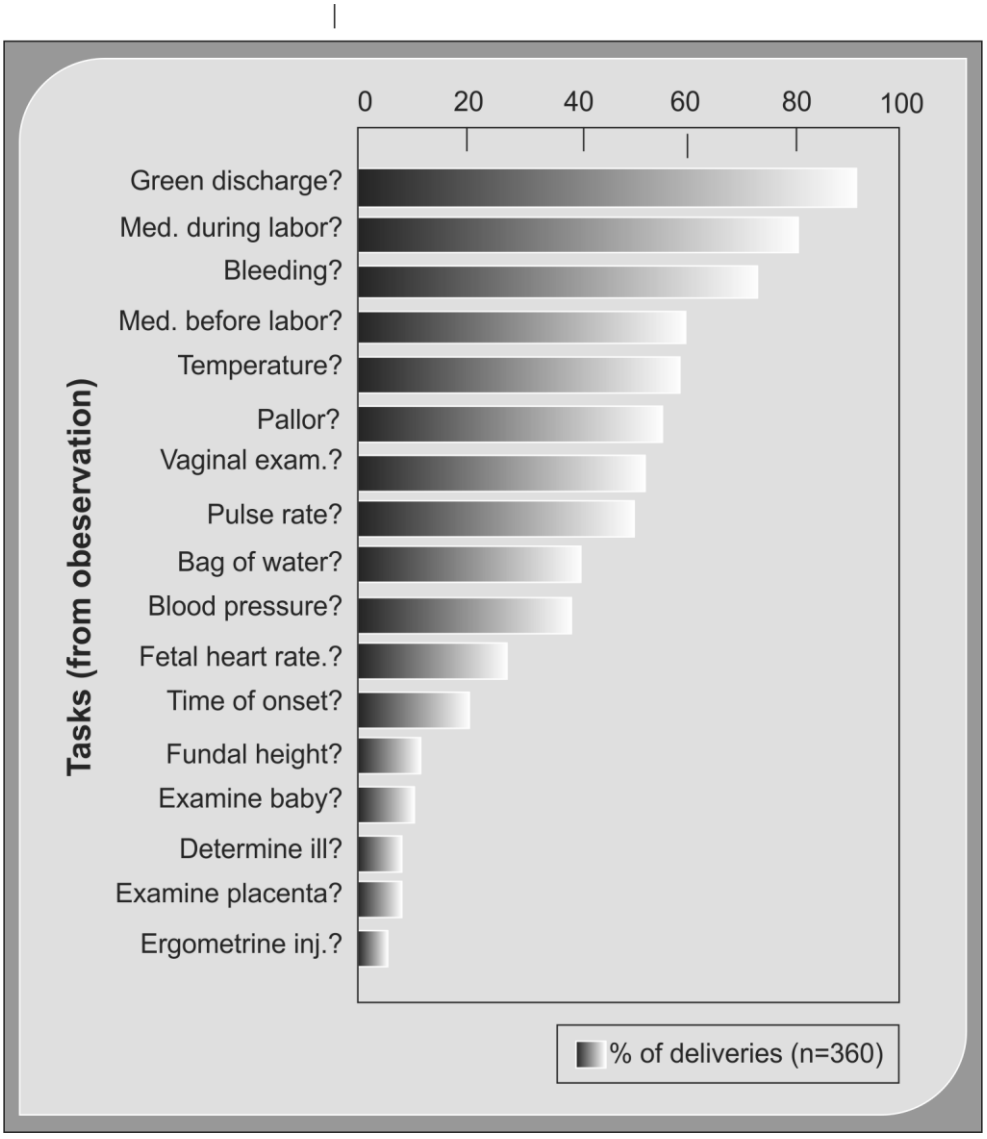


Figure 2.1 Pareto chart of tasks not performed

(Adeyi & Morrow, 1997:1637)

Adeyi and Morrow (1997:1637) state that “standing orders” also known as protocols and policies provide the basis for developing useful methods to assess the quality of intrapartum care. Therefore these guidelines should be more explicit in specifying good quality care, and should guide managers, unit managers and personnel (midwives and doctors). Furthermore, copies of these guidelines should be freely available in every health centre and maternity unit.

2.4.2 Quality assurance interventions needed for quality care

The Department of Health identified four main targets for intervention in the health care service:

- Health professionals
- Patients
- Community
- The health service delivery (SA, 2007a:6).

2.4.2.1 Interventions aimed at health professionals

One of the major challenges that health professionals are confronted with is the rapid change rate and innovation within the health sector. To keep up with these changes is a challenging task. Health care professionals and midwives are overwhelmed by an overload of information. This situation leads to quality care problems because the health care professionals have outdated skills or inadequate (SA, 2007a:6).

Traditionally, health care professionals and midwives are sent to conferences for up-to-date midwifery education. Research by the Department of Health (2007a:7) showed that conferences alone are not an effective method, but more individualised methods such as academic detailing seem to be more effective than traditional academic methods. Various methods are included in academic detailing, such as lectures by an expert, printed guidelines and one-on-one visits with each practitioner.

Structured encounter is another method of improving the quality of care. Prenatal forms such as Basic Ante Natal Care (BANC) are an example of this. Trials by the Department of Health indicated that practitioners using a structured form had greater adherence to standards than

those without a form. Patients and health practitioners were positive that it was a useful way to improve the quality of care (SA, 2007a:7).

The *Policy on Quality Health Care in South Africa* (2007a:7) suggests that one or two single measures be used to keep health professionals abreast of changes in knowledge and practice such as in-service training and workshops.

2.4.2.2 Interventions aimed at patients

One of the aims of the *Policy on Quality Health Care in South Africa* (2007a:7) is to understand the perceptions and concerns of patients as a key to improving the quality of care.

To obtain a positive health outcome emphasis is placed on a partnership between the patient and the health service provider. This can happen when open communication with understandable information is given to the patient (SA, 2007a:7). It seems that multiple approaches are more successful than single education strategies for patients to be convinced to participate in a recommended intervention. Strategies that focus on the needs and attitudes of patients, commonly use to enhance the use of preventive services, as well as the management of chronic conditions, seems to be a successful approach to this problem (SA, 2007a:7).

2.4.2.3 Interventions aimed at the community

The active participation of the community is also important for quality improvement. This is clearly demonstrated in the role that communities play in the fight against HIV and AIDS (SA, 2007a:7). Non-governmental organisations (NGOs) and community-based organisations (CBOs) play an important role in mobilising communities to action regarding health issues. Representative structures such as clinic committees and hospital boards help in the facilitation of community participation on health issues (SA, 2007a:8).

2.4.2.4. Interventions aimed at delivery systems

According to the *Policy on Quality in Health Care for South Africa*, it is vital that hospital managers should help to improve the quality of care by modernising health care. There is an increased focus on problems in the health care system. By identifying weaknesses in the health care system that cause errors in the processes or outcomes, systems can be redesigned to improve the quality of the care rendered (SA, 2007a:8). QIIP™ will be one of

the quality improvement initiatives to monitor and evaluate current practice to constantly improve quality. Existing quality models are investigated to form the foundation for the development of QIIP™.

2.5 QUALITY MODELS

Although midwifery by nature is the caring for patients (pregnant women), this does not mean that the hospital is not a business and therefore the same principles should apply (Henry, 2006:9). Excellence models became international practice to provide a benchmark for organisations to improve their performance to a level of excellence (Van Heerden & Roodt, 2007:18). In the following section different quality models, namely Total Quality Management (TQM), hospital-specific quality models and quality models for intrapartum care are discussed.

2.5.1 General quality models

In order to improve the quality of care rendered it is important to know what quality models already exist. Various types of quality models have been developed in recent years to find the most applicable model for a specific organisation or hospital. Every model makes specific assumptions, with strengths and limitations, which it applies, to set the boundaries. The following general models were studied: Deming's model, the Malcolm Baldridge Quality Award, the European Foundation for Quality Management and the Balanced Scorecard. These models are either based on economic or industrial models rather than on maternal needs, although they do form a foundation for the quality intervention.

2.5.1.1 The Deming model

The work of W. Edward Deming on quality is demonstrated in the success of the Japanese electronic and automobile industries. As early as the 1950s Deming taught top management how to improve design and thus service through improving product **quality**, **dependability,** testing and sales (Wikipedia, 2008c; Van Heerden & Roodt, 2007:19). Deming's message to Japanese executives was: "*Improving quality will reduce expenses while increasing productivity and market share."*

The Deming control loop cycle includes (Watson, 2002:6; Perides, 2002:58):

- **Plan** – identify customers' needs and expectations – set strategic objectives

- **Do** – implement and operate processes
- **Check** – collect business results. Monitor, measure the processes, review and analyse
- **Act** – improve process performance.

This control loop cycle is also applicable in the maternity unit to improve the quality of intrapartum care rendered by

- **Planning** the patients' needs and expectations
- **Implementing** quality intrapartum care
- **Checking** if quality intrapartum care is being rendered by conducting audits on maternity records
- **Acting** by conducting safe evidence-based intrapartum practices.

Quality guru Deming helped the discipline of quality to leapfrog into the era of quality assurance and control and quality management (Borawski & Brennan, 2008). A paradigm shift in thinking and practice occurred in the late 1980s with the success Japan achieved through the application of Deming's "Total Quality Management" (TQM) principles (De Geyndt, 1995:10). Deming focused not on quality but on management, and this evolved into the 14 Points of Management based on the principle that managers who fail to plan for the future bring about a loss of market, which brings about loss of jobs (Cohen, 2008; Wikipedia, 2008c). Deming's steps are important to implement as part of QIIP™ as the implementation of the Deming control cycle will help to manage the quality of intrapartum care. The 14 points of Deming's model can be included in the improvement of the quality of intrapartum care: the statements in bold below indicates the application in intrapartum care.

Deming's 14 points

- "Create constancy of purpose towards improvement of product and service, with the aim to become competitive and stay in business, and to provide jobs." **Teach the midwives to become ambassadors who are proud of their maternity units and strive to render quality intrapartum care.**

- "Adopt a new philosophy. Leadership must take charge of their responsibilities in a new economic age." **A philosophy of rendering quality intrapartum care must be included in the mission and vision of the maternity unit.**

- "Cease dependence on inspection to achieve quality. By building quality into the product, there will be no need for mass inspection." **In a maternity unit, quality can be measured by auditing maternity records and by patient satisfaction surveys of patients and family members.**

- "End the practice of awarding business on the basis of price tag. Minimise cost by moving to a single supplier in a long-term relationship of loyalty and trust." **A relationship between the patient and midwife should be established even before the delivery through involvement in the community before the actual delivery. Practically this can include antenatal classes and pregnancy awareness weeks.**

- "Institute training on the job – in-service training." **For the midwives to gain up-to-date knowledge, the latest research findings can be presented through in-service training or attendance of workshops and conferences.**

- "Institute leadership. Supervision should help people to do a better job." **The leadership style will motivate midwives to render their best intrapartum care. The role models of seniors for students will set the example of how excellent intrapartum care should be rendered.**

- "Minimise fear, so that everyone may work effectively for the company." **Equal workloads and fair appraisal will motivate midwives to work together as a team and thus became a strong effective maternity unit.**

- "Break down barriers between departments. The staff must work together as a team." **A patient needs the multi-professional team to work together in order to receive the best quality care. Consultation between departments can be done through open communication and without friction.**

- "Eliminate slogans in striving towards zero defects and new levels of productivity." **Strive towards becoming the best maternity unit in the province (North West province).**

- Eliminate work standards (quotas) on the factory floor – substitute leadership. **Clear work division according to the midwives scope of practice.**

- Eliminate management by objective. Eliminate management by numbers and numerical goals – substitute leadership." **Leadership will include management of midwives by example.**

- "Remove barriers that rob the hourly worker of his or her right to pride of workmanship. The work of the supervisor must change from numbers to quality." **Uplift the midwives so that each member renders quality intrapartum care that excels the norm.**

- "Institute a vigorous programme of education and self-improvement." **Motivate midwives and give everyone a fair opportunity for continuous lifelong learning. Give an award for the unit or midwife who attends the most in-service training.**

- "Involve everybody in the company to accomplish the transformation. Transformation is everybody's work" (Cohen, 2008, Wikipedia, 2008**c**). **Involve every midwife in reaching the transformation that is proposed to become a maternity unit that renders quality intrapartum care.**

2.5.1.2 The Malcom Baldridge Quality Award

In 1987 this award was establish by the quality management champion Malcom Baldridge in the US for firms that have "excelled in quality management and quality achievement" (Business Directory, 2008). The Malcolm Baldrige Quality Award was the first clearly defined and internationally recognised Total Quality Management model. This award sets out to improve competitiveness by adopting the principles and practices of Total Quality Management (TQM) (Borawski & Brennan, 2008). The original purpose of the award was to (Wikipedia, 2008a):

- Promote quality awareness

- Recognise quality achievements

- Publicise successful quality strategies.

As the need for quality practitioners grew so did the need for training in new procedures for **quality control, statistics**, **quality audits** and **principles** of TQM. The American Society for Quality (ASQ) offered a global cadre for quality professionals in the establishment of a worldwide forum where they could get together to share and contribute to the "quality" body of knowledge (QBoK). Quality improvement initiatives include:

- Answering the phone within three rings 98,5% of the time
- Monthly financial statements available within 10 days after the end of the month
- Satisfaction of members **(patients)**
- Satisfaction regarding services **(intrapartum)**
- Associated vision and participating in strategic planning **(staff are involved in the development of the vision and mission of the maternity unit/hospital)**
- Open communication from management with staff **(know the communication channels and the organogram of the maternity unit/hospital)**
- Shared information **(management, staff and patients)**
- Two-way communication and feedback **(give feedback to the staff and patients regarding decisions).**

Decisions are made based on facts and analysis, and not on intuition (Borawski & Brennan, 2008). The Europe Foundation of Quality Management developed a similar model in 1992 and it became the framework for the European Quality Award with the special focus on **society, people, partnership, resources** and **customers** (Van Heerden & Roodt, 2007:19).

Although it is helpful to get outsiders to **evaluate the hospital/maternity unit,** the hospital manager/unit manager knows his or her hospital/unit best. It is therefore advisable that the hospital manager/unit manager should compile a list of strengths and weaknesses as well as goals and how to reach them.

2.5.1.3 Balanced Scorecard (BSC)

In 2004, the value-driven measurement model of the American Society of Quality (ASQ) evolved into the Balanced Scorecard (BSC) approach (Borawski & Brennan, 2008).

The BSC developed by Kaplan and Norton (1992:71) defined a set of measures that give top managers a fast but comprehensive view of the business (hospital/maternity unit). The BSC is a strategic planning and management system that was built on existing management ideas such as TQM. The balanced scorecard is used extensively in business, government and non-profit organisations to align their business activities with the vision and strategy of the organisation (Harber, 1998:59; Analytix, 2003; BSCI, 2007; Van Heerden & Roodt, 2007:20; Bussinessballs, 2008). The self-assessment of the organisation identifies strengths and weaknesses in the organisation (Van Heerden & Roodt, 2007:19). The implementation of the BSC transforms the organisation's **strategic plan** from a passive document into "marching orders" for the organisation (BSCI, 2007; Bussinessballs, 2008). The BSC enables organisations to **translate their vision and mission into action**. Kaplan and Norton (1992:73) explain the BSC as a way to clarify, simplify and operationalise the vision of an organisation (hospital/maternity unit). The BSCI (2007) emphasises that the BSC thus acts as a powerful tool to mobilise strategic planning from an academic exercise into the nerve centre of an enterprise. Analytix (2003) describes the BSC as a systematic link between the vision (objectives), strategy (game plan) and performance measures (statistics) related to current and ongoing decisions. In short, the BSC gives managers a fast and comprehensive view of their business (hospital/maternity unit). The metrics set-up must be **SMART** (**S**pecific, **M**easurable, **A**chievable, **R**ealistic and **T**imely). One cannot improve what one cannot measure – so the metrics must also be aligned with the company's strategic plan (Bussinessballs, 2008). It also includes financial measures that tell the results of actions already taken (Kaplan & Norton, 1992:71).

The BSC measures all levels of the organisation against five dimensions, namely:

- The learning and growth perspective (Can we continue to improve and create value?)
- The business process perspective (What must we excel at?)
- The customers' perspective (How do customers see us?)
- The financial perspective (How do we look to shareholders?) (Kaplan and Norton, 1992:72, BSCI, 2007, Bussinessballs, 2008)
- Impact and the community (Borawski & Brennan, 2008).

The above principles can all be implemented in a maternity unit that renders quality intrapartum care, and each will be discussed.

2.5.1.3.1. THE LEARNING AND GROWTH PERSPECTIVE

The BSC identifies a company's (hospital/maternity units) assets that are most important for competitive success; however, global competition and targets for success keep changing (Kaplan & Norton, 1992:75). Constantly **improving, innovating** and **learning** are directly linked to the company's values (Kaplan & Norton, 1992:76). A body of knowledge and tools that has been developed to make patterns clearer as well as options to change them effectively forms the conceptual framework of system thinking (Senge, 2006:7). As early as 1955 Akester (quoted by Barton, 1998:1279) stated that: "Recognition of nursing as a profession equal to any other is only likely to come when the nurse has a university education similar to that of other health workers*"*. Employee training and corporate **cultural sensitivity** related to individual as well as corporate improvement are included in this perspective. Government agencies find themselves unable to hire new workers while there is a decline in training of existing employees. This "brain drain" must be reversed (BSCI, 2007).

Kaplan and Norton (1992:76) distinguish between "learning" and "training". They emphasise that mentors and tutors in an organisation with an easy-flowing communication systems can be asked for help when it is needed. Technological tools such as "high-performance work systems" are included. The learning and growth perspective emphasises the role of continuous improvement in customer (patient) **satisfaction** (Kaplan & Norton, 1992:77). If the patient (pregnant woman) is satisfied, she will tell their friends and family and the word-of-mouth appraisal will attract more patients (pregnant women) to the hospital (maternity unit) to take advantage of the good quality care.

2.5.1.3.2 THE BUSINESS PROCESS PERSPECTIVE

"Because the nature of nursing is caring for people, it does not mean that it's not a business and the same principles should apply. **Saving money, empowering staff** and **improving performance** are all non-negotiable attributes of business success" Henry (2006:9). This process refers to internal business to allow managers to know how well their business is running and whether the services meet customer (patient) requirements (satisfaction). It explains to what degree the company (hospital/maternity unit) meets the criteria of its mission (BSCI, 2007). This mission is unique to the ward/organisation, therefore outside consultants (Meyer *et al*. 2004:134; Booyens, 2002:67) cannot develop it. The mission

statement gives an indication of the activities or care in the maternity unit that make it unique and different from other units (Meyer *et al.* 2004:134).

2.5.1.3.3 THE CUSTOMERS' PERSPECTIVE

Kaplan and Norton (1992:73) explain that the BSC customers' perspective is an important indicator of the organisation's mission: this is how customers see them. Customer perspective is an important indicator in management philosophy. Kaplan and Norton (1992:73) place customers' concerns into four categories, namely:

- Time
- Quality
- Performance and service
- Cost.

Time is defined as the moment a patient arrives at the hospital until she receives the necessary care or treatment. Quality may be measured in terms of the **patients' views;** it may also link to **prompt on-time delivery of needed treatment**. Performance and service are defined as how this service adds value to the patient's situation in a cost-effective manner (Kaplan & Norton, 1992:73). The BSC articulates goals for time, quality, performance and service, and then translates them into specific measures (Kaplan & Norton, 1992:73). The hospital (maternity ward) thus strives to become the customers' (patients') supplier of choice through partnership with them and delivering tailor-made services for them (Kaplan & Norton, 1992:73).

Kaplan and Norton (1992:73) recommend that in order to assess whether the hospital (maternity unit) has achieved its goal it must turn to the customers (patients) to find out what their views are. Some companies hire third parties to conduct anonymous customer (**patient**) **surveys**, resulting in customer-driven report cards (Kaplan & Norton, 1992:74). If customers (patients) are not satisfied with the service (quality intrapartum care) rendered, they will find other suppliers (hospitals/maternity wards) that will meet their needs. Poor performance is thus an indicator of future decline, even if the current financial picture may look good (BSCI, 2007). There is also the perception of patients that the quality of service rendered in the private sector is better than that in the public sector. Key to this perception is **shorter time queuing** as well as flexibility of visiting hours (Parkhurst *et al.* 2005:132).

Customer-based measures are important as they are translated into measures of what the company must do internally to meet the perceptions of the customers (patients) (Kaplan & Norton, 1992:74). Consumer polls have confirmed substantial public dissatisfaction with hospital care across different health care systems. In a cross-national public opinion poll, 18% of US and UK consumers and 24% of Canadian consumers rated their last hospital stay as fair or poor (Aiken *et al.* 2001:44). In order to excel in the market (patient care) it is important to know what in your organisation (hospital/maternity unit) can satisfy the customers' (patients'/pregnant women's) needs. Internal factors that may influence customer (patient) satisfaction are *quality, employee skills, productivity* and *factors influencing the cycle time* (Kaplan & Norton, 1992:74). Companies (hospitals/maternity units) must identify their core competencies, decide which processes and competencies they must excel at, and specify measurements for each. Seeing that most of the action takes place at grass-root level, the personnel (midwives) have the most interaction with the patients and the manager must thus take the personnel (midwives) into consideration when working out the cycle time, quality, product and cost. In this way the manager takes the individual into account and works towards achieving the overall **objectives of the company** (hospital/maternity unit) (Kaplan & Norton, 1992:75). In South Africa midwives are viewed as the backbone of the maternity services in the country (Theron, 1999:337; Parkhurst *et al.* 2005:132), and their **skills**, **attitudes, competencies** and **communications skills** are therefore the measure against how patients view a hospital/maternity unit.

2.5.1.3.4 FINANCIAL PERSPECTIVE

Health care is expensive and is taking up an increasing amount of the annual budget. Government, businesses and households all contribute to health care and they demand **accountability** from health service providers (De Geyndt, 1995:3).

Kaplan and Norton (1992:75) agree that timely and accurate financial data will always be a priority. Financial data sometimes lead to an unbalanced situation with reference to the other perceptive. A suggestion was made to include risk assessment and cost-benefit data in this perspective (BSCI, 2007).

2.5.1.3.5 MEASUREMENT-BASED MANAGEMENT

In order to improve and manage the quality of care that is rendered, it would help if mechanisms are in place to ensure that personnel strive towards excellence, especially in intrapartum care where the lives of mothers and babies are at risk. Traditionally activities were measured as "zero defects" and "quality control" was the watchword (BSCI, 2007). In

order to achieve this goal, mechanisms should be put in place to keep improving the quality indefinitely. Deming (Wikipedia, 2008c) emphasises that all business processes should be part of a system with feedback loops. In this process, managers should examine the **feedback** to determine the causes of the problem. The BSC, as part of TQM, incorporates feedback on internal business process outputs as well as on business strategies (BSCI, 2007). The results against BSC measures are used at all levels to plan, track, analyse and improve performance (Borawski & Brennan, 2008). This process is referred to as the double-loop feedback.

From these general quality models, the elements that will be applicable to QIIP™ are highlighted. The following elements are categorised according to organisational, staff/midwives, quality of care and patient expectations that were identified from the general quality models.

- **Organisational**
    - Strategic plans
    - Mission
    - Vision
    - Philosophy
    - Objectives
    - Transformational leadership
    - Open communication between management and staff
    - Cost-effectiveness
    - Productivity
    - Feedback
- **Staff/midwives**
    - Good relationships
    - Life-long learning
    - Cultural sensitivity
    - Skills
    - Competent
    - Good communication between midwives and patients

- **Quality of care**
    - Performance
- **Patient expectations**
    - Time management – prompt treatment, shorter queuing time
    - Patient satisfaction
    - Patient survey, patients' views
    - Feedback to patients
    - Partnership for a tailor-made service

Having discussed the general quality models, we now discuss Total Quality Management.

2.5.2 Total quality management (TQM)

Total Quality Management is best described as a management process of continuous improvement – a process of continuously striving to exceed customer expectations (Melum & Sinioris, 1992:2). Dr Micheal Perides, Chair of The European Health Sector Group, European Foundation for Quality Management (EFQM), stated that the challenges that face modern health care systems are phenomenal. Although the context in which health care is delivered varies enormously according to the culture, customs and economy of each country, all these health care systems are driven by continuous improvement in the delivery of safe, cost-effective and relevant health care (Perides, 2002:56). Van der Wiele *et al.* (1997:237) define Total Quality Management as "dynamic in nature, based on continuous improvement and change and aims to achieve complete customer satisfaction by identifying and building on best practice in processes, products and services".

Total Quality Management, or continuous quality improvement, is a system-wide management approach designed to increase the value of products or services to customers or patients by improving quality and productivity at the lowest possible cost. Borawski and Brennan (2008) emphasise that the underlying principle of TQM is that "quality is everybody's job". After observing Japan's success in employing quality initiatives, the US introduced their own quality movement to remain competitive, and TQM became the focus of quality in the US. De Geyndt (1995:18) defined quality as anticipating, meeting and exceeding customers' needs and expectations. The major processes in this approach are:

- **Transforming** the organisation's culture to a total focus on patient satisfaction.
- **Empowerment** of all employees to improve organisational processes (Matthews *et al.* 2006:182).
- **Integration** of support systems to motivate and reward employees for quality and productivity.
- Commitment of management to **cultural transformation**, decentralisation of decision-making, empowerment of employees and a systems approach to managing organisational change (De Geyndt, 1995:18).

The Hospital Corporation of America adopted the concepts of quality improvement and applied Deming's 14 principles to manage the delivery of health services to their patients (De Geyndt, 1995:20). From TQM the Balanced Scorecard (BSC) is developed with the use of some key components including customer-defined quality, continuous improvement, employee empowerment and measurement-based management (BSCI, 2007).

TQM takes place within a certain **culture** climate and describes the values, beliefs, philosophy and customs of an organisation (institution/hospital). The organisational climate is intrinsic to a **positive practice environment**, namely a safe climate for staff and patients, organisational support for **lifelong learning** and a climate of **leadership** (Baumann, 2007:21). The first step in successfully leading this complex business (hospital/maternity unit) is to identify the weaknesses before they are addressed (Smith, 2006:29).

Hospitals should always consider their overall **strategic plan**, together with what kind of care they want to render and then build on skills and service around this overarching **vision**. Once a hospital has decided on its strategic vision, health care providers should conduct a skills analysis to ensure that they have the requisite **skills**, not just for the present but also for the future. Training is often necessary to bridge the gap (Henry, 2006:9). The following elements of TQM are categorised under the headings organisational and staff/midwives for inclusion in the QIIP™:

Organisational

- Strategic plan
- Vision
- Philosophy

- Positive practice environment
- Transformation
- Culture sensitivity

Staff/midwives

- Lifelong learning
- Skills
- Empowerment

Although TQM is seen as a quality model it can also function as an overarching philosophy. Hospital-specific quality models are accordingly discussed below.

2.5.3 Hospital-specific quality excellence models

The following models are specifically hospital based, namely the European Foundation for Quality Management (EFQM), the Magnet Hospitals in the US and the South African Excellence Model.

2.5.3.1 European Foundation for Quality Management (EFQM)

The EQFM was founded in 1988 and is committed to promoting quality as the fundamental process for continuous improvement (Watson, 2002:2). The EFQM is based on self-assessment and the identification of strengths and weakness via criteria guidelines. Gené-Badia *et al.* (2001:407) state that the EFQM is the most promising model in Europe and allows adaptations by both the public and private health sectors. Perides (2002:56) and Watson (2002:3) confirm that the EFQM is being increasingly used by health care organisations in the Netherlands, Italy, Germany, France, Austria, Spain, Portugal and Belgium, and by the UK's National Health Service (NHS). The EFQM performs comprehensive, systematic and regular self-assessments of their activities against the EFQM model.

This model was tested in primary health care organisations, and a comparison was made between the score of the primary health care team's self-assessment and the scores measured by an external audit (Gené-Badia *et al.* 2001:408). The EFQM is an excellence model based on nine criteria with specific weighting (Figure 2.2). Five criteria are "enablers". What an organisation does is one criterion, followed by four criteria of "results": what an

organisation has achieved. “Customer results, people results and society results are achieved through leadership driving policy and strategy, people, partnership and resources and processes which lead to excellence in key performance results” (Department of Trade and Industry (DTI), 2008; Van Heerden & Roodt, 2007:19; Perides, 2002:56; Watson, 2002:3).

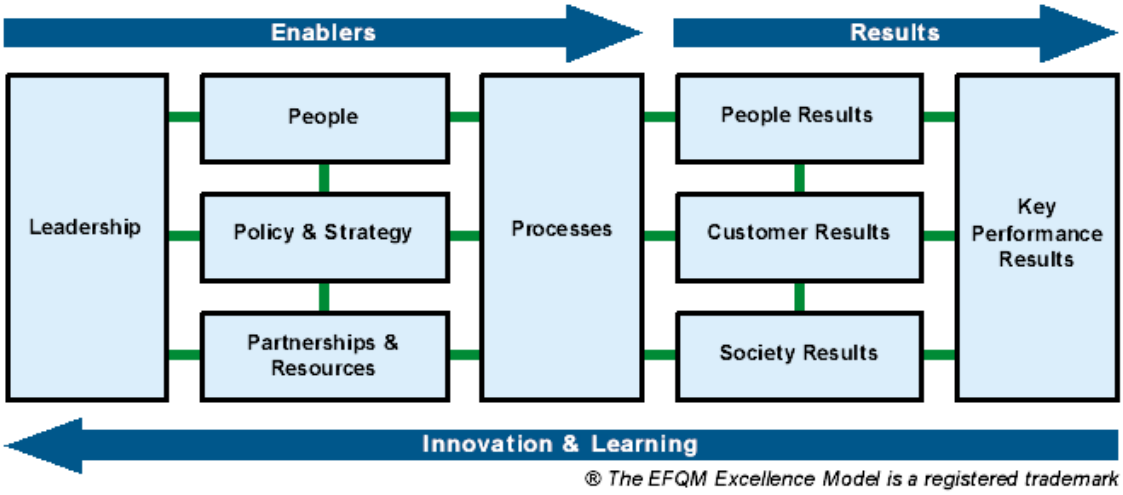


Figure 2.2 EFQM Excellence Model

(Watson, 2002:7)

The nine boxes in Figure 2.2 represent the criteria against which an organisation’s progress towards excellence is assessed. At the heart of the EFQM Excellence Model is the RADAR concept (Perides, 2002:58, Watson, 2002:4):

- Determine **results** required
- Plan and develop **approach**
- **Deployment** of approach
- **Assessment** of approach
- **Review** approach.

Each criterion is supported by sub-criteria, and pose a number of questions that are considered in the assessment (Perides, 2002:56; Department of Trade and Industry (DTI), 2008). The areas are not mandatory but are intended to exemplify the meaning of the sub-

criteria. Two aspects are included under the assessment of enablers, namely: approach and degree of implementation (Gené-Badia *et al.* 2001:408). The DTI (2008) states that criteria under approach include:

- Leadership – how actions support a culture of "excellence". The leadership is important as the leaders act as role models for "excellence in care".
- Policy and strategy – how are they formulated and deployed as actions. The policies and strategies that are developed should include the BPG and EBP.
- People – how potential of the people of the organisation is realised.
- Partnership and resources – how resources are managed.
- Processes – how processes are managed and improved.

Implementation evaluates whether the approach is carried out and if it is evaluated systematically (Gené-Badia *et al.* 2001:408). The DTI (2008) further describes the four areas of results as follows with the application to intrapartum care in bold:

- Customer results – **Are the pregnant women satisfied with the quality of intrapartum care that they received?**
- People results – **Are the midwives working in the maternity unit motivated and do they think it is the best maternity unit in the province?**
- Society results **– Is the community aware of the maternity services that are rendered for the community, for example antenatal preparation education or support systems in place for babies with congenital abnormalities?**
- Key performance results – **Quality appraisal for midwives identified by patients who rendered excellent intrapartum care.**

Perides (2002:56) argues that the term "excellence" may differ from person to person. However, the implementation of EFQM by organisations will help them to recognise and adopt the concepts, namely:

- Result orientation
- Customer focus

- Leadership and constancy of purpose
- Management by process and fact
- Development and involvement
- Continuous learning
- Innovation and improvement
- Partnership development and public responsibility

The EFQM framework includes all the factors such as internal and external outcomes, health outcomes and economic results. Through self-assessment the organisation can clearly identify its strengths and the areas that need improvement (Gené-Badia *et al.* 2001:409). Perides (2002:56) states that through this self-assessment process the organisation (hospital/maternity unit) will be able to explore the relationship between the operating elements within the organisation, namely the patients, healthcare professionals, **technology** and **resources** that combine to provide the service. Insight into their interaction can create an **innovative climate** within the organisation (hospital/maternity unit) to creatively manage a constantly changing environment (Perides, 2002:56).

Managers must strive towards becoming leaders. In order to become leaders they must foster a strong team spirit without stifling individual initiative. In order to accommodate an entrepreneurial climate, well-defined strategies and **credible policies** are needed (Perides, 2002:58). Furthermore, managers must understand the impact of their staff and invest in them in a way that will ensure that both the staff and the organisation move forward in harmony with their customers (patients) (Perides, 2002:58).

The EQFM Excellence Model framework is based on fundamental concepts that underpin the idea of continuous improvement. Using this framework, the **skills** and creativity of both the entire staff and consumers (patients) are examined and the way the organisation operates evolves while consequently improving the service provided (Perides, 2002:60). Smith (2006) states that the bar is raised to accelerate the improvements, and the standard increased year by year. From the EFQM model the following elements have been highlighted for inclusion in the QIIP™ and are categorised under the headings organisational, staff/midwives, quality of care and patient expectations.

Organisational

- Leadership
- Innovative climate
- Technology
- Resources
- Partnership with community

Staff/midwives

- Skills
- Continuous learning

Quality of care

- Policies

Patient expectations

- Satisfaction

The EFQM model is widely used in First World environments. The following model of De Geyndt was developed for developing countries and is now discussed.

2.5.3.2 De Geyndt quality model

There is a strong rationale for health services to continuously improve the quality of care they render in the most effective and cost-efficient manner to achieve the best possible outcome (De Geyndt,1995:3) (in this research to reduce maternal and neonatal morbidity and mortality through the rendering of quality intrapartum care). Quality models in research such as by De Geyndt (1995) and Hulton *et al.* (2000) describe the management of structure, the process and the outcomes to improve the quality of health service management, specifically intrapartum care. A conceptual framework is proposed which includes a few basic concepts, namely the organisational structure, the process and the outcome to ensure quality improvement in intrapartum care which is based on Donabedian's Structure-Process-Outcome paradigm (Messick & Kramer, 2005:275).

The **organisational structure** includes the physical and human resources which are qualifiable. Baramee and Blegen (2003:390) and De Geyndt (1995: vii) state that the **process** is a critical dimension to ensure quality improvement, while the correct process has

a high probability of satisfactorily improving health outcomes. Outcomes are the result of the correct process in the timely management of patient care, using the correct inputs within the constraints of the available resources. Senge (2006: xi) describes the governing of modern institutions as a “system of management”. He also argues that transformation of a prevailing system of management would not be possible without transforming the education system. As communities expect safe and competent health care as a right, nurses and midwives need to be professionally competent (Khomeiran *et al.* 2006:66). It is therefore important that nurses and midwives have adequate theoretical knowledge as well as the necessary competencies in clinical practice (Baramee & Blegen, 2003:390), and thus life-long learning is necessary to maintain competence in clinical practice (Baramee & Blegen, 2003:390; Barton, 1998:1279). In order to be fully competent the midwives must be empowered to their full potential, which will lead to a positive outcome (Matthews *et al.* 2006:182). The competencies of the nurses and midwives have a direct influence on the quality of care rendered as well as on the outcome (Baramee & Blegen, 2003:394). Outputs make use, among other things, of measuring indicators of mortality and morbidity, cost effectiveness and patient satisfaction. Various factors such as culture, diet, environment and genetics all have some impact on the **outcomes**. Although there is not a direct relationship between the health care outcome and the health workers, it is more effective to improve the health care delivery process continuously to assure quality and cost-effective health care (De Geyndt, 1995:vii; Khomeiran *et al.* 2006:66). Figure 2.3 give a schematic presentation of the concepts that influence quality care.

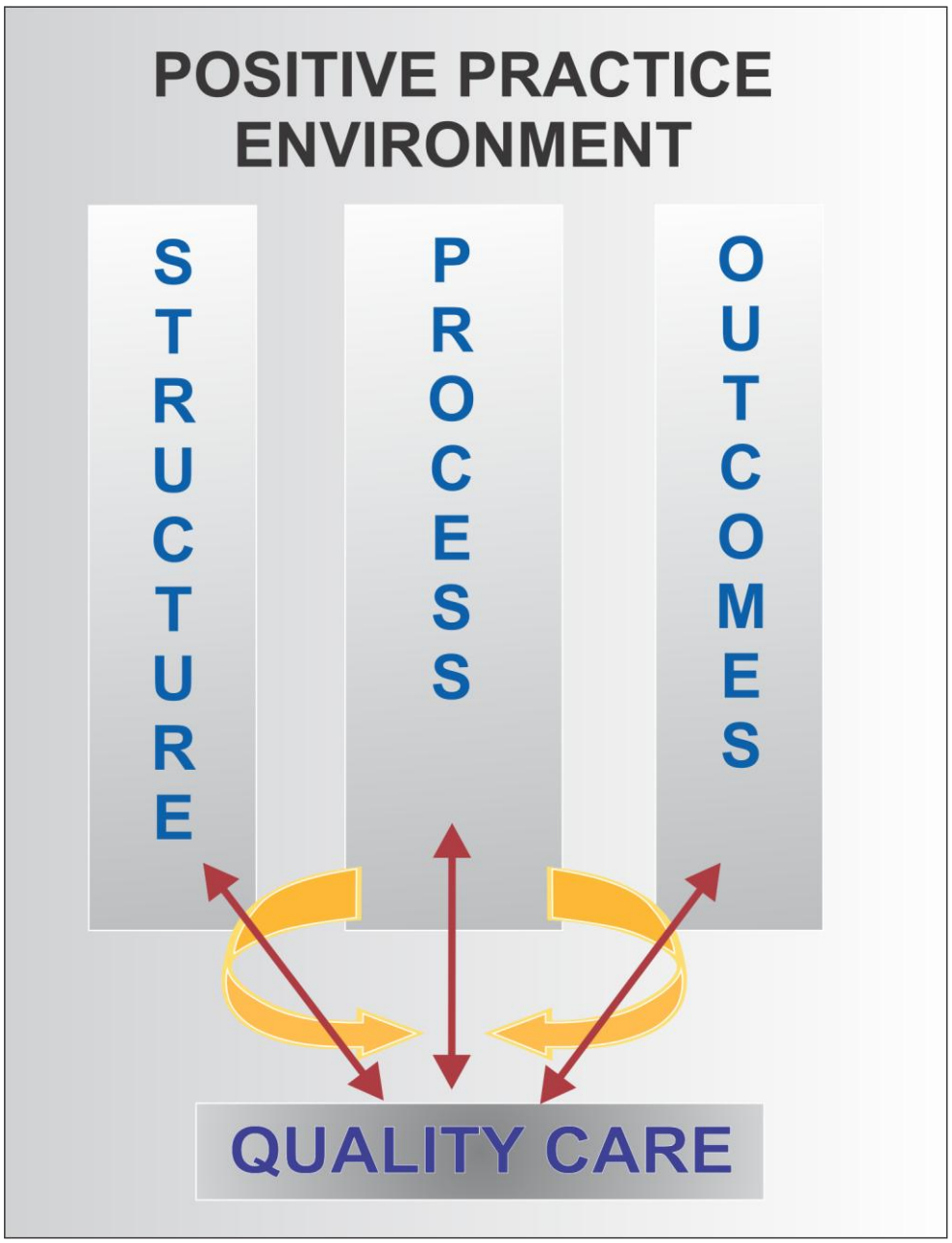


Figure 2.3 **Concepts that influence quality care** (Adapted from De Geyndt, 1995)

Based on the De Geyndt model, the **structure, process** and **outcomes** are described that can be used in the development of the QIIP™. The South African Excellence Model is the first and only model developed for the South African context. This military-based model was developed for operationalising military hospitals and does not focus on intrapartum care.

2.5.3.3. South African Excellence Model (SAEM)

The need for a strategy to improve the military health service delivery and its performance excellence was highlighted in the White Paper on Transformation of 1995. From this background Eygelaar and Uys (2004:2) argues that a strategy is needed to promote continuous performance improvement in the *quantity, quality* and *equity* of service provision. The SAEM focuses on **society, customer** and **people satisfaction** as well as on **supplier** and **partnership performance** (Van Heerden & Roodt, 2007:19).

Johan Botha, CEO of Analytix (2003), stated: *"*The SAEM assessment procedure provides a rapid shot of the organisation's performance and identifies keys for improvement." Eygelaar and Uys (2004:5) defines organisational performance excellence to be conceptualised as a goal, based on corporate culture, values and belief systems, underlined by an integrative framework and fundamental strategic determinants. The SAEM provides a framework for self-assessment which can lead companies to excellent standards. The following 11 criteria are included:

- **Leadership** – inspiring, supporting and promoting
- **Policy and strategy** – formulating, deploying and reviewing policy and strategy, and turning them into plans and action
- **Customers and market focus** – determining customer and market needs, enhancing relationships with customers to determine their satisfaction
- **People management** – releasing people's potential to create a high-performance organisation
- **Resources and information management** – managing and using resources and information effectively and efficiently
- **Processes** – identifying, managing, reviewing and improving processes
- **Impact on society** – satisfying the needs and expectations of the local, national and international community
- **Customer satisfaction** – satisfying its external customers
- **People satisfaction** – satisfying its own people

- **Supplier and partnership performance** – managing respective processes
- **Business results** – achieving its planned business objectives (Van Heerden, 2008; Eygelaar & Uys, 2004:6-7).

These criteria are included in the situational analysis of the QIIP™ as a mechanism to find the baseline of existing practices.

It is internationally accepted that excellence models can help organisations to enhance service delivery and performance excellence. The above-mentioned excellence models identify the strengths and weaknesses (or areas for improvement) of a company through well-established internationally accepted theoretical frameworks with explicit criteria for performance excellence (Eygelaar & Uys, 2004:2). The aim of these excellence models is to get all the staff in the organisation (hospital) to work together to reach performance excellence. Organisations (hospitals) can measure their progress over time by means of regular self-assessment processes. The implementation of excellence models will benefit organisations by improving their business plan and strategy.

The excellence models such as Kaplan and Norton's Balanced Score Card, Deming's model, the European Foundation for Quality Management (EFQM), the Malcom Baldridge model and the South African Excellence model are based on the TQM business excellence model. All these models recognise that quality care with positive outcomes is a collaboration of processes and staff inputs. At first glance all these excellence models appear to be different, but on closer inspection some criteria repeat themselves, namely (Eygelaar & Uys, 2004:8):

- Formulation of quality policies
- Assigning responsibility for quality to top management
- Constant improvement of the understanding of quality policies
- Managing quality procedures and control
- Reviewing the improvement process
- Delegation of authority
- Recognition of quality behaviour
- Empowerment of the workforce.

In Table 2.4 a comparison of the various quality models discussed in this research are given.

Table 2.4 Comparison between various quality models

MODEL	CRITERIA	STRENGTH	WEAKNESS
Balanced Score Card	• Measurement based • Structured process • Acts as a catalyst for change and action • Encourages dialogue about strategy and performance improvement • Based on the principles of ongoing review, learning and feedback	Alignment and execution of strategic activities	Industrial market
South African Excellence Model	• Measurement based • Structured process • Acts as a catalyst for change and action • Encourages dialogue about strategy and performance improvement • Based on the principles of ongoing review, learning and feedback	Good management practice drives continuous improvements to benchmark itself against global companies using the same criteria and scores	Military context
The Deming Model	• Strong production criteria • Electronic and automobile industries • Management of facilities, vendors, procurement and service • Plan, do, check, act cycle • Quality assurance of products and services	Great emphasis on quality assurance of products and services	Fails to define quality clearly Does not indicate that the reset authorised plan is not the same plan as the action plan. Only used in Japan

MODEL	CRITERIA	STRENGTH	WEAKNESS
The Malcom Baldridge model	• Client satisfaction • Competitive environment • Management of data • Consideration of human resources • Impact on society	Widely used in the US	Weak focus on business results Fails to define quality clearly Broader scope, less depth
European Foundation for Quality Management (EFQM)	• Helps organisations to measure where they are on the path to excellence • Identifies gaps • Stimulates solutions • Monitors progress • Identifies strengths and weaknesses via criteria	Most promising model in Europe Used in both public and health sector Addresses financial results	European context

An extensive literature review by Eygelaar & Uys (2004:10) confirms that each of these excellence models has unique characteristics; however, they all strive towards organisational performance excellence. All these excellence models share a common set of fundamental philosophies, namely:

- Acceptance of responsibility for quality by top management
- Customer satisfaction
- Staff participation
- Communication
- Fact-based management
- Strategic planning

The aim of this research is to develop a QIIP™ for intrapartum care within the South African context based on the frameworks of the above-mentioned international and national

excellence models. The elements of the different models given in Table 2.5 are used in this research to improve the quality of intrapartum care rendered.

The elements are categorised according to structure, process and outcomes (Table 2.5).

Table 2.5 Elements of quality models used for the development of the QIIP™

STRUCTURE	PROCESS	OUTCOMES
Organisational	Policies	Patient satisfaction
Transformational leadership	Quality audits	
Vision	Prompt management of patients	
Mission	Batho Pele principles (dignity, respect)	
Objectives	Statistics	
Innovative climate	Evaluation of the unit	
Technology		
Cost-effective service		
Communication		
Partnership with community		
Culture-sensitive		
Human resources	In-service training	Job satisfaction
Skilled	Communication	
Competent midwives		
Life-long learning		
Equipment		
Adequate	Rapid document process	Efficiency

With this background, the quality improvement strategies for intrapartum care that does exist can be investigated.

2.5.4 Quality model for intrapartum care

Up to now we have looked at general quality models and quality models pertaining to health care. The next part focuses on quality models specifically related to intrapartum care (maternity services).

A framework was developed by Hulton *et al.* (2000:10) specifically for maternity services for the assessment of the quality of institutional delivery services. The framework consists of ten elements for researchers, policy makers, managers and health care professionals to measure the quality of the public sector. This framework was developed firstly to review the quality of care that the hospital renders and secondly as quality improvement tool through critical examination of activities (Hulton *et al.* 2000:1). The framework consists of six elements related to the provision of care and four elements related to experience of care as indicated in Figure 2.4.

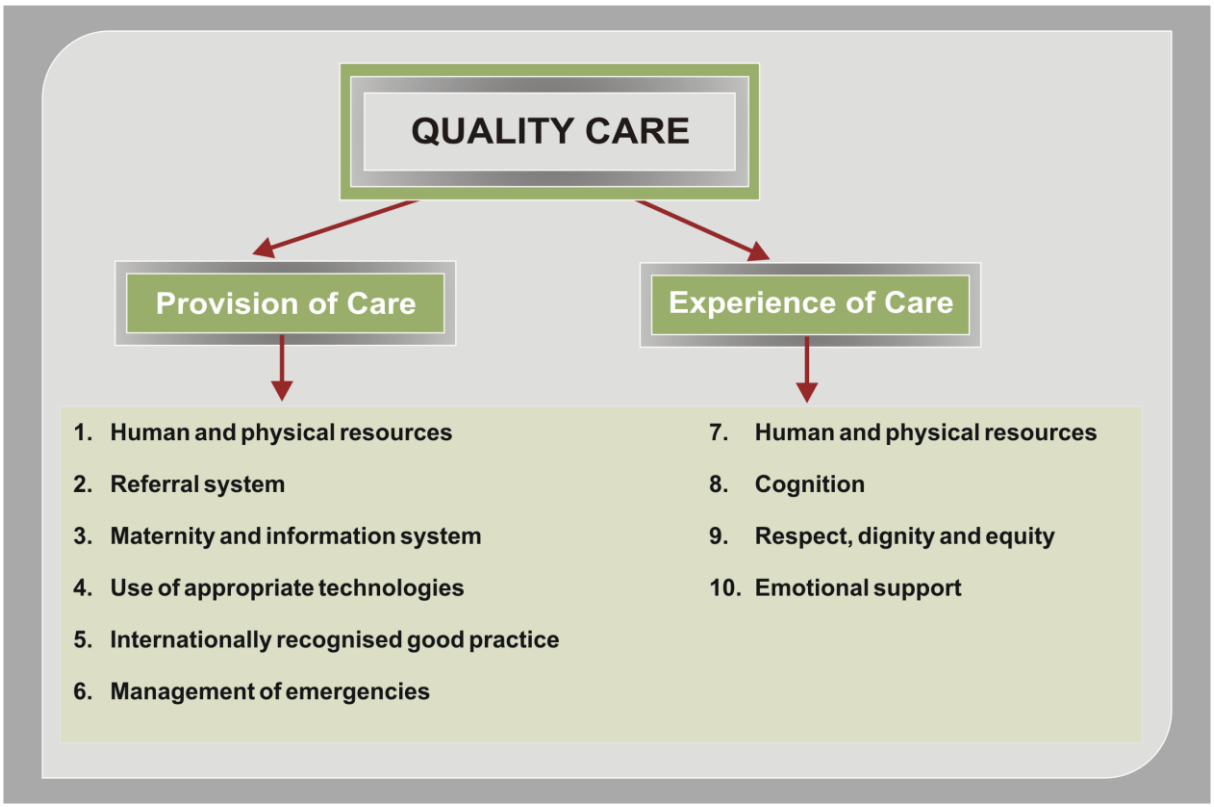


Figure 2.4 Framework of Expanded Quality Assessment

(Hulton *et al.* 2000:18)

2.5.4.1 Provision of care

Each of the elements in the provision of care as well as the experience of care will now be discussed.

2.5.4.1.1 HUMAN AND PHYSICAL RESOURCES

Human resources refer to the quality and quantity of personnel employed in an organisation (hospital/maternity ward) for rendering quality care (Parkhurst *et al.* 2005:127; De Geyndt, 1995:3). **Skilled attendance** (doctors, nurses and/or midwives) at birth is internationally recognised as the key intervention in reducing the MMR (Parkhurst *et al.* 2005:130). Trained and knowledgeable staff (midwives) are necessary to improve the quality of maternity care rendered (Sandall *et al.* 2010:256). **Recruitment and retention** are key policy issues in the demand for productivity, staff shortages and retaining corporate knowledge (this includes management styles, patient-to-staff ratios and the nature and frequency of in-service training (Hulton *et al.* 2000:19).

The physical resources include the infrastructure where the service is rendered, namely **buildings, medical supplies, vehicles, furniture, pharmaceuticals, warehousing** and **storage**, as well as the **maintenance** of the premises (De Geyndt, 1995:33; Parkhurst *et al.* 2005:127). Hulton *et al.* (2000:19) also refer to the availability of water and electricity. It is especially important in developing countries such as South Africa with electricity problems that hospitals should have **back-up generators** and **clean running water** available 24 hours a day (Fisher *et al.* 2004; Beyea, 2007:819).

The situational analysis of the QIIP™ as a quality improvement intervention programme must be able to record the availability of the above services. Hulton *et al.* (2000:19) also report that staff must be evaluated regarding their experience, training, communication skills, working hours and salaries. In Box 2.2 criteria are given that may be included in the evaluation of this aspect of care (Hulton *et al*. 2000:21).

Box 2.2 Criteria that may be used for assessment of human and physical resources

- Infrastructure
- Staff competencies
- Patient-to-staff ratio

2.5.4.1.2 REFERRAL SYSTEM

In South Africa and specifically the North West province, hospitals are far apart which is a problem when patients have to be referred to different levels of hospital. Hulton *et al.* (2000:21) state that the quality of the referral is crucial in preventing maternal deaths. This is one of the indicators that is also identified by the *Saving Mothers Report* (SA, 2009a:3) and one of the reasons for the high maternal death rate in Level 2 hospitals. The Department of Health (SA, 2007b:13), as well as Parkhurst *et al.* (2005:127), emphasise that a referral system with clear **protocols of management**, **referral and transport is essential.** The time taken to travel between two facilities is often unpredictable, and can furthermore be fatal to both mother and baby (Hulton *et al.* 2000:21). This is also a reality in South African, and if the facilities can succeed in reducing the **referral time**, pregnant women may reach the needed facility quicker and thus may have a positive outcome, i.e. no maternal death. Clear referral criteria must be available with which the doctors and midwives must be familiar. In the North West province referral routes must be available for all relevant persons. It is important that emergency transport of patients in labour (code red) must be implemented as any delay may increase the MMR (SA, 2009b:54).

Box 2.3 gives criteria that may be included in the evaluation of this aspect of health care (Hulton *et al.* 2000:22).

Box 2.3 Criteria that may be used for assessment of referral guidelines

- Reliable transport available 24 hours a day
- Effective communication between staff and the referral hospital
- Qualified midwife available to accompany the patient

2.5.4.1.3 MATERNITY INFORMATION SYSTEM

Research conducted in Ghana by Danquah *et al.* (1997:149) and in India by Hulton *et al.* (2000:55) has revealed that records of maternity cases are often inconsistent or missing. Some hospital record systems are not designed to record data on obstetric complications. Some countries reported that no functional procedure exists to review the causes of death, but in South Africa the Department of Health developed the *Saving Mothers Report* for reporting and evaluating maternal deaths to determine missed opportunities and causes of maternal deaths (SA, 2001; SA, 2002b; SA, 2006b, SA, 2009a). It is important to discuss

each maternal and neonatal death to determine the causes of the death and to prevent similar mistakes in future. Accurate **statistics of maternal and neonatal deaths** are sent via the appropriate channels to the Department of Health to give an accurate picture of the incidence of maternal deaths in each province as well as the leading causes of maternal and neonatal deaths. Box 2.4 gives criteria that may be included in the evaluation of this aspect of care (Hulton *et al.* 2000:24).

Box 2.4 Criteria that may be used for assessing the maternity information system

- Accurate record keeping during maternity, especially the intrapartum period.
- Appropriate use of maternity records including a **partogram, cardiotocograph (CTGs)** and the interpretation thereof.
- Audit to ensure that the quality of care is recorded.
- Review of every maternal and neonatal death to determine its cause.
- Reporting of maternal and neonatal deaths.

2.5.4.1.4 USE OF APPROPRIATE TECHNOLOGIES

The JBI model of evidence-based health care conceptualises practice as based on the best available evidence as a platform for clinical decision-making (Pearson *et al.* 2005:209). The WHO (1996) defines appropriate technology as “one that is scientifically sound, adapted to local needs, acceptable to those who use it or for whom it is used that can be maintained and utilised with resources that the community can afford”. Nurses (and midwives) described the importance of the environment in forming their technical competencies. They stated that the rapid introduction of technology requires staff to do their best to become competent (Khomeiran *et al.* 2006:68*).* The Department of Health in South Africa recognises that midwives and doctors are equipped to provide technologically appropriate care to pregnant women (SA, 2007b:9). However, not all technologies are indicators of quality care – only interventions that support normal birth should be used and those that are potentially harmful should be stopped (Sandall *et al.* 2010:256; Hulton *et al.* 2000:24). Several routine procedures carried out during the intrapartum period were demonstrated through randomised controlled trials to be inappropriate, unnecessary and even harmful (Sandall *et al.* 2010:256; WHO, 1996). It is therefore important that good care should rely on science-based technologies. Inappropriate technologies can compromise safety, utilise scarce resources,

and some procedures may even be humiliating and uncomfortable for women in labour (Hulton *et al.* 2000:24). In South Africa with its high prevalence of HIV/AIDS, it is even more important to make sure that the interventions do not increase the risk of vertical transmission of HIV. AIDS is now the leading cause of maternal deaths in South Africa (SA, 2007b:7) and has changed the management of intrapartum care forever. These statistics, together with the large number of patients of unknown HIV status, should lead to the practice that every pregnant woman in the maternity unit is treated as though she is HIV positive. Use should thus be made of **evidence-based practices (EBP)** and **clinical guidelines** to render high-quality (intrapartum) care (SA, 2007b:9). Research conducted by Hulton *et al.* (2000:24) identified specific interventions as an element of this framework to assess whether the interventions are being used by the facility as well as the frequency, namely:

- Routine pubic shaving and enemas
- Intravenous infusion and vaginal examination
- Intravenous infusion of oxytocin
- Intramuscular oxytocin
- Caesarean delivery
- Supine position
- Episiotomy
- Manual revision of the uterus
- Pain relief: behavioural and drug-based methods

Most of the above interventions are used during the intrapartum period in South Africa and in the North West province. The use of these technologies is not always in line with internationally recognised good practice.

2.5.4.1.5. INTERNATIONALLY RECOGNISED BEST PRACTICE

Best practice can be defined as the most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time for a large number of people (Wikipedia, 2008b), taking in consideration the financial implications in the given context. Best practices are used in

healthcare (maternity care) to deliver high-quality care that promotes best outcomes (reduction of maternal and neonatal mortality).

Various procedures have been identified to benefit the mother and baby during intrapartum care. Hulton *et al.* (2000:32, 33, 34) have published a list of effective procedures that are suitable for audit, namely:

- Magnesium sulphate is the drug of first choice for eclampsia treatment.
- Vaginal delivery after caesarean section.
- Routine use of prophylactic antibiotics at the time of a caesarean section.
- Ventouse delivery is the first choice for low-cavity operative vaginal delivery.
- Polyglycolic acid suture material is used for repairing perineal wounds.
- Women with an uncomplicated delivery are allowed to choose the position for delivery.
- Social support of the woman's choice during intrapartum care.
- Physical wellbeing should be assessed regularly.

2.5.4.1.6. MANAGEMENT OF EMERGENCIES

The WHO reported that worldwide the direct causes of maternal mortality include haemorrhage (25%), sepsis (15%), hypertensive disorders (12%), unsafe abortions (13%) and obstructed labour (8%) (WHO, 2008:1). The same obstetric emergencies are identified in South Africa. In this country, however, the "big five" causes remained the same, namely: (1) non-pregnancy-related infections – mainly AIDS (43,7%); (2) complications of hypertension (15,7%); (3) obstetric haemorrhage (12,4%); pregnancy-related sepsis (9,0%); and (5) pre-existing maternal disease (6,0%) (SA, 2009a:3) (see Sections 1.1 and 2.3.3). The management of these emergencies that contribute to the MMR are discussed in Section 2.6.3.

The management of HIV/AIDS, postpartum haemorrhage, pregnancy-related sepsis, complications in hypertension, pre-existing maternal disease, unsafe abortions and obstructed labour are now discussed.

- **Postpartum haemorrhage**

Postpartum haemorrhage is the leading cause of maternal mortality worldwide (WHO, 2008a:1), In South Africa, however, it is the third largest maternal mortality factor, and contributes to 12,4% of the MMR (SA, 2009:3). Primary postpartum haemorrhage (PPH) is defined as excessive blood loss from the genital tract at any time following the baby's birth up to 24 hours after the birth (WHO, 2000; Fraser *et al.* 2010). In South Africa and also in the North West Province mothers are discharged within six hours of giving birth, so it is thus primary postpartum haemorrhage that the midwives will mostly be confronted with. According to the *Saving Mothers Report* (2009a:17), most maternal deaths as result of postpartum haemorrhage occur at Level 1 hospitals. The management of PPH is displayed in Box 2.5 (Hulton *et al.* 2000:34; Fraser *et al.* 2010:541).

Box 2.5 The management of postpartum haemorrhage

1	Call for assistance
2	Oxytocin should be available and staff should be trained to administer it.
3	Stop the bleeding – rub up a contraction, give a uterotonic and empty the bladder.
4	IV fluids and blood should be available on 24 hour a day.

- **Pregnancy-related sepsis**

Sepsis is the second largest cause of maternal mortality worldwide, and in South Africa it contributes to 9,0% of maternal deaths (SA, 2009a:3). Most of these maternal deaths occur in Level 2 and Level 3 hospitals (SA, 2009a:17).

Puerperal infection is most common in developing countries and usually occurs after a caesarean section, prolonged labour, early rupture of membranes and regular vaginal examinations. The management of sepsis is given in Box 2.6 (Hulton *et al.* 2000:34).

Box 2.6 The management of sepsis

1	Universal aseptic techniques must be implemented.
2	Midwives should be able to manage and/or refer sepsis.
3	All facilities should be able to treat sepsis, including with antibiotics and surgical procedures.

- **Complications of hypertension**

Eclampsia is the third largest cause of maternal mortality worldwide. In South Africa complications in hypertension is the second largest contributing cause to the MMR at 15,7% (SA, 2009:3). Most of the maternal mortalities due to complications of hypertension occur in Level 2 and Level 3 hospitals (SA, 2009:17). Different grades of hypertension are known, and there are different management techniques at different stages. In this research the focus is on the management of eclampsia during the intrapartum period. Box 2.7 indicates what the management of pre-eclampsia includes (SA, 2007b:87).

Box 2.7 Management of pre-eclampsia

1	Midwives should be trained to manage and refer pregnancy-induced hypertension.
2	They must be able to manage severe pre-eclampsia and eclampsia.
3	Vital data observation: BP, heart rate, respiratory rate, urine output hourly.
4	Intravenous fluids 80 mℓ/hour.
5	Use a partogram and record all findings.
6	Monitor the foetus with CTG and plot foetal data on the partogram.
7	For pain relief use pethidine 100 mg IMI and promethazine 25 mg IMI 4-hourly
8	Give magnesium sulphate if there is evidence of imminent eclampsia

- **Pre-existing maternal disease**

  In South Africa pre-existing maternal disease contributes up to 6% of the MMR. Only in pre-existing maternal disease do more maternal deaths occur in Level 3 hospitals than in Level 2 hospitals, which raises the concern that ideally most maternal deaths should occur in Level 3 hospitals (SA, 2009a:18). The *Guidelines for Maternity Care* (SA, 2007b6:115) in South Africa identified the following conditions under the heading of pre-existing maternal disease: anaemia, diabetes mellitus, cardiac disease, asthma, thromboembolism and epilepsy. The management of each of these conditions will now be discussed.

- **Anaemia**

  Anaemia in South Africa is defined as a haemoglobin (Hb) level of below 11 g/dL (Fraser *et al.* 2010:347). Various levels of anaemia are identified, namely mild anaemia at Hb levels between 7.0 and 10.9 g/dL, and severe anaemia with Hb levels below 7.0 g/dL (SA, 2007b:116). Box 2.8 gives an outline of the treatment for anaemic patients.

Box 2.8 The management of anaemia

Mild anaemia:

1. Medication – ferrous sulphate 200 mg orally 3 times daily and folic acid 5 mg orally daily
2. Full blood count (FBC) and mean cell volume (MCV) to indicate the possible causes of the anaemia
   - Below normal MCV indication of iron deficiency anaemia
   - Normal MCV suggests infection as a cause of the anaemia
   - Above normal MCV indicates a vit. B12 or folate deficiency anaemia
3. If the patient is >36 weeks pregnant refer her to hospital
4. Iron-deficient patients may get intravenous iron in the hospital

Severe anaemia:

1. Refer to hospital
2. FBC, HIV, urine for microscopy and culture, chest X-rays
3. Medication – ferrous sulphate 200 mg orally 3 times daily and folic acid 5 mg orally daily
4. Failure to respond: refer to Level 2 or 3 hospital for further investigation

- **Diabetes mellitus**

Diabetes mellitus is described as a metabolic disorder that affects the normal metabolism of carbohydrates, fats and protein. It is characterised by hyperglycaemia as result of a defect in the insulin secretion or action process (Fraser *et al.* 2010:355). After the patient is diagnosed with diabetes either as pre-gestational diabetes, gestational diabetes or impaired glucose tolerance, it is suggested that the patient be referred to a Level 2 or Level 3 hospital (SA, 2007b:119).

- **Cardiac disease**

During the patient's first visit, routine auscultation of the heart is performed. The symptoms and signs of patients with cardiac disease include shortness of breath, haemoptysis, palpitations, chest pain, dizziness, irregular and rapid heart rate of more than 100 beats per minute and heart murmurs (SA, 2007b:120). The management of patients with cardiac disease includes the following as stipulated in the *Guidelines for Maternity Care* (SA, 2007b:120):

- **First stage of labour**

  - Nurse the patient in a semi-Fowler's position
  - Administer Ringer's lactate at 70 mL/h
  - Analgesia – pethidine 100 mg IMI with promethazine 25 mg IMI 4-hourly
  - Antibiotics – penicillin 1 g 6-hourly, 4 doses of gentamicin 240 mg IV as a single dose if not allergic to penicillin
  - Observe colour and respiratory rate hourly
  - Auscultate the lung 2-hourly
  - Use fluid regime if oxytocin augmentation is necessary

- **Second and third stages of labour**

  - Avoid lithotomy position
  - Perform a vacuum extraction for rapid delivery if necessary
  - Local anaesthetics for the episiotomy should not contain adrenaline
  - Give oxytocin 10 units in the place of ergometrine in the third stage
  - Give furosemide 20 mg IV after delivery

- **Fourth stage and puerperium**

    - Observe and report pulmonary oedema (cough, dyspnoea)
    - Hourly observations of vital data for the first 24 hours
    - Offer long-acting depot progestogens which are safe for women with cardiac disease
    - Delay sterilisation for at least one month after delivery
    - Discharge when mother's condition is stable.

- **Asthma**

Fraser *et al.* (2010:342) explain that an increase in cortisone and adrenaline (epinephrine) is thought to protect the woman from asthma during labour. However, if an asthma attack occurs she should continue with her normal asthma medication and keep well hydrated.

The *Guidelines for Maternity Care* (2007b:120) and Fraser *et al.* (2010:342) recommend the following guidelines for the management of asthma during the intrapartum period:

- Beta 2 stimulants for the treatment of hypertension and ergometrine (prostaglandin F2a) for the management of postpartum haemorrhage should be used with caution as they may cause bronchospasm.
- Oxytocin and prostaglandin E2 are safe to use for the induction of labour.
- If the patient continues to wheeze despite receiving treatment, call for a specialist in asthma management.
- Use normal obstetric principles for labour and delivery
- Women who used oral steroids for the treatment of asthma should receive hydrocortisone 100 mg IV 6-hourly during labour or at the time of the caesarean section.

- **Thromboembolism**

Thromboembolism remains one of the major causes of maternal mortality in the postpartum period (Fraser *et al.* 2010:660). The management of thromboembolism given in the *Guidelines for Maternity Care* (2007b:122) includes the following:

Women with a history of deep vein thrombosis (DVT)

- Heparin 5 000 units subcutaneously 12-hourly, 2-weekly throughout the pregnancy up to 2 weeks after delivery or
- Enoxaparin 0,5 mg/kg/day subcutaneously as a single daily dose throughout the pregnancy and up to 2 weeks after delivery

Women with signs and symptoms of DVT

- Heparin 5 000 units IV as a bolus, continuing with 10 000 units in 200 mL normal saline at 20 mL/h, thus 1 000 units/h, or
- Heparin 10 000 units subcutaneously 12-hourly, or
- Enoxaparin 1 mg/kg subcutaneously 12-hourly
- Refer the patient to a Level 2 or Level 3 hospital for an ultrasound scan and for the planning of further management

Women with signs and symptoms of pulmonary embolism

- Heparin 5 000 units IV as a single dose and thereafter a heparin infusion of 1 000 units/h for DVT, or
- Enoxaparin 1 mg/kg subcutaneously 12-hourly

- **Epilepsy**

In South Africa epilepsy is the last condition that is grouped under medical disorders in the MMR category. The pregnant woman with epilepsy can be managed at a Level 1 hospital under the supervision of a doctor. The management of epilepsy as stipulated in the *Guidelines for Maternity Care* (2007b:122) includes the following:

- The drug of choice is carbamazepine 200 mg orally 3 times per day
- Folic acid 5 mg daily throughout the pregnancy
- Vitamin K 20 mg daily from 36 weeks
- If status epilepticus occurs treat it as for non-pregnant women
- Give oxygen per mask to prevent foetal hypoxia
- Intrapartum care is the same as for non-epileptic women

- Breastfeeding may continue with the use of the above-mentioned anticonvulsants
- Continue with pre-pregnancy doses after delivery.

- **Unsafe abortions contribute to 13% of the MMR.**

Abortion is defined as the termination of pregnancy before the fetus is viable, e.g 24 weeks' gestation (Fraser *et al.* 2010:1049). Within the South African perspective the termination of pregnancy as a choice is the legal up to 12 weeks gestation. Termination before 12 weeks of gestation can be conducted by a trained midwife while termination of pregnancy after 12 weeks gestation must be carried out by a medical practitioner (Fraser *et al.* 2010:302).

Box 2.9 The management of abortions

1	Midwives should recognise abortion-related complications.
2	Evacuation, antibiotics and intravenous fluids should be available at all facilities.
3	Counselling and contraception services should be available after abortions.

- **Prolonged labour**

Prolonged labour and obstructed labour contribute to 8% of maternal deaths worldwide. Prolonged labour is defined as active labour with regular contractions and progressive cervical dilatation of more than 12 hours. It is usually associated with adverse outcomes (Hulton *et al.* 2000:36; Fraser & Cooper, 2003:540; Enkin *et al.* 2000:281). Obstructed labour occurs when progress is arrested by mechanical factors and a caesarean section is usually required (Hulton *et al.* 2000:36; Fraser & Cooper, 2003:545). Within the South African MMR recording system obstructed/prolonged labour is not recorded as a primary cause of maternal deaths. It is, however, recorded as an underlying cause and contributes up to a total of 4,1% of the MMR of the country (SA, 2009a:17). In Box 2.10 the management of prolonged and/or obstructed labour is highlighted.

Box 2.10 The management of prolonged and/or obstructed labour

1	Correct use and implementation of the partograph
2	First-level health centres: perform the following procedures safely: empty bladder, give antibiotics, rehydration and referral.
3	Second-level health centres: rupture membranes if necessary and do a vacuum extraction.
4	Oxytocin, antibiotics and caesarean sections should be available on a 24-hour basis (Hulton *et al.* 2000:37).

In South Africa it is recommended that all hospitals must provide caesarean sections and blood transfusion facilities in order to reduce maternal deaths (SA, 2007b:9).

2.5.4.2 Experience of care

Each of the elements of the experience of care will now be discussed: human and physical resources, cognition, respect, dignity and equity and emotional support.

2.5.4.2.1 HUMAN AND PHYSICAL RESOURCES

Complications cannot be predicted; therefore pregnant women need **skilled** health care professionals (midwives) especially during the intrapartum period, where **rapid treatment** can make the difference between life and death (WHO, 2008a:2). An alarming statement by WHO (2008a:2) indicates that less than 62% of pregnant women in developing countries receive assistance from a skilled midwife during the intrapartum period. This means that less than 45 million women worldwide are not assisted by skilled midwives during the intrapartum period. The South African Department of Health suggests that some of the main causes of maternal deaths are related to substandard care, inadequacy of services and failure to use health care facilities (SA, 2007b:7).

The quality of care, together with the pregnant woman's perception of the infrastructure (beds, linen, food and toilets) and the contact **time spent with midwives** determine her experience of the quality of care she receives (Hulton *et al.* 2000:39). Vera (1993:40) and Budd *et al.* (2004:157) echo these findings, and add promptness and availability of services

together with consultation as “good quality care”. The criteria for the assessment of the quality of human and physical resources are presented in Box 2.11.

Box 2.11 Criteria for the assessment of the quality of human and physical resources

(Hulton *et al.* 2000:40).

1	Physical infrastructure and environment must be acceptable to pregnant women
2	Acceptable contact time with staff
3	Acceptable male:female ratio
4	Staff must be competent and provide appropriate care

2.5.4.2.2 COGNITION

Communication between the client (patient) and the service provider (health care professional (midwife)) has been identified as an important aspect of interpersonal care (Donabedian, 1988:1743). Hulton *et al.* (2000:40) indicate that the relationship between the patient and midwife must be characterised by “privacy, confidentiality, informed choice, concern, empathy, honesty, tact and sensitivity”. The effectiveness of the information exchange depends on the staff’s ability to provide a positive interaction and the patient’s ability to understand the information (Hulton *et al.* 2000:40). One of the reasons given for the under-utilisation of available maternity services includes a poor **interpersonal relationship** between the midwife and patient (pregnant woman) (Hulton *et al.*, 2000:40; Pretorius, 2001:155). The women’s understanding of the what, when and where of instructions will determine their subsequent behaviour. For example, during the antenatal, intrapartum and postpartum periods it is vital that they should understood the danger signs that may occur and return for their post-natal check-ups (Hulton *et al.* 2000:41). Box 2.12 presents the criteria that may be included in the assessment of cognition.

Box 2.12 Criteria for assessment of cognition

(Hulton *et al.* 2000:42)

1	The necessary information must be in the patient's preferred language.
2	Informed choice regarding the treatment.
3	Reasons for treatment must be clearly explained to the patients.
4	Postpartum information must be clearly explained.

2.5.4.2.3 RESPECT, DIGNITY AND EQUITY

Some of the reasons why women do not receive the care that they need during the intrapartum period are that there are no services where they live, they cannot afford the services because they are too costly, or that transport to the services is too expensive (Pretorius, 2001:155). Furthermore, women may not like the care provided or because high-quality care is not provided (WHO, 2008b:2). Liu *et al.* (2010:117) state that midwives who experience **job satisfaction** will render quality care which leads to patient satisfaction.

Midwives and other professional health care workers must demonstrate **respect and dignity** and genuine interest in their patients (pregnant women). Social disparities reflect differences in status, power and culture, and lead to unsupportive relationships and conflict (Hulton *et al.* 2000:42). The Department of Health states that it is important not to be arrogant, rude or judgemental in any health care context (SA, 2007b:9). In contrast to the philosophy of the Department of Health, this type of negative behaviour was recorded in the North West province, which contributes to fear on the part of pregnant women and the under-utilisation of health services (Pretorius, 2001:155). The assessment criteria that may be included for respect, dignity and equity are displayed in Box 2.13.

Box 2.13 Criteria for the assessment of respect, dignity and equity

(Hulton *et al.* 2000:44).

1	The socio-economic and cultural context must be taken into consideration when making recommendations.
2	No unnecessary or humiliating procedures must carried out on women.
3	Cultural practices that are not harmful must be respected.
4	All women must be treated with respect regardless of culture, class, age or education.

2.5.4.2.4. EMOTIONAL SUPPORT

Fear, pain and anxiety may induce stress of pregnant woman in the maternity unit. This, together with the clinical environment and unknown birth attendance, may cause adverse effects on the labour process (Hulton *et al.* 2000:44). The care that women receive during the intrapartum period should help them cope with the stress, pain and effort, and minimise any hidden danger (Sandall *et al.* 2010:256; Enkin *et al.* 2000:281; Fraser & Cooper, 2003:483). Another strategy to improve maternity care in South Africa is to improve the status of the pregnant woman in the society. This can be done through education (SA, 2007b:9), especially if they can make informed choices with regard to their reproductive life. Hulton *et al.* (2000:45) confirm that women who receive **adequate information** and encouragement reported a greater sense of control during labour, which leads to a feeling of satisfaction about the birth process. Women who receive constant support during the intrapartum period from a doula had a more positive birth experience. This will speed recovery, lead to early bonding between mother and the neonate and decrease anxiety and depression during the puerperium (Hulton *et al.* 2000:45). Box 2.14 displays the criteria for assessment of emotional support

Box 2.14 Criteria for assessment of emotional support

(Hulton *et al.* 2000:46).

1	Women can choose their social support during the intrapartum period.
2	Women are treated with honesty, empathy and respect.
3	Emotional and professional care is provided to families regarding death or disability.
4	Staff must be aware of their supportive role during the intrapartum and postpartum periods.
5	A process must be in place to meet the users' expectations.

From this framework of Hulton *et al*. (2000:10), which is a midwifery-based framework to evaluate the quality of maternity services, the following elements are identified for inclusion in the development of the QIIP™. The elements are categorised according to structure, process and outcomes (see Table 2.6).

Table 2.6 Elements from the quality model for intrapartum care used for the development of the QIIP™

STRUCTURE	PROCESS	OUTCOMES
Infrastructure Maintenance of buildings Back-up generator Running water Vehicles	Clear protocols on referral EBP and clinical BPG Record keeping Maternal and neonatal death statistics Audits Review of the MMR CTG, partogram Referral time Dignity, respect Rapid treatment	Patient satisfaction

STRUCTURE	PROCESS	OUTCOMES
Human resources Skilled Competent midwives Recruitment and retention	Communication Time spent with midwives Interpersonal relationship Respect and dignity Adequate information	Positive practice environment Job satisfaction
Equipment Adequate		

On the basis of this background, intrapartum care will now be investigated.

2.6 INTRAPARTUM CARE

In this section elements influencing intrapartum care and intrapartum practices and essential equipment for intrapartum care are discussed.

2.6.1 A preliminary conceptual framework

At this point, a preliminary conceptual framework guided the literature review in the understanding of quality intrapartum care. The purpose of this research is to develop a Quality Improvement Intervention Programme (QIIP™) for intrapartum care. However, the focus of this chapter is on determining quality intrapartum care from a theoretical perspective. This conceptual framework has guided the researcher through the literature review as the background to the development of a QIIP™ to improve the quality of intrapartum care rendered in South Africa.

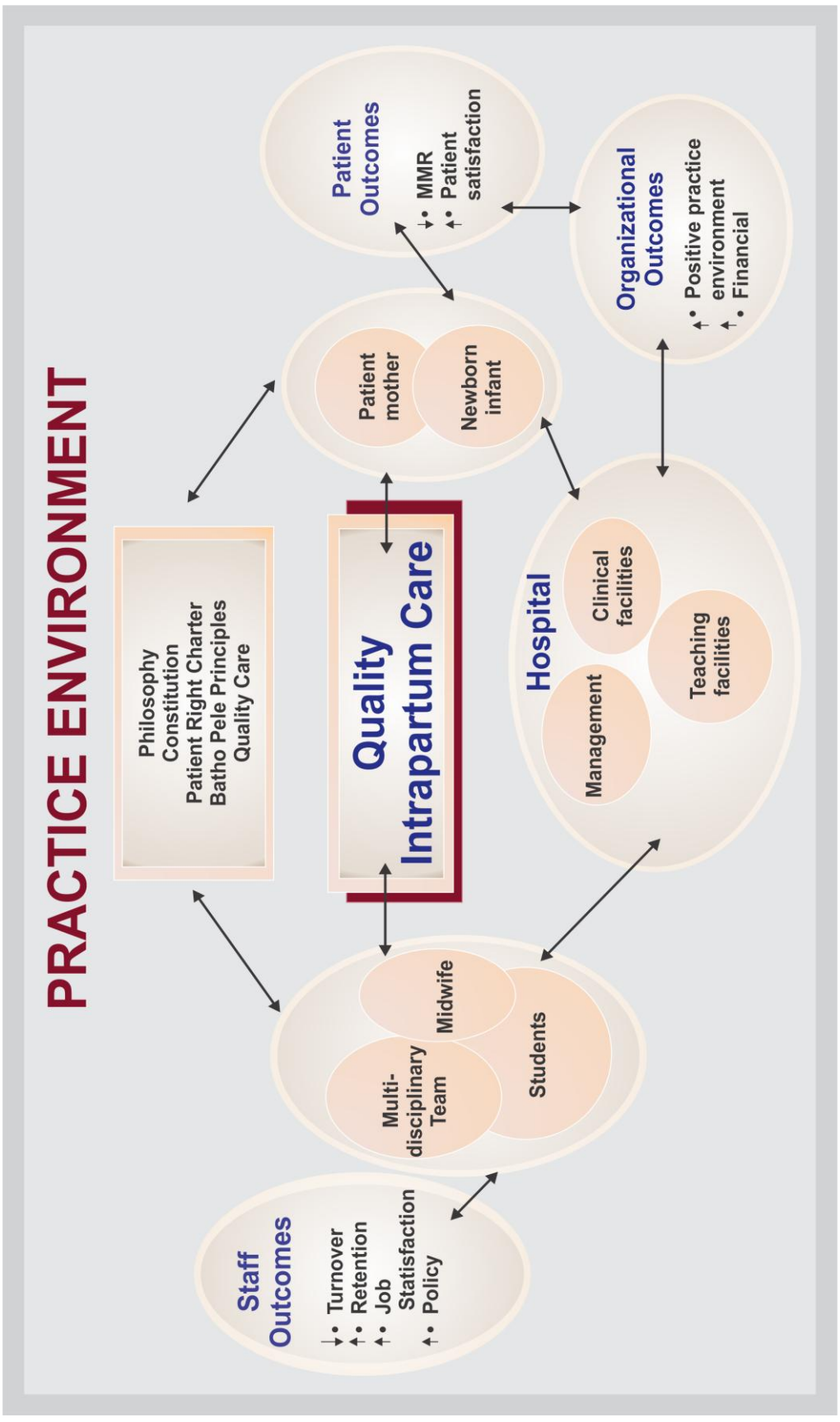


Figure 2.5 **Conceptual framework of elements influencing quality intrapartum care**

The conceptual framework consists of the following components, which are interlinked and interactive: namely, the ***philosophy*** of the hospital/maternity unit influences the practice environment and vice versa, and a ***positive practice environment*** influences the quality of care rendered. Positive practice environment can be defined as a practice environment that supports excellence and has the power to attract and retain nurses. Positive practice environments have a beneficial effect extending from nurse satisfaction to patient outcomes to innovation as documented in a body of evidence (Baumann, 2007:1). Kuokkanen *et al.* (2003:184) found that job satisfaction and organisational commitment were crucial elements in nurse (midwives) empowerment. Furthermore, the philosophy directly influences the quality of care that is provided in the unit.

The quality of care provided is influenced by the available infrastructure: staff play a role in the ***patient outcomes*** and the ***staff outcomes***. These will influence the ***organisational outcomes***.

All these concepts are interlinked. Measurable outcomes of the improvement in the quality of intrapartum care are maternal mortality and morbidity (Senge, 2006: xi; SA, 2006a:iii; Hulton *et al*. 2000:6).

Within the institution (in this research Level 2 hospitals in the North West province) a certain **philosophy** determines the quality of care rendered. In the intrapartum context the Constitution of South Africa describes the scope of practice for midwives as stated by the South African Nursing Council (SANC, 2005). The scope of practice as stipulated in regulation R2488 (SANC, 1990) gives the baseline for the proposed minimum quality of care rendered to any pregnant woman in South Africa. Furthermore, the Patients' Rights Charter and the Batho Pele principles were formulated to improve the standard of care rendered to patients (pregnant women) in South Africa.

The philosophy of the hospital/maternity unit and specifically of the midwives influences the patient (in this research the **mother and the newborn baby**). In South Africa the **HIV/AIDS pandemic** as the leading cause of maternal deaths is increasingly influencing the morbidity and mortality rates of maternity units (SA, 2006b:vii). The philosophy and the view of the midwife regarding the patient and (intrapartum) care have a direct influence on the patient outcome. The purpose of the research is to improve the quality of intrapartum care rendered and thus reduce the **maternal mortality rate**.

The philosophy of the hospital/maternity unit has a direct influence on the **midwife,** the **multi-disciplinary team** and the **students**, while each with their own skills, competencies

and knowledge are involved in a unique relationship, the purpose of which is to render quality intrapartum care to the pregnant mother and the newborn baby. These team members who work together daily side by side must have an **optimal relationship** as it will have an influence on the staff outcome. The staff outcome involves concepts such as **staff:patient ratio, staff profile, turnover, retention, job satisfaction** and **policy involvement.** This unique relationship will furthermore have an influence on the practice environment, which must be positive so that it can positively influence patient treatment and outcome.

The **hospital/maternity** unit's philosophy has a direct influence on the quality of intrapartum care rendered as it also influences the patient (mother) and newborn baby as well as the patient outcome. The hospital/maternity unit also influences the midwives, the multi-disciplinary team and the students which directly links to the staff outcomes. The hospital/maternity unit includes concepts such as their vision, mission and an active webpage for the world to see what they stand for. The hospital will be evaluated according to **bed statistics, staff complement, clinical facilities** and **status** (level). The **infrastructure and leadership** style of the maternity unit, as well as the implementation of **legislation,** will definitely have an impact on the **organisational outcomes** which aim to improve the quality of the intrapartum care rendered and to establish a positive practice environment.

Using the preliminary framework of the elements influencing quality intrapartum care, the quality improvement initiatives which are in place are explored. Working from this background it is important to start with a common understanding of the elements that influence the quality of care. The purpose of this research is to create a common knowledge base as initial building blocks towards a better understanding of the measurement and improvement of the quality of intrapartum care using the QIIP™.

1.6.2 Elements influencing intrapartum care

Intrapartum care cannot function in isolation as it is influenced by various interlinked elements. In order to render quality intrapartum care, these elements must be in harmony. Various elements that influence intrapartum care are human resources, staff:patient ratio, the multidisciplinary team and the leadership in the maternity unit and hospital.

2.6.2.1 Human resources

Institutional deficiencies in resources (human and material), as well as the lack of properly maintained equipment led to the progressive deterioration of health services, especially public services (Baumann, 2007:10). Hospitals are facing serious challenges in providing

quality care in rapidly changing environments (Aiken *et al.* 2001:43). “We all agree that access to knowledge is vital, the capacity to utilise knowledge needs to be derived from the availability of new information. This requires both human resources and physical infrastructure” (Chang, 2004:1556). These wise words were spoken at the Common Science and Technology Committee in the UK on international development policy. They are also applicable to the South African context.

The WHO acknowledged in 1997 that “the midwife appears to be the most appropriate and cost-effective type of healthcare provider to be assigned to the care of normal pregnancy and normal childbirth, including risk assessment and the recognition of complications” (WHO, 1997:9). During the past years, the importance of safe staffing has emerged, largely because of changes in the health care system worldwide. These changes have been sparked by crises such as the AIDS pandemic, escalating health care costs and economic recessions leading to (amongst other) nursing (midwifery) shortages (Baumann, 2007:12; Dohrn *et al.* 2009:27). Media reports of hospital nurse shortages and their consequences, especially unequal quality of care, have become common (Aiken *et al.* 2001:43; De Geyndt, 1995). Staffing goes beyond numbers and includes variables such as workload, work environment, cost effectiveness, patient complexity, skills level and dysfunctional skills mix of nursing (midwifery) staff, and underskilled and unconfident staff, which affect safe patient (intrapartum) care (Baumann, 2007:11). Expanded training, task shifting, remuneration and the revision of regulatory and legislative policies are necessary to enable nurses and midwives to respond effectively to the HIV/AIDS epidemic (Dohrn *et al.* 2009:27). Adeyi and Morrow (1997:1638) warn that the availability of midwives does not ensure improved quality. The *Saving Babies Report* recommends that staffing norms should be established for maternity units as a baseline of minimum staff needed (SA, 2009b:39). Organisations are experiencing an attitudinal shift as older workers (midwives) are viewed as retainable assets with a longer productive working life that can fill the human resource shortage (Rocco *et al.* 2003:166). The QIIP™ will record the availability, use and quality of the above-mentioned workers.

Aiken *et al.* (2001:44) report that hospitals are cutting costs by reducing nursing staff to unsafe levels. The American Federation of Teachers (1995) defined safe staffing as an “*appropriate number of staff with a suitable mix of skill levels … available at all times to ensure that patient care needs are met and that hazard-free working conditions are maintained”.* The International Council of Nurses (ICN) Safe Staffing Saves Lives toolkit (ICN, 2006a) reinforce the view that higher staffing levels are linked to positive outcomes. The context in which care is rendered play an important role in safe staffing. Small rural

communities need **adequate staff** to assure a safe environment, while in the hospital sector, mixed skills and skill levels are important for optimal (quality) care (Baumann, 2007:12). The majority of nurses in the five countries where hospital care was researched by Aiken *et al.* (2001:47) reported that there were not enough staff to render high-quality care. A staff shortage leads to an excessive workload and remains a key labour issue – it has been documented as the main reason why nurses (and midwives) leave the profession (Baumann, 2007:15). This situation is a challenge for administrators to establish workloads that optimise productivity without compromising the quality of the care. Because nursing (and midwifery) work is excluded from the current workload measurement tool, nursing efforts and expertises are not adequately recognised, measured or compensated (ICN, 2004). Furthermore, if staff feels isolated, unmotivated and undervalued this has an impact on the quality of care they render. Inadequate pay and benefits for health care providers are mentioned as determinants of substandard quality of care (Hulton *et al.* 2000:19). Various organisations vary in their ability to support care in challenging practice environments. Where staff, resources or structure are lacking, the staff concentrate on the physical needs of the patients while psycho-social and spiritual needs may not be met, resulting in holistic care not being provided (Baumann, 2007:6). Fawcus *et al.* (1996:319) state that a lack of skilled personnel contributes significantly to lower quality of care.

Research conducted by Aiken *et al.* (2001:47) reported that nurses felt that they were working with physicians who were providing high-quality care and with nurses who were clinically competent. They furthermore reported that the nurse-physician relationship appeared not to be problematic.

Hulton *et al.* (2000:19) argue that in order to render effective maternity services, staff should be supported in their roles. Factors such as delay in payment of salaries, excessive patient overload and insensitive line management will promote an adverse working environment, whereas efficient and responsible management of a health service provider will tend to enhance the quality of the working environment and motivate staff.

Human resources include the quality and quantity of staff working of the health service provider and also the number of midwives and advanced midwives working in the maternity unit. This may also include the number of non-professional and support personnel by category who render quality care (Dohrn *et al.* 2009:28). The **Patient-to-staff ratio, qualifications of the staff, length of training, additional qualification, in-service training** and **performance criteria** form part of the human resource component (De Geyndt, 1995:33) and will be discussed below.

2.6.2.2 Staff: patient ratio

Countries with low staff: patient ratios often have a maldistribution of available nurses (midwives), which exacerbates the impact of staff shortages. Rural areas in developing countries (such as South Africa and specifically the North West province) tend to be the most underserved areas (Chen, 2010). The limited workforces of under-developed or less developed countries (such as South Africa) are further being depleted by factors such as emigration and HIV/AIDS; however, no data are available on which strategies work best to counteract these trends (Drucker, 2004:1555, ICN, 2005b:4). The ICN (2005b: 4) further identifies the fact that HIV/AIDS has had an impact on the nursing (midwifery) workforce by increasing the demand on health services and reducing the availability and performance of the health workforce. South Africa has an even grimmer picture with an already overburdened health system which is severely stressed by increasing numbers of patients requiring care and treatment for HIV/AIDS (Dohrn *et al.* 2009:27). This leads to the further migration of nurses and midwives internally or internationally, which further increases the burden on the remaining nurses and midwives. Doctors and midwives have approximately the same prevalence of HIV/AIDS as the public, which leads to higher illness and absenteeism rates among the staff who must render the care to the patients (Dohrn *et al.* 2009:27). Internal and institutional migration and international **recruitment of nurses and midwives** have become prominent over the past years. Internal migration includes the movement of nurses and midwives from rural to urban areas, from the public to the private sector and from nursing employment to non-nursing employment or no employment (ICN, 2005b:4). A combination of these factors, together with the brain drain, results in a vicious cycle where the HIV/AIDS epidemic fuels the crisis in the health care workforce, together with staff shortages which are a barrier to the treatment and prevention of the disease (Dohrn *et al.* 2009:27).

A link exits between adequate nurse:patient ratios and positive outcomes (ICN, 2005b). The ICN (2005a) reports through *The Global Nursing Shortage: Priority Areas for Interventions*, that several countries, including the US and Australia, have returned to minimum mandated nurse:patient ratios as one of the strategies to improve working conditions and to facilitate the return of nurses (midwives) to practice, and to promote safe staffing and (quality) patient care. Favourable nursing practice environments were linked to higher patient:staff ratios (Lake & Friese, 2006:7) therefore institutions with inadequate staffing should increase their capacity by appointing more full-time nurses (and midwives). Furthermore, Baumann (2007:16) recommends that bedside nurses should concentrate on (quality) patient care rather than on administrative tasks as there seems to be an increase in time spent on

administration and a decrease on time spent with patients. Since the mandatory implementation of a minimum staff:patient ratio in Australia, more than 3 000 registered nurses returned to practice and there was a decrease in staff turnover and absenteeism (ICN, 2005a:2). Even if staff (nurses and midwives) are overworked, rudeness and disrespectful behaviour is unacceptable. Although various cultures may communicate differently, rude behaviour can lead to a negative outcome, and therefore minimum standards for communication are an important part of the quality process (Hulton *et al*. 2000:12).

2.6.2.3 Multidisciplinary team

In 1997 Aiken *et al*. theorised that organisational models that enhanced nurse autonomy, control over resources and the nurse-physician relationship would lead to better outcomes. A study including 43 000 nurses across five countries in more than 700 hospitals indicated fundamental problems in the design of work in Europe and North America. This study by Aiken *et al.* (2001:44) suggested that major workforce management problems in hospitals must be corrected to ensure acceptable quality of care and an adequate workforce for the future. Furthermore, Lake and Friese (2006:2) theorised that the human resources as well as the practice environment would influence the patient outcome. They further stated that practice environments could be seen on a continuum from bureaucratic to professional where the decision-making is more centralised and the relationships between the nurses and physicians are more hierarchical in a bureaucratic environment.

On the other hand, decision-making is decentralised and relationships are more **collegial between midwives and physicians** in professional environments. Lake and Friese (2006:2) argue that better qualified midwives may create a more professional environment and this will then lead to attracting more staff (quantity) and retaining staff (stability), as well as attracting and/or retaining more qualified staff (higher educated personnel). Continuous cost reductions in the health care/maternity unit have disastrous effects on the quality of patient care, the morale of nurses and their safety (Budd *et al.* 2004:156). In the current climate of nurse shortages, job dissatisfaction and levels of burnout are especially important. These indicators are notable because a large number of dissatisfied and emotionally exhausted nurses have an impact on the quality of care and patient outcomes (Aiken *et al.* 2001:45). Baumann (2007:3) and Dohrn *et al.* (2009:27) report that stressed nurses, because of heavy workloads, friction with colleagues, inappropriate tasks, insufficient skills and knowledge, poor management or unsafe working conditions, are challenged to provide the highest standard of (intrapartum) care. Midwives must understand what empowerment they need in

order to fulfil the pregnant woman's needs (Matthews *et al.* 2006:182). Positive working practices not only affect nurses (midwives) and other health care professionals, but also support excellence of service with ultimately improved patient outcomes (Baumann, 2007:3). Therefore great emphasis is on **teamwork** to provide continuing (quality) care. Regardless of the type of nursing or interdisciplinary teamwork, the **quality of team relations** will likely affect the nurse (midwife) and the patient (Baumann, 2007:14). Emphasis should be placed on establishing teamwork so that quality care can be rendered. Collaboration with other health professionals is important in rendering quality care. If there is not an **open communication channel** in their relationships, nurse and midwives may feel intimidated and reluctant to question orders that are errors or miscommunicated (Baumann, 2007:14).

2.6.2.4 Leadership

Being a good leader is difficult (Smith, 2006:29). Leadership is important for setting the tone of an organisation or institution. Leaders provide a vision for an organisation's objective as well as a blueprint of how to achieve them. Leaders are responsible for ensuring that staff are motivated and have the knowledge, tools and skills to reach the goals in the workplace (Baumann, 2007:23). Bester (2008:266) claims that the nursing profession is in desperate need of authentic leaders.

Peter Drucker (2004:1555) first recognised management as a serious discipline with the words: "*The best way to predict the future is to create it".* Assuming that he is right, the question is: what future is currently being created for the health of the world's poorest people? Different personalities, team dynamics, business targets and culture make the management of a team a big challenge (Smith *et al*. 2009:29). The launch of new initiatives targeted at improving and preventing major diseases such as HIV/AIDS with promises of funding and high awareness of the MDGs suggests that health care in less developed and under-developed countries can only improve (Drucker, 2004:1555).

Lowe (2004) from the Canadian Policy Research Network points out that it is crucial that top management be committed to establishing a positive practice environment through **visible leadership**. Employees are likely to judge the organisation by the actions of the CEO and other top management. This result in nurses and midwives working in a positive practice environment will be more committed to the organisation and less likely to leave the organisation. Furthermore, staff with values that are congruent with those of the organisation may perform better and express more job satisfaction than those with different values, and this will lead to patient satisfaction (Baumann, 2007:23; Liu *et al.* 2010:117).

The commitment of all stakeholders, from leadership at the highest level of government, the national health system and health care professionals, is necessary to achieve the needed improvements in quality of care (SA, 2007a:3).

Good leadership throughout an organisation includes the allocation of resources to provide managers and supervisors with the **education, time, incentives** and **other support** needed to initiate and sustain improvements (Lowe, 2004). Leadership attributes that bring about positive practice environments and are not confined to formal leaders. Positive practice environments allow nurses to be autonomous, practice within their scope and use their initiative. This is also demonstrated in the Magnet hospitals. Aiken *et al*. (2002:1987) reported that nurses expressed greater job satisfaction and patients achieved better patient outcomes in an organisation where staff were empowered. The ICN developed a Leadership for Change (LFC) programme to help nurses to develop into effective leaders and managers in a constantly changing health environment. The aim of the LFC is to promote patient safety and quality care through proactive and appropriate leadership strategies (Baumann, 2007:24).

Seago et al. (2001) reported that hospitals with primary or total nursing delivery were less likely to have a persistent nursing shortage comparing to hospitals with functional delivery. Lake and Friese (2006:7) showed that hospitals with favourable practice environments had a wide variety of staffing. Some parts of the world have financial or other constraints which prevent an institution from employing high numbers of professional nurses and midwives. Midwives must examine the institution's climate to determine whether it is in accordance with their professional and work ethics, enhances their roles and performance and promotes safety (Baumann, 2007:24) though quality care. If strong leadership exists in intrapartum care it will improve the quality of care.

In this complex environment it is necessary to render safe intrapartum practices.

2.6.3 Intrapartum practices

In order to render safe intrapartum practices and reduce MMR, guidelines, the latest research findings and EBP should be implemented to improve the quality of care. In South Africa the intrapartum situation is even more complex due to HIV/AIDS which is the major cause of maternal and neonatal deaths. However, over the last decade much research has been done to limit vertical transmission of HIV to the neonate during the intrapartum period. Lessons learnt from HIV/AIDS can be used to strengthen the South African health care systems and improve access to health services (Dohrn *et al.* 2009:27). This can only have an

impact if midwives are aware of the latest research findings and adopt them into their every-day practice so as to convert research theory into practice.

2.6.3.1 Guidelines to limit vertical transmission of HIV

Guidelines must be based on effective, efficient, safe and culturally appropriate services Integrated Management of Pregnancy and Childbirth (IMPAC) is an example of this (WHO, 2008a:3). HIV/AIDS has been identified as the leading cause of maternal deaths in South Africa (SA, 2007b:7) and the North West province, and it is essential to develop intrapartum practices to limit the spread of the disease. An HIV/AIDS scale-up has triggered innovations in theory and practice and the lessons learnt thereby have the potential to enhance (intrapartum) practice (Dohrn *et al.* 2009:27). Mother-to-child- transmission is the main cause of HIV infection in young children. In the absence of preventive measures, it is possible that 25-35% of HIV-positive mothers' babies will be infected (SA, 2007b:130). HIV/AIDS transmission may occur during the antenatal (5-10%) and intrapartum (10-20%) periods and through breastfeeding (10-20%) (SA, 2007b:131). With this background, some recommended guidelines are discussed to limit transmission of HIV/AIDS during the intrapartum period.

2.6.3.2 Additional training

In order for the midwives to keep up to date with the latest research Prof D Woods developed the PEP (I) is a maternal guideline and PEP (II) is a neonatal guideline. There is also a third guideline, namely the HIV-PEP (III) which specifically gives information about HIV and AIDS during the maternity. These guidelines have been specifically developed to increase the knowledge of HIV/AIDS of midwives working with pregnant women to reduce vertical transmission of HIV/AIDS. These additional training are recommended for midwives to be informed about HIV/AIDS in the management of pregnant women rendering safe intrapartum practices.

2.6.3.3 Maternal trauma

Maternal trauma increases the risk of vertical transmission of HIV. Routine pubic shaving, vaginal examination, epsiotomy and artificial rupture of membranes are all linked to maternal trauma which can increase the risk of vertical transmission of HIV.

Routine pubic shaving

Once admitted to the maternity unit, several procedures are routinely carried out. Some procedures such as pubic shaving before delivery are common but have no proven benefits. Pubic shaving was thought to reduce infection and make suturing easier (Hulton *et al.* 2000:25); however, there is no evidence to support this. In South Africa the transmission of HIV is among the more serious potential consequences.

Vaginal examination

A vaginal examination is the most common method used to assess the progress of labour. In order to reduce the risk of infections, this procedure should be restricted. The WHO (1996) recommends that a vaginal examination should be performed every four hours during the first stage of labour. A skilled attendant, with clean hands and wearing gloves, must perform this procedure (Hulton *et al.* 2000:26). The *Maternity Guidelines* recommend that vaginal cleaning with an antiseptic solution should be done before a vaginal examination is carried out (SA, 2007b:138).

Episiotomy

The conventional belief was that a perineal tear causes more traumas, therefore it is better to conduct an episiotomy. Both of these options increase the risk of mother-to-child transmission, therefore it is important to use techniques that support the perineum to prevent trauma.

Perineal trauma is divided into episiotomies and spontaneous lacerations. Various degrees of lacerations occur. First-degree lacerations occur when the vaginal mucus and perineal area are involved and no suturing is done. Second-degree lacerations include the perineal area, but not the anal sphincter. Third-degree lacerations include any trauma of the anal sphincter, and fourth-degree lacerations include trauma to the rectal mucosa (Lydon-Rochelle *et al.* 1995:13). The literature indicates that the primigravida has an increased risk for lacerations (Lydon-Rochelle *et al.* 1995:16).

Episiotomy is one of the main reasons for induced maternal trauma. Williams (2001:156) defines an episiotomy as an incision in the perineum to increase the vaginal opening. Some of the benefits of the use of episiotomies include decrease in third-degree lacerations, decreased risk of incontinence and shoulder distortion, and fewer disabilities. The *Maternity Guidelines* recommend that episiotomies should be avoided, as should other invasive procedures (SA, 2007b:138).

Artificial rupturing of membranes

Various researchers indicate that the risk for HIV transmission doubles if the amniotic membranes are ruptured for a period longer than 4 hours (Landesman *et al.* 1996:1617; Kuhn *et al.* 1997:429). Woods (1999:33-2) confirms this finding and explains that the foetus has an increased risk because of the prolonged exposure to the vaginal secretions. Another risk identified is that the foetus may aspirate the amniotic fluids (with a high viral load), and thus the risk of vertical transmission of HIV is increased (Ait-Khaled *et al.* 1998:1097). The *Maternity Guidelines* recommend that the time for ruptured membranes should be less than 4 hours and that other methods of augmentation should be implemented if there is evidence of slow progress (SA, 2007b:138).

2.6.3.4 Method of birth

There are two kinds of deliveries, namely caesarean section and vaginal delivery. Although elective caesarean section decreases the vertical transmission of MTCT, in resource-poor settings it is costly and impractical, and further increases the risk of post-operative complications (McIntyre & Gray, 1995:4; Gelber & Shapiro, 1999:205; Mwanyumba *et al.* 2002:262; Moodley *et al.* 2003:726; SA, 2007b:138).

2.6.3.5 Vaginal delivery

The midwife can contribute to the limitation of MTCT if she implements safe intrapartum practices. Various intrapartum practices are carried out during vaginal delivery, including the rupture of membranes, vaginal cleaning and maternal and neonatal trauma.

2.6.3.6 Vaginal cleansing

The HI virus is present in the blood and mucus in the birth canal (SA, 2007c:138). Research conducted in Malawi indicated that chlorhexidine deactivates the HI virus in utero (Biggar *et al.* 1996:1647). The intervention includes the cleaning of the birth canal with 0,25% chlorhexidine (McIntyre & Gray, 1995:4; Biggar *et al*., 1996:1648; Jenkins-Woelk, 1998:7; South Africa, 2002a:12; SA, 2007b:138) before the birth of the baby.

2.6.3.7 Neonatal trauma

Midwives play a vital role in the trauma that the foetus may experience through suctioning directly after birth. Research indicates that vigorous suctioning of the neonate cause bruises, which may increase the risk of MTCT bruises (Woods, 1999:34-1). The *Maternity Guidelines* recommend that routine suctioning of the neonate should be avoided (South Africa,

2002a:127). Woods (1999:33-4) recommends that it is advisable to clean the neonate's mouth with clean gauze.

It should be taken into consideration that intrapartum practices will influence the outcome of the birth experience for the mother, the neonate and the midwives. Other intrapartum practices related to the MMR are fully discussed in Section 2.5.4.1.6, Management of emergencies. In order to render intrapartum practices safe and thus reduce the MMR, it is necessary to have the necessary equipment for intrapartum care.

2.6.4 Essential equipment for intrapartum care

According to the *Traditional Health Practitioners Bill* (SA, 2007c:3) an **accredited institution** in the South African context means “an institution, approved by the Interim Traditional Practitioners Council of South Africa. It certifies that a person or body has the required capacity to perform the functions within the sphere of the National Quality Framework contemplated in the South African Qualifications Authority Act, 1995 (Act No.58 of 1995). By definition, “a **health establishment** means any public or private institution, facility, agency, building, place or part thereof, whether organised for profit or not, that is operated or designed to provide health services (SA, 2007c:4)”.

Adeyi and Morrow (1997:1638) and De Geyndt (1995:33) state that equipment is necessary but does not guarantee performance of related tasks, although relatively underutilised health centres are those with lower technical capability. Tasks are more likely to be performed when the required equipment is available. Research conducted by Adeyi and Morrow (1997:1635) showed that midwives sometimes brought their own equipment to health centres to perform the necessary tasks and that temperature and blood pressure measurement are more likely to be done when the required equipment is available in the health centre. Equipment also includes general hospital **infrastructure**, including **water** and **electricity**, which is a problem in South Africa where power failure often occurs without warning (Fisher *et al.* 2004:17; Beyea, 2007:819). The equipment for maternity services, especially during the intrapartum period, must be available and in a working condition (SA, 2009b:54). The list given in the *Guidelines for Maternity Care in South Africa* divided into three categories, namely equipment, drugs and supplies and tools (see Tables 2.7, 2.8 and 2.9).

ESSENTIAL EQUIPMENT FOR MATERNAL HEALTH SERVICES

Table 2.7 Equipment necessary for intrapartum care

(SA , 2007b:170)

1. EQUIPMENT					
LEVEL ONE				LEVEL TWO	LEVEL THREE
A: Mobile services	B: Day clinic (no 24-hour service):	C: 24-hour clinic and community health centres	D: District hospital	E: Regional hospital	F: Tertiary/ quaternary hospital
	As for A +	As for B +	As for C + CTG	As for D +	As for E +
1. BP machine and different size cuffs 2. Working scale for both adults and neonates 3. Tape measure 4. Thermometer 5. Adult stethoscope 6. Foetal stethoscope 7. Haemoglo-binometer 8. Good light source 9. Vaginal specula of different sizes 10. Cold box (for storage of drugs and vaccines)	1. Haemoglobino-meter 2. Glucometer 3. Hand-held Doppler 4. Emergency delivery pack 5. Watch or clock with second hand that can be seen easily 6. Refrigerator or cold box (for storage of drugs and vaccines) 7. Equipment for IUCD insertion and removal 8. Effective communication system	1. Handheld doppler 2. Bedpans 3. Delivery pack 4. Episiotomy/ tear repair set 5. Fixed/mobile suction 6. Vacuum extractors and cups (for use by advanced midwives) 7. Equipment for neonatal resuscitation – mucous extractor and infant face mask 8. Overhead radiant heater 9. Equipment for adult resuscitation	1. Ultrasound scan 2. Oxygen source (portable cylinder or central wall supply) together with mask or nasal cannula, tubing and flow meter 3. Intravenous infusion pumps 4. Functioning theatre with equipment 5. Equipment for resuscitation of adults including defibrillator 6. Equipment for neonatal resuscitation	1. Forceps 2. Facilities for major surgery (e.g. hysterectomy) 3. High care and ICU 4. Blood bank	

LEVEL ONE				LEVEL TWO	LEVEL THREE
A: Mobile services	**B: Day clinic (no 24-hour service):**	**C: 24-hour clinic and community health centres**	**D: District hospital**	**E: Regional hospital**	**F: Tertiary/ quaternary hospital**
	As for A +	**As for B +**	**As for C + CTG**	**As for D +**	**As for E +**
	9. Instrument steriliser and forceps steriliser 10. Jar for forceps 11. Dressing forceps 12. Kidney basins 13. Sponge bowls 14. Scissors 15. Surgeon's hand brush 16. Heat source	10. Adult ventilator bag and mask and mouth gag	7. Craniotomy equipment 8. Theatre packs for C/S, minilaparo-tomy, evacuation of the uterus 9. Also includes 10. X-ray facilities 11. Laboratory facilities		

Table 2.8 Drugs and supplies necessary for intrapartum care

2. DRUGS AND SUPPLIES					
LEVEL ONE				LEVEL TWO	LEVEL THREE
A: Mobile services	**B: Day clinic (no 24-hour service)**	**C: 24-hour clinic and community health centres**	**D: District hospital**	**E: Regional hospital**	**F: Tertiary/ quaternary hospital**
	As for A +	**As for B +**	**As for C +**	**As for D +**	**As for E +**
1. Urine dipstix 2. Intravenous infusion sets 3. Intravenous fluids 4. Venepunc ture supplies 5. Alcohol/Beta-dine/Savlon 6. Gloves – both examination and utility or heavy-duty household gloves for cleaning 7. Puncture-proof container for sharps disposal 8. Disinfectant 9. Chlorine for making decontami nation solution 10. Condoms both male and female 11. Hormonal contraception pills and injectables	1. Oxygen 2. Drugs for obstetric emergencies 3. IV administra-tion sets 4. IV solutions: Ringer's lactate, normal saline, glucose 5. On-site testing kits for: Pregnancy test, Rh D syphilis, HIV, urinalysis 6. Supplies for drawing blood – (tourniquets, syringes and needles, tubes, labels) 7. Soap at all sinks 8. Drugs for obstetric emergencies – $MgSO_4$, tocolytics, oxytocics, antibiotics	1. Drugs for resuscitation of neonates 2. Drugs for resuscitation of adults 3. Urine catheters and bags 4. Oxytocic drugs for active management of third stage of labour 4. Local anaesthetic 5. Suture needles and suture material 6. Antibiotics 7. Tocolytics 8. Analgesics	1. Emergency blood 2. Drugs to manage hypertension, diabetes and other pregnancy-related / medical complications 3. Induction of labour drugs 4. Tubal ligation facilities 5. Insertion of IUCD facilities 6. Antihypertensive drugs 7. Diuretics 8. Antiallergens	1. Antidiabetic drugs 2. Anticoagulants and antidotes	

12. Vaccines for immunisation (both mothers and children) 13. Haematinics – Fe, folate 14. Supplies to take pap smear	9. Antimalarials (in affected provinces)				

Table 2.9 Tools necessary for Intrapartum care

3. TOOLS					
LEVEL ONE				LEVEL TWO	LEVEL THREE
A: Mobile services	B: Day clinic (no 24-hour service)	C: 24-hour clinic and community health centres	D: District hospital	E: Regional hospital	F: Tertiary/ quaternary hospital
	As for A +	As for B +	As for C +	As for D +	As for E +
1. Appropriate documentation, sheets of paper for narrative notes, referrals, etc. 2. Antenatal cards 3. Antenatal register 4. Guidelines 5. EDL	1. Referral forms 2. Laboratory request forms	**1.** Maternity case record 2. Delivery register **3.** Post-natal register			

In South Africa as a developing country, a back-up generator in case of power failure is necessary. As this research was conducted in a Level 2 hospital all the equipment, drugs and supplies as well as tool as indicated in the above table should be available as for a regional hospital in column E.

2.7 POSITIVE PRACTICE ENVIRONMENT

Positive practice environment is discussed under the headings of positive practice environment, strategies to improve positive practice environment, patient outcomes, staff outcomes and organizational outcomes.

2.7.1 Description of positive practice environment

A concept clarification of positive practice environment was stated in Chapter 1 (see Section 1.6.3). Health systems are increasingly challenged and are faced with a growing range of health needs, financial constraints and limited service potential to strengthen health sector infrastructures and workforces (Baumann, 2007:1). Worldwide nursing shortages are characterised by a decline of the number of entrants into the nursing profession, the exit of new entrants, aging and dissatisfaction of the workforce (Aiken *et al.* 2001; Scochalski, 2002:157; Budd *et al.* 2004:153).

Research conducted by Baumann *et al.* (2006) reported that nurses prefer to stay in the region where they received their education, but they will leave if the working environment does not meet their expectations. Various reasons for nursing shortages are known, key among them being unhealthy work environments that weaken the performance of nurses and drive them away – either from specific settings or from the profession (Baumann, 2007:1). A positive organisational climate is important because it encourages consistency of behaviour of staff (Dickson *et al.* 2006:358). The absence of a positive practice environment endangers the patient and exposes nurses to job burnout and absenteeism.

Yet there are environments that just do the opposite: they support excellence and have the power to attract and keep nurses, and are called positive practice environments (Baumann, 2007:1). In the US, groups such as the American Hospital Association (2002), the American Nurses Association, (2002) and the Joint Commission on Accreditation of Health Care Organisations (JCAHO, 2002) all declared that improving nursing practice environments is essential for addressing the nursing shortage. The current nursing shortage is undermining the goals of health systems and challenging the ability to meet the needs of the community

(Baumann, 2007:2). The Registered Nurses Association of Ontario (RNAO, 2006) states that a health care work environment is a practice setting that maximises the health and wellbeing of nurses and the quality of patient outcomes and organisational performance. The ICN called for health services through health care work environments that support performance excellence. Hiroko Minami, President of the ICN, declared: "*We believe patients and the public have the right to the highest performance from nurses and other health care professionals. This can only be achieved in a workplace that enables and sustains a motivated, well-prepared workforce"* (Baumann, 2007:59). Research in Iran echoes this finding as nurses (and midwives) believe that a good learning work place could satisfied their self-actualisation needs, keep professional improvement alive, provide a positive practice environment and inspire them to continue life-long learning (Khomeiran *et al.* 2006:68).

Lake and Friese (2006:1) state that little is known about how nursing practice environments vary across hospitals in the US. Aiken, Smit and Lake (1994:771) reported that Magnet hospitals had higher staffing ratios. Magnet hospitals were reported to be large, urban, non-profit teaching hospitals (Aiken *et al.* 1994:771). Furthermore, the Magnet hospital concept is synonymous to attract and retain well-qualified staff, and constantly provide quality care (Kramer & Schmalenberg, 1988:14; Baumann, 2007:6).

Box 2.15 Positive practice environments

(Baumann, 2007:1).

Positive practice environments are characterised by:

- Policy frameworks focused on recruitment and retention
- Strategies for continuing education and in-service training
- Adequate employee compensation
- Recognition programmes
- Sufficient equipment and supplies
- A safe working environment

2.7.2 Strategies to improve the positive practice environment

It is also the aim of the South African Department of Health as stated in the *Policy on Quality Health Care in South Africa* to create an environment where quality health care will be rendered (SA, 2007a:9).

The process of developing positive practice environments involves a range of players from different levels of the institution.

For a start, each institution should develop a workforce profile that includes a matrixs with demographic information such as age and experience, absenteeism, vacancy and turnover rate. These data can provide a solid basis for decision-making. Nurses can advance in a positive practice environment through:

- Promoting the nursing (midwifery) role
- Defining the scope of nursing (midwifery) practice
- Lobbying for professional recognition and remuneration
- Inputs into policies to ensure a safe practice environment
- Conducting research, collecting data for best practices and implementation of the latest research
- Encouraging educational institutions to enhance teamwork through collaboration
- Presenting awards to institutions that demonstrate positive practice environments through recruitment and retention initiatives, public opinion, patient satisfaction while improving the care rendered (Baumann, 2007:39).

All the hospitals in the North West province included in this study *(Quality Improvement Intervention Programme for Intrapartum Care*, Du Preez *et al.* 2010) are also large, urban, non-profit teaching hospitals. The main difference is that they may differ from those in a First World country and are more like those in a Third World country. In the North West province in South Africa there are four Level 2 hospitals that act as referral hospitals to Level 1 hospitals. An added burden to these Level 2 hospitals is that there are no Level 3 hospital in the province to which patients can be referred. The positive practice environment will influence the patient outcome.

2.7.3 Patient outcomes

Patient satisfaction is an indicator of quality care in health facilities (Liu *et al.* 2010:117; Woodward *et al*. 2000:94). Pregnant women define high-quality care as "being treated like a human being" (Vera, 1993:40). Avis *et al.* (1997) reported that traditionally patient satisfaction surveys were regarded as the most important way of obtaining patients views; however, qualitative research argues that patient satisfaction surveys are unable to accommodate the range of feelings, values and experiences of patients. Coyle (1999:96) reported that dissatisfaction is categorised into themes, namely the doctor, the hospital and the staff (midwives), while Weisman *et al.* (2001:405) identify three other dimensions of quality care: getting the care needed, communication of health care personnel and the rating of the overall experience. Complaints include factors such as aspects of care, waiting room facilities and time to treatment. The same themes are included in the *Patient Survey for Quality Care* that are used in the US together with safety and security, privacy, instructions upon leaving as well as quality of care (Woodward *et al*. 2000:97). Pretorius (2001:155) reported that pregnant women lacked knowledge, and because there is a communication gap between the midwives and the pregnant women, patients tend not to optimally use the health care service provided, which can result in a rise in maternal mortality. In South Africa patient satisfaction surveys are usually used in the private sector, although the researcher has never come across the use of patient satisfaction surveys in the North West province public hospitals. Surveys can be used as an instrument to evaluate the patient's perception of the quality of care rendered, which will influence her decision to come back or not. Her not coming back may influence future outcomes.

2.7.4 Staff outcomes

Job satisfaction closely relates to how nurses feel about their working life (Baumann, 2007:9). In research conducted by Aiken *et al.* (2001:46) regarding job satisfaction in the US, Canada, England, Scotland and Germany, 15% of workers (nursing (midwife) staff) were reported to be dissatisfied with their jobs. Furthermore, about 20% tended to leave their work within a year. The relationship between workplace stress and nurses' morale, job satisfaction and commitment to the organisation are key issues that influence job satisfaction (Baumann, 2007:3). Adequate remuneration is a major reason for migration, but factors such as management support, infrastructure support and government support also contribute to job satisfaction (Baumann, 2007:9). In Lesotho according to (Baumann, 2007:10) inadequate remuneration, poor working conditions, lack of equipment, inadequate training and qualifications also contribute to low job satisfaction, which also leads to the migration of staff

(nurses and midwives) from the profession or from the country. What is furthermore alarming is that many younger nurses (under the age of 30 years) were much more likely to leave the hospital. The low percentage of younger nurses in Canada may reflect a dual impact of hospital downsizing (Aiken *et al.* 2001:46). The freedom to act autonomously and accountably within their **scope of practice** is strongly related to nurses' (midwives') job satisfaction. In institutions where nurses (midwives) have a limited say in patient care, they feel that their expertise is not valued, which lowers their commitment to their employers (Baumann, 2007:8). It is clear that workers' performance depends on their level of motivation, which motivates them to work, work diligently, and be willing to carry out the necessary tasks and be flexible. However, motivation is lacking if institutions fail to provide essential equipment for their staff (Baumann, 2007:10) (nurses and midwives) to provide the necessary quality intrapartum care. The control that nurses and midwives exercise gives them “a voice in decisions that affect the patient care environment and their ability to deliver quality care” (Fitzpatrick, 2001:41). This control allows organisational **autonomy**, which includes freedom to re-shape the unit and **implement the policies** so that together with the available resources quality care can be rendered (Budd *et al.* 2004:153). If they have organisational autonomy and control over practice, nurses and midwives will feel empowered and respected, which will lead to the continuation of good quality care and positive practice environment (Apfer *et al.* 2003:226). The practice environment also has an impact on the organisational outcome.

2.7.5 Organisational outcomes

The outcomes include the establishment of a positive working environment, an increase in patient satisfaction, the rendering of quality care and a reduction of the MMR (Hulton *et al.* 2000:55). Outcomes denote the effect of care on the health status of patients and represent the results of the patient, taking into consideration the **timeous, effective** and **efficient** inputs (Donabediun, 1988:1743; Weisman *et al.* 2001:405).

Institutions must be able to financially support staff (nurses, midwives as well as the multidisiciplinary team) and **maintain** the necessary **infrastructure**. Especially in developing countries, institutions are often faced with the reality that sufficient finances are not allocated to support the necessary numbers of staff (De Geyndt, 1995:33; Baumann, 2007:11). Without the necessary finances, staff (nurses and midwives) may be confronted with a less positive practice environment, which may furthermore have an effect on the quality of (intrapartum) care rendered. Furthermore, staff numbers are often related to financial constraints rather than patient or staff needs. This results in a poor fit between the need for

nurses and nurses' needs and job requirements (Baumann, 2007:12). This may also have an impact on patient outcomes, in this case resulting in maternal and neonatal mortalities.

2.7.6 Safety climate for nurses and patients

Communities expect safe and competent health (intrapartum) care as a right (Watkins, 2000:338). Safety climate is a term that is often used in conjunction with safety culture. The following five components are necessary for a safety climate:

- Organisational commitment
- Management involvement
- Employee empowerment
- Reward systems
- Reporting systems (Baumann, 2007:21)

Safety within an organisation includes both physical and psychological aspects. The physical aspects include adequate equipment, safe physical structures and appropriate practice environments. The psychological component of safety includes rewards for employees as well as creating an environment in which questions can be asked without fear of reprisal (Baumann, 2007:22). An unsafe climate leads to poor attitudes, behaviour and care, which may influence not only patient outcomes but also recruitment and retention of health care workers (Baumann, 2007:22). In order to fulfil these expectations, nurses and midwives need to be competent (Watkins, 2000: 338) in order to provide a safe climate for the nurses and patients.

2.8 SUMMARY

In the literature discussed in this chapter, some topics keep reoccurring. These topics will be included in the development of the QIIP™. The structure of the health care organisation must be in place, which incorporates the resources, i.e. staffing and equipment, and water and electricity supply, the patient:staff ratio and visible leadership. This structure will influence the process that must be in place which includes policies, BPG and EBP implemented by competent staff working together with management to develop and implement policies applicable to intrapartum care. These processes will influence the staff outcomes, patient

outcomes and organisational outcomes. The staff outcome includes recruiting and retention of competent staff who are competent and motivated to render quality intrapartum care and who experience job satisfaction. The patient outcomes include patient satisfaction and a reduction of the MMR. Finally, this will lastly lead to an organisational outcome of rendering cost-effective health care (maternity service) in a positive practice environment where quality intrapartum care is rendered.

This chapter discusses the extensive literature review which was conducted from a theoretical point of view to determine the nature of quality intrapartum care. It also forms the basis for the development of the situational analysis which is discussed in the following chapter. Objective 2 of Phase 1 is discussed in Chapter 3.

CHAPTER 3

CHAPTER 3

EXISTING RESOURCES (PERSONNEL AND EQUIPMENT), AS WELL AS THE QUALITY IMPROVEMENT INITIATIVES FOR INTRAPARTUM CARE AT LEVEL 2 HOSPITALS IN THE NORTH WEST PROVINCE

(Phase 1: Objective 2)

3.1 INTRODUCTION

In this chapter Objective 2 of Phase 1 is explored and described through the information gathered during the situational analysis in the four Level 2 hospitals in the North West province. The realisation of the data, which include the research method, population and sample, pilot study, ethical considerations, data collection and data analysis, is described. This is followed by rigour. Lastly, the findings of Objective 2 are discussed. Table 3.1 provides an orientation with regard to the objective and phase that were completed.

Table 3.1 Structure of research study, indicating Objective 2

PHASE 1	PHASE 2
Objective 1: *Explore and describe quality intrapartum care through a literature review*	**Objective 5:** *Develop a QIIP™ for Intrapartum care*
Objective 2: *To determine the existing resources (personnel and equipment), as well as the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North West province.*	
Objective 3: *To determine the practice environment that may influence the quality of intrapartum care available at Level 2 public hospitals in the North West province*	
Objective 4: *To explore and describe the facilitating and impeding factors that influence the quality of intrapartum care*	

The research design and method is a roadmap for this specific study. In Section 1.7 the research design for the whole study was discussed. For the sake of clarity, the structure of this chapter is presented below. Cross-references are used for clarification, for example:

- Research design (Section 3.2)
- Population (Section 3.3)
    - Sample (Section 3.3.1)
- Data collection method (Section 3.4)
- Rigour (Section 3.5)
- Realisation of data collection (Section 3.6)
- Data analysis (Section 3.7)
- Results and embedded literature (Section 3.8)

3.2 RESEARCH DESIGN

This part of the research was conducted by means of quantitative data collection using a checklist; the aim was to minimise the "halo" effect where the researcher develops an impression based on a single finding of the situation (Fouché, 2000:166; Burns & Grove, 2009:403). The checklist was developed by the researcher, based on the literature review reported in Chapter 2, to provide theoretical validity for the development of the QIIP™. This quantitative design using a checklist to obtain information is non-experimental (Knapp, 1998:67; Brink *et al.*, 2006:93). The context, population, pilot study, data collection and data analysis are included in the research method.

3.2.1 Context

The context of this research study was explained in detail in Chapter 1, Section 1.7 on page 23.

3.3 POPULATION

The population of the North West province is served by four Level 2 hospitals, as indicated in Section 1.7.6 of Chapter 1. In this chapter the population (N = 4) includes the maternity units

of the four Level 2 hospitals that agreed to take part in the QIIP™ research regarding the quality of intrapartum care provided. A detailed examination of the population is presented in Section 1.7.8 of Chapter 1. Each of the maternity units of the four hospitals has more or less the same population (see Figure 3.1).

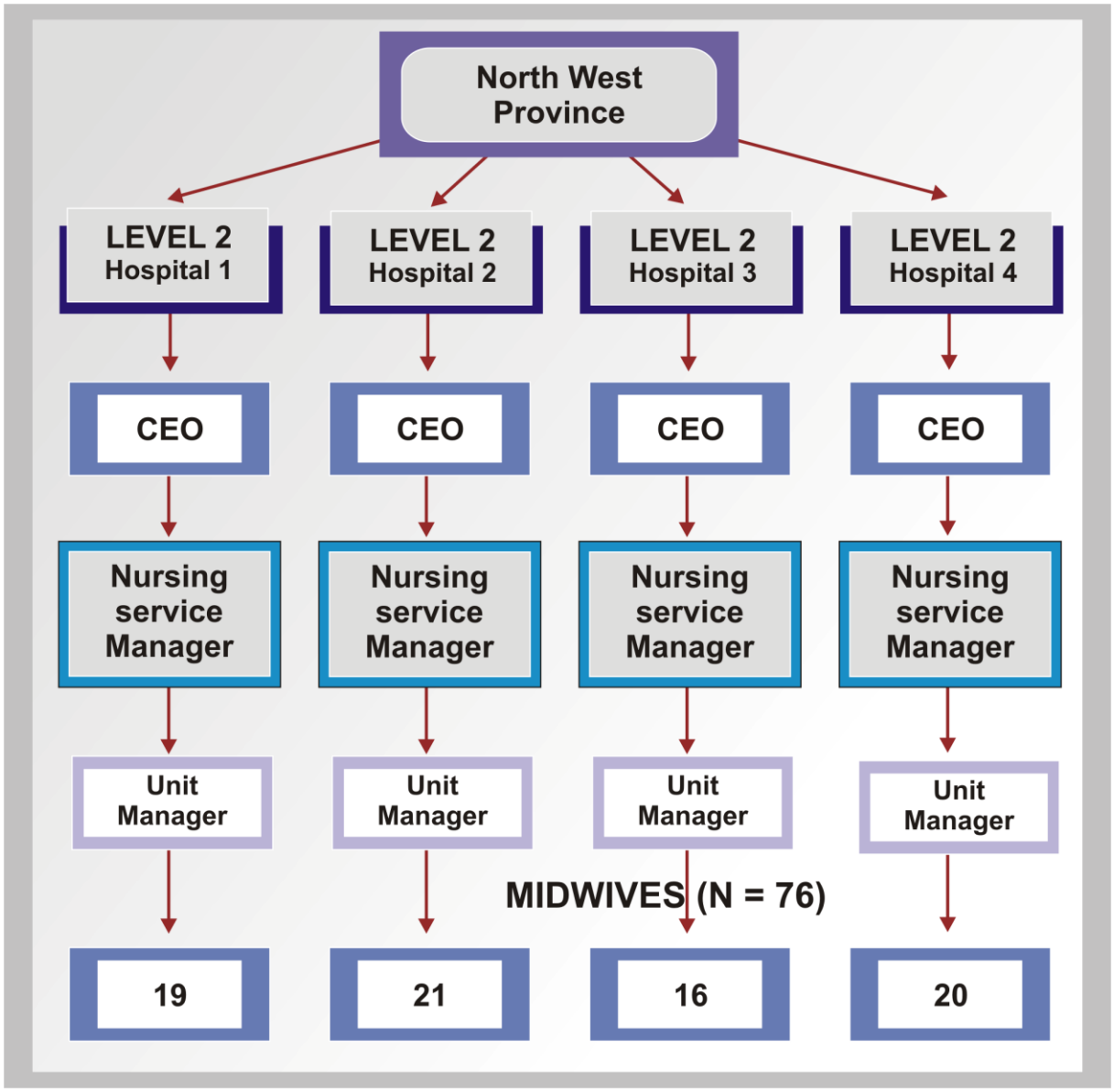


Figure 3.1 **Flow chart of the population of the maternity units of the Level 2 hospitals in the North West province**

3.3.1 Sample

Per definition, a sample means a part or fraction of the whole, selected by the researcher to participate in this research study (Brink *et al.*, 2006:124). An **all-inclusive sample** (all four of

the Level 2 hospitals in the North West province) was used in order to obtain information regarding the phenomenon representing the population of interest (Brink *et al.*, 2006:124).

The inclusion criteria were as follows:

- Level 2 hospitals (n = 4) in the North West province were selected.
- The situational analysis was conducted in the labour wards within the Level 2 hospitals in the North West province (see Section 1.6.2), because they act as the referral hospitals in the province and they are also those with the highest maternal mortality rate (SA, 2006b:203).
- The term “maternity unit” includes the antenatal ward, labour room, puerperium ward and baby room. In some of the Level 2 hospitals in the North West province all these units are included in one ward, while other hospitals have separate wards for each unit, with different personnel.
- After several attempts, all the hospitals consented to participate in the research.

3.4 DATA COLLECTION METHOD

A checklist was developed by the researcher to obtain the data for the situational analysis. This data collection method was chosen because a checklist is described as a type of questionnaire listing items of relevance by ticking a “yes” or “no” or those best describing the circumstances under research (De Vos & Fouché, 2000:89; Terre Blanche *et al.,* 2008:487). This format was useful as a full domain of activities was surveyed and this non-experimental data collection technique is used to gather data within an identified population (Terre Blanche *et al.*, 2008:487; Burns & Grove, 2009:245).

The checklist was developed after the literature review had been conducted (Appendix J). The statistical consultation service of the North-West University (Potchefstroom campus) was consulted in order to formulate the final product.

The checklist for the situational analysis was structured according to a framework of indicators that could influence the quality of intrapartum care through the division of categories (Burns & Grove, 2009:402). Each of these categories is further divided into a number of items (Terre Blanche *et al.,* 2008:489). Burns and Grove (2009:402) reported that the Hawthorne effect can be applicable where direct observations from a suspected observer are present. However, this is not the case in this research as most of the data obtained in

this survey pertained to official statistics (Welman *et al.,* 2010:151). On the basis of the conceptual framework developed in Chapter 2 (see Section 2.6.1), the topics listed in Table 3.2 were included in the situational analysis.

Table 3.2 Topics covered in the situational analysis

	TOPIC	TYPE OF INFORMATION	PRESENTED IN SECTION NO.
1	**HOSPITAL BIOGRAPHICAL INFORMATION**		**3.8.1**
A	Hospital	Official documents/ Unit manager	3.8.1.1
B	Ward/unit	Official statistics/ Unit manager	3.8.1.2
C	Patients	Official statistics/ Unit manager	3.8.1.3
2	**STRUCTURE**		**3.8.2**
A	Organisational resources	Organisational documents	3.8.2.1
B	Physical resources • Facilities	Structured observation	3.8.2.2
C **C1** **C2** **C3** **C4**	Human resources • Staff • Students • Specialist/multidisciplinary team • Leadership	 Statistics unit manager Statistics unit manager Structured observation Structured observation	3.8.2.3
3	**PROCESS**		**3.8.3**
A	Infrastructure	Statistics unit manager Structured observation	3.8.3.1
B	Research	Unit manager	3.8.3.2
C	Quality improvement	Unit manager, archive sources & statistics	3.8.3.3
D	Intrapartum practices	Unit manager, archive sources	3.8.3.4
4	**OUTCOME**		**3.8.4**
A	Organisational	↓MMR statistics Minutes of meetings	3.8.4.1
B	Staff – PPE	RM4CAST Questionnaire	3.8.4.2

	TOPIC	TYPE OF INFORMATION	PRESENTED IN SECTION NO.
	Job satisfaction	RM4CAST Questionnaire	Chapter 4
C	Patients Quality of care Patient satisfaction	Not addressed in this research	3.8.4.3 Overall outcome if QIIP™ is implemented

3.5 RIGOUR

Validity and reliability both measure if the research is sound. In quantitative approaches, the four universal standards of Lincoln and Guba (1985) are applied, namely:

- Truth value of the research findings → Internal validity
- Applicability of the research findings → External validity
- Consistency of the research findings → Reliability
- Neutrality of the research findings → Objectivity

With the development and execution of the situational analysis through the checklist, the following strategies were implemented to ensure the validity and reliability of the research study.

3.5.1 Validity

Fain (2004:131) defines validity as "the accuracy with which an instrument or test measures what it is supposed to measure". Terre Blanche *et al.* (2008:90) and Klopper and Knobloch (2010:319) refer to validity as the degree to which research conclusions are accurate and sound. The following types of validity were used in this research: theoretical validity; content validity, internal validity and measurement validity; external validity; and construct validity. These will now be discussed.

- The **theoretical validity** is linked to the theoretical grounding of the concepts used in the research. This provides the reader with an understanding of the concepts used within the body of knowledge (Klopper & Knobloch, 2010:318). Chapter 2 provided the theoretical validity for the development of the situational analysis.

- How well does the instrument measure what it is supposed to measure? Face validity and **content validity** are sometimes used interchangeably (Knapp, 1998:119; De Vos *et al.,* 2000:84). Content validity is used in the development of an instrument or questionnaire. The literature, representativeness and content experts all help to examine the extent to which the method of measurement includes the major elements relevant to the construct (Burns & Grove, 2009:381; Fain, 2004:133). Klopper and Knobloch (2010:318) refer to this truth value as **internal validity** and **measurement validity.** During the development of the situational analysis, the mean score for each subscale was developed in order to test validity and reliability.

- *Applicability* refers to the extent to which research findings can be transferred to other contexts. In quantitative research, the strategy of **external validity** is applicable (Klopper & Knobloch, 2010:321). In order to ensure external validity, the researcher must try to control all threats. Selection effects are applicable if the participants decline to take part in the research and the new target population differs from the original population. This was, however, not the case as all four of the selected hospitals in the original population took part in the research.

- **Construct validity** is the manner in which an instrument measures an intended hypothetical concept or constructs (Knapp, 1998:122; Fain, 2004:134). Construct validity is the most valuable yet the most difficult way to assess an instrument's validity. Factor analysis is one way to establish the degree of construct validity. Statistical consultation services assist the researcher with the finalisation of the instrument as well as the data analysis.

3.5.2 Reliability

Reliability can be defined as the precision or accuracy or the degree of consistency between two independent sets of scores (De Vos *et al.,* 2000:85). Thus reliability can be explained as an instrument measuring what it is supposed to measure and presenting similar results in comparable conditions (Burns & Grove, 2009:377). Reliability is used to determine the random error that occurs in the measurement. Cronbach's alpha coefficient was used in this research, whereby the correlation coefficient varies between 0 and 1. The closer the score is to 1, the better is the correlation, with 0,80 as the lowest acceptable standard (Burns & Grove, 2009:379; Klopper & Knobloch, 2010:322). Reliability testing focuses on three aspects of reliability, namely stability, equivalence and homogeneity (Burns & Grove,

2009:377). *Stability* is concerned with repeated measurements of the same scale over a period of time. *Equivalence* refers to the use of inter-rate reliability where the researcher and a fieldworker both collected the data, although the risk is lower when the same instrument is used by both (Burns & Grove, 2009:378). *Homogeneity* was ensured through the use of Crohnbach's alpha coefficient to determine the correlation between items (Burns & Grove, 2009:379; Klopper & Knobloch, 2010:322).

3.5.3 Neutrality

Neutrality refers to the absence of personal bias on the part of the researcher when collecting the data. *Objectivity* was the quantitative strategy used in this research. To ensure objectivity, the researcher focused on collecting and analysing the data from a distance. Klopper and Knobloch (2010:322) state that the audit trail is the product of the focus of the inquiry and does not depend on the researcher. The researcher kept an audit trail of the data collected and present it to the statistical consultation services for data analysis,

3.5.4 Inferential validity

Inferential validity refers to the logical conclusion that the researcher reaches from the research findings. Klopper and Knobloch (2010:323) describe inferential validity as the evaluation of the conclusion statements.

3.6 REALISATION OF THE DATA COLLECTION

After ethical approval had been granted by the Ethical Committee of the North-West University (Potchefstroom campus), Ethical No. NWU-0015-08-S1 (see Appendix A), the Department of Health of the North West province (see Appendix B), as well as each of the Level 2 hospitals (see Appendices C, D, E and F) in the North West province, the researcher made appointments with the maternity unit managers of the hospitals to conduct the situational analysis.

Generally accepted international ethical principles in health research, as explained in Chapter 1 (Section 1.10), were implemented. For this part of the research study the researcher therefore abided by specific ethical considerations.

After finalisation of the checklist, the researcher visited all the relevant Level 2 hospitals and made appointments with the managers of the maternity units to conduct the situational

analysis. Two of the situational analyses were conducted by the researcher in person and for the other two a trained fieldworker was used who was familiar with the hospitals. Each hospital was assigned a unique code to ensure anonymity.

3.7 DATA ANALYSIS

The data from the four situational analyses were transferred by the researcher onto a single form by the researcher and the information was colour-coded before being presented to the consultant at the North-West University's (Potchefstroom campus) Statistical Consultation Service. The following colour codes were used throughout the document for the four hospitals: Hospital 1 = black, Hospital 2 = red, Hospital 3 = blue and Hospital 4 = green. For this purpose the information had to be retyped. Typing errors were corrected before the data were analysed. The SPSS 16.0 (SPSS, 2007) package with descriptive statistics was used. The mode, mean and standard deviation of the checklist responses were used to measure central tendencies. The results and embedded knowledge are presented below in the same format as the situational analysis.

3.8 RESULTS AND EMBEDDED KNOWLEDGE

The first section of the situational analysis consisted of biographical information on the hospital, the ward and the patients.

3.8.1 Biographical information

First the biographical information on the four Level 2 hospitals in the North West province is presented.

3.8.1.1 Discussion of the biographical information on the hospitals

All four of the Level 2 hospitals in the North West province are situated in cities, but two of them can be clustered as being in urban areas, while the other two are surrounded by more rural areas. All the hospitals have more than 300 beds and act as referral hospitals for the smaller Level 1 and community hospitals. All the hospitals have a bed occupancy average of between 80 and 95%. All the hospitals have nursing managers in position, but only two hospitals have nursing preceptors in posts.

3.8.1.2 Discussion of the biographical information on the wards

Statistics on the patient profile per month are presented in Table 3.3 for all four of the Level 2 hospitals in the North West province. The mean and standard deviation of the four hospitals were also calculated. The average of three months' statistics were used (April, May and June 2010) to calculate the average numbers of patients per month.

Table 3.3 Patient profile per month in the different hospitals

	NUMBER OF PATIENTS PER MONTH	HOSP 1	HOSP 2	HOSP 3	HOSP 4	MEAN	SD
a.	Antenatal ward	280	272	116	450	279.5	136.4
b.	Labour rooms	280	388	293	270	307.7	54.3
c.	Postnatal ward	280	291	397	270	309.5	58.9
d.	Baby room	280	340	397	270	321.7	58.9
e.	Neonatal ICU	15	37	19	0	17.75	15.2

There are differences between the various hospitals in that some maternity units consist of antenatal ward, labour rooms, postnatal ward and baby room, functioning as one unit. By contrast, some hospitals have separate wards for each of the different units. Midwives feel that if they do not have the opportunity to practise across the whole scope of practice and they experience a reduction in their autonomy, they lose skills and confidence as their scope is narrowed (Brodie, 2002:8).

As part of the biographical information, it was necessary to determine the number of beds available, as well as their occupancy rate (see Table 3.4).

Table 3.4 Beds available in the four Level 2 hospitals

	UNIT	BEDS						OCCUPANCY %					
		1	2	3	4	M	SD	1	2	3	4	M	SD
a.	Antenatal ward	9	33	20	20	20.5	9.8	90	85	80	90	86	4.7
b.	Maternity	6	9	4	7	6.5	2.0	90	85	80	90	86	4.7
c.	Postnatal ward	15	44	24	20	25.7	12.7	90	112	80	90	93	13.5
d.	Multi-disciplinary ICU	0	6	6	5	4.2	2.8	0	90	80	90	86	57
e.	Neonatal ICU	4	8	4	0	4	3.2	100	90	80	0	67	45.7
f.	Baby room	0	6	24	20	12.5	11.3	0	90	80	90	86	5.7
g.	High care	0	8	4	4	4	3.2	0	90	80	90	86	5.7
h.	Theatre Number of caesarean sections	77	160	159	114	127.5							39.9

The birth statistics for the various Level 2 hospitals vary between 200 and 380 per month, with an average of M = 279.5 and a standard deviation of SD = 84.8. The MMR per year of Hospital 1 is 626, of Hospital 2 is 507, of Hospital 3 is 626 and of Hospital 4 is 212. The two Level 2 hospitals situated in the more rural areas have a higher stillbirth average than the more urban hospitals. This is also the case with the MMR (M = 337 and SD = 282.6) and perinatal mortality rate (M = 65.3 and SD = 62.7). The MMR and perinatal mortality rates are for the period May 2009 to May 2010 and are presented per 100 000 live births, as suggested by the *Saving Mothers report* (SA, 2006b:4). The birth statistics compiled per month are shown in Table 3.5.

Table 3.5 Birth statistics per month

B.4	STATISTICS PER MONTH	1	2	3	4	M	SD
4.1	Vaginal delivery without epidural	132	220	67	70	122.2	71.7
4.2	Vaginal delivery with epidural	0	0	178	270	112	134.6
4.3	Caesarean section under general anaesthesia	15	20	111	105	62.7	52.3
4.4	Caesarean section under epidural/spinal anaesthesia	50	80	178	20	82	68.5
4.5	Forceps deliveries	2	1	0	0	0.75	0.95
4.6	Vacuum extractions	2	3	1	3	2.2	0.9
4.7	Cord presentation/prolapse	1	1	2	2	1.5	0.5
4.8	Twin deliveries	3	6	12	6	6.7	3.7
4.9	Shoulder dystocia	0	1	1	1	0.7	0.5
4.10	Premature rupture of membrane cases (PROM)	4	5	10	54	18.2	23.9
4.11	% of mothers with unknown HIV status	9	30	60	2	25.2	26.0
4.12	Diabetic cases	3	2	2	1	2	0.8
4.13	Pre-eclampsia cases	17	28	145	50	60	58.3
4.14	Eclampsia cases	3	8	11	20	10.5	7.1
4.15	Premature babies	45	90	77	50	65.5	21.5
4.16	Asphyxiated babies	4	1	4	5	3.5	1.7
4.17	Meconium aspiration syndrome babies	4	2	10	2	4.5	3.7
4.18	Hyaline membrane disease babies	4	3	9	55	17.5	24.9

B.4	STATISTICS PER MONTH	1	2	3	4	M	SD
4.19	Babies on ventilators	19	6	21	0	11.6	10.2
4.20	HELLP syndrome cases	3	5	2	8	4.5	2.6
4.21	Babies with congenital abnormalities Types: Cleft palate, spina bifida, hydrocephalus, exomphalos	1	1	2	2	1.5	0.5

All the hospitals are able to treat the most common maternity cases and their neonates. It is interesting that the most rural hospital reported the highest incidence of mothers with unknown HIV status. This same hospital also reported the highest incidence of babies born with hyaline membrane disease. The biggest hospital reported the highest incidence of premature babies; that can be explained because all such referrals come to that hospital. Table 3.6 presents data regarding the ward organisation that influence the quality of care rendered.

Table 3.6 Ward organisation

B.5	WARD ORGANISATION (see key on cover page of Appendix I)	N				N/O	N/A	Y		N		
		1	2	3	4			2		1	3	4
a.	Is there a staff/patient ratio of 1:4?							√		x	x	x
b.	Does the staff/patient ratio meet the needs of the ward, unit, clinic or community setting?							√		x	x	x
c.	What is the staff/patient ratio per shift?	1: 6	1: 3	1: 12	1: 10							
	How many deliveries are there per shift?											
d.	- Day shift	5	8	15	14							
e.	- Night shift	5	6	15	10							
f.	- How many deliveries are there per midwife?	2	2	2	5							

Only one hospital complied with the 1:4 staff/patient ratio. In the other three hospitals the staff/patient ratio varies between 1:6 and 1:12. This ratio also influences the number of deliveries that are conducted per midwife. The average number of midwives on day duty is 10 (SD = 4.7) and on night duty 9 (SD = 4.5). The midwives average two deliveries per shift (SD = 1.5). The next section gives biographical information on the patients that deliver at the four Level 2 hospitals in the North West province.

3.8.1.3 Discussion of the biographical information on the patients

The biographical data on the maternity patients utilising the maternity wards are categorised according to age, language, parity, antenatal clinic attendance, booked patient and high-risk patient. See Table 3.7 for a detailed outlay together with the mean and standard deviation of each category.

Table 3.7 Biographical data on the maternity patients per month

Give an estimate % average of the following				1	2	3	4	M	SD
1.	Age of mothers	a.	Under 18 years (teenage pregnancy)	10	20	45	20	23.7	14.93
		b.	19–29 years	40	40	15	40	33.7	12.5
		c.	30–35 years	20	30	30	20	25	5.7
		d.	35–45 years	25	10	5	15	13.7	8.5
		e.	Older	5	0	5	5	3.75	2.5
2.	Language	a.	Afrikaans	15	10	2	0	6.75	6.9
		b.	English	5	10	20	1	9	8.2
		c.	Tswana	80	80	75	99	83.5	10.5
		d.	Other: Specify			3	1	2	1.4
3.	Parity	a.	Primigravida	35	20	40	20	28.75	10.3
		b.	Parity 2	35	30	20	30	28.7	6.2
		c.	Parity 3	10	30	20	30	22.5	9.5
		d.	Parity 4	10	10	10	10	10	0
		e.	Parity more than 4	10	10	10	10	10	0
4.	Attended antenatal clinic	a.	Never	7	5	25	5	10.5	9.7
		b.	Once	5	30	20	15	17.5	10.4
		c.	2–3 times	20	30	10	20	20	8.1
		d.	4–5 times	28	30	40	50	37	10.1
		e.	More than 5 times	40	5	5	10	15	16.8
5.	Booked patient	a.	Yes	93 %	95 %	90 %	90 %	0.92	0.02
		b.	No	7	5	10	10	6.2	4.7
6.	High-risk patient	a.	Yes	30	75	75	20	50	29.1
		b.	No	70	25	25	80	50	29.1

Most of the mothers are Tswana speaking, between the ages of 19 and 29 years, and are delivering either as a primagravida or parity 2. Only a small percentage have never visited the antenatal clinic, while most of them have had four to five clinic visits during their pregnancy. As a result of the regular clinic visits, most of them are booked patients. Two of the hospitals classified the majority of their patients as high risk, while the other two hospitals classified them as low risk, although all the hospitals are classified as Level 2 and act as referral hospitals from the Level 1 hospitals, community hospitals and clinics.

In the following section of the situational analysis the structure of the four Level 2 hospitals is explored. This includes the resources that are necessary in order to render quality intrapartum care.

3.8.2 Structure

The structure includes organisational resources, physical resources, human resources and the leadership styles that are used in the hospitals.

3.8.2.1 Organisational resources

The universities and nursing colleges in the province have signed agreements with the clinical facilities where their students are placed. All students utilising the four Level 2 hospitals as clinical facilities have indemnity from the organisations to which they belong. Hospersa, Denosa, NEHAWU and Solidarity are the most popular as students are allowed to choose the labour organisation they prefer to belong to.

3.8.2.2 Physical resources

In the North West province the Level 2 hospitals do not have separate ICUs for medical, surgical, multiple intervention and trauma cases. However, they are able to render quality ICU care while functioning as a mixed unit, with the exception of cardiac and cardiothoracic units. Two of the hospitals do not have neonatal ICUs or high-care units. However, these babies can be cared for in the general ICU or be transferred to a Level 3 hospital outside the province, usually to Gauteng. All the hospitals have theatres available. Two of the hospitals have a designated maternity theatre available but only one of these is operational as the other one is fully equipped but has no staff allocation for the theatre. All four of the Level 2 hospitals have antenatal wards, labour rooms, puerperium beds and a baby room as part of the puerperium ward, but only one of the hospitals implements the Baby-Friendly Hospital

Initiative and uses the baby room as an observation room before taking the babies to their mothers.

All the Level 2 hospitals in the province have more or less the same disease profile and are able to render the necessary care to pregnant women and neonates. As referral hospitals these Level 2 hospitals have additional physical resources, such as a blood bank, laboratory, ambulances and clear referral routes, available. Some of the hospitals make use of private ambulance services to handle the transfers, while some are in the fortunate position that the ambulances are stationed on the hospital grounds. However, this is not the case with all the hospitals and it can make a huge difference in the time delay with transfers or emergency situations, where every second counts to save a life.

In order for the hospital to function effectively, not only the resources but also the necessary staff profile is important to render quality intrapartum care.

3.8.2.3 Human resources

The human resources that were explored were health care staff related: students, specialist team/ multidisciplinary team and the leadership style in the hospital.

- **Staff**

In Table 3.8 an indication of the staff profile of the midwives in the four Level 2 hospitals in the North West province is presented, together with the number of staff budgeted for and actually employed, as well as the mean and standard deviation of each.

Table 3.8 Staff profile in maternity units

	MATERNITY WARD	Number budgeted for				M	SD	Number employed				M	SD
		1	2	3	4			1	2	3	4		
a.	Unit manager	1	1	1	2	1.2	0.5	1	1	1	2	1.2	0.5
b.	Advanced midwives	7	8	4	8	6.7	1.8	5	7	1	8	6	1.8
c.	Registered midwives	11	6	10	3	7.5	3.6	14	14	15	12	13.7	2.9
d.	Staff nurses	5	0	0	0	1.2	2.5	5	0	0	0	1.2	2.5
e.	Auxiliary nurses	13	0	4	4	5.2	5.5	13	0	4	4	5.2	5.5
f.	Undergraduate students	0	0	0	4	1	2	0	10	0	4	3.5	4.7
g.	Student midwives	2	0	6	8	4	3	2	5	6	8	5.2	2.5
h.	Counsellor	0	0	1	0	0.2	0.5	0	0	1	0	0.2	0.5
i.	Mentor/preceptor	0	0	0	0	0	0	0	0	0	0	0	0

All the maternity wards of the Level 2 hospitals in the North West province have an employed unit manager in charge of the ward. Advanced midwives are employed in a 2:3 ratio with registered midwives. Only one of the hospitals has staff nurses appointed in the maternity ward, and only one does not have auxiliary nurses employed in the maternity ward. Three of the hospitals currently have advanced student midwives in training. One hospital has a counsellor in the maternity ward; all the other hospitals explained that there are counsellors available for the hospital but they are not allocated to the maternity ward and only come if they are called. Not one of the wards has a preceptor/mentor appointed in a position for formal in-service training of the staff or students. It was alarming that not one unit manager knew for sure whether posts were available for their unit as this matter is not communicated

to the unit managers. One of the unit managers explained that the Human Resources department which is responsible for staff establishment has not been activated. Seeing that these posts are linked to the financial department, there is no direct communication to the unit managers of the different wards. The staff turnover rate varies between 3 and 15%.

Staff is the single biggest cost in hospital health care today. Around the globe, cost-savings are imposed, resulting in the hiring of “moonlighting” nurses and midwives, increasing workloads and stressful working conditions, with staff being overworked and underpaid (Lynch, 2002:180). Nursing (midwifery) staff shortages are a global problem and midwives have reported increasing workloads and diminished staff allocation and resources within the maternity units, which results in stress and frustration (Brodie, 2002:8; Lynch, 2002:179). These problems are further discussed in Chapters 4 and 5.

The reported nurse:population ratio varies in different countries from fewer than 10 nurses per 100 000 population to more than 1 000 per 100 000 – a variation of more than a hundredfold. The average nurse:population ratio in high-income countries is approximately eight times higher than in low-income countries (ICN, 2005b:5). Several countries, including many in Asia and Central and South America, are struggling to provide the minimum nurse:patient ratio. Sub-Saharan African countries have a shortfall of more than 600 000 nurses (ICN, 2005b:5). Rural areas in developing countries are mostly underserviced because of a misdistribution of available nurses and midwives (ICN, 2005b:5). An increase in the nurse:patient ratio leads to an increase in workload for the remaining nurses and midwives. The optimum workload for nurses was calculated to be at a nurse:patient ratio of 1:4. With an increase in workload to a ratio of 1:6, 14% of patients are likely to die within 30 days of admission. An increase in workload to a ratio of 1:8 was associated with a 31% increase in mortality (ICN, 2005a:1). The minimum nurse: patient ratio in the antepartum and postpartum periods is 1:4 (ICN, 2005a:2). The ratio for the operating theatre should be 1:1 (ICN, 2005a:2), which should also be the norm for the labour room as one registered nurse will not be able to render quality intrapartum care to a patient if the ratio is higher than this. The recommended number of midwives in the South African context is 16 per 100 deliveries per month at a Level 1 hospital. The number must be increased for referral hospitals (e.g. the Level 2 hospitals in the North West province). In the labour ward, there should be at least one midwife for every two women in labour (SA, 2009b:53). It is important to remember that the labour ward is a high-care area and that the midwives working there are experienced and interested in the management of labour (SA, 2009b:53), caring and assisting pregnant woman in labour.

- **Students**

One of the hospitals is in the process of formally appointing a preceptor within the hospital management structure, to be responsible for staff development but not specifically for students. The students will be clinically accompanied by their lecturers from the universities or colleges.

The hospital's teaching status is determined by the **ratio of physicians to hospital beds**, the **hospital classification** and **student allocation**. In general, all the Level 2 hospitals in the North West province seem to be suitable for student training. Two of the hospitals have a 1:6 ratio according to physicians and hospital beds, while the other two have a 1:10 ratio. According to the hospital classification, the average is 1 student per 5–8 beds. A high number of undergraduate students using the facilities may lead to overcrowding of the hospital system, which in turn will influence the quality of care rendered, as well as limiting the learning opportunities. Although clinical accompaniment of students is expected by the hospital management, it does not always happen in practice. This leads to a gap between theory and practice. Learning opportunities are available to students when there is clinical accompaniment and this helps the students to become ethical and professional practitioners within their scope of practice.

For the rendering of quality intrapartum care, the staff (midwives) cannot function in isolation and therefore it was necessary to determine what medical specialists are available in the hospital to form part of the multidisciplinary team.

- **Specialist team/Multidisciplinary team**

Most types of **medical specialists** are available in the hospitals, although some disciplines are not covered, as indicated in Table 3.9.

Table 3.9 Medical specialists available at the hospitals

	HOSPITALS	1	2	3	4	1	2	3	4
	Discipline	**Yes**				**No**			
a.	Cardiovascular surgeon					√	√	√	√
b.	Cardiologist	√					√	√	√
c.	Vascular surgeon					√	√	√	√
d.	Neurosurgeon					√	√	√	√
e.	Neurologist					√	√	√	√
f.	Orthopaedic surgeon		√	√	√	√			
g.	Gynaecologist	√	√	√	√				
h.	General surgeon	√	√	√	√				
i.	Internist	√	√	√	√				
j.	Urologist		√	√	√	√			
k.	Psychiatrist		√	√		√			√
l.	Physician		√	√					√
m.	Maxillofacial surgeon					√	√	√	√
n.	Paediatrician	√	√	√	√				
o.	Ophthalmologist	√		√	√		√		
p.	Ear, nose and throat specialist	√	√					√	√
q.	Anaesthetist	√	√	√	√				
r.	Other								

Regarding the availability of medical specialists necessary for rendering quality intrapartum care, all the Level 2 hospitals have the specialists available to provide quality care to the pregnant women and newborn babies in the maternity ward. The medical specialists form part of the multidisciplinary team rendering quality intrapartum care. The other members of this team are listed in Table 3.10.

Table 3.10 Other members of the multidisciplinary team

	DISCIPLINE	YES					
		1	2	3	4	M	SD
a.	Chemist	1	3	2	1	1.7	0.9
b.	Dietician	3	4	2	2	2.7	0.9
c.	Radiographer	10	10	2	1	5.7	4.9
d.	Physiotherapist	2	4	2	1	2.2	1.2
e.	Psychologist	1	1	1	1	1	0
f.	Minister/pastor	1	0	0	10	3.6	5.5
g.	Counsellor	3	3	2	2	2.5	0.5
h.	Cleaning personnel	6	6	18	12	10.5	5.7
i.	Other: Occupational therapist Audiologist		1 1				

All the hospitals have other members of the multidisciplinary team available. All the hospitals have ministers/pastors visiting from outside the institution. The high number of radiographers in hospitals 1 and 2 included those doing their community year who are therefore now also available. Hospital 4 indicated that it was served by ten pastors as the different religions or churches send their ministers/pastors to visit patients belonging to their religion or church. Counsellors form part of the hospital structure although they are not always allocated to the maternity unit itself. One hospital mentioned that it has the services of an occupational therapist and audiologist available.

- **Leadership**

In order for a hospital to function properly, good leadership is necessary. It was obvious that the unit managers were not sure whether the hospital makes use of a specific management model – if so, they were not aware of the model. One unit manager referred to the Krause model but the researcher could not find any information regarding the existence of such a model within a hospital context. It became evident that the top management of these hospitals does not communicate with the middle management regarding the leadership style or management style that is implemented.

Brodie (2002:7) reported that midwives are in urgent need of role models or skilled midwifery leaders to help in the development of professional recognition. In Australia there was a call on the midwives' professional organisation to show leadership and advocate an increase in

recognition of midwives within the community (Brodie, 2002:8). “In striving to become a global workforce, we need to develop and maintain an autonomous profession worldwide, developing effective education programmes and recruiting and retaining midwives in the profession” (Lynch, 2002:179).

With the structures having been identified, the next section of the situational analysis is the process that needs to take place to render quality intrapartum care.

3.8.3 Process

The process is structured according to infrastructure, research, quality improvement and intrapartum practices.

3.8.3.1 Infrastructure

Areas where anaesthesia is administered (see Table 3.11) and the average number of operations performed per month, together with the infrastructure and the statistics, give an idea of the infrastructure available and whether it is sufficient to meet the demand within the community**.**

Table 3.11 Areas where anaesthesia is administered

	AREA	PERCENTAGE				M	SD
		1	2	3	4		
a.	Theatre	100	100	73	80	0.8	0.13
b.	Casualty	0	0	12	10	0.05	0.06
c.	Maternity ward	0	0	15	10	0.06	0.07

Most of the patients receive anaesthesia in theatre. The operating theatre utilisation varies between 50 and 96% per month, with the most common procedure being a caesarean section. The average number of operations performed per month is shown in Table 3.12.

Table 3.12 Average number of operations performed per month

n	1	2	3	4	M	SD
Major (with general anaesthetic, longer than 60 minutes)	119	30	323	132	151	123
Minor	200	100	35	170	126	73
Theatre utilisation (%)	87%	70%	50%	96%	0.75	0.2

Prolonged labour and CPD (cephalic pelvic disproportions), followed by foetal distress, were reported as the most common reasons for caesarean sections. Nosocomial infections, poor handwashing procedures and staff shortages were reported to be the most common causes of infection. The average number of resuscitations per annum varies between 10 and 96, while the percentage of successful resuscitations per annum varies between 34 and 82%.

Although all four of the hospitals are categorised as Level 2, they do not have the same number of beds, whether antenatal, intrapartum or puerperium. None of the hospitals has a labour bath and one of the hospitals does not have a neonatal ICU – all the equipment is there for a neonatal ICU but no personnel have been appointed to operationalise it. Table 3.13 presents the infrastructure according to beds and equipment that is available in the four Level 2 hospitals to render quality intrapartum care.

Table 3.13 Appropriate infrastructure and statistics regarding the selected Level 2 hospitals

	BEDS/INCUBATORS/BASSINETS	NUMBER					
		1	2	3	4	M	SD
1.	Number of high-risk antenatal beds	3	3	20	20	19	12.3
2.	Number of labour beds	2	9	4	7	5.5	3.1
3.	Number of puerperium beds	15	44	30	20	30.2	10.0
4.	Number of labour baths	0	0	0	0	0	0
5.	Number of bassinets in puerperium	30	44	30	25	32.2	8.1
6.	Number of neonatal ICU incubators	6	3	15	0	6	6.4
7.	Number of neonatal high-care incubators	10	8	6	0	6	4.3

8.	Number of incubators in neonatal unit/premature unit	16	8	20	15	14.7	4.9
9.	Number of beds in the kangaroo mother care unit	3	3	6	6	4.5	1.7
	ADVANCED EQUIPMENT	**NUMBER**					
		1	**2**	**3**	**4**	**M**	**SD**
10.	CTG machines	7	14	14	5	10	4.6
11.	Sonographs	2	2	4	3	2.7	0.9
12.	Defibrillators	1	4	4	1	2.5	1.7
13.	Ventouse with silk cup	1	3	1	1	1.5	1
14.	Wrigleys sets	2	2	1	0	1.2	0.9
15.	Vacuum extractor (where advanced midwives are available and also community doctors) for CTOPs	2	1	1	1	1.2	0.5
16.	Suction apparatus	4	10	3	1	7	4.2
17.	Doppler	2	1	2	8	3.2	3.2
18.	Dynamap	8	10	4	4	6.5	3
19.	ECG	1	0	4	1	1.5	1.7
20.	Neonatal resuscitation table	2	4	9	3	4.5	3.1
21.	- working laryngoscope	3	5	4	7	4.7	1.7
22.	Up-to-date emergency trolleys	2	4	4	3	4.7	1.7
23.	Infusion pumps	6	6	25	19	14	9.5
24.	HB meters	2	4	4	2	3	1.1
25.	RH rapid test kit	1	2	4	1	2	1.4
26.	Rapid WR testing kits	0	0	4	4	2	2.3
27.	Rapid HIV testing kits	1	0	4	4	2.2	2.0
28.	Blood available at hospital	√	√	√	√		
29.	Ambulance available at hospital	√	√	√	√		
30.	- average time to call ambulance	30 min	30 min	3 h	30 min		
31.	- average time to reach referral hospital	1 h	2 h+	4 h	3 h		
32.	Phototherapy lights	4	4	6	8	5.5	1.9
			YES		**NO**		
33.	Milk kitchen	√	√	√	√		

Regarding the advanced equipment issued for the maternity units, some of the hospitals have more than the others. Two of the hospitals are not equipped with rapid WR testing kits

and one hospital does not have a rapid HIV testing kit. All the hospitals have ambulances that they can call for referrals, but not all the ambulances are based on the hospital premises. The average call-out time varies between 30 minutes and 3 hours. The average time to reach the referral hospital varies between 1 hour and 4 hours, depending on the location of the referral hospital.

One hospital does not have a milk kitchen but the other hospitals still have functional milk kitchens.

As part of the infrastructure in the process, this research could also contribute to improving the process of rendering quality intrapartum care.

3.8.3.2 Research

Regarding the question as to whether research is conducted in the unit, none of the hospitals has started such a research project on its own initiative. However, all the hospitals stated that they co-operate with independent researchers. Furthermore, no ward is used as a research site where the staff is not involved. It should be emphasised that research forms the basis of quality improvement.

3.8.3.3 Quality improvement

Infection control is part of quality improvement in general. All four of the Level 2 hospitals have a postoperative infection rate of less than 3%, which is also the target in the North West province. Policies in the maternity ward also contribute significantly to quality improvement. Table 3.14 lists the relevant policies that should be implemented in a maternity ward, based on the literature.

Table 3.14 Required policies in a maternity ward

	NAME OF POLICY	EVIDENCE OF IMPLEMENTATION							
		Yes				No			
		1	2	3	4	1	2	3	4
a.	Admission policy in maternity ward	√	√	√	√				
b.	Referral policy	√	√	√	√				
c.	Infection control policy	√	√	√	√				
d.	Drug policy	√	√	√	√				
e.	Caesarean section policy		√	√	√	√			
f.	Needle-prick policy	√	√	√	√				
g.	ARV policy	√	√	√	√				
h.	Placenta-handling policy	√	√	√	√				
i.	Emergency policy	√	√	√	√				
j.	Patient satisfaction survey	√	√	√	√				
k.	Staff satisfaction survey	√	√	√	√				
l.	Guidelines for maternity care	√	√	√	√				
m.	Breastfeeding policy		√	√	√	√			

There was evidence of implementation of all the aspects mentioned, but one hospital did not possess a caesarean section policy or a breastfeeding policy. However, this same hospital has an additional policy regarding the identification of babies. These policies are kept in the maternity unit. More quality improvement interventions need to be in place to enhance the quality of intrapartum care and Table 3.15 shows whether or not there was evidence of these interventions at the hospitals in the study.

Table 3.15 Evidence of the following quality improvement interventions

	NAME OF POLICY	EVIDENCE OF IMPLEMENTATION							
	INTERVENTION	**Yes**				**No**			
	QUALITY AUDIT	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
1.	% booked cases	**90**	**80**	**70**	**70**				
2.	Ward audit: 1/month	√	√	√	√				
3.	Maternity record audit: 1/month	√	√	√	√				
4.	Evidence of maternal mortality report submissions	√	√	√	√				
5.	PPIP user - statistics completed and reviewed	√	√	√	√				
	- avoidable factors								
5a	**** Patient associated***								
(i)	No booking			√	√	√	√		
(ii)	No antenatal visits			√	√	√	√		
(iii)	Delay in response to a decrease in foetal movements	√	√	√	√				
(iv)	Other								
5b	**** Medical personnel related***								
(i)	Problems during antenatal care			√	√	√	√		
(ii)	Problems during intrapartum care	√		√	√	√	√		
(iii)	Delays in referrals		√	√	√	√			
(iv)	Inadequate newborn care					√	√	√	√
5c	**** Administrative problems***								
(i)	Transport problems	√	√	√	√				
(ii)	Other								
6.	PPIP submissions	√	√	√	√				
7.	Perinatal review meetings: 1/month	√	√	√	√				
8.	Baby-Friendly Hospital Initiative		√	√	√	√			
9.	Promotion of breastfeeding	√	√	√	√				
10.	PMTCT protocol implementation	√	√	√	√				
11.	Nevirapine register	√	√	√	√				
12.	On-line computers for research in the wards					√	√	√	√

	NAME OF POLICY	EVIDENCE OF IMPLEMENTATION							
	INTERVENTION	Yes				No			
	QUALITY AUDIT	1	2	3	4	1	2	3	4
13.	Evidence-based practices	√	√	√	√				
14.	In-service training: 1/week	√	√	√	√				
15.	Midwives sent on refresher courses	√	√	√	√				
16.	Promotion of further education for midwives as an incentives	√	√	√	√				
17.	Maternity staff kept on a permanent basis	√	√	√	√				
18.	Preceptor/mentor in each ward					√	√	√	√
19.	Research conducted in the ward			√	√	√	√		
20.	Infection control officer	√	√	√	√				
21.	Evidence of universal infection control measurements	√	√	√	√				
22.	Community outreach programmes, e.g. CBERG			√	√	√	√		
23.	Culture of ongoing education	√	√	√	√				
24.	Files available	√	√	√	√				
25.	Sufficient notes in files	√	√	√	√				

The quality audit revealed that between 70% and 90% of the cases are booked and that ward audits are conducted once a month. Maternal mortality report submissions are common practice and all the hospitals are users of the Perinatal Problem Identification Programme (PPIP). Regarding avoidable factors that are patient–orientated, the biggest problem seems to be with “delay in response to a decrease in foetal movement”. Medical personnel categorise “problems during intrapartum care” and “delays in referral” as the main obstacles. Transport problems are the main administrative problem. This may be due to the fact that not all the ambulances are stationed on the hospital grounds and that valuable time therefore expires when a transfer needs to take place.

One hospital does not implement a Baby-Friendly Hospital Initiative (BFHI). None of the hospitals is equipped with on-line computers in the wards and none of them has a preceptor/mentor allocated to the ward.

With globalisation, mass communication and technologies are available worldwide, bringing stress into the practice, despite various cultures and backgrounds, yet it is time to unite and become a powerful global community of midwives (Lynch, 2002:179). Brodie (2002:9) reported that the “lack of a midwifery educator in the labour ward has posed many challenges and problems for newly graduate midwives”. The quality of clinical supervision, lack of exposure to midwifery practical skills, together with the quality of clinical placement, implies major educational lacks (Mollart *et al.* 2009:85; Brodie, 2002:9). Hunter (2004:271) stated that workplace support is essential in a one-to-one, or peer group support that acts as a forum in which midwifery dilemmas can be discussed and improve quality of care.

The lack of continuous ongoing education poses a barrier for midwives in delivering safe, efficient and appropriate care, and especially rural areas reported out-of-date policies and poor practices because of lack of access to education (Brodie, 2002:10). Sandall *et al.* (2010:255) reported that evidence-based maternity care is a focus for improving quality and safety. In US hospitals, nearly all women giving birth receive interventions, resulting in risks of adverse effects. Procedures such as episiotomies and continuous electronic foetal monitoring are common practice, although research has proved them unnecessary (WHO, 1996; Hulton *et al.,* 2000:24; Sandall *et al.* 2010:256). This is also the case within this research context. Two of the hospitals have community outreach programmes in place, but the other two do not have such programmes. Various quality improvement interventions were in place in the four hospitals studied. These are listed in Table 3.16.

Table 3.16 Evidence of the quality improvement interventions (QII)

	NAME OF POLICY	EVIDENCE OF IMPLEMENTATION							
	INTERVENTION	Yes				No			
		1	2	3	4	1	2	3	4
	ENVIRONMENT								
1.	Clean environment	√	√	√	√				
2.	Back-up generator for electricity	√	√	√	√				
3.	Supply of clean running water	√	√	√	√				
4.	Organisation promotes safe working environment	√	√	√	√				
5.	Safe equipment is available	√	√	√	√				
6.	Equipment is well maintained	√	√	√	√				
	ADMINISTRATIVE								
7.	Webpage for the hospital		√	√	√	√			
8.	Vision statement clearly displayed	√	√	√	√				
9.	Mission statement clearly displayed	√	√	√	√				
10.	Batho Pele principles displayed	√	√	√	√				
11.	Patients' Rights Charter displayed	√	√	√	√				
12.	Patient satisfaction survey	√	√	√	√				
13.	Interviews with family of patients regarding quality of care received		√	√	√	√			
14.	Headhunting of midwives (staffing)	√	√	√					√
	HUMAN RESOURCES								
15.	Turnover rate is excessive			√		√	√		√
16.	Clear organogram	√	√	√	√				
17.	Good communication channels	√	√	√	√				
18.	Employee of the Month award (recognition and reward)					√	√	√	√
19.	Staff participate in organisation's decision-making	√		√	√		√		

	NAME OF POLICY	EVIDENCE OF IMPLEMENTATION							
	INTERVENTION	**Yes**				**No**			
		1	**2**	**3**	**4**	**1**	**2**	**3**	**4**
	ANTENATAL								
20.	Antenatal classes available on premises		√			√		√	√
21.	Collaboration between antenatal clinic staff and maternity staff	√	√	√	√				
22.	Mothers have options regarding type of birth, e.g. - water birth - epidural - spinal - natural birth					√	√	√	√

All the hospitals showed evidence of a clean, safe environment suitable for patients and staff. One hospital does not have an operational webpage for the hospital. One hospital indicated that interviews with families are not taking place, but two of the others which said they were taking place, could not show evidence thereof. Three of the hospitals explained that midwives are headhunted during advertisements, while the other hospital indicated that a general advertisement is placed – this is also the reason for the higher turnover rate at the same hospital. Registered nurses responded to the advertisement, sometimes from outside the province. Once they start working, they are placed in the maternity unit which is not their unit of choice. This, together with the living conditions at the nurses' homes where provision is made for the midwives to stay, leads to a negative environment away from home, which causes the nurses to become negative towards the job and then resign.

In the Human Resources department, it is not the practice in one of the hospitals to give recognition and reward in the form of an Employee of the Month. One of the reasons for this is that all hospitals make use of moonlighting personnel. These personnel contribute to a workforce that does not have a sense of belonging to the unit and this influences the practice environment in which the midwives are working.

The antenatal period is also important before intrapartum care takes place. Only one hospital indicated that antenatal classes are presented on the hospital premises and they had only started the month prior to the data collection. Because most of the public hospital patients

attend the public sector clinics for antenatal service, a comprehensive service would educate the mothers and help with their preparation for labour. Mothers in the public hospitals in the North West province do not have an option regarding the type of birth they require. This is not a unique finding as research conducted in Australia also confirmed that financial structures restrict independent midwives and limit women's choices of care, leaving women in low socio-economic situations with limited access to available choices of care (Brodie, 2003:9). Not one of the Level 2 hospitals in the province has the facility of a labour bath.

In the following section intrapartum practices are investigated.

3.8.3.4 Intrapartum practices

Intrapartum practices were investigated through cross reference with checking maternity records to determine the quality improvement interventions in place, as indicated in Table 3.17.

Table 3.17 Evidence of the quality improvement interventions

	NAME OF POLICY	EVIDENCE OF IMPLEMENTATION							
	INTERVENTION	Yes				No			
	QUALITY AUDIT	1	2	3	4	1	2	3	4
	INTRAPARTUM								
1.	Record admission number of patient	√	√	√	√				
2.	Record date and time of admission of patient	√	√	√	√				
3.	Ask and record mother's age	√	√	√	√				
4.	Ask and record mother's marital status	√	√	√	√				
5.	Ask and record mother's home address	√	√	√	√				
6.	Ask and record relative's phone number	√	√	√	√				
7.	Ask and record parity	√	√	√	√				
8.	Ask and record obstetric history	√	√	√	√				
9.	Ask and record time of onset of labour	√	√	√	√				
10.	Measure fundal height on admission	√	√	√	√				

11.	Measure pulse rate on admission	√	√	√	√				
12.	Measure temperature on admission	√	√	√	√				
13.	Determine lie of the foetus	√	√	√	√				
14.	Determine foetus presentation	√	√	√	√				
15.	Mothers have options regarding pain-relief methods: - natural - homeopathic				√				
16.	Correct cartogram recording	√	√	√	√				
17.	CTG interpretation	√	√	√	√				
18.	Measure foetal heart rate during labour	√	√	√	√				
19.	No rupture of membranes > 4 hours	√	√	√	√				
20	No routine episiotomy		√	√	√	√			
21.	Vaginal douche					√	√	√	√
22.	Average length of 1st stage	11 h	8 h	10 h	10 h				
23.	Average length of 2nd stage	30 min	30 min	30 min	30 min				
24.	Average length of 3rd stage	30 min	15 min	15 min	15 min				
25.	Time of delivery recorded	√	√	√	√				
26.	Syntometrine® injection given	√	√	√	√				
27.	Placenta inspection done after every delivery	√	√	√	√				
28.	Determination of neonatal outcome (live/stillborn)	√	√	√	√				
29.	Determination of APGAR score	√	√	√	√				
30.	Determination of blood loss in labour	√	√	√	√				
31.	No suctioning of neonate			√	√	√	√		
32.	Advice given regarding infant feeding (breast, exclusive breastfeeding)			√	√	√	√		
33.	Postnatal exercises available on premises					√	√	√	√
34.	Referral to clinic for immunisation	√	√	√	√				
35.	Specify date of postnatal visit	√	√	√	√				
36.	Advice given on child spacing	√	√	√	√				
37.	Family planning advice given	√	√	√	√				

38.	Road to Health chart given	√	√	√	√				
39.	Support groups for breastfeeding		√	√		√			√
40.	Support groups for twins		√			√		√	√
41.	Support groups for congenital abnormalities		√				√	√	√
42.	Other: Specify								
43.	BCG +polio	√	√					√	√

From the above list of quality improvement interventions that should be available for quality intrapartum care, it is clear that the maternity units in the Level 2 hospitals are implementing most of the quality improvement interventions. However, the following interventions are not available in practice:

- Mothers have options regarding pain-relief methods:
    - - natural
    - - homeopathic

Pethidine and Aterax® injections are the most common pain-relief methods that are available in practice. The pregnant woman does not have the option of other pain-relief methods.

- Vaginal douche

A vaginal douche is recommended as a standard procedure intrapartum, especially in a situation of high HIV prevalence, as a precaution against vertical transmission of HIV (SA, 2007b:138). These douches are not practice in the North West province.

- Suctioning of the neonate

Two of the hospitals admitted on the question that routine suctioning of the neonate still occurs. However, it is indicated in the *Guidelines for Maternity Care in South Africa* that although this is used as a preventative measure to limit vertical transmission of HIV, it is an invasive procedure that can traumatise the foetal skin through vigorous suctioning (SA, 2007b:133).

- Advice regarding infant feeding

Although most of the hospitals indicated that they give advice to mothers regarding infant feeding, evidence of such a procedure was not available. The *Guidelines for Maternity Care in South Africa* show how a safe infant feeding option is arrived at according to AFASS criteria, namely Acceptable, Feasible, Affordable, Sustainable and Safe (SA, 2007b:140-141).

- Postnatal exercises available on the premises

The importance of postnatal exercises is still part of the R2488 regulation on the scope of practice of the midwife (SANC, 1990). In practice, home visits, which are also part of the R2488 regulation, are not implemented and postnatal exercises do not take place. Not one of the hospitals offers the service of postnatal exercises, although one of the hospitals indicated that it offers antenatal classes.

- Support groups

Only one hospital indicated that it has support groups for breastfeeding, twins and congenital abnormalities. This is also the hospital with the most staff in the maternity unit. The other hospitals do not offer this service.

- BCG and polio immunisations

Two hospitals indicated that they give these immunisations in the ward before the neonate is discharged.

It can be concluded that if the structure and process are in place, they will have an influence on the outcomes.

3.8.4 Outcomes

The outcomes that are intended to be reached through the implementation of the QIIP™ will have an influence on the organisation, the staff and the patients.

3.8.4.1 Organisational

This part of the situational analysis also forms part of the RM4CAST questionnaire, which is described in full in Chapter 4.

3.8.4.2 Staff

Both a positive practice environment and job satisfaction form part of the RM4CAST questionnaire, which is described in full in Chapter 4.

3.8.4.3 Patients

It is the vision of the researcher that through the implementation of QIIP™ patients will experience patient satisfaction as a result of the improved quality of the care that they receive, as well as a reduction in the MMR. In this research patient satisfaction was not monitored as it was not an objective of the research study.

Patient satisfaction based on the quality of care can be measured through a patient satisfaction survey. All four of the Level 2 hospitals indicated that their patients fill in questionnaires for such a survey and that the staff receives feedback on the matter. Two of the hospitals indicated that the patients' suggestions are implemented, while the other two indicated the opposite. The unit managers indicated that the staff is honoured if patients make positive remarks regarding the quality of care rendered. The unit managers explained that this forms part of the performance management system, by which staff receive a bonus for good service during the next year. In practice, no immediate positive feedback or appraisal is given to the midwives.

3.9 CONCLUSIONS

Although all four of the participating hospitals are in the same province and are classified as Level 2 hospitals, there are some differences in the number of staff as well as the equipment available to render quality intrapartum care. At the time of data collection, all four hospitals had relatively stable workforces with few retention and recruitment problems, in contrast to the national situation. The aim of this chapter was to determine the existing resources (staffing and equipment), as well as the quality improvement initiatives for intrapartum care being implemented at Level 2 hospitals in the North West province. It seems as if the hospital with the most staff, according to the situational analysis, is also the hospital with the most equipment and is also the busiest. The practice environment in the maternity units at Level 2 hospitals in the North West province that may influence the quality of intrapartum care will be discussed in Chapter 4.

CHAPTER 4

CHAPTER 4

THE PRACTICE ENVIRONMENT THAT MAY INFLUENCE THE QUALITY OF INTRAPARTUM CARE AT LEVEL 2 HOSPITALS IN THE NORTH WEST PROVINCE

(Phase 1: Objective 3)

4.1 INTRODUCTION

In this chapter Objective 3 of Phase 1 is discussed. This concerns the practice environment in maternity units at Level 2 public hospitals in the North West province that may influence the quality of intrapartum care. The research method, population and sample, instrument, rigour, pilot study, data collection and data analysis will first be described, followed by the findings of Objective 3. Table 4.1 gives an orientation of the objective and phase that were executed.

Table 4.1 Structure of research project indicating Objective 3

PHASE 1	PHASE 2
Objective 1 *To explore and describe quality intrapartum care through a literature review*	**Objective 5** *To develop a QIIP™ for intrapartum care*
Objective 2 *To determine the existing resources (personnel and equipment) as well as the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North West province*	
Objective 3 *To determine the practice environment that may influence the quality of intrapartum care available at Level 2 hospitals in the North West province*	
Objective 4 *To explore and describe facilitating and impeding factors influencing the quality of intrapartum care in level 2 hospitals*	

The research design and method are a roadmap for this specific study. For the sake of clarity, a schematic layout of this chapter is presented. Cross-references are used for clarification, for example:

- Research design (4.3)
- Population (4.4)
    - Sample (4.4.1)
- Data collection method (4.5)
- Rigour (4.6)
- Realisation of data collection (4.7)
- Data analysis (4.8)
- Results and embedded literature (4.9)

4.2 OVERVIEW

The global nursing shortage crisis, system redesign and oppressive management practices have led to a poor practice environment. Budd *et al.* (2004:153) state that monetary value is not the key to the collective bargaining strategy to retain staff, but it is much more important to assure a safe practice environment where nurses have a voice in resource allocation as this will influence the quality of the health outcome of their patients. This voice empowers nurses to gain control over the midwifery practice (Budd *et al.* 2004:153; Adams & Kennedy, 2006:59).

A safe workplace is a prerequisite for a positive practice environment. Excessive workloads, preventable injuries and violence in the workplace result in danger to nurses and patients (Adams & Kennedy, 2006:7; Baumann, 2007:15). Lake and Friese (2006:7) urge that transforming nurses' (midwives') practice environments must become a priority in hospitals. They found favourable practice environments in small rural non-teaching hospitals as well as in large urban teaching hospitals. The opportunity thus exists for every hospital to create and maintain safe/positive places for nurses to practice. In the transformation of the ordinary practice environment to a place where excellent quality of care is rendered, the availability of resources is one of the most important factors that play a role in creating a positive practice

environment. This experience will also influence the pregnant woman's view of the intrapartum care she receives during her delivery and after the birth of her baby.

4.3 RESEARCH DESIGN

This quantitative inquiry is described in Section 1.7.1. The practice environment of the midwives working in the Level 2 hospitals of the North West province was determined through the RM4CAST questionnaire which was then statistically analysed to determine the significance thereof. Numbers are assigned to objects that represent quantities of attributes (Knapp, 1998:141; Fain, 2004:192; Terre Blanche *et al.* 2008:140).

4.4 POPULATION

The population of the midwives was part of the data collection in this chapter. All the midwives in the four Level 2 hospitals were asked to complete the RM4CAST questionnaire. The staff numbers of the midwives in the maternity units were (N=76). The inclusion criteria for the midwives were:

- Working in the maternity unit for at least six months
- Registered with the South African Nursing Council as a midwife or advanced midwife.

4.4.1 Sample

Out of the possible (N=76) midwives, (n=56) completed the RM4CAST questionnaire, resulting in a 73% response rate.

4.5 DATA COLLECTION METHOD

The RM4CAST questionnaire was used for this part of the data collection. The questionnaire included the Practice Environment Scale of the Nurse Work Index (PES-NWI) instrument developed by Lake (2002), as amended by Klopper and Pretorius (2010), to describe the current practice environment of the midwives working in the four Level 2 hospitals in the North West province. Before data were collected ethical approval was obtained from the North-West University (Appendix A), the North West province Department of Health

(Appendix B), and from the four Level 2 hospitals in the province (Appendices C, D, E and F).

4.5.1 Questionnaire

Terre Blanche *et al.* (2008:484) define a questionnaire as a group of written questions to gather information from respondents. These questions consist of a number of measurement scales.

A self-administered RM4CAST questionnaire was used to collect the data for this part of the research to determine how the practice environment of the midwives influences the quality of care rendered. The RM4CAST questionnaire is based on the international research project known as Registered Nurse Forecast (RN4CAST), (Sermeus *et al.* 2008), and was amended to include incidents that occur in the maternity unit (Klopper *et al.* 2010). The questionnaire was divided into four sections:

A. ABOUT YOUR JOB

Questions regarding job satisfaction (PES-NWI) (Lake, 2002) and the Maslach Burnout Inventory (Maslach & Jackson, 1985) were converted to better understand the practice environment of the midwives.

B QUALITY AND SAFETY

This section included issues of safety and quality of care as well as the adapted questions relating to incidents involving the midwives or their patients.

C ABOUT YOUR MOST RECENT SHIFT AT THIS HOSPITAL

Questions were asked about the midwife:patient ratio and work schedules.

D. ABOUT YOU

This part included the demographic characteristics of the midwives, including gender, age, level of education and years in practice.

Seago *et al.* (2001:835) found that hospitals with a persistent staff shortage had a disproportionate team for functional service delivery, while hospitals with a persistent shortage had a primary or total nursing delivery system. From this research the Practice Environment Scale of the Nursing Work Index (PES-NWI) as developed by Lake (2002) and

amended by Klopper *et al*. (2010) to measure the extent to which a nurse's work setting facilitates professional nursing practice as explained in the original Magnet hospitals. This PES-NWI has proved to be a valid and reliable tool for measuring the hospital nursing practice environment (Lake, 2002). The National Quality Forum as a voluntary national consensus standard for nursing-sensitive care (National Quality Forum, 2004:10) endorsed the PES-NWI.

Practice environment scale

The RM4CAST questionnaire is nine pages long. The midwives were asked to indicate the extent to which they agreed with each of the various items. The main aim of this section was to explore the midwives' perception of their current practice environment. By using the PES-NWI on current practice in the maternity unit, the focus is on the five subscales comprising the 31 items of the PES-NWI (Lake, 2002:181-182) (see Table 4.2 for the PES-NWI subscales):

Table 4.2 PES-NWI subscales

	PES-NWI SUBSCALE	FOCUS
1	Midwives' participation in hospital affairs	Midwives' participatory role in the broad hospital context
2	Midwifery foundations for quality care	High standard of care and a midwifery model rather than a medical model
3	Nurse manager's ability, leadership and support for midwives	Role of the nurse manager and her qualities
4	Staffing and resource adequacy	Staff adequacy as well as resources available to render quality intrapartum care
5	Collegial midwife-physician relationship	The working relationship between midwives and physicians

In the RN4CAST for the context of this research, Klopper and Pretorius (2010) reported that the changes included the renaming of "staff nurses" to "registered nurses", and further adapted to "registered midwives". The term "administration" has also been changed to "management". In section D: ABOUT YOU, the midwives were asked about their gender, age, level of education, satisfaction with working as a midwife, additional qualifications in midwifery and additional courses. The adapted RN4CAST instrument has been renamed as the RM4CAST instrument and is attached as Appendix I.

Each item on the scale is rated from one (strongly disagree) to four (strongly agree) to indicate if the item is currently present in the work place. Higher scores indicate agreement. Values above 2.5 indicate general agreement while values below 2.5 indicate general disagreement (Lake & Friese, 2006:4). Hospitals size was classified as fewer than 100 beds, 100-299 beds and 300 or more beds. Lake and Friese (2006:5) used the Gabriel test to compare nurse staffing levels and environment categories. *P*-values above 0,05 were considered significant for all analyses. A mean value of 2.5 indicates general agreement, while a mean value below 2.5 indicates a disagreement with the characteristics measure by the PES-NWI instrument (Lake, 2002).

4.6 RIGOUR

Rigour is defined as striving for excellence in research and involves discipline and scrupulous adherence to detail and accuracy (Fain, 2004:6; Burns & Grove, 2009:34). Specific strategies are developed with meticulous attention to detail and are logically linked together. These strategies are critically examined to reduce errors and weaknesses to ensure that the research findings are an accurate reflection of reality (Fain, 2004:6; Burns & Grove, 2009:35).

The RN4CAST has been validated as a measuring instrument (Lake, 2002; National Quality Forum, 2004:10), although it has never before been used to collect data in maternity units. Measurement can be defined as rules for assigning numbers to objects in such a way as to represent quantities of attributes (Terre Blanche, 2008:140). De Vos *et al.* (2000:83) state that a valid instrument measures what it is supposed to measure. Validity and reliability of instruments are thus important in scientific research.

Types of validities regarding the instrument used in this research are discussed under the headings of face validity, content validity, criterion validity and construct validity.

4.6.1 Validity

Fain (2004:131) defines validity as “the accuracy with which an instrument or test measures what it is supposed to measure”. Terre Blanche (2008:90) and (Klopper & Knobloch, 2010:319) refers to validity as the degree to which research conclusions are accurate and sound. The following types of validity were used in this research: face validity, content validity, criterion-related validity and construct validity.

- What does the instrument appear to measure? **Face validity** is an important characteristic of a measuring instrument. It is thus important that an instrument should be structured to accurately measure the attributes under consideration and to give the relevant measures of those attributes (Knapp, 1998:119; De Vos *et al.* 2000:84). The checklist used to describe the demographic profile of the midwives (Section D: ABOUT YOU) as well as question 7 (Section B: QUALITY AND SAFETY) was reviewed by a panel of midwifery and research experts. The panel confirmed that the adaptations to the RN4CAST instrument can measure the South African maternity unit context.

- How well does the instrument measure what it is suppose to measure? Face validity and **content validity** are sometimes used interchangeably (Knapp, 1998:119; De Vos *et al.* 2000:84). Content validity is used in the development of an instrument or a questionnaire. The literature, representativeness and content experts all help to examine the extent to which the method of measurement includes the major elements relevant to the construct (Fain, 2004:133; Burns & Grove, 2009:381). During the development of the PES-NWI, the mean score for each subscale was developed in order to test validity and reliability (Lake, 2002:179). Five subscales form the baseline as derived from the original "Magnet hospitals'" profile to determine the key practice environment statements. Four of the five domains have matches with the original "Magnet" research, suggesting good content validity of the PES-NWI. Lake (2002:184) reported that the practice environment concepts that were considered important in the "Magnet" hospital research were adequately covered in the PES-NWI.

- How well does the instrument compare multiple measurements with external criteria? In **criterion-related validity**, one or more external or independent criteria compare the scores on the instrument. The criterion itself should be valid and reliable (Knapp, 1998:120; De Vos *et al.* 2000:84). In the PES-NWI instrument the "Magnet" and non-"Magnet" hospitals were compared, and higher scores were obtained from the "Magnet" hospital. Burns & Grove (2009:385) describe this as evidence from contrasting groups.

- **Construct validity** is the manner in which an instrument measures an intended hypothetical concept or constructs (Knapp, 1998:122; Fain, 2004:134). Construct validity is the most valuable yet the most difficult way to assess an instrument's validity. Factor analysis is one way to establish the degree of construct validity.

Chiang and Lin (2008:922) performed a factor analysis to determine the factor structure of the PES-NWI. Lake (2002:176) reported that the construct validity was supported by much higher scores of nurses in “Magnet” versus the measurement in non-“Magnet” hospitals. The PES-NWI suggested that it was a sensitive tool for detecting practice environments at hospital level.

4.6.2 Reliability

Reliability can be defined as the precision or accuracy or the degree of consistency between two independent sets of scores (De Vos *et al.* 2000:85). Thus reliability can be explained as an instrument measuring what it is suppose to measure and presenting similar results in comparable conditions (Burns & Grove, 2009:377).

Reliability testing focuses on three aspects of reliability: stability, equivalence and homogeneity. The Cronbach alpha coefficient is commonly used to measure reliability. As reliability exists in degrees it is usually presented in a form of correlation coefficient (Burns & Grove, 2009:377). A correlation coefficient of 1.00 indicates perfect reliability and a 0.00 indicates no reliability.

The reliability of the PES-NWI was ensured through instrument homogeneity in terms of internal consistency, which is defined as “the extent to which all the items in the instrument consistently measure the construct” (Burns & Grove, 2009:379). The Cronbach alpha for the PES-NWI subscales varied from 0.71 to 0.83 and was considered satisfactory (Lake, 2002:920).

The reliability of the PES-NWI subscales was supported by Cronbach’s alpha ranging from 0.53 to 0.91 (See Table 4.2). Ability seems to have the highest score and depersonalisation and care the lowest. The reliability of the other subscales was within acceptable ranges (Nunnally & Bernstein, 1994; Field, 2005).

4.7 REALISATION OF DATA COLLECTION

One of the advantages of a survey is the large amount of data that can be collected, while a disadvantage may be that the content may be superficial (Knapp, 1998:67). However, the main concerns with this data collection method are the sampling procedure, sample size, instrument validity and reliability.

The data were collected in June and July 2010. The researcher visited the participating hospitals and made appointments with the hospital management and the unit managers of the Level 2 hospitals in the North West province. After a thorough explanation of the content of the RM4CAST questionnaire, the unit managers were asked to distribute the questionnaires to the midwives. Because of the large geographical area of the North West province, the researcher asked a midwifery lecturer working in the area to act as fieldworker and to distribute and collect the questionnaires at two hospitals. An incentive was paid to the fieldworker for her time and effort in collecting the data. The self-administrated questionnaire was distributed to midwives working in the four Level 2 hospitals in the North West province. All the participants were promised confidentially; the information was kept secret. As ethical principles were applied, no harm was done to the participants. All the participants gave informed consent prior to the research study, and completion of the questionnaires was considered as informed consent. All the respondents were asked to answer the questionnaires anonymously. The questionnaires took approximately 30 minutes to complete.

The questionnaires were collected two weeks after distribution. A unique code was assigned to the questionnaires to ensure anonymity of the data collected at each hospital (Terre Blanche *et al.* 2008:490). Fifty-six RM4CAST questionnaires were received back from the midwives (N=76), resulting in a 73% response rate. Burns and Grove (2009:409) state that the response rate of questionnaires is generally lower than that of other forms of self-reporting, but the RM4CAST response rate was regarded as satisfactory.

4.8 DATA ANALYSIS

The data were captured on Epidata 3.1 (Lauritsen, 2008) and were verified prior to the analysis. The RM4CAST questionnaire data were analysed using SAS (2003), SPSS 16.0 (SPSS, 2007) and STATISTICA (StatSoft, 2009). Descriptive statistics including the mode, mean, frequency and standard deviation were used to measure the central tendency and to present demographics and clinical characteristics (Burns & Grove, 2009:569). A 4-point Lickert-type scale was used with responses ranging from (1) strongly disagree, (2) somewhat disagree, (3) somewhat agree and (4) strongly agree, which meant that subscale scores could be interpreted on the original Likert scale (Terre Blanche *et al.* 2008:492). Lake (2002:177) recommends that missing responses should be taken into consideration when calculating the means. Means replacement was performed when calculating the subscale scores.

A principle component factor analysis with (Oblimin with Kaizer Normalization) was used to identify the subscales of the PES-NWI through component analysis and rotation (Pretorius, 2009:96). Terre Blanche *et al.* (2008:248) as well as Burns and Grove, (2009:484) report that factor analysis is used to identify a relatively small number of factors as clusters in correlation with the variables linked together. Factor analysis usually involves the following steps:

- Computing the intercorrelations between the variables
- Extracting initial factors
- Rotating the factors to obtain a clearer picture of the factor content (Terre Blanche *et al.* 2008:248).

To do a factor analysis, Nunnally and Bernstein (1994) recommend 10 observations for each variable. However, the sample size of this research is too small, therefore the factor analysis was not conducted for this study population but rather the factor structure was assumed to be the same as in previous research done by the South African critical care nurses conducted by Pretorius (2009).

Internal consistency was measured through Cronbach's Alpha coefficient. Burns and Grove (2009:379) explain that a value of 1.00 in the instrument measures the same thing, while a slightly lower score of 0.8 to 0.9 will reflect fine discriminations in the level of construct. The instrument's reliability can then be discerned more clearly (Burns & Groves, 2009:379). Nunnally and Bernstein (1994) reported that a score of 0.7 is necessary to be reliable; however Field (2005:668) stated that for diverse constructs even lower scores can be acceptable. Values lower than 0.5 are considered to be unreliable as the correlation between the items is then too low.

The mean and standard deviation of the subscales were used to describe the central tendency (Burns & Grove, 2009:471; 472). The mean uses the sum of the scores divided by the number of scores being summed (Burns & Grove, 2009:472). The standard deviation refers to a deviation from the mean.

Correlations, T-tests and ANOVAs were performed to determine associations between demographic variables, quality and safety in the RM4CAST and burnout factors. The four sections of the RM4CAST, namely Section A (ABOUT YOUR JOB), section B (QUALITY

AND SAFETY), section C (ABOUT YOUR MOST RECENT SHIFT) and section D (ABOUT YOU) are accordingly discussed.

4.9 RESULTS AND EMBEDDED LITERATURE

The results of each section together with the embedded literature are presented.

4.9.1 Section D: About you

To allow readers to orientate themselves with the research population, the demographic profile of the midwives who are directly involved in the practice environment of the maternity units is discussed first, although it is the last section (Section D) of the RM4CAST questionnaire.

Demographic profile

All the midwives (N=76) working in the maternity units of the four Level 2 hospitals were asked to participate in the research, but only 56 questionnaires were returned, resulting in a 73% response rate. The demographic data are extracted from Section D: ABOUT YOU of the RM4CAST questionnaire. A summary of the midwives' demographic profile showing the distribution of the midwives is given in Table 4.3:

Table 4.3 Demographic profile of midwives who responded per hospital

HOSPITAL	FREQUENCY	PER CENT
1	7	12.5
2	14	25
3+4	35	62.5

All the participants were female midwives. The midwives' ages varied between 25 and 60 years, (M=41.25; SD=8.0) Table 4.4 gives the midwives' demographic characteristics regarding age and years as a midwife. Only 34.5% of the midwives indicated that they had a Bachelors degree with the remaining 65.5% having diplomas in Nursing and Midwifery (Figure 4.1). All the midwives were working full time in the hospital where the research was conducted. The average number of years that the midwives were working in their careers

was 12.5 (SD=7,9), while the mean of the years they were working in the current hospital was 9.3 years (SD=6.9) (see Table 4.4).

Table 4.4 Midwives' demographic characteristics

	MEAN	SD
Age currently	41.25	8.0
Age when registered as a midwife	26.5	6.9
Years as registered midwife in career	12.5	7.9
Years as registered midwife in this hospital	9.3	6.9

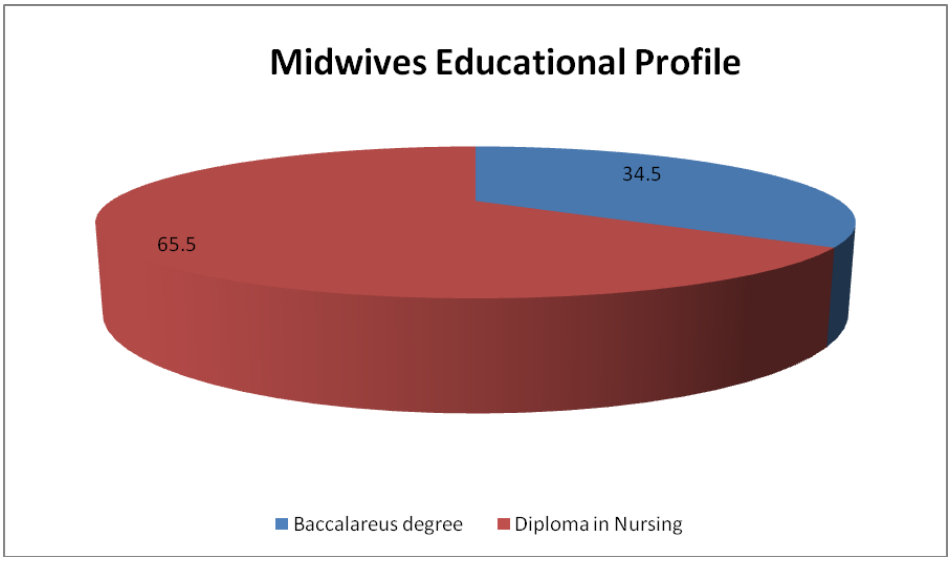


Figure 4.1 Midwives' educational profile

Nearly two-thirds (65,5%) of the midwives have a Diploma in Nursing and the other third (34, 5%) had a Bachelors degree. The next question was to find out where the midwives obtained their education and Figure 4.2 gives the findings.

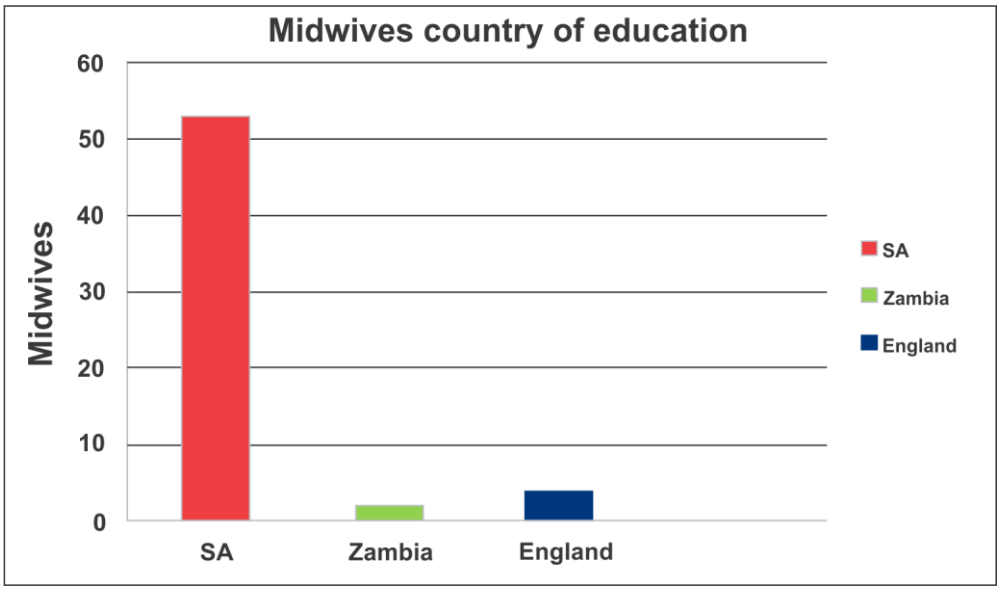


Figure 4.2 Midwives' country of education

The majority of the midwives working in the North West province obtained their education in South Africa (Figure 4.2). They are thus registered with the South African Nursing Council (SANC, 1990) under regulation R2488 which outlines the scope of practice for South African midwives. Although all the midwives in South Africa practice in accordance with regulation R2488, they have different academic curricula. Although the midwives were currently practicing midwifery we need to find out if they are satisfied with their chosen career.

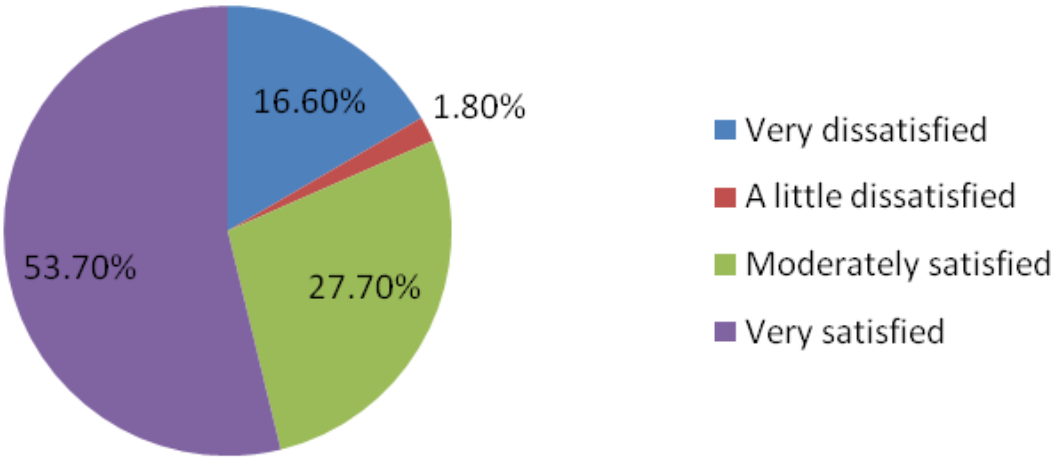


Figure 4.3 Midwives' satisfaction with career choice

The largest percentage of midwives (53.7%) indicated that they are were very satisfied with their career, while 27.7% indicated that they are were moderately satisfied. The remaining

18,4% indicated dissatisfaction, varying between very dissatisfied at 16,6% and a little dissatisfied at 1,8% (see Figure 4.3).

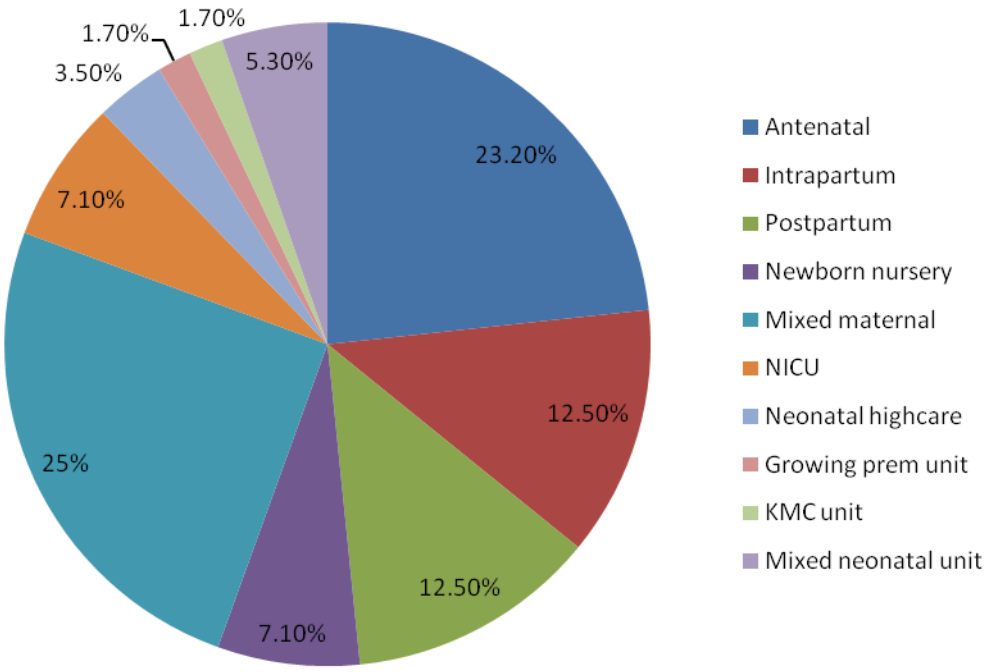


Figure 4.4 Types of maternity units

There are various types of maternity units available for midwives to work in at the Level 2 hospitals in the North West province. Two of the hospitals have integrated wards where the staff is allocated on a daily basis. The other two hospitals have separate intrapartum units where the intrapartum care is rendered in different antenatal and postpartum wards that function separately.

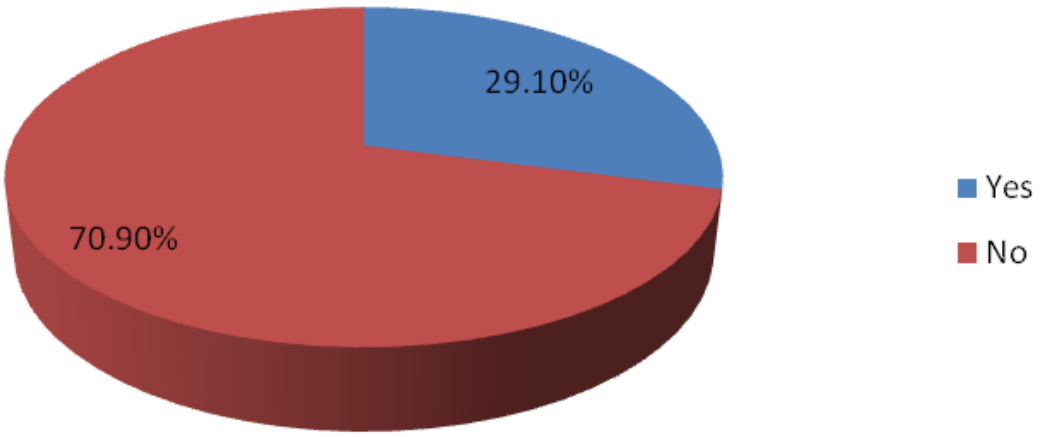


Figure 4.5 Additional qualifications of advanced midwives

Nearly a third of the midwives (29,10%) have an additional qualification as an advanced midwife. The majority (70,90%) do not have that additional qualification. Especially in South Africa and also in the North West province, the midwives are the backbone of the maternity health care system and deliver the majority of the patients.

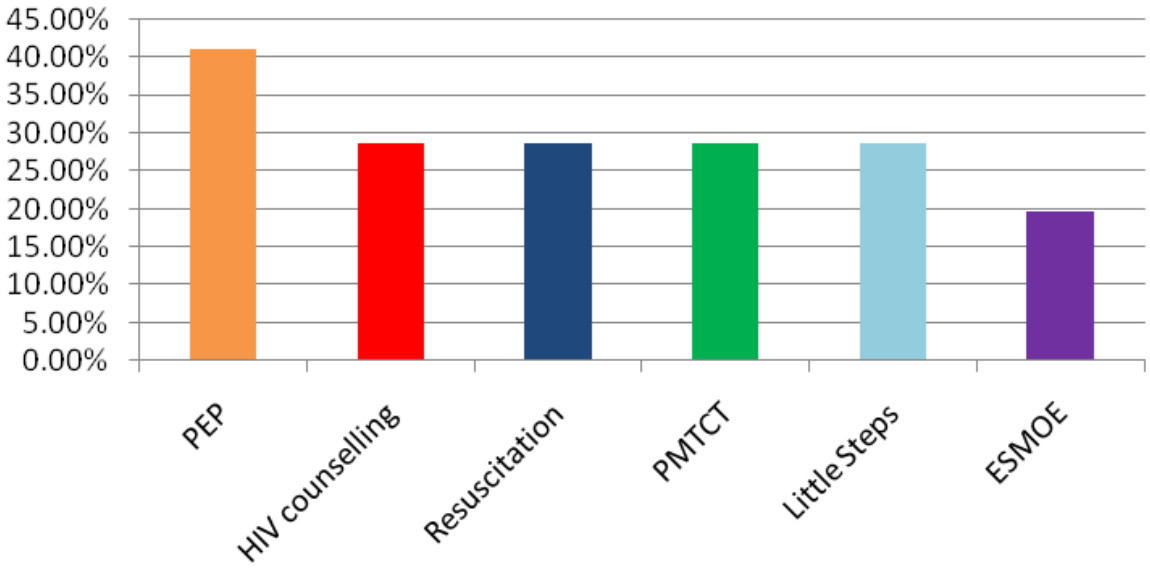


Figure 4.6 Additional courses

Figure 4.6 shows that 23 of the midwives (41%) did the PEP course, while courses in HIV counselling, resuscitation, PMTCT and Little Steps were all attended by 16 midwives each, adding up to 28.6%. Only 11 midwives attended the Essential Steps in the Management of Obstetric Emergencies (ESMOE) course (19.6%).

The embedded literature indicates that in order to improve the quality of intrapartum care staff, training and development together with in-service training, attending courses, preceptorship and lifelong learning have a direct influence on the quality of care rendered. Each of these topics will now be discussed.

- **Staff training and development**

Communities expect safe and competent health care (intrapartum care) as a right (Watkins, 2000:338). Nurses and midwives are a crucial part of any society, yet Henry (2006:9) reports that they are overlooked when it comes to ongoing skills development. When nurses and midwives start with their jobs, they have sound procedural knowledge but they need to continue learning to enhance their craft and quality of work. It is not just junior nurses or midwives who benefit from training, but also senior staff who assume greater responsibilities that need constant upgrading in skills to manage staff and resolve conflict (Rocco *et al.* 2003:170; Henry, 2006:9). Aiken *et al.* (2003:1623), as well as Stanton and Rutherford (2004:1), recommend that hospitals must renew support and give incentives to encourage nurses and midwives to pursue their education to a minimum of a Bachelors degree and beyond, as this has a direct influence on the quality of care rendered and hence on the mortality rate. Findings in the US report on the influence of qualifications on the outcome of patients, show an imbalance of nurses (midwives), with far too few registered nurses with Bachelors degrees and higher degrees in practice, which may be harming the patients and their outcome (Aiken *et al.* 2003:1623). This is also the case in South Africa and in the North West province, where most of the nurses and midwives enter the practice with diplomas in General Nursing, Community Nursing, Psychiatric Nursing and Midwifery (SANC, 2010).

Donabedian (1990:1117) states that legitimacy is acceptability of care to the community and society. Patients who receive care or not are not necessarily the ones who benefit or suffer. If a patient benefits or suffers from care the society may view the appropriateness of care differently from the patient, therefore supervision is necessary for those health care personnel who fail in their capacities and might endanger others or patients (Donabedian, 1990:1118). Lake and Friese (2006:7) found that hospitals with a modest teaching intensity have poorer practice environments than non-teaching hospitals. Furthermore, they reported that nurses in low-minor teaching hospitals attributed poor hospital commitment to education, which may relate to the hospitals' commitment to professional nursing. In this research it is also evident that the majority of midwives in the North West province lack additional training and development.

- **In service training**

Baumann (2007:5) states that institutional policy structures must recognise the importance of ongoing education and learning. The Quality Improvement Agency (QIA) confirms that adult learning can take place in various settings, namely classrooms, workshops, training centres or in the workplace in order to help those who teach to do it better. Management and leaders must encourage improvement so that learners have a positive experience (Thomson, 2007:23). Sarah Babb, Managing Director of *The Skills Framework*, one of South Africa's leading strategic skills development companies, points out that almost any industry has some sort of on-the-job training or continuing education. She firmly stated that the nursing profession must redress the current situation, otherwise it will cause disillusionment in a profession that is already underpaid and under-appreciated (Henry, 2006:9).

- **Attending courses**

The Free State Department of Health has identified skills development and training as a priority for gaining and improving quality care (De Witt, 2006:8). Henry (2006:9) further elaborates that continuous training does the following:

- Bolsters the nurses' and midwives' ability to cope with and enjoy their work
- Helps to reduce the number of nurses and midwives leaving the profession
- Boosts morale, reduces turnover and the costly and disruptive process of looking for new staff.

It is important for midwives to attend courses that will enrich them, for example the Perinatal Education Programme (SA, 1998:20). Acquiring updated knowledge can be used to set an example for the rest of the midwives and also improve the quality of care rendered (Woods, 1993:1). In light of the high HIV/AIDS prevalence in the country, which has been identified as the leading cause of maternal deaths, the Department of Health, together with South Africa's National HIV/AIDS Strategic Plan, initiated new courses in PMTCT and ART. These trained nurses/midwives, with their updated knowledge and skills, are viewed as the unofficial gatekeepers of HIV/AIDS (Dohrn *et al.* 2009:28).

- **Preceptorship**

Preceptorship is described as an intense, reality-based clinical rotation of the nursing student bridging the gap between theory and practice (Severinsson, 1998:1269; Henderson *et al.* 2007:91). The hands-on approach, by student nurses and registered nurses, gives them the opportunity to clarify any uncertainties and to develop self-confidence until the student is clinically competent using the best evidence available to render quality care (Roberts, 1998:37; Ellis, 2000:215; Billay & Myrick, 2008:259). In South Africa there have been capacity-building initiatives where nurse mentors who are the trained "PMTCT nurses", and "ART nurses" can provide continuous preceptorship to colleagues in the clinical facility (Dohrn *et al.* 2009:28). Especially in maternity units where midwifery students and midwives must be competent in maternity skills, a role model will help these students and midwives to set an example in the implementation of policies and guidelines as they are operationalised in practice, and thus the theory-practice gap will be reduced. Research conducted by Billay and Myrick (2008:265) identified six implications of preceptorship for clinical practice:

- Clinical preceptorship remains a common teaching and learning method
- Clinical preceptorship is used as the main teaching and learning method for socialising nursing students in the profession
- The need for partnership between educators and service providers
- Preceptors' knowledge and experience are great assets for students
- A well-developed and thought out curriculum is essential to accommodate clinical practice
- The attitudes and perceptions of the preceptor are essential for successful student learning.

The empowerment of midwives can be a platform to build on strengths and address weaknesses (Matthews *et al.* 2006:181) and thus improve the quality of care rendered. Furthermore, midwives need to know how the hierarchy of the organisation works in terms of communicating with the professional team.

- **Culture of lifelong learning**

Academic underpinning is of great value for rendering quality care. Aiken *et al.* (2003:1620) reported that hospitals where nurses (midwives) have more ***Bachelors and Masters***

degrees have a significantly lower mortality rate. It is, however, important that nurses and midwives continue to enhance their competence after graduation through the constant urge for lifelong learning (Khomeiran *et al.* 2006:70). Baumann (2007:22) reports that a climate of learning sets the stage for a positive and safe practice environment. When institutions encourage lifelong learning by acknowledging professional development and the mutual sharing of knowledge, they become learning organisations. Six categories were identified that influence competence: *experience, opportunities, environment, personal characteristics, motivation* and *theoretical knowledge* (Khomeiran *et al.* 2006:68). In a climate of learning, employers understand the importance of investing time, effort and resources to enhance the practice of their employees and improve their skills, knowledge and judgement (Baumann, 2007:22). This leads to a positive practice environment and improvement in the quality of care rendered, with positive patient outcomes, i.e. healthy babies, and reduces maternal mortalities.

Another strategy to promote lifelong learning is the availability of a ***web-based portal*** to give midwives the opportunity to capture the ideas and expertise of practitioners. This will help and equip the education system to learn in a way that was not previously possible, and lifelong learning will be enhanced, resulting in improvement of the quality of care rendered (Thompson, 2007:23). A log analysis can guide performance improvement and identify which resources on a website are often accessed (Ong *et al.* 2003:11). The South African Department of Health added that the quality of care can be improved by strengthening the hand of the user (nurse or midwife) by empowering them through ongoing education. Providing the right education and information through effective and understandable communication in order to make informed decisions will create an environment for rendering quality care (SA, 2007a:9). The MEC of the Free State Department of Health, acknowledges that skills development and training are an important vehicle for gaining and maintaining excellence in the quality of health care (De Witt, 2006:8). Henry (2006:9) states that health care providers should analyse their staff's skills through a skills audit to ensure that they have the requisite skills to render quality (intrapartum) care, not just for the present but also for the future, and if necessary bridge the gap. From the above-mentioned embedded literature it is clear that the midwives' educational background and attitude towards lifelong learning will affect the quality of care rendered as well as how she will perceive her job. In the following section features regarding the midwives jobs are explored.

4.9.2 Section A: About your job

The mean and standard deviation of the 32 items are displayed. The 4-point Lickert scale indicated 1=strongly disagree, 2=somewhat disagree, 3=somewhat agree, 4=strongly agree. The data are presented as percentages together with the mean and standard deviation of the 32 items on ABOUT YOUR JOB (Section A) as the first part of the RM4CAST questionnaire (see Table 4.5).

Table 4.5 Results of the frequency analysis with mean and standard deviation

ITEM		COMPONENT					
		1	2	3	4	M	SD
NURSE MANAGER ABILITY, LEADERSHIP AND SUPPORT %							
5.	Career development/clinical ladder opportunity	19	38	26	17	2.4	0.9
18.	Opportunities for advancement	20	41	26	13	2.3	0.9
4.	Active staff development or continuing education programmes for nurses	13	22	50	15	2.6	0.8
6.	Opportunities for RMs to participate in policy decisions	32	36	25	8	2.0	0.9
25.	RMs are involved in the internal governance of the hospital (e.g. practice and policy committees)	27	35	31	7	2.1	0.9
23.	Management that listens and responds to employee concerns	35	31	27	7	2.0	0.9
10.	A nurse manager who is a good manager and leader	16	13	48	24	2.7	0.9
22.	A nurse manager who backs up the nursing staff in decision-making, even if the conflict is with a physician	13	26	33	28	2.7	1.0
14.	Praise and recognition for a job well done	29	23	39	9	2.2	0.9
24.	An active quality assurance programme	7	27	51	15	2.7	0.8
27.	A preceptor programme for newly hired nurses	32	26	32	9	2.1	1.0

COLLEGIAL MIDWIFE-PHYSICIAN RELATIONS %							
2.	Physicians and midwives have good working relationships	13	15	39	33	2.9	1.0
21.	Physicians respect midwives as professionals	11	16	47	25	2.8	0.9
7.	Physicians value midwives' observations and judgements	7	22	50	20	2.8	0.8
13.	Physicians recognise midwives' contributions to patient care	11	22	49	18	2.7	0.8
17.	A lot of teamwork between midwives and physicians	9	27	47	16	2.7	0.8
26.	Collaboration between midwives and physicians	6	26	57	11	2.7	0.7
30.	Physicians hold midwives in high esteem	15	33	41	11	2.4	0.8
STAFFING AND RESOURCE ADEQUACY %							
9.	Enough RMs on staff to provide quality patient care	52	22	11	15	1.8	1.1
12.	Enough staff to get the work done	52	27	14	7	1.7	0.9
20.	Working with nurses who are clinically competent		9	49	41	3.3	0.6
1.	Adequate support services allow me to spend time with my patients	18	32	36	14	2.4	0.9
8.	Enough time and opportunity to discuss patient care problems with other nurses	15	31	41	13	2.5	0.9
3.	A supervisory staff that is supportive of nurses	19	24	46	11	2.5	0.9
11.	A chief nurse officer (CNO) who is highly visible and accessible to staff	18	23	39	20	2.6	1.0
MIDWIFE PARTICIPATION IN HOSPITAL AFFAIRS %							
31.	Written, up-to-date care plans for all patients	5	25	45	24	2.8	0.8
32.	Patient care assignments that foster continuity of care (i.e. the same nurse cares for the patient from one day to the next)	17	28	40	15	2.5	0.9
29.	RMs have the opportunity to serve on hospital and nursing committees	19	28	38	15	2.4	0.9

MIDWIFERY FOUNDATIONS FOR QUALITY OF CARE %							
15.	High standards of midwifery care are expected by the management	2	2	20	76	3.7	0.5
28.	Midwifery care is based on a nursing rather than medical model	13	25	46	15	2.6	0.9
19.	A clear philosophy that pervades the patient care environment	9	20	57	13	2.7	0.8
16.	A CNO is equal in power and authority to other top-level hospital executives	8	30	45	17	2.7	0.8

Extraction method: Principal component analysis, Rotation method: Oblimin with Kaiser Normalisation

Table 4.5 gives the results of the five subscales compromising the 31 items of the PES-NWI (Lake, 2002:181-182) (see Table 4.2 for the PES-NWI subscales). Each of these subscales will now be discussed through the embedded literature.

- **Nurse manager ability, leadership and support**

Eleven items were included in the subscale regarding nurse manager ability, leadership and support. The highest baseline mean scores were obtained by the nurse manager who is a good leader, by the back-up of the nursing (midwifery) staff and by the active quality assurance programme that is in place. The lowest scores were obtained when midwives do not participate in policy decision-making and management does not listen to midwives' concerns.

Modern management is a complex system involving new knowledge and technology that are intertwined. It is thus the challenge for the manager to organise the available resources to render the best quality of care, cost-effectively within the shortest period of time (Lapido *et al.* 1999:5; Terzioglu, 2006:340). In the turmoil of health care provision patients demand higher levels of quality of care and insist on more interpersonal involvement. Patients want more than excellent clinical skills, they also want empathetic and personalised care (Kerfoot, 1996:59).

In order to achieve the hospital's patient care mission and financial viability, effective nurse managers are crucial (Terzioglu, 2006:340; Cathcart *et al.* 2010:440). Value-driven leadership strives to instil staff with the emotional intelligence to go beyond the technical side of the job, mastering the skilled knowledge embedded in clinical practice (Kerfoot, 1996:59; Terzioglu, 2006:340; Cathcart *et al.* 2010:440). Cathcart *et al.* (2010:441) and Lapido *et al.*

(1999:5) suggest that a compendium of role competencies will provide the basis for programme orientation and ongoing education. The nurse managers must capably demonstrate the skills, knowledge and ability for each form of competency. Historically the unit manager's proficiency was measured by the quality of her relationships with physicians and nurses (midwives). This together with clinical acumen and the organisation's know-how, evolved into the role of nurse manager with distinct responsibilities, such as management of all resources, including finances and personnel, and seeing to it that support staff become clinically competent and accountable for safe decision-making in patient care (Cathcart *et al.* 2010:441; Badzek & Cober, 1996:48). It is noteworthy that in order to be seen as a "good" manager one must have problem-solving skills (Terzioglu, 2006:346).

Kerfoot (1996:61) stated that character and morale, supported by empathy, emotional literacy and self-discipline, are essential for health care workers, especially midwives. It is thus clear that the nurse manager has a huge responsibility to sustain quality, safety, innovation, efficiency and financial performance at unit level, while at the same time ensuring that staff (midwives) are capable of delivering the high quality of care required by patients within their scope of practice through the necessary support from management (Badzek & Cober, 1996:49; El-Jardali *et al.* 2009:10; Cathcart *et al.* 2010:441). This can only be possible if the nurse manager has effective problem-solving and management skills such as being democratic and tolerant (Terzioglu, 2006:346). Administrative deadlines can divert the manager's attention from the staff and patients (Cathcart *et al.* 2010:446).

- **Collegial midwife-physician relationship**

Seven items are included in the subscale regarding the collegial midwife-physician relationship. Most midwives view their relationship with the physicians as a good (M=2.9; SD=1.0). Item 30 relating to physicians who help midwives to have good self-esteem obtains the lowest score (M=2.4; SD=0.8).

As early as 1975 Irene Nielsen reported that the midwife-physician team contributes to the quality of care as part of a triangle. The patient is at the apex and the midwife and physician balance the other ends of the triangle (Nielsen, 1975:1693).

Once the patient is admitted to the hospital for delivery, the midwife contacts the doctor. In the case of a normal delivery the midwife can consult with the patient about the care needed. Traditionally midwives do the uncomplicated deliveries (Baldwin *et al.* 1992:262). If an emergency occurs the doctor is called (Sullivan & Witte, 1995:536; Nielsen, 1975:1695). Badzek and Cober (1996:49), Sullivan and Witte (1995:536) and El-Jardali *et al.* (2009:10)

state that staff are encouraged to work as a team, keeping communication channels open between themselves and the patient to maintain ongoing collaborative management.

Research by *The Skills Framework* reported that nurses (midwives) in South Africa had the necessary skills and knowledge to perform their jobs, but were lacking in communication skills. Once management identifies a communication gap, training is implemented and a dramatic turnaround in customer satisfaction occurs (Henry, 2006:9). The *Policy on Quality Health Care for South Africa* reported that where quality health care data exist, often only the researcher and not the public understands it. The need therefore is to translate the findings into user-friendly, plain language, using different communication approaches and to package it to ensure that the research findings are available at the right time when the health care professional needs it (SA, 2007a:9).

- **Staffing and resource adequacy**

Seven items were included in the subscale regarding staffing and resources. The question about clinical competency is rated the highest with a mean of 3.3 and SD=0.6. Staff shortages were validated as a problem as most midwives responded that there were not enough staff to get the work done (M=1.7; SD=0.9). This has a direct influence on the quality of care rendered as midwives work extra hours after their shift to accommodate the patients. It is linked to unrealistic workloads and low job satisfaction and the intention of leaving the profession and/or country (Lapido *et al.* 1999:12, 43; Aiken *et al.* 2002:1987; Cho *et al*. 2003:71; El-Jardali *et al.* 2009:3; Babakus *et al.* 2009:488). Needleman *et al.* (2006:205) and Cho *et al.* (2003:71) echo this and state that increasing the nursing/midwifery staff is one way to improve the quality of care rendered and thus the outcome.

Ruland and Ravn (2003:208) state that nursing and midwifery staff represents the “largest and most labour-intensive component of hospital cost”. The nurse manager is therefore in the position to save costs and contributes to the financial stability of the hospital (Ruland & Ravn, 2003:208; Needleman *et al.* 2006:205). The nurse manager is thus in the position to recruit and retain midwives for the maternity unit who are skilled and competent (Stanton & Rutherford, 2004:1; Arries, 2006:32). Although employing more midwives will have financial implications for the hospital, this will be countered by the positive outcomes (patient satisfaction, a positive practice environment and a decrease in the MMR) (Needleman *et al.* 2002:1715; Needleman *et al.* 2006:205). Sullivan and Witte (1995:539) state that regardless of the setting, the unit providing intrapartum care must ensure that it has appropriately skilled personnel, equipment and supplies to ensure the safety of the mother and baby.

Information systems such as CLASSICA are available to provide managers with day-to-day information on patient statistics, resources, staffing level costs and budget balances which will help them to manage the resources and running cost of their units (Ruland & Ravn, 2003:208). In South Africa in the public sector and specifically the North West province where this research was conducted, computers and programs such as CLASSICA are not available to unit managers in the wards. Duty rosters of staffing, resources and statistics are all drawn up manually by the unit manager herself.

- **Midwife participation in hospital affairs**

Three items were included in the subscale regarding midwife-participation in hospital affairs. Up-to-date care plans for all patients received a mean of 2.8 and a standard deviation of 0.8. The participants did not seem to have the opportunity to serve on hospital and nursing committees (M=2.4; SD=0.9).

Lapido *et al.* (1999:1) suggested that alongside all the improvements that are implemented in hospitals (maternity wards), it is necessary that midwives be included in management structures to enable them to participate in decision-making processes and thus effectively contribute to the improvement of the quality of care rendered. In hospitals in the UK questions arise as to whether these institutions have sufficient managerial structures and procedures in place to create co-operation and trust with high-quality outcomes (Lapido *et al.* 1999:6). The same questions are applicable to the South African public sector hospitals.

- **Midwifery foundation for quality of care**

Four items were included in the subscale of midwifery foundations for quality of care. Management expected the highest standard of midwifery care (M=3.7; SD 0.5). The question regarding midwifery care is based on a nursing rather than a medical model, and obtained the lowest score (M=2.6; SD=0.9).

In order to change midwifery practice, success is based on adequate staffing together with upgrading and training of midwives, and emphasising quality of care, which lead to patient satisfaction (Lapido *et al.*1999:5). Stanton and Ruthford (2004:1) emphasise that the quality of care rendered will be enhanced with more staff resulting, in a positive outcome and patient satisfaction. Attitudes and behaviour towards patients determine the patients' perceptions of the quality of service rendered and patient satisfaction, which in turn have an impact on the organisational performance (Babakus *et al.* 2009:480). In the next section the current job is discussed.

4.9.2.1 Discussion of the current job

Twenty-seven (50.9%) of the midwives indicated that they were moderately satisfied with their job, while 5,7% indicated that they were very satisfied. An alarming 26,4% indicated that they were very dissatisfied with their current job, while the remaining 16,9% indicated that they were a little dissatisfied.

Regarding the question on the work environment of the job in the current hospital which included adequacy of resources, relations with co-workers and support from supervisors, 46,3% rated it as fair and 22,2% rated it as poor. Only 7% indicated that they experienced an excellent work environment, while the remaining 24,1% indicate that it was good. The majority of the midwives thus experienced a not very positive practice environment. Table 4.6 gives an indication of how satisfied or dissatisfied the midwives were about certain aspects of their job. The highest percentage in each category is in bold.

Table 4.6 Midwives satisfaction with various aspects of the job

		VERY DISSATISFIED 1	A LITTLE DISSATISFIED 2	MODERATELY SATISFIED 3	VERY SATISFIED 4
4.1	Work schedule flexibility	7.8	33.3	45.1	13.7
4.2	Opportunities for advancement	27.3	38.2	25.5	9.1
4.3	Independence at work	10.7	16.1	50.0	23.2
4.4	Professional status	7.7	28.9	48.1	15.4
4.5	Wages	36.7	20.0	38.2	5.5
4.6	Educational opportunities	28.3	33.7	26.4	11.3
4.7	Annual leave	14.3	10.7	41.1	33.9
4.8	Sick leave	7.3	16.4	36.36	40.0
4.9	Study leave	30.9	27.3	23.6	18.2
4.10	Family responsibility leave	17.9	19.6	33.9	28.6

Forty per cent of the midwives were entirely satisfied with the available sick leave. Furthermore, they were moderately satisfied with their work flexibility (45,1%), independence at work (50%), professional status (48,1%), wages (38,2%), annual leave (41.1%) and family responsibility leave (33.9%). They were little dissatisfied with opportunities for advancement (38.2%) and educational opportunities (33.75). The midwives were very dissatisfied with the study leave (30.9%) as they reported that in the North West province there is a study cycle and a person must apply for study leave a year in advance. If there are not enough staff members remaining in the ward the study leave is cancelled.

Regarding the question whether the midwives would leave the current hospital within the next year because of job dissatisfaction, 58,9% indicated that they would consider it while the remaining 41,1% indicated that they would not consider leaving the current hospital. Sixty per cent of the midwives indicated that if they left the hospital it would be to provide midwifery services in another hospital. Seventeen per cent (17.1%) indicated that they would seek midwifery work but not in a hospital. Eight per cent (8,6%) indicated that they would do non-nursing work and 14,3% indicated that they would rather do nursing and not midwifery.

In response to the question of whether the midwives thought is was easy to find an acceptable job, 43,6% indicated that they thought it would be very easy and the other 38,2% thought it would be fairly easy to find another job. Eight midwives (14.6%) indicated that they thought it would be fairly difficult and the remaining two (3.6%) thought it would be very difficult to find a new job. The reality, however, is that there are posts available in all the institutions in the country, but either the posts are not advertised because of financial constraints or they are advertised as general nurse positions and not necessarily in the maternity units.

Regarding the question of whether the midwives would recommend the hospital they were working in to a colleague, a slight majority indicated that they would do so (52.7%). The other midwives were hesitant to recommend their hospital to their colleagues, and 20% indicated a definite no while the remaining 27.3% indicated probably not. This raises the question as to why they would not recommend the hospital to a colleague: does this relate to the practice environment, burnout, job dissatisfaction or a lack of leadership?

The last but very important question regarding the hospital where the midwife works was whether they would recommend the hospital to family and friends. Most of the midwives (75%) indicated that they would recommend their hospital to family and friends who needed maternity care.

The following set of questions are based on the Maslach Burnout Inventory complied by Christina Maslach and Susan Jackson in 1995. They were included in the RN4CAST questionnaire and are also now included in the RM4CAST questionnaire. Three categories can be identified, namely depersonalisation, emotional exhaustion and personal accomplishment.

4.9.2.2 Discussion of the Maslach Burnout Inventory

The category indicating emotional exhaustion is represented by questions A9N1, A9N2, A9N3, A9N6, A9N8, A9N13, A9N14, A9N16 and A9N20. The category on Personal Accomplishment is represented by questions (A9N4, A9N9, A9N12, A9N17, A9N18, A9N19 and A9N21. The category on depersonalisation is represented by questions A9N5, A9N10, A9N11, A9N22. Table 4.7 gives the indicators of the Maslach Burnout Inventory. The highest score in each category is shaded.

Table 4.7 Indicators of the Maslach Burnout Inventory

		Never	A few times a year	Once a month or less	A few times a month	Once a week	A few times a week	Every day
1	I feel emotionally drained.	3.6	12.5	8.9	21.4	1.8	23.2	28.6
2	I feel used up at the end of the workday.	12.5	3.6	3.6	26.8	7.1	16.1	30.4
3	I feel fatigued when I get up in the morning and have to face another day on the job.	5.4	16.1	7.1	19.6	3.6	19.6	28.6
4.	I can easily understand how my patients feel about things.	5.4	1.8	14.6	14.6	5.5	12.7	45.5
5.	I feel I treat some patients as if they were impersonal objects.	62.9	14.8	1.9	11.1	0	5.6	3.7
6.	Working with people all day is really a strain for me.	53.6	14.3	12.5	7.1	7.1	3.6	1.8
7.	I deal very effectively with the problems of my patients	3.6	14.3	8.9	5.4	8.9	16.1	42.9
8.	I feel burned out from my work.	12.7	12.7	9.1	16.4	5.5	20.0	23.6
9.	I feel I'm positively influencing other people's lives.	7.4	7.4	9.3	7.4	7.4	16.7	44.4
10.	I've become more insensitive towards people since I took this job.	59.3	16.7	9.3	7.4	1.9	3.7	1.9
11.	I worry that this job is hardening me emotionally.	32.1	14.3	5.4	10.7	5.4	19.6	12.5
12.	I feel very energetic.	14.6	12.7	10.9	12.7	10.9	21.8	16.4
13.	I feel frustrated in my job.	17.9	17.9	12.5	26.8	3.6	8.9	12.5

		Never	A few times a year	Once a month or less	A few times a month	Once a week	A few times a week	Every day
14.	I feel I'm working too hard on my job.	7.1	8.9	7.1	8.9	1.8	16.1	50.0
15.	I don't really care what happens to some patients.	91.1	7.1	0	1.8	0	0	0
16.	Working directly with people puts too much stress on me.	35.7	26.8	14.3	8.9	3.6	8.9	1.8
17.	I can easily create a relaxed atmosphere with my patients.	7.1	5.4	8.9	12.5	7.1	14.3	44.6
18.	I accomplish many worthwhile things in this job.	3.7	5.6	7.4	18.5	12.9	22.2	29.6
19.	I feel exhilarated after working closely with my patients.	17.7	5.9	1.9	25.5	13.7	15.7	19.6
20.	I feel like I'm at the end of my rope.	38.2	14.6	9.1	9.1	9.1	10.9	9.1
21.	In my work, I deal with emotional problems very calmly.	0	10.9	9.1	12.7	7.3	9.1	50.9
22.	I feel patients blame me for some of their problems.	50.9	27.3	5.5	10.9	1.8	1.8	1.8

Most of the midwives reported that every day they feel

- emotionally drained from their work,
- used up at the end of the day,
- fatigued when they get up in the morning and have to face another day on the job,
- that they can understand how the patients feel about things,
- that they can deal effectively with the problems of the patients,
- burned out from their work,
- they are positively influencing other people's lives,
- that they work too hard at the job,
- they can easily create a relaxed atmosphere for my patients,
- that they accomplish many worthwhile things in their job,
- they deal with emotional problems every day.

Most midwives report that they never become insensitive to their patients (59.3%), but at the same time they also report that a few times a week they worry that the job is hardening them emotionally (32.1%). Most of them (50.9%) do not feel that they are at the end of the rope (38.2%) or that their patients blame them for their problems. The Maslach Burnout Inventory is discussed in this section together with the practice environment which influences the quality of care rendered. In Section B quality and safety of midwives and patients are discussed.

4.9.3 Section B: Quality and safety

This section on quality and safety consists of seven questions adapted from the original RN4CAST questionnaire and applied in the maternity context. The highest response percentage for each question is presented in bold.

In general 49% of the midwives described the quality of care that they rendered as good. Forty eight percent (48%) felt confident that their patients were able to manage the care when they were discharged. Thirty-seven and a half per cent (37,5%) of the midwives rated their unit as very good on patient safety, while 38% thought that the care in their unit had improved, while 36% rated it as remaining the same. The remaining 25% indicated worsening.

Thirty one percent (31%) of the midwives did not think that their mistakes were held against them, while 27% reported that they agreed and the remaining 24% strongly agreed. Thirty-eight per cent (38%) of the midwives thought that important information was getting lost during shift changes. When a patient is transferred from one unit to another, “things fall between the cracks”. It seems that 43% of the midwives agreed that errors were discussed to prevent the same mistakes in future. Forty-five per cent (45%) indicated that they received feedback on changes that were going to be put in place, based on event errors. Forty-nine percent (49%) thought that top management showed that patient safety was a priority. Question 7 of the quality and safety section as adapted for the South African midwifery context is discussed as in Table 4.8.

Table 4.8 Percentage incidents of adverse events involving midwives and their patients

Q7		NEVER	A FEW TIMES A YEAR	ONCE A MONTH OR LESS	A FEW TIMES A MONTH	ONCE A WEEK	A FEW TIMES A WEEK	EVERY DAY
		0	1	2	3	4	5	6
1.	Patient receives wrong medication, time or dose	76.8%	19.6%	1.8%	0%	0%	0%	0%
2.	Maternal death	10.9%	61.8%	27.3%	0%	0%	0%	0%
3.	Perinatal death	14.6%	47.3%	12.7%	23.6%	0%	1.8%	0%
4.	Maternal morbidity (thromboembolism, PPH, eclampsia)	9.1%	34.6%	16.4%	21.8%	3.6%	9.1%	5.5%
5.	Perinatal morbidity (meconium aspiration, asphyxia)	5.5%	41.8%	25.5%	12.7%	5.5%	9.1%	0%
6.	Needle-prick injuries	21.8%	63.6%	7.3%	5.5%	1.8%	0%	0%

Q7		NEVER	A FEW TIMES A YEAR	ONCE A MONTH OR LESS	A FEW TIMES A MONTH	ONCE A WEEK	A FEW TIMES A WEEK	EVERY DAY
		0	1	2	3	4	5	6
7	Complaints from:							
7.1	Patients	8.9%	41.1%	17.9%	14.3%	0%	8.9%	8.9%
7.2	Families	10.7%	39.3%	23.2%	10.7%	1.8%	8.9%	5.4%
8.	Verbal abuse of midwives from:							
8.1	Patients	29.1%	21.8%	21.8%	16.4%	0%	9.1%	1.8%
8.2	Staff	42.9%	28.6%	14.3%	7.1%	3.6%	3.6%	0%
9.	Physical abuse of midwives from:							
9.1	Patients	69.1%	21.8%	3.6%	1.8%	0%	1.8%	1.8%
9.2	Staff	81.8%	16.4%	0%	0%	0%	1.8%	0%

In the following questions relating to question 7 on safety and quality, the highest number of midwives reported that the following incidents never occur in their hospitals although other midwives report the contradictory:

- Patient receives wrong medication, time or dosage (76.8%)
- Verbal abuse of midwives from patients (29.1%) and staff (42.9%)
- Physical abuse of midwives from patients (69.1%) and staff (81.8%).

These three topics were recorded as representing the highest percentage of non-incidents (never) as indicated by the midwives in the four Level 2 public hospitals in the North West province.

The second highest percentage of incidents was recorded in the following topics:

- Maternal deaths (61.8%)
- Perinatal deaths (47.3%)
- Maternal morbidity (34.6%)
- Perinatal morbidity (34.6%)
- Needle-prick injuries (63.6%)
- Complaints from patients (41.1%) and families (39.3%).

In the next section more was found out about the recent shifts that the midwives worked in their hospital. The shift gives an indication of daily occurrences which influence the quality of care rendered.

4.9.4 Section C: About your most recent shift at work in this hospital

In this section the RM4CAST questionnaire found out about the most recent shift that the midwives had completed. Most of the midwives (73.6%) were on day duty. Only one midwife worked an afternoon shift and the remainder (24.5%) were on night duty. In South Africa day duty is from 7:00 to 13:00, the afternoon shift is from 13:00 until 19:00, and night duty starts at 19:00 and ends at 07:00 the following morning. Eighty-four per cent (84%) indicated that they had worked a 12-hour shift. In South Africa and the North West province it

is standard practice that midwives work three 12-hour shifts one week and the next week four 12-hour shifts. According to the SANC midwives work 40 hours per week. Sixty-five per cent (65%) of the midwives indicated that they did not exceed the 12 hours during their shift, but the remaining 35% indicated that they worked more than 12 hours per shift.

Most of the midwives indicated that they were responsible for 10 patients (ratio of 1:10), and the second largest group indicated that they were responsible for 20 patients per shift (ratio 1:20). The recommended number of midwives in South Africa is 16 per 100 deliveries per month at a Level 1 hospital. The number must be increased for referral hospitals (e.g. Level 2 hospitals in the North West province). In the labour ward, there should be at least one midwife for every two women in labour (SA, 2009b:53). It is important to remember that the labour ward is a high-care area and that the midwives working here are experienced and interested in the management of labour (SA, 2009b:53). More than half of the midwives (58%) also reported that they were shift leaders and that the number of patients they cared for was representative (39.6%) or more (43.4%) of a typical shift.

The following question explores the amount of assistance that the patients need from the midwives regarding their daily activities. Most of the midwives indicated that they helped one (14.6%) or three (14.6%) patients per day. The reason is that most of the patients in the maternity ward are self-caring as they are not in need of physical assistance. Regarding the hourly or frequent monitoring of the patients, most of the midwives reported that they monitored seven patients per hour. This amounts to 15.2%.

Most of the care was provided by the midwife herself (53.9%), while 42.3% indicate that they supervised the care by others and provided some themselves.

Regarding the question of how many patients in total were in the ward they were working in, the midwives' answers varied between four and forty. Twenty (12%), thirty (12%) and thirty-two (12%) were the most recorded answers. Table 4.9 gives a layout of the number of registered midwives versus advanced midwives on duty.

Table 4.9 Registered midwives versus advanced midwives on duty

Q9A	FREQUENCY RM	PER CENT	FREQUENCY ADM	PER CENT
0			**21**	**42.7**
1	10	19.6	**12**	**24.5**
2	12	23.53	**10**	**20.4**
3	13	25.49	**3**	**6.1**
4	4	7.8	**1**	**2.0**
5	4	7.8	**1**	**2.0**
6	2	3.9		
8	2	3.9	**1**	**2.0**
10	1	1.9		
12	1	1.9		
13	1	1.9		
24	1	1.9		

The data regarding the midwives most recent shift are now complete, and this leads to the following section which explores the validity and reliability of the RM4CAST instrument.

4.10 VALIDITY AND REALIBILITY

The reliability of the identified factors on the PES-NWI-scale is now discussed.

4.10.1 Reliability of factors identified on the PES-NWI scale

The subscales as with the original PES-NWI were identified. In the following paragraphs the findings of the midwives' current practice environment are discussed. This instrument's reliability is also referred to as internal consistency which is measured using Cronbach's alpha (coefficient alpha). In this statistical procedure various items in the instrument measure the same concept which is especially applicable to the Likert scale as this instrument scores from strongly agree to strongly disagree (Fain, 1999:130). Burns and Grove (2009:379) explain that a Cronbach's alpha coefficient value of 1.00 measures exactly the same thing. The question then arises as to why more than one item is needed. A

Cronbach alpha coefficient between 0.8 and 0.9 reflects the fine discriminations in the levels of construct. The instrument's reliability can then be discerned more clearly (Burns & Grove, 2009:379). A score above 0.7 is seen as reliable, while a score below 0.5 is seen as unreliable (Field, 2009:675). Factors that are identified through the PES-NWI scale are displayed in Table 4.10.

Table 4.10 Factors identified on the PES-NWI scale

	FACTORS	CRONBACH'S ALPHA	CONCLUSION	MEAN	SD
MASLACH BURNOUT INVENTORY	Depersonalisation	0.2	Not reliable		
	Emotional Exhaustion	0.87	Reliable according to Nunnally	**2.9**	1.38
	Personal Accomplishment	0.70	Reliable according to Nunnally	**4.0**	1.0
RM4CAST	Ability	0.91	Reliable according to Nunnally	2.3	0.6
	Relations	0.89	Reliable according to Nunnally	**2.7**	0.6
	Adequacy	0.76	Reliable according to Nunnally	2.4	0.5
	Participate	0.53	Acceptable according to reliability	**2.6**	0.6
	Care	0.38	Not reliable		
	Care (without item 28)	0.51	Acceptable	3.0	0.5

The midwives indicated that they felt emotionally exhausted a few times a month, while they experienced personal accomplishment once a week. Feelings regarding relations and participation were also experienced a few times a month.

Item 28 (midwifery model rather than medical model) in the PES-NWI questionnaire gave a very low total score. If item 28 is removed the Cronbach alpha of care increases to 0,51. It is thus better to remove item 28. This scale's reliability could not be improved by deleting any item. All items correlate very weakly with the total score. Depersonalisation is not reliable and can thus not be used. In the following paragraphs the correlation between the PES-NWI factors and the safety incidents in the maternity unit are explained.

4.11 CORRELATION BETWEEN QUALITY AND SAFETY AND THE MASLACH BURNOUT INVENTORY FINDINGS AND EMBEDDED KNOWLEDGE

- **Correlation between quality and safety and the Maslach Burnout Inventory**

Sandall *et al.* (2010:256) define safety as "avoiding injuries to patients from the care that is intended to help them". Safety in maternity care is "often presented as the absence of harm rather than a positive aspect of the birth experience" (Sandall *et al.* 2010:255).

Table 4.11 Correlation between Maslach Burnout Inventory and quality and safety

	Q7.1	Q7.2	Q+7.3	Q7.4	Q7.5	Q7.6	Q7.7.1	Q7.7.2	Q7.8.1	Q7.8.2	Q7.9.1	Q7.9.2
Emotional Exhaustion							.359**	.395**			.276	.296*
Personal Accomplishment		-.279*				-.247						
Ability	-.214											.222
Relations	-.237								-.238			-.248
Adequacy			-.217*		-.216	-.249	-.26*	-.338*	-.209		-.335*	-.345**
Participate											-.210	
Care												

*: Correlation is significant at the 0.05 level

**: Correlation is significant at the 0.01 level

The correlation between each of the aspects identified in question 7 and the Maslach Burnout Inventory are now discussed. Correlations vary between -1 and 1, with a negative perfect as -1 and a positive perfect as 1. Guidelines for the interpretation of correlation indicate that 0.1 is small, 0.3 is medium and 0.5 is large and of practical importance. P values of <0.05 indicate statistical significance. The following statistical and practical significant correlations were indicated for this study population regarding safety and quality.

- **Emotional exhaustion**

The above topic refers to Q7.7.1 and Q7.7.2 regarding complaints from patients and family. The higher the emotional exhaustion component, the higher the complaints from patients and family (see Table 4.11). Both these values are statistically significant. Physical abuse of midwives by patients and staff correlates with emotional exhaustion (see Table 4.11). Especially physical abuse from staff is significant.

Oncel *et al.* (2007:317) state that professional satisfaction is of significance, where feeling happy, successful and productive affects how a job is performed by an individual. In contrast, those health care workers who are at greatest risk for burnout experience role conflict, frustration and lack of job satisfaction (Ladipo *et al.* 1999:1; Aiken *et al.* 2002:1987*;* Hunter, 2004:270; Oncel *et al.* 2007:317). There is a wealth of research evidence demonstrating burnout as a psychological reaction triggered by personal characteristics and stress factors, low job satisfaction, feeling of powerlessness and overwhelmed by work (Hunter, 2004:262; Aiken *et al.* 2002:1988; Nordang *et al.* 2010:8, Mollart *et al.* 2009:86). Burnout usually happens to passionate, idealistic people (midwives) who have chosen caring for others (patients) as their work (Lynch, 2002:178). Furthermore, Schaufeli and Enzmann (1998:140) state that “In order to burn out, one first has to be on fire”. Reorganisation and down-sizing, which increases the workload for midwives, leads to emotional exhaustion (Nordang *et al.* 2010:8). Research done in Turkey found that midwives are affected by job satisfaction, work-related stress and burnout which have a negative influence on the quality of care rendered (Aiken *et al.* 2002:1988; Oncel *et al.* 2007:317).

The lack of time and chronic staff shortages to provide “non-medical” or “non-urgent” care lead to stress and frustration. This in turn leads to low morale and erects barriers to midwives’ efforts to render quality care (Hunter, 2004:262; Brodie, 2002:8). The midwives disclosed the need for supportive systems and organisational structures to be in place for them to manage their own emotions within the practice (Mollart *et al.* 2009:83). Lynch (2002:180) confirms that work-related burnout does not indicate a weak individual, but rather

the result of the practice environment, where financial values are promoted over human values. Hunter (2004:267) links this to the interrelationship between the context, the ideology and the emotions involved in midwifery. The context involves hospital-based practices, integrated practices and community-based practices. The hospital-based practice has an ideology of "with institution", with the emphasis on "getting through the work", the integrated practices have incompatible ideologies with the emphasis on "carrying out doctors' instructions" and the community-based ideology is based on "with women", emphasising the natural approach (Hunter, 2004:268).

- **Personal accomplishment**

Personal accomplishment in this research study correlates negatively with maternal deaths (7.2) and needle-prick injuries. The greater the personal accomplishment of the midwives on duty, the fewer maternal deaths and needle-prick injuries occur. Babakus *et al.* (2009:480) and El-Jardali *et al.* (2009:24) confirm the statement that the staff:patient ratio has a direct link to the quality of care rendered. The adverse outcomes as indicated in question 7 are the result of the quality of care rendered.

- **Ability**

Ability in this research study correlates negatively with patients who receive the wrong medication, meaning that the higher the ability of the staff, the fewer the incidents of wrong medication, time or dose (7.1), as well as less physical abuse of midwives by staff (9.2). Midwives must continuously improve their skills and empower themselves when new technologies are acquired and used, as this also leads to stress, burnout and trauma (Kuokkanen *et al.* 2003:184; Mollart *et al.* 2009:82). Lapido *et al.* (1999:11) state that midwives' ability to meet the increasing demands of practice depends on the level and quality of training they have received. Supportive interventions such as rooming-in, breastfeeding, nourishment and ambulation during labour as well as potentially harmful interventions such as drugs, surgical and other interventions or instrument deliveries can influence the outcome positively or negatively (Murphy & Fullerton, 2001:275).

- **Collegial midwife relationship**

The collegial midwife relationship in this research study correlates negatively with wrong medication (7.1), meaning that the better the relationship between the midwives, the fewer mistakes such as administration of wrong medication will occur. Verbal abuse of midwives

by patients (8.1) and physical abuse of midwives by staff also have a negative correlation with collegial relationship (9.2).

Oncel *et al.* (2007:323) reported that a positive midwife-physician relationship leads to higher levels of satisfaction with lower levels of work-related stress. This is also the case where midwives and nurses had positive opinions about the midwifery profession. Positive interpersonal relationships positively affect the morale of the midwives and increase productivity, while negative interpersonal relationships in practice as well as lack of support leads to stress and lack of job satisfaction (Adams *et al*.1998, 1212; Hunter, 2004:266; Oncel *et al.* 2007:325). Mollart *et al.* (2009:86) state that disruption of interpersonal relationships may indicate a lack of compassion, fatigue, trauma and burnout. It may further lead to compassion fatigue, defined as emotional and physical erosion when practitioners are unable to recharge and regenerate themselves (Mollart *et al.* 2009:86). Hunter (2004:268) states that midwives can overcome struggles by adopting strategies focused on finding emotional reward in collegial relationships.

- **Adequacy**

Adequacy in this research correlates with fewer negative incidents such as wrong medication, maternal deaths, perinatal deaths, maternal morbidity, perinatal morbidity, needle-prick injuries, and verbal and physical abuse of midwives by patients and staff. This means that if there are enough staff and resources, not much can happen that has a negative impact on the patients and the quality of care is thus better.

Emotional support for pregnant women and their families is acknowledged as an important aspect of midwifery (Hunter, 2004:262). In establishing the role of the midwife as an autonomous practitioner, adequate knowledge, advanced clinical skills and managerial responsibility must be fully developed (Ladipo *et al.* 1999:6). Brodie (2002:8) reports that an incompetent workforce (midwives) and lower confidence are negatively linked to quality and safety of services, which thus influences the adequacy of the midwives.

- **Participate**

Participation in this research correlates negatively with question 7.9.1. This means that participation in hospital affairs has a positive influence on quality and safety (see Table 4.11). If there is good participation between staff and management then there will be less physical abuse of midwives by patients.

Mollart *et al.* (2009:83) report that workplace safety, lack of time, and lack of appropriate skills or training do not work for the midwives nor the patients. Lapido *et al.* (1999:12) report that due to lack of staff and an increase in the intensity of work, they are keen to attend additional training. Midwives describe an urgent need for role models in practice or more skilled midwifery leaders (Brodie, 2002:7). The reliability was 0.53, which is relatively low.

- **Care**

Care does not correlate with any of the above incidents that may occur in the maternity unit involving the midwife and her patients. The reliability of care in this research was low at 0.5.

Four different models of midwifery care exist according to a Cochrane review:

1) Midwife-led care, where the midwife is the lead professional.

2) Obstetrician-led care, where obstetricians are the main providers of antenatal and childbirth care.

3) Family doctor-led care – obstetric nurses or midwives provide intrapartum and postnatal care but not at decision-making level, while the doctor handles the birth process.

4) Shared models of care – different health care professionals are involved from initial booking to the postnatal period (Sandall *et al.* 2010:256).

Brodie (2002:7) states in an Australian study that midwives and managers supported a ”medical” approach to care. Because of the medical dominance midwives are restricted in fulfilling their role. This leads to ”medical controlled care versus a women centred one – all aiming for the women to have a safe birth but not really believing in each other’s methods or supporting each other’s practices” Brodie (2002:7). Care rendered to groups of women with more or less similar demographics backgrounds may present with different outcomes, based on the *type* (model) of care they receive from the midwives during the intrapartum period (Murphy & Fullerton, 2001:275).

Resistance to change and the implementation of evidence-based practice as well as reluctance to develop midwifery models of care were reported (Brodie, 2002:7). In contrast Sandall *et al.* (2010:256) reported that women receiving midwife-led models of care are less likely to have foetal loss before 24 weeks of gestation. Furthermore, caring for each other (midwives) is of vital importance globally, professionally, in the workplace and personally,

and acts as a preventive measure against stress and burnout (Lynch, 2002:178; El-Jardali *et al.* 2009:24).

4.12 CORRELATION BETWEEN BIOGRAPHICAL DATA, MASLACH BURNOUT INVENTORY AND RM4CAST

The correlation between the midwives' biographical data and the Maslach Burnout Inventory indicated that age, years in the career as well as years in the hospital are correlated with the same items, namely ability, relations, adequacy, participation and care as presented in Table 4.12.

Table 4.12 Correlation between biographical data, Maslach Burnout Inventory and RM4CAST

	YOUR AGE	YEARS IN CAREER	YEARS IN HOSPITAL	AGE WHEN YOU BECAME RM	HOW SATISFIED ARE YOU WITH RM CAREER
	D2	D9A	D9B	D5	D7
Emotional Exhaustion		-.360**	-.202	.338*	
Personal Accomplishment					
Ability	.371**	.352*	.348*		
Relations	.368**	.356*	.406**		
Adequacy	.450*	.436**	.379**		
Participate	.356**	.292*	.302*		
Care	.204	.239	.234		

*Correlation is significant at the 0.05 level

**Correlation is significant at the 0.01 level

- **Age**

Ability, relations, adequacy, participation and care improve with age. The research indicated that the younger they were when starting their midwifery career, the less exhausted the midwives were. If they were young when they started their professional midwifery career their exhaustion levels are low. More years of midwifery experience indicated less exhaustion among the midwives. If the midwives, however, started at an older age they seemed to be more exhausted. The older midwives were less physically abused.

Research conducted in Turkey indicated the same finding that midwives working for longer than 10 years or more had lower levels of emotional exhaustion than those who had worked for shorter periods (Nordang *et al.* 2010:8; Oncel *et al.* 2007:323). A personality trait in adulthood indicates better coping with stressful situations, which is related to better health outcomes (Nordang *et al.* 2010:8). These findings are related to professional experience, personal maturation and protective coping strategies and are therefore better developed (Nordang *et al.* 2010: 14; Oncel *et al.* 2007:326).

- **Care**

Care correlates well with the level of education and the number of staff.

4.13 DIFFERENCES IN PERCEPTIONS OF RM4CAST AND MASLACH BURNOUT INVENTORY FOR DEMOGRAPHIC VARIABLES

The next level of statistical analysis is when more than two means are compared with a dependent variable. The method of choice is Analysis of Variance (ANOVA) (Terre Blanche *et al.* 2008:227). Burns and Grove (2009:505) compare the variance within each group with the variance between groups. The t-test on the other hand compares two sets of data with one another. ANOVA and the t-test were conducted on Maslach and RM4CAST for difference in biographical data. Marked effects are significant at $p < 05$. No significant differences were found for demographic variables between the perceptions of RM4CAST and the Maslach Burnout Inventory.

4.13.1 ANOVA test for differences between the different hospitals

Burns and Grove (2009:505) state that the Post Hoc test was developed to determine the location of difference once the ANOVA was performed between two or more groups. In this research the Tukey Honestly Significant Differences (HSD) test was used. When these tests are calculated, the alpha level is reduced in proportion to the number of additional tests required to determine the statistical significance (Burns & Grove, 2009:505). Table 4.13 displays the Post Hoc analysis between the different hospitals.

Table 4.13 Post Hoc analysis between the different hospitals

	Variable	Hospital 1		Effect size Hosp 2 vs Hosp 1	Hospital 2		Effect size Hosp 1 with Hosp 3+4	Hospital 3+4		Effect size Hosp 2 with Hosp 3+4	P values
		M	SD		M	SD		M	SD		
Maslach Burnout Inventory	Emotional EXH	1.93	1.09	**-0.82**	2.83	0.79	**-0.41**	3.39	1.37	**1.06**	**0.002**
	Pers Acc	4.11	0.97	0.22	3.89	0.92	-0.16	4.07	1.14	-0.03	0.9
	Ability	2.71	0.52	**0.54**	2.41	0.56	0.21	2.26	0.73	**-0.62**	0.1
RM4CAST											
	Relations	3.18	0.38	**0.85**	2.70	0.56	0.13	2.60	0.74	**-0.78**	**0.02**
	Adequacy	2.87	0.49	**0.42**	2.53	0.81	0.37	2.24	0.50	**-1.29**	**0.001**
	Participant	2.80	0.56	0.28	2.57	0.81	-0.05	2.61	0.71	-0.26	0.66

	Variable	Hospital 1		Effect size Hosp 2 vs Hosp 1	Hospital 2		Effect size Hosp 1 with Hosp 3+4	Hospital 3+4		Effect size Hosp 2 with Hosp 3+4	P values
	Care	3.35	0.30	**0.63**	2.88	0.74	-0.15	3.00	0.55	0.07	0.07
Quality and Safety	B.7.1 Wrong medication	0.1	0.4	0.17	0.2	0.4	-0.28	0.4	0.8	-0.19	0.6
	B.7.2 Maternal deaths	1.3	0.8	-0.17	1.2	0.7	0.19	1.1	0.6	0.02	0.9
	B.7.3 Perinatal deaths	2.0	1.3		1.4	1.0	-	1.5	1.1	-	0.5
	B.7.4 Maternal morbidity	1.8	0.7	-0.25	1.6	1.2	**-0.41**	2.6	1.9	**-0.56**	0.1
	B.7.5 Perinatal morbidity	1.8	0.7	**-0.65**	1.1	0.7	**-0.56**	2.4	1.4	**-0.85**	**0.006**
	B.7.6 Needle-prick injuries	1.3	0.9	**-0.46**	0.8	0.8	-0.27	1.0	0.8	-0.22	0.5
	B.7.7.1 Complaints from patients	1.7	1.1	-0.13	1.6	1.3	-0.19	2.3	1.8	-0.30	0.6

	Variable	Hospital 1		Effect size Hosp 2 vs Hosp 1	Hospital 2		Effect size Hosp 1 with Hosp 3+4	Hospital 3+4		Effect size Hosp 2 with Hosp 3+4	P values
	B.7.7.2 Complaints from families	1.7	1.1	-0.11	1.6	1.3	-0.30	2.3	1.8	-0.38	0.4
	B.7.8.1 Verbal abuse of midwives by patients	2.0	1.8	-0.21	1.6	1.4	0.17	1.7	1.7	-0.04	0.9
	B.7.8.2 Verbal abuse of midwives by staff	1.6	1.3	-0.44	1.0	1.3	0.38	1.0	1.4	-0.04	0.6
	B.7.9.1 Physical abuse of midwives by patients	1.2	2.0	**-0.4**	0.4	0.6	0.32	0.5	1.1	-0.14	0.4
	B.7.9.2 Physical abuse of midwives by staff	0.2	0.4	-0.23	0.07	0.3	-0.19	0.34	0.9	-0.30	0.5

ANOVA was used to determine the difference between the hospitals used in this population. A p value of < 0.05 indicates a statistical significance between the hospitals. Unequal Tukey's Honestly Significant Differences (HSD) test was performed on the various Level 2 hospitals in this population.

During the correlation between the hospitals regarding quality and safety in the practice, the following results were obtained: emotional exhaustion, relations and adequacy indicated P values of statistical significance. Hospital 1 had the lowest score with no practical significance for patients receiving wrong medication. Hospital 2 and hospital 3+4 had the same number of maternal deaths per month. Hospital 1 also reported one maternal death per month, which is higher than that of the other hospitals. The perinatal morbidity rate in hospital 3+4 is the highest, while Hospital 2 had the lowest perinatal morbidity rate. Hospital 2 did significantly better than the others regarding needle-prick injuries. There is not a big difference between the physical abuse at Hospital 2 and 3+4, but Hospital 1 reported more physical abuse than Hospital 2.

In conclusion the biggest hospital (Hospital 2) is the hospital that presented the best results, and it can thus be said that the data can be interpreted to mean that it is the hospital with the highest percentage of quality and safety. In a further analysis of this data a t-test was conducted between the biographical data and the Maslach Burnout Inventory.

All the participants in this research were women; therefore gender was not included in the analysis.

With regard to Q3A, only three midwives (mean=2.4 versus 3.07; $p<0.001$) indicated that they obtained their basic education outside South Africa. The midwives felt that their adequacy was less than that of the midwives who received their education in another country. Because only three midwives received their education aboard namely in the UK and Zambia the t-test results should be considered with caution.

Midwives who obtained their basic education in another country felt that they rendered better care than midwives who received their education in South Africa (mean 3.39 versus 3.04; $p<0.001$). Once again these results must be interpreted with caution because there were only two midwives who felt this way. In rendering optimal care there is the desire for the best possible outcome in clinical practice. In order to evaluate the outcome, "best practices" are used as a benchmark of the reference standard (Murphy & Fullerton, 2001:274).

Question D6 regarding midwives with a degree or diploma found no difference in adequacy. No statistical difference was found between RM4CAST and the Maslach Burnout Inventory.

In question D11A whether the midwives had an additional qualification, no statistically significant values were reported. It is alarming that midwives think that additional qualifications seem to have no influence on the level of care rendered.

Findings from the biggest of the four hospitals (Hospital 2) are different from that of the other hospitals. In Hospital 2 midwives were less emotionally exhausted than those in Hospitals 3 and 4. The perception of the midwives in Hospital 2 was that they thought that they were better than midwives in the other hospitals. The relationships in Hospital 2 are reported to be better than in Hospitals 3 and 4. Hospital 2 was considered to be better overall than the other three hospitals in relationships, adequacy, participation and better care.

4.14 SUMMARY

The global nursing and midwifery shortage also has an impact on a resource-poor province such as the North West province. Various researchers including Backman (2000:27), Buerhaus and Needleman (2000:5), Sochalski (2002:157), Aiken *et al.* (2004:69) and El-Jardali *et al.* (2009:24) report that the overburdened workforce (nurses and midwives) can lead to a negative practice environment resulting in sub-standard quality of care. The imbalances between nurses/midwives and physicians, together with staff shortages, lead to low job satisfaction which may contribute to the intention of leaving the profession. Despite limited resources, midwives are expected to render quality care in a practice environment that is not optimal. In order to optimise quality of care, a strong midwifery representation in management and open communication are necessary for midwives to participate in decision-making so that they can effectively contribute to the improvement in the quality of care rendered. Currently quality of care is strongly linked with reducing expenditure and improving performance, which is a huge challenge. The aim is to strive towards rendering quality care, promoting positive staff attitudes and having satisfied patients with positive outcomes.

Taking the situational analysis into consideration, Hospital 2 is the hospital with the most resources – staff and equipment – and it seems that the practice environment is also more positive than that in the other hospitals with a lower burnout rate. In the following chapter the facilitating and impeding factors affecting the quality of intrapartum care at Level 2 hospitals in the North West province are explored.

CHAPTER 5

CHAPTER 5

FACILITATING AND IMPEDING FACTORS INFLUENCING THE QUALITY OF INTRAPARTUM CARE PROVIDED AT LEVEL 2 HOSPITALS IN THE NORTH WEST PROVINCE

(Phase 1: Objective 4)

5.1 INTRODUCTION

In this chapter Objective 4 of Phase 1 will be explored and described through the view of the hospital management and midwives in the four Level 2 hospitals in the North West province. The research method, population and sample, pilot study, ethical considerations, data collection and data analysis are described, followed by rigour. Lastly the findings of Objective 4 are discussed. Table 5.1 gives an orientation of the objective and phase which is now carried out.

Table 5.1 Structure of the research study: Objective 4

PHASE 1	PHASE 2
Objective 1 *Explore and describe quality intrapartum care through a literature review*	**Objective 5** *Develop a QIIP™ for Intrapartum care*
Objective 2 *To determine the existing resources (personnel and equipment) as well as the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North West province*.	
Objective 3 *To determine the practice environment that may influence the quality of intrapartum care* *available at Level 2 public hospitals in the North West province*	
Objective 4 *To explore and describe facilitating and impeding factors influencing the quality of intrapartum care in their institution*	

The research design and method is a roadmap for this specific study. In Section 1.7 the research design of the whole study was discussed. For the sake of clarity a schematic layout of this chapter is presented. Cross-references are used for clarification, for example:

- Research design (5.2)
- Population (5.3)
    - Sample (5.3.1)
- Data collection method (5.4)
- Rigour (5.5)
- Pilot study (5.6)
- Data analysis (5.7)
- Embedded knowledge (5.8)
- Results and discussions (5.9)

5.2. RESEARCH DESIGN

The research described in this chapter is designed as qualitative, explorative, descriptive and contextual, and is discussed in detail in Chapter 1 (see Section 1.7).

Although the original plan was to conduct the situational analysis first, the researcher decided to change the sequence of data collection. She decided first to conduct the focus group interviews and individual interviews (qualitative) with the hospital management and midwives before doing the situational analysis (quantitative) in order not to be influenced during this part of the data collection. The intention was to capture the experiences of the participants through a qualitative research approach. Klopper (2008:68) emphasises that qualitative research studies are contextual and therefore the data are only valid in that specific context. This insight helped the researcher to develop more efficient quantitative procedures (Krueger, 1994:29). The population, pilot study, data collection and data analysis are included in the research method.

5.3 POPULATION

The population of the North West province is served by four Level 2 hospitals as indicated in the context in Chapter 1 (see Section 1.7.6). In this research the population included the hospital managers (CEO, nursing service manager and unit manager of the maternity ward) together with the midwives working in the maternity unit of the four Level 2 hospitals who were willing to participate in the research. Table 5.2 gives an overview of the population.

Table 5.2 Composition of management and midwives in maternity units at Level 2 hospitals in the North West province

	HOSPITAL 1	HOSPITAL 2	HOSPITAL 3	HOSPITAL 4
CEO	1	1	1	1
Nursing service manager	1	1	1	1
Unit manager	1	1	1	1
Midwives	14	14	15	12
Advanced midwives	5	7	1	8
Total N=88	**n=22**	**n=24**	**n=19**	**n=23**

5.3.1 Sample

By definition a sample is a part or fraction of the whole, selected by the researcher to participate in this research study (Brink *et al.* 2006:124). The researcher selected the sample from a population (all the midwives and hospital managers) working at Level 2 hospitals in the North West province to obtain information on a phenomenon that represents the population of interest (Brink *et al.* 2006:124).

The participants were selected purposively (Brink *et al.* 2006:133*)* as it was the intention of the researcher to determine the participants' views as to contributing and impeding factors that influence the quality of intrapartum care.

The inclusion criteria were the following:

- The management team included the CEO, the nursing manager and unit manager of the different Level 2 hospitals in the North West province.
- Midwives who had been working in the maternity ward for at least six months prior to the data collection.
- The participants could speak English.
- Participation was voluntary and written consent was given.

After several requests most of the managers (N=12) at the Level 2 hospitals participated in the research except two (n=10).

Out of a possible (N=76) midwives working in the maternity wards of the Level 2 hospitals in the North West province, only 21 participated in the focus group interviews.

It was the researcher's aim to conduct focus group interviews with the hospital management and midwives. The data collection was carried out and 11 focus group interviews were conducted. Two individual interviews were scheduled for the hospital managers who could not attend the focus group interview but wished to participate in the research.

5.4 DATA COLLECTION METHOD

An induction strategy was used as the qualitative research started from a central theoretical statement that guided the research (Klopper, 2008:69). See Chapter 1, point 4.

After ethical approval was granted by the Ethics Committee of the North West University's Potchefstroom campus (Ethics number NWU-0015-08-S1 (Appendix A)), the North West province Department of Health (Appendix B) and each of the Level 2 hospitals (Appendix C, D, E, F), the participants were invited to participate in the research project (Appendix G). Informed consent was obtained before the data collection commenced (Fain, 2004:227). The informed consent forms were placed in a sealed envelope and stored in a safe place. Data were collected through focus group interviews (n=11) (Krueger, 1994:17; Litosseliti, 2003:8-15; Greeff in De Vos, 2002:308; Welman *et al.* 2010:201) and through individual interviews (n=2) (Kvale, 1996:292; Welman *et al.* 2010:197) at the participants' workplace. The interviews were conducted by a psychiatric nurse specialist while the researcher took field notes. The interviews lasted between 30 and 60 minutes. The ethical considerations that are

applicable to this research study and the focus groups, as well as individual interviews, are discussed in detail in Chapter 1 (see Section 1.10).

5.4.1 Focus group interviews

Focus group interviews are widely accepted as a research technique for collecting data through group interaction (Puchta & Potter, 2004:1). Krueger and Casey (2000:5) describe a focus group as a "carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment." During these face-to-face verbal communications the participant "provides information to the researcher" (Burns & Grove, 2009:403). A time and place for conducting the focus group were agreed to by the researcher and the participants (Fain, 2004:271). Various important aspects were taken into consideration when planning a focus group interview as listed in Table 5.3.

Table 5.3 Aspects of focus group interviews

ASPECTS	ACTIONS
• **Purpose**	Krueger and Casey (2000:4) describe a focus group as a special type of group, the purpose of which is to gather information and understand what people think about an idea, issue, product or service. Focus groups have been used largely in quality improvement efforts as a strategy to define quality and understanding issues relating to quality (Kruger & Casey, 2000:17).
• **Participants**	The six or eight people who participate in the focus group have certain characteristics in common and can therefore relate to the topic under discussion (Krueger & Casey, 2000:4). Focus groups can, however, range between four and twelve participants. It is important that the group should be small enough for everybody to share their insight and large enough to provide diversity in perceptions (Kruger & Casey, 2000:10). In this research the focus group varies between 2 and 8 participants after participants volunteered to take part in the research.
• **Environment**	The environment must be conducive, non-threatening and comfortable to encourage participants to voice their perceptions simultaneously without pressuring them to vote or reach consensus (Denzin & Lincoln, 2003:56; Krueger & Casey, 2000:4, 5). In this research the unit managers office were usually used to conduct the focus groups with the midwives, while the focus group with the management usually took place in the boardrooms of the different hospitals.

• **Moderator**	A skilled psychiatric nurse specialist guided the focus groups and the individual interviews (Krueger & Casey, 2000:4).
• **Process**	Various focus groups and two individual interviews were conducted with similar participants to identify trends and patterns (Krueger & Casey, 2000:4). In this study there was no mixing of categories. The original research question was: "What do you regard as facilitating and impeding factors that influence the quality of intrapartum care rendered in your institution?" Field notes were taken. Thereafter a systematic analysis of the focus groups and interviews was done (Krueger & Casey, 2000:4) to determine how intrapartum care was perceived. In this research transcribing and coding of the focus groups and individual interviews (Burns & Grove, 2009:521) and cognitive mapping were used (Burns & Grove, 2009:525).

5.4.2 Individual interviews

Qualitative researchers claim that through an interview they can explore the individual's point of view and thereby get closer to the participants' perspective on a topic through rich descriptions (Denzin & Lincoln, 2003:16, 63). An interview is defined as "a conversation, the art of asking questions and listening" (Denzin & Lincoln, 2003:48). Interviewing is seen as a powerful and common way of how we try to understand each other (Fontana & Frey, 2003:62). Silverman (2003:343) refers to an "authentic gaze into the soul of another". In this study face-to-face verbal interchange took place on an individual basis (Brink *et al*. 2006:151; Fontana & Frey, 2003:62; Denzin & Lincoln, 2003:69), and it represents interaction and relationships (Denzin & Lincoln, 2003:64). In this research study unstructured interviews (Brink *et al.* 2006:152) were conducted by an experienced doctoral psychiatric nurse specialist skilled in interviewing. The interviewer started the interview with a broad question: "What do you regard as facilitating and impeding factors that influence the quality of intrapartum care rendered in your institution?" as explained in the pilot study (see Section 5.6). After the initial broad question, probes and follow-ups were used to encourage the participants to elaborate on the topic (Brink *et al.* 2006:152).

- **Field notes**

As part of the data collection process the researcher made field notes. It is dangerous to rely only on ones memory to remember what happened during a focus group or interview. It is

therefore necessary to used additional techniques for the recording of the events, either during the event or as soon thereafter as possible (De Vos, 2000:285). Observational, theoretical and methodological notes were used during the focus groups and individual interviews (De Vos, 2000:286). A benefit of one person being responsible for the field notes is that important aspects of the discussion are captured, for example notable quotes or body language and indications of the group's mood (nonverbal communication) (Krueger, 1994:147). These aspects may not be clearly captured in the tape recordings (Krueger, 1994:147). See Appendix H for the field notes of the qualitative data collection process.

5.5 RIGOUR

The rigour of the whole research study is discussed, although specific strategies for each objective will be discussed in each chapter separately. Rigour is of scientific value because the research outcome is associated with it (Burns & Grove, 2009:54). Klopper (2008:69) refers to it as the soundness of the research. Guba and Lincoln (1989:218) proposed trustworthiness in qualitative research as an alternative for validity and reliability. Four standards of trustworthiness are: truth value, applicability, consistency and neutrality. (See Table 5.4).

Table 5.4 Questions and criteria for trustworthiness in qualitative research

QUESTIONS ASKED BY GUBA AND LINCOLN (1989:290)	CRITERIA FOR EACH QUESTION BY GUBA AND LINCOLN (1989:290)
How can the researcher establish whether the findings in the context are true?	Confidence that the research findings are true. The truth value is obtained through the strategy of *credibility.*
How can the researcher determine whether the findings are applicable to other participants or another context?	Applicability is the degree to which the findings can be applied to different participants and contexts. The strategy of *transferability* is used to generalise findings.
How repeatable are the research findings with the same participants and within the same context?	Consistency leads to similar findings when the participants and contexts are duplicated. *Dependability* as a strategy will establish consistency.

How can it be ensured that bias (by the researcher and/or participants) does not influence the research findings?	Neutrality by the researcher and findings from the participants ensure freedom from bias. The strategy of *conformability* is used to ensure neutrality.

Table 5.5 shows the strategies to enhance trustworthiness in this research according to the criteria set by Guba and Lincoln (1989:290), namely credibility, transferability, dependability and conformability.

Table 5.5 Strategies to enhance trustworthiness in this research

(Klopper, 2008:69-70; Krefting, 1991:215-221; Lincoln & Guba, 1985:290)

CRITERIA/STANDARDS	THREATS	STRATEGIES TO ENSURE TRUSTWORTHINESS
TRUTH →		**CREDIBILITY**
This first criterion is reflected by the human experience of the participants	• If the practical engagement during data collection is too long	• **Prolonged engagement** • 24 months of preparations and thereafter data collection by the researcher (Brink *et al.* 2006:118)
	• If participants were purposively invited to participate in the research	• **Selection of participants** • All the midwives and members of the management teams of all four Level 2 hospitals in the North West province were invited to participate in the research (5.2.1.1). • The researcher tested the findings against various groups of participants (management and midwives) who are familiar with the phenomenon studied (Poggenpoel, 2000:349).
	• If the person conducting the interviews or focus groups is not skilled in the interviewing procedure it may lead to selective answers or misinterpretation of the data	• **Interview technique** • A pilot study (Brink *et al.* 2006:54) was conducted prior to the data collection (Section 5.6) by a psychiatric nurse specialist as the interviewer and the researcher taking field notes during the interviews and focus groups,

		• **Triangulation** • Different techniques of data collection were used (Brink *et al.* 2006:118) throughout the research to arrive at an integrated conclusion of what quality improvement intervention programme entails. Quantitative (situational analysis) and qualitative methods such as interviews and focus groups were used (*Methodological triangulation)* (De Vos, 2000:359) • Extensive literature control confirm findings of the research (*Theoretical investigators)* (De Vos, 2000:359) • *Investigators triangulation* where different coders and interviewers are used in the same research study (De Vos, 2000:359) The researcher and the different interviewers that conducted the focus groups and individual interviews came together to discuss the findings • **Peer group discussion** • Consensus discussions with the co-coder who also act as the interviewer which are a psychiatric nurse specialist who are skilled in conducting interviews, took place after the focus groups and interviews when the coding took place. • Peer group discussions (Brink *et al.* 2006:118) with study leaders and other PhD students took place as part of the peer group discussion..

		Conclusion: A qualitative research study can be considered *credible* if other midwives and managers are able to recognise the human experiences through the dense description of the situation, thus readers in similar circumstance will recognise the situation (Poggenpoel, 2000:349)

APPLICABILITY →		TRANSFERIBILITY
To what degree can the findings of this study be applied to other populations and contexts or settings?	The researcher may become biased because of all the hours spent on the data collection and data analysis or does not provide rich enough contextual data for readers.	• **Purposive sampling** • Used purposive sampling because the participants are regarded as rich sources of information (Brink *et al.* 2006:133) about factors that influence the quality of intrapartum care. • **Dense description** • A detailed description of the context, setting and methods of data collection used in this study. • Continue with data collection until data saturation occurs in the focus groups. • A thorough literature control was conducted. • A detailed description of data realisation. • All the relevant data collection tools and analysis for audit purposes were kept. ***Conclusion:*** As each situation is unique, and as this is context specific, it is not the purpose to generalise findings to larger populations (Poggenpoel, 2000:349).

CONSISTENCY →		DEPENDABILITY
This third criterion refers to whether there would be consistency if the research were duplicated with the same participants over a period of time within a similar context.	The researcher works alone on the research study and might become biased.	• **Indirect** • **Measures of credibility** • A dense description of the research setting and procedures of data collection and analysis. • **Direct** • Stepwise duplication of the research study through a dense description of the methodology. The pilot study resulted in adapting the question for the midwives (Section 5.2.1.2) • **Inquiry audit –** Searching of all possible literature available on the topic (Klopper, 2008:69). • **Triangulation** • ***Methods*** • Different methods are used to collect the data in the research study

		• ***Participants*** • The researcher and co-coder are participants in the triangulation process. Field notes and literature control are also used during triangulation. • Consensus meetings between researcher and co-coder enhanced dependability ***Conclusion:*** There is something out there that is a single reality and needs to be studied that can be used as a benchmark (de Vos *et al.*, 2000:350). This was used to develop the QIIP™ for intrapartum care.
NEUTRALITY →		**CONFIRMABILITY**
• *This fourth criterion refers to the neutrality of this research study so that it is free from bias in procedures and results*.		• **Confirmability audit** • Consensus meetings with co-coder as well as peer group discussions (Klopper, 2008:70; Brink *et al.* 2006:119). • Safekeeping of raw data on a personal computer as well as on CD back-ups; field notes and transcribed text are all kept in a safe place as required by the NWU guidelines for post-graduate studies (NWU, 2006:31). • Dense description of the research process is given for possible auditing of other researchers to strengthen rigour.

		• **Triangulation** • ***Methods*** • All field notes were kept during the research study. Various methods were used during the study, namely, survey, individual interviews, focus group interviews, statistical analysis, content analysis through cognitive mapping and interpretative content analysis. • ***Participants*** • The researcher, co-coder and study leaders held consensus meetings. ***Conclusion:*** This bias-free process includes the findings of the participants and conditions in which research took place without other perceptions or motives (Klopper, 2008:70).

Trustworthiness is therefore the term used for the evaluation of rigour in qualitative research (Klopper, 2008:70; Brink *et al.* 2006:118; Krefting, 1991: 214-222; Lincoln and Guba, 1985: 289-311).

5.6 PILOT STUDY

A pilot study was conducted on a sample of the population prior to the data collection to determine if the participants understood the question and if the relevant data would surface. It was clear that the management team understood the research question and these data were included in the research findings. The pilot study conducted with the midwives indicated that they struggled with the concepts presented to them. The original research question asked was:

- What do you regard as facilitating and impeding factors that influence the quality of intrapartum care rendered in your institution?

After conducting a pilot focus group with the midwives, the researcher and the interviewer decided that the terms were not used in African languages, so the question was adapted to be more explanatory, as follows:

- What do you regard as contributing factors that allow you to render quality intrapartum care in your institution?
- What do you think are the hindering factors that influence quality intrapartum care in your institution?

After the questions were amended, the midwives understood the terminology and contributed with ease to the focus group. All the participants were English speaking and after consent were given to participate in the research they also gave permission for the recordings of the focus group and/or interviews.

5.7 DATA ANALYSIS

Nine voice recordings of the focus groups interviews were transcribed verbatim (Krueger, 1994:231; Krueger & Casey, 2000:142). Four focus group interviews were not recorded due to technical failure. The raw material is the written words after an interview. These transcriptions were listened to line by line at least twice. Comments were typed word for word without changing the words or correcting the grammar (Fain, 2004:270; Krueger & Casey, 2000:142).

The principles of qualitative data analysis as recommended by Tesch (1990:154-156) were used:

- The researcher read through all the transcriptions to get a sense of the whole.
- The researcher selected an focus group interview and read through it and wrote down any thoughts that occurred in the margin.
- After reading all the interviews a list of the topics was made. Similar topics were grouped together.
- The list was then taken back to the data, and codes were written next to parts of the text. Categories were assigned and codes emerged.
- The list of categories was reduced then they were grouped together to show interrelationships.
- Final conclusions were made regarding the abbreviations of categories and alphabetisation of the codes.
- Data belonging to each category were kept together and a preliminary analysis was conducted.
- Existing data were recorded if necessary by the researcher (Poggenpoel, 2000:343-344).

Each sentence was analysed to identify specific themes which were then compared with each other within and across transcriptions (Khomeiran *et al.* 2006:68). Themes with similar meaning were grouped together and thereafter categories were formulated from the themes for the purpose of abstraction (Khomeiran *et al.* 2006:68). Open coding for interviews as explained by Cresswell (2003:192-193) was used.

- The researcher was present at each focus group and individual interview while a psychiatric nurse specialist conducted the interviews. The researcher kept verbatim minutes of the interviews. A problem occurred with the recording of the last four focus group interviews and the researcher was dependent on the verbatim minutes that she took of the interviews. These four interviews were analysed by cognitive mapping as an alternative to data analysis. Coding, categorising and interpretation were all condensed into one activity (Burns & Grove, 2009:525). The cognitive map is therefore a visual presentation of the data provided by the participant and perceived by the researcher. Mindjet®Mindmanager®Pro7 was used for the mapping of all the focus groups and individual interviews (Burns & Grove, 2009:525). The following guidelines were taken into consideration when utilising cognitive mapping (Burns & Grove, 2009:525-526):

- Field notes (including observational notes, theoretical notes and methodological notes) were written directly after the interview or focus group and were available when implementing the cognitive mapping (De Vos, 2000:285).
- A large sheet of paper was used for the cognitive mapping.
- The researcher kept writing when listening to the voice recorder and rewinding it.
- Mapping was started in the middle of the page and branched out as needed. The recording was repeatedly listened to until a true reflection of the participants' ideas emerged.
- The data were considered cognitively. This entailed coding and the establishment of relationships together with reporting of nonverbal data.
- Connections and interpretations of relationships between the inputs of the researcher and the participants were noted.
- Individual cognitive maps were combined into a "macro" map once second–level analysis had been done.

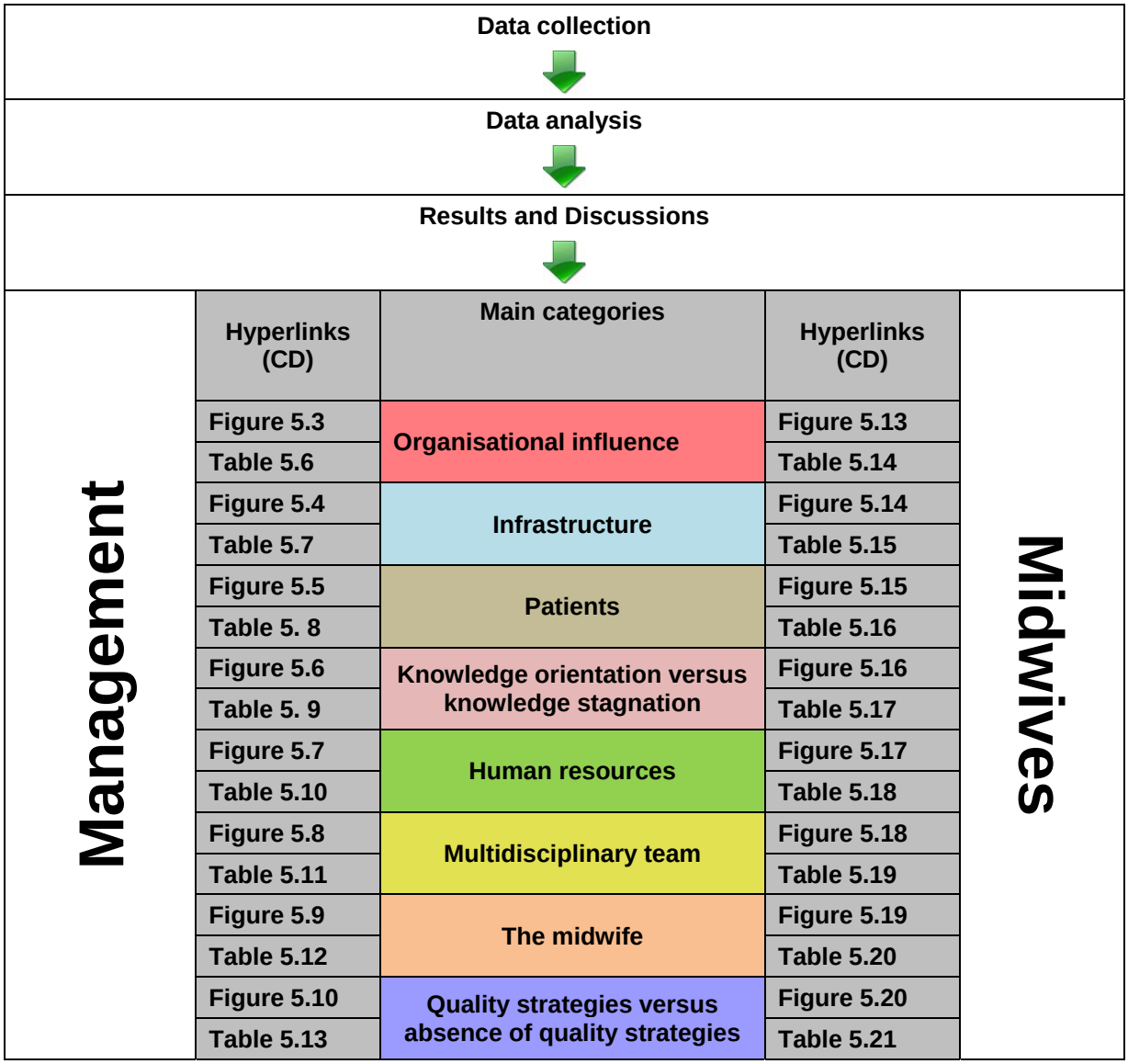
5.8 EMBEDDED LITERATURE

After the data were analysed by the researcher and consensus was reached with the co-coder about the themes and sub-themes, a literature review was conducted to confirm or negate the findings. As the literature review was conducted after the interviews and focus groups took place, there was no preconceived framework for departure (Klopper, 2008:67). The literature review was a scientific basis from which the themes and sub-themes were derived and interpretations made. The interpretations led to findings that were confirmed or unique findings if they had not been reported before. The conclusions of these findings led to the development of the QIIP™.

The literature control was conducted using the following data bases: EBSCO HOST, Nexus, Emerald, Medline, Academic Premier Research, CINAHL, Cochrane Library, Nexus, theses and dissertations (NWU), Sabinet, SACat and ScienceDirect.

5.9 RESULTS AND DISCUSSIONS

The findings from Objective 4 include the descriptions of what the management teams and midwives of the four Level 2 hospitals regard as facilitating and impeding factors that influence the quality of intrapartum care. Management's results are first presented, and then the findings from the midwives as to what they regard as contributing and hindering factors that influence the quality of intrapartum care. These findings are colour coded for easy reference. Management's findings are presented in black (facilitating) and red (impeding), and the midwives' findings are presented in blue (facilitating) and green (impeding). In Figure 5.1 a summary flow chart of the results gives an indication of the main themes. As result of the high volume of data, it was decided to develop an interactive CD and present it at the back of the thesis. The CD can be accessed through hyperlinks. Each of the eight main themes that were identified can be viewed either as a mindmap (MindJet®MindManager®Pro7, 2009) or a table that represents the analysed data from management and the midwives as to what they regard as facilitating and impeding factors. A summary flow chart of the main themes are present in Figure 5.1.



Hyperlinks (CD)	Main categories	Hyperlinks (CD)
Figure 5.3	Organisational influence	Figure 5.13
Table 5.6		Table 5.14
Figure 5.4	Infrastructure	Figure 5.14
Table 5.7		Table 5.15
Figure 5.5	Patients	Figure 5.15
Table 5. 8		Table 5.16
Figure 5.6	Knowledge orientation versus knowledge stagnation	Figure 5.16
Table 5. 9		Table 5.17
Figure 5.7	Human resources	Figure 5.17
Table 5.10		Table 5.18
Figure 5.8	Multidisciplinary team	Figure 5.18
Table 5.11		Table 5.19
Figure 5.9	The midwife	Figure 5.19
Table 5.12		Table 5.20
Figure 5.10	Quality strategies versus absence of quality strategies	Figure 5.20
Table 5.13		Table 5.21

Figure 5.1 Summary flow chart of results

Figure 5.2 presents a comprehensive mindmap of the research findings as perceived by management. This mindmap can also be viewed on the interactive CD. Your are welcome to browse the CD and click on each link for further interaction.

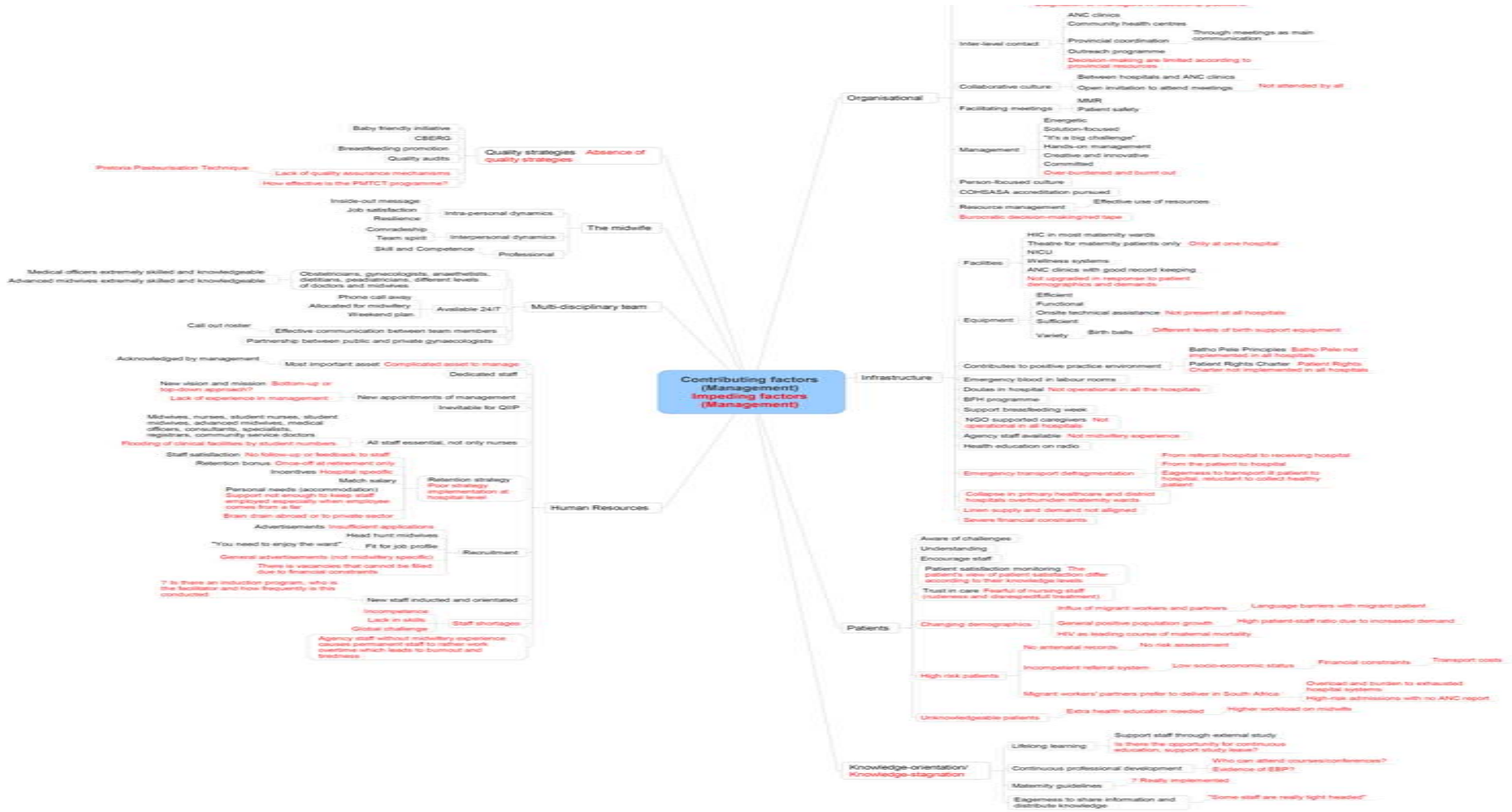


Figure 5.2 A comprehensive mindmap of the research findings regarding management

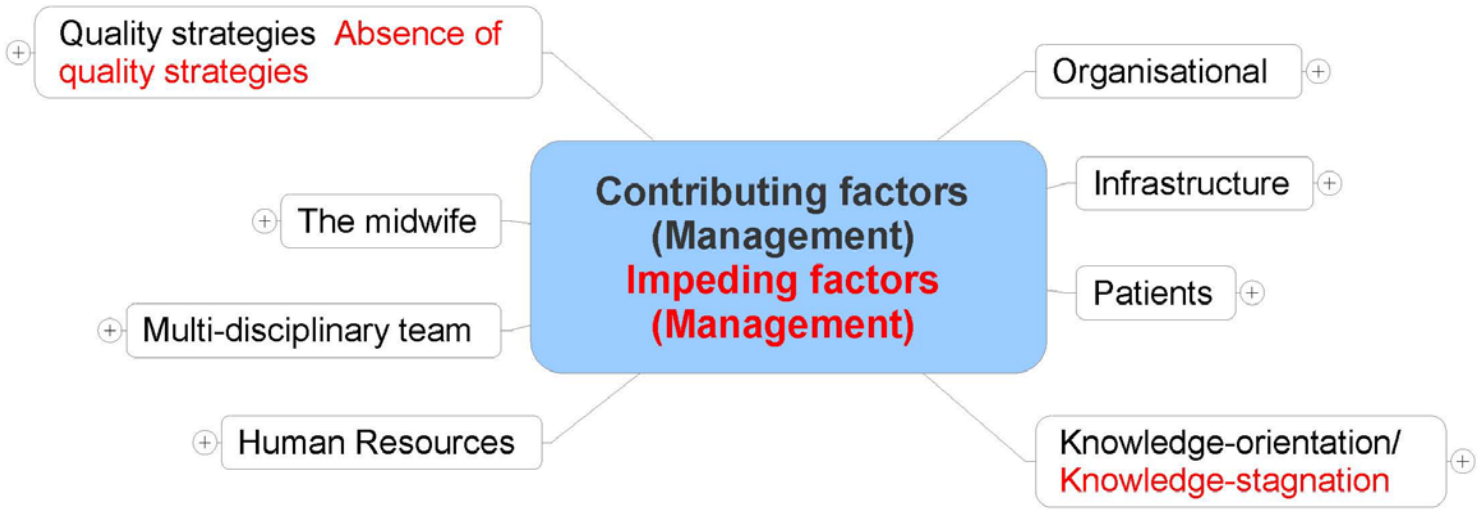


Figure 5.3 Contributing and impeding factors as perceived by management (only main themes)

The above findings of management are presented separately from the findings of the midwives. In the following sections the findings of the management are divided into the eight main themes, and together with the sub-themes they can be viewed on the CD (Figure 5.2) for a detailed data analysis.

- **Organisational influences**

The first main theme identified by both management and the midwives was the organisational influence. Management's perceptions can be viewed through a hyperlink to the CD in Figure 5.3 and Table 5.6, while the midwives' perceptions can be viewed through a hyperlink to Figure 5.13 and Table 5.14. A comparison of managements' and the midwives' perception of organisational influence is displayed in Table 5.22. An integrated discussion of the organisational influence and embedded literature is given in Section 5.9.1.

- **Infrastructure**

The infrastructure as perceived by management can be viewed in Figure 5.4 and Table 5.7. The midwives' perceptions can be viewed in Figure 5.14 and Table 5.15. A comparison of managements' and the midwives' perception of infrastructure is displayed in Table 5.24. An integrated discussion of the infrastructure and embedded literature is given in Section 5.9.2.

- **Patients**

Management's perception of the patients can be viewed in Figure 5.5 and Table 5.8 while the midwives perceptions can be viewed in Figure 5.15 and Table 5.16 through the hyperlinks to the CD. A comparison of management's and the midwives' perception of patients is displayed in Table 5.26. An integrated discussion of the patients and embedded literature is given in 5.9.3.

- **Knowledge orientation versus knowledge stagnation**

Management's perception regarding knowledge orientation versus knowledge stagnation can be seen in Figure 5.6 and Table 5.9. The midwives' perception can be seen in Figure 5.16 and Table 5.17. A comparison of management's and the midwives' perceptions regarding knowledge orientation versus knowledge stagnation is shown in Table 5.28. An integrated discussion of the knowledge orientation and embedded literature is given in 5.9.4.

- **Human resources**

Management's perceptions of human resources are presented in Figure 5.7 and Table 5.10. The midwives' perceptions are presented in Figure 5.17 and Table 5.18 on the interactive CD through hyperlinks. A comparison of management's and the midwives' perceptions regarding human resources is shown in Table 5.30. An integrated discussion of the human resources and embedded literature is given in Section 5.9.5.

- **Multi-disciplinary team**

The view of the multi-disciplinary team management and the findings are presented in Figure 5.8 and Table 5.11. The midwives' perceptions are presented in Figure 5.18 and Table 5.19. A comparison of management's and the midwives' perceptions regarding the multi-disciplinary team is shown in Table 5.32. An integrated discussion of the multi-disciplinary team and embedded literature is given in Section 5.9.6.

- **The midwife**

Management's perceptions of the midwife are presented in Figure 5.9 and Table 5.12. The perceptions of the midwives are presented in Figure 5.19 and Table 5.20. A comparison of managements' and the midwives' perceptions regarding the midwife is shown in Table 5.34. An integrated discussion of the midwife and embedded literature is given in Section 5.9.7.

- **Quality strategies versus absence of quality strategies**

Management's perceptions of quality strategies versus the absence thereof are presented in Figure 5.10 and Table 5.13. The midwives' perceptions of quality strategies are presented in Figure 5.20 and Table 5.21. A comparison of managements' and the midwives' perceptions regarding quality strategies is shown in Table 5.36. An integrated discussion of the quality strategies and embedded literature is given in Section 5.9.8.

In the following section Figure 5.11 presents an overarching mindmap of the contributing and impeding factors as perceived by the midwives. The contributing factors are shown in blue and the facilitating factors are given in green.

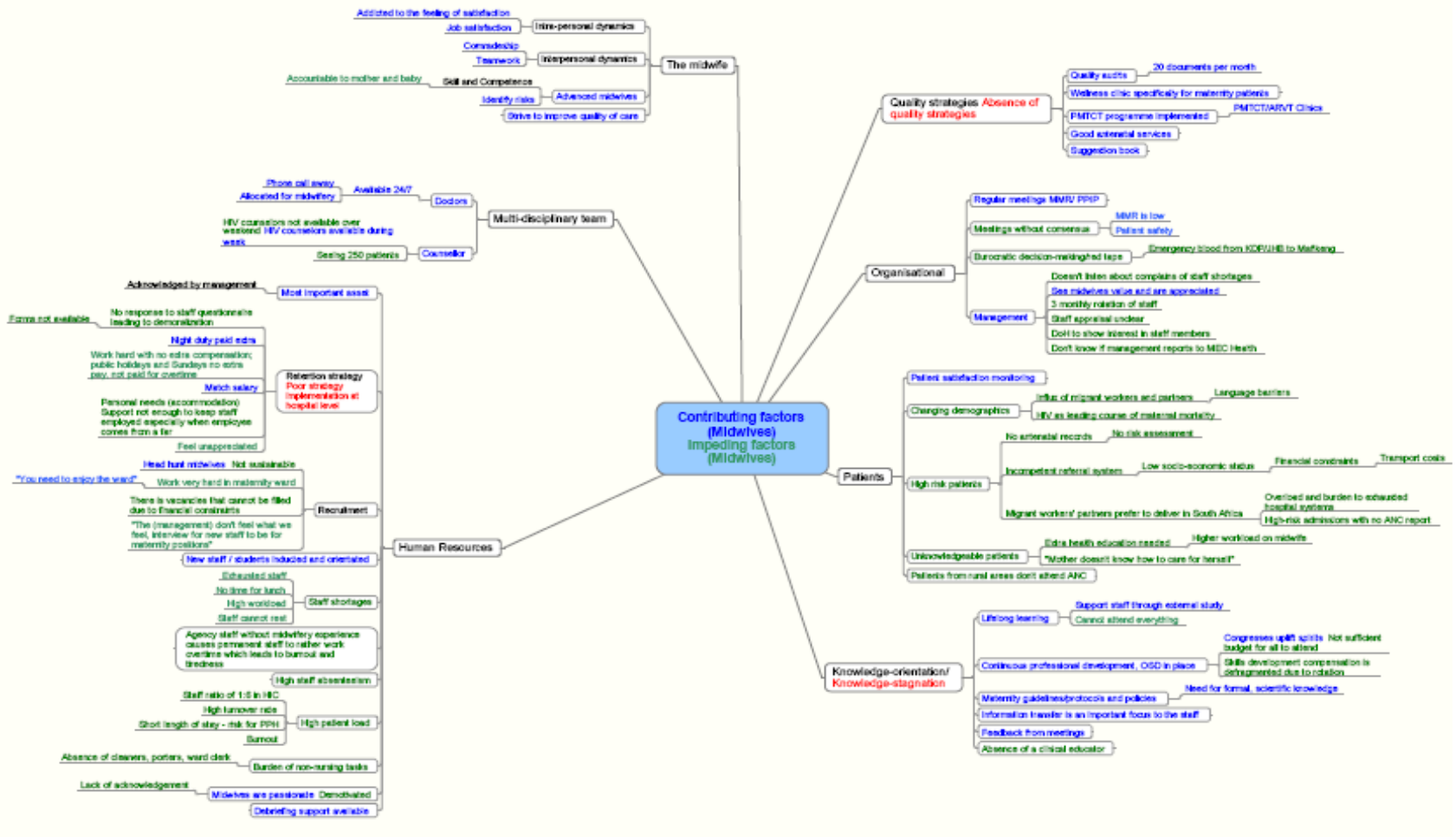


Figure 5.11 Contributing and impeding factors as perceived by midwives

Figure 5.12 presents the eight main themes that were identified by the midwives as contributing and impeding factors.

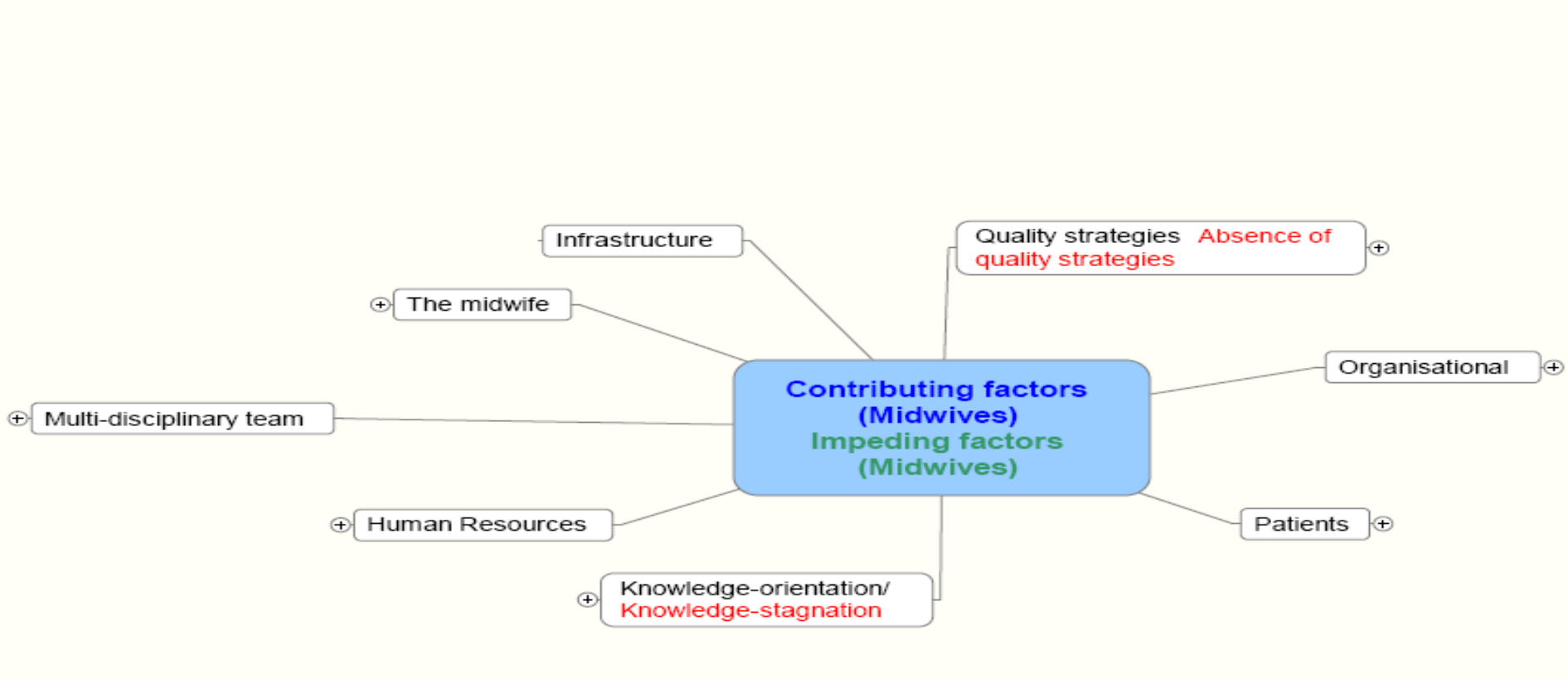


Figure 5.12 Contributing and impeding factors as perceived by midwives (only main themes)

After the interactive part on the CD, we now continue with the comparison of the main and sub-themes regarding organisational factors as presented in Table 5.22. As the comparison links management and the midwives together in the sub-themes, the results are presented as facilitating factors (black) and impeding factors (red).

Table 5.22 Comparison of the main and sub-themes as perceived by management and the midwives regarding organisational influences

	ORGANISATIONAL FACTORS		
SUB-THEMES		**FACILITATING FACTORS**	**IMPEDING FACTORS**
LEADERSHIP	**Management**	Visionary Authentic	Stagnation of managers in leadership positions
	Midwives	Not mentioned	
INTER-LEVEL CONTACT	**Management**	Meetings as main communication Outreach programmes	Decision-making is limited according to provincial resources
	Midwives	Regular meetings	

COLLABO-RATIVE CULTURE	**Management**	Open invitation to all ANC clinics to attend the meetings	Not attended by all
	Midwives	Open invitations to all ANC clinics	Not attended by all
FACILITATING MEETINGS	**Management**	MMR Patient safety	
	Midwives	MMR is low Patient safety	Meetings without consensus
MANAGEMENT	**Management**	Energetic Solution-focused Hands-on management Creative and innovative Committed	Overburdened and burned out

	Midwives	See midwives as valued and appreciated	Does not listen to complaints about staff shortages 3-monthly rotation of staff Staff appraisal unclear DOH does not show interest in staff members Do not know if management reports to MEC of Health
RESOURCE MANAGEMENT	**Management**	Effective use of resources	Bureaucratic decision-making /red tape
	Midwives	Not mentioned	Bureaucratic decision-making /red tape – emergency blood from JHB or Kld to Mafikeng
PERSON-FOCUSED CULTURE	**Management**	Not mentioned	
	Midwives	Not mentioned	

COHSASA ACCREDITATION	**Management**	Not mentioned	
	Midwives	Not mentioned	

5.9.1 Integrated discussion of results regarding organisational factors through embedded literature

Organisational excellence means different things to different organisations (Van Heerden & Roodt, 2007:18; Smith *et al.* 2005:107; Eygelaar & Uys, 2004:32). Within a **global changing environment** organisations (hospitals) are faced with changing customer (patient) demands, **diversity** and competition within a struggling economy (Van Heerden & Roodt, 2007:18). A **high-performance culture** is viewed as an extension of the organisational culture. The organisation (hospital) must have the ability to provide a **positive practice environment** for all employees (management and midwives) as part of the organisational climate (Van Heerden & Roodt, 2007:22).

The individuals' (managements' and the midwives') **views, norms** and **assumptions** are seen as similar to those of the organisation (hospital) and are therefore influenced by the organisation (hospital) (Van Heerden & Roodt, 2007:18). The following sub-themes were initially identified regarding the organisational factors and then further synthesised to identify the final sub-themes.

Table 5.23 Consolidation of sub-themes regarding organisational factors

SUB-THEMES	FINAL SUB-THEMES
• **Leadership**	
• **Management**	**Leadership and management**
• **Resource management**	
• **Inter-level contact**	
• **Collaborative culture**	**Collaborative culture**
• **Person-focused culture**	
• **COHSASA accreditation**	**COHSASA accreditation**

- **Leadership and management**

Smith (2006:29) states that being a good leader is very difficult. Leaders are in a position where constant **change** is demanded and where they have to align themselves to a global mindset through collaborative leadership (Van Heerden & Roodt, 2007:18; Edwards & Smit, 2008:109). **Collaborative leadership** relates to the way managers **inspire, drive** and **motivate** colleagues in a process of continuous quality improvement, promoting a culture of performance excellence (Liu *et al.* 2010:129*;* Edwards & Smit, 2008:112; Eygelaar & Uys, 2004:33, 38). The leadership gives **direction** to the organisation through **commitment to the shared vision-making process** and **strategic planning** of the organisation into achievable milestones **aiming for excellence** (Edwards & Smit, 2008:113; Van Heerden & Roodt, 2007:21; CCE, 2001:11; Edmonson *et al.* 2001:4).

The researcher heard the following from participants:

"Visionary and authentic leadership"

"We do our best"

Managing a team is complex as various personalities, team dynamics and cultures must be taken into consideration (Smith, 2006:29). **Resource management** as part of management reflects on the way the full potential of each staff member is developed while continuously improving the quality of (intrapartum) care rendered (Eygelaar & Uys, 2004:33).

Many organisations suffer from the effects of outdated management approaches, including outdated strategic planning and impoverished leadership with an uncompetitive organisational culture (Nasser & Viviers, 1995:12; Van Heerden & Roodt, 2007:20). In contrast, **authentic leadership** is recommended as a solution for turning the health care system around (Bester, 2008:237). Authentic leadership inspires and navigates the **empowerment of staff** in such a way that each staff member has an **equal voice** in decision-making regardless of his or her rank. This leads to a **sense of belonging** and **ownership** as each member is recognised either **professionally or personally** for their contributions in setting up a collaborative culture through passion and integrity (Edmonson *et*

al. 2001:11; Lapido *et al.* 1999:1; Bester, 2008:237). Edwards and Smit (2008:113) argue that “collaborative leadership is a precondition for the creation of a collaborative culture”.

- **Collaborative culture**

The **culture** of an organisation refers to the character of the organisation and is an indication of the typical behaviour patterns of the organisation (Van Heerden & Roodt, 2007:18). The CCE (2001:6) and Edmonson *et al.* (2001:3) state that **operational** and **cultural barriers** may occur when developing collaboration. In a climate of tighter budgets and fewer resources, organisations try to increase effectiveness through **collaboration as a strategy**, bringing together the strengths of the various organisations in setting high standards and thus **adding value** through collaboration within the **process of change** (Fischler, 2010; Edwards & Smit, 2008:112; Rosen, 2007; CCE:2001:vii). Various organisations have changed their focus from product centred to customer centred (**patient centred/community centred**) to ensure that they remain up to the expectations of their customers/patients. In order to up-scale the organisation/hospital to improve the quality of care, the staff must be **multi-skilled, effective teams** must be built and **staff** must be **retained** as part of a **positive practice environment** with a **shared vision** (Edwards & Smit, 2008:113; Van Heerden & Roodt, 2007:21, Edmonson *et al.* 2001). Van Heerden and Roodt (2007:21) state that a collaborative culture includes various **stakeholders,** e.g. the **customer, employee, suppliers, labour**, **government** and the **community.** Effective collaboration means **maximising time and skills** and thus adding value (Rosen, 2007). A collaborative culture will enable the organisation (hospital) to connect both internally and externally (Sorensen, 2006:1). **Networks** will help to **build a collaborative culture** over time and with a commitment to **progress towards change** (Edmonson *et al.* 2001; CCE, 2001:7). It is important that these factors in an organisation/hospital should be sustainable in South Africa in the future. The way staff **react to the transformation** will determine how successfully changes in practice will take place (CCE, 2001:6). Without a **culture of collaboration** strategies for leadership, processes and systems will fall flat and organisations/hospitals will not succeed in their shared vision (Edmonson *et al.* 2001:6; Rosen, 2007).

- **COHSASA accreditation**

Accreditation is defined as a **“self-assessment** and **external review process** used by healthcare organisations to accurately assess their **level of performance** in relation to **established standards** and to **implement ways** to **continually improve**” (Shaw, 2004; Zeribi & Marquez, 2005). In South Africa COHSASA (Council for Health Service

Accreditation for Southern Africa) has set out specific accreditation criteria for health services (COHSASA, 2010). Health services can apply for **COHSASA accreditation** to determine their pre-accreditation recognition status before formally applying for full accreditation. Bateman (2007:820) reported that only 14 of the 380 public hospitals in South Africa meet the standards of **COHSASA,** which is the internationally accredited, not-for-profit **quality improvement and accreditation body in South Africa**. As part of the full accreditation, the health services must obtain a score of at least 80/100, which means that there are no criteria that can lead to harm or injury to patients or staff, no administrative, organisational or managerial problems, nor any conflict of criminal law (COHSASA, 2010). The COHSASA accreditation award is valid for a period of two years, whereafter the facilities are visited again and must show that the **quality improvement programme** has not only been sustained but improved (COHSASA, 2010).

During the validation visit the following high-risk areas are evaluated:

- Quality improvement programmes
- Documentation audit
- Health record audit
- Health and safety programmes
- Staff appraisal plan
- Negative incidence
- Patient complaints
- Cardiopulmonary resuscitation (COHSASA, 2010).

In the following section a comparison of management and midwives (see Table 5.24) and the embedded literature regarding infrastructure are presented.

Table 5.24 Comparison of the main and sub-themes regarding infrastructure as perceived by management and midwives

INFRASTRUCTURE			
SUB-THEMES		**FACILITATING FACTORS**	**IMPEDING FACTORS**
FACILITIES	**Management**	HIC in most maternity units Theatre for maternity patients only NICU Wellness systems ANC clinics with good record keeping	Only at one hospital Facilities not upgraded in response to patient demographics and demands
	Midwives	HIC in most maternity units Theatre for maternity patients only NICU Wellness systems for maternity patients	Available but not functional due to staff shortages Not upgraded in response to patient demographics and demands Fragmentised layout of maternity units Lack of patient privacy due to construction
EQUIPMENT	**Management**	Efficient Functional On-site technical assistance Sufficient Variety, e.g. birth balls Linen	Not present at all hospitals Different levels of birth support equipment Linen supply and demand not aligned
	Midwives	Sufficient Emergency blood Linen	Time to repair equipment – no on-site repairs Not enough CTGs Insufficient equipment, e.g. for PET patients In some labour rooms Not aligned with demand Linen exchange rate Laundry done off site

POSITIVE PRACTICE ENVIRON-MENT	**Management**	Batho Pele Principles Patients' Rights Charter	Batho Pele Principles not implemented in all hospitals Patients' Rights Charter not implemented in all hospitals
	Midwives	Batho Pele Principles Patients' Rights Charter	Batho Pele Principles not implemented in all hospitals Patients' Rights Charter not implemented in all hospitals
STAFF	**Management**	Doulas in maternity ward NGOs support caregivers Agency staff available	Not implemented in all hospitals Not implemented in all hospitals No midwifery experience
	Midwives	Staff Doulas	Staff shortages ↓care because of staff shortages Not operational in all hospitals
EMERGENCY BACKUP	**Management**	Transport Blood in labour rooms	Defragmentation of emergency transport 1) Referral hospital to receiving hospital 2) Patient to hospital 3) Reluctant to collect healthy patient
	Midwives		Reluctant to collect healthy patient Arrival too late → foetal distress Poor communication with doctors – wards not informed of admissions

AWARENESS	**Management**	Health education on radio Support Breastfeeding Week BFH programme	
	Midwives	**Not mentioned**	
FINANCES	**Management**		Collapse of PHC and district hospitals which leads to an overburden of maternity wards Severe financial constraints
	Midwives		Severe financial constraints Maternity record R72/book
TRANSPORT LOGISTICS	**Management**	**Not mentioned**	
	Midwives		Incongruence between visiting hours and public transport

TRANSPORT LOGISTICS	**Management**	**Not mentioned**	
	Midwives	Need for e-mails, EBP, Internet access	
SUPPORT	**Management**	**Not mentioned**	
	Midwives	Mothers referred to social worker if necessary	

From the identified main and sub-themes regarding the infrastructure, a comparison and a literature review are presented through an integrated discussion of the results (see Section 5.9.2).

5.9.2 Integrated discussion of results and the embedded knowledge of the infrastructure that was identified

The following sub-themes were initially identified and then synthesised to identify the final sub-themes regarding the infrastructure (see Table 5.25).

Table 5.25 Consolidation of sub-themes regarding infrastructure

SUB-THEMES	FINAL SUB-THEMES
• Facilities	
• Equipment	Essential physical infrastructure
• Emergency back-up	
• Finances	
• Positive practice environment	
• Staff	Human resources management
• Awareness	
• Support	
• Transport logistics	Reciprocal communication
• Technology	

- **Essential physical infrastructure**

In order for a health care facility to render quality intrapartum care, the necessary **equipment**, together with all the necessary **emergency back-up** systems and the **finances** (Van Heerden & Roodt, 2007:20) to orchestrate the operation, must be in place. **Resources, competencies** and **socio-economic factors** influence the successful **implementation of policies** (Edwards & Smit, 2008:117).

Quotes include:

"We have enough equipment"

"Equipment is in place"

"Equipment is repaired on site"

Versus

"...problems, e.g. have to wait for platelets"

"Theatre not running because of lack of staff"

"Neonatal ICU – not up and running because of lack of staff"

"Equipment is sent away for repairs"

- **Human resources management**

The aim of many organisations is to become more skilled and thereby develop a **high-performance culture** (Van Heerden & Roodt, 2007:18). A collaborative relationship within the positive practice environment results in **self-esteem, commitment** and higher levels of **task accomplishment** (Edmonson *et al.* 2001:4). A **positive practice environment** results in workers who are satisfied with the working environment and **cooperate** with **colleagues,** which improves the quality of care rendered (Liu *et al.* 2010:129). Management further supports the staff's **professional development** (Liu *et al.* 2010:129), which leads to an uplifting experience, resulting in a positive outcome.

Quotes include:

"We try our best"

".Midwives are motivated"

"Congresses uplift the spirit"

Versus

"staff shortage ... if there is problems no one can help – the management must help the staff"

"... they do the best they can but we have a shortage of nursing personnel in particular"

"we strive for one midwife to two patients....we are far from that"

Smith *et al.* (2005:108) confirm that health care organisations (hospitals/maternity units) that are fully staffed make sure that the **right people** (midwives) are delivering **effective** (quality) care in a **safe and clean environment**. Furthermore, all **staff** members must develop to their **full potential** while continuously improving the quality of care rendered (Eygelaar & Uys, 2004:33, 38). Edmonson *et al.* (2001:5) also emphasise that everybody must receive **recognition** for their contributions and foster open communication with the organisation/hospital.

- **Reciprocal communication**

Professor Whittaker, COHSASA's MD, reported that a secure **web-based** interface as part of **technology** provide their clients with ongoing access to their compliance data of their hospitals. According to Prof. Whittaker, "this enables managers at all levels – national, provincial and local hospitals – to make informed choices, respond to triggers demanding immediate action, and in this way bring about **continuous quality improvements** through the ongoing monitoring of performance indicators" (Bateman, 2010:821). Services

(hospitals/maternity units) make use of **technology** and appropriate **communication** so that patients receive quality care faster and more effectively as patients do not have to repeat information that has already been given (Smith *et al.* 2004:107). Leaders and academia are urged to create a **knowledge management infrastructure** that facilitates sharing of information (Sorensen, 2006:6). **Communication** is essential in the changing process as leadership report on all processes, progress and potential pitfalls. Furthermore, communication is not a one-time effort, but a **regular system** that informs the staff and community continuously about changes that are taking place (CCE, 2001:12).

Clear, open and **effective communication** is based on **trust** among staff and answering their questions while eliminating unpleasant surprises (CCE, 2001:12; Edmonson *et al.* 2001:5).

Quotes include:

"Do things right"

"Midwives are supportive to each other"

Versus

"Specialist did outreach programme to the community ... currently not because of staff shortages – three doctors left"

The following section compares management's and the midwives' views, and gives the embedded literature on the facilitating and impeding factors regarding the patients (see Table 5.26).

Table 5.26 Comparison of the main and sub-themes regarding patients as perceived by management and midwives

PATIENTS			
SUB-THEMES		**FACILITATING FACTORS**	**IMPEDING FACTORS**
PATIENT SATISFACTION MONITORING	**Management**	Patient satisfaction monitoring	Not mentioned
	Midwives	Not mentioned	Patient satisfaction differs according to their knowledge levels
TRUST IN CARE	**Management**	Not mentioned	Not mentioned
	Midwives	Not mentioned	Fearful of nursing staff (rudeness and disrespectful treatment)

CHANGING DEMOGRAPHICS	**Management**	Influx of migrant workers and partners + population growth HIV is leading cause of MMR	↑Patient:staff ratio
	Midwives	Influx of migrant workers and partners + population growth HIV is leading cause of MMR	Language barriers ↑Patient:staff ratio
HIGH RISK PATIENTS	**Management**	Not mentioned	*No antenatal records* - No risk assessment *Incomplete referral system* - Low socio-economic status - Financial constraints - Transport costs *Migrant workers' partners prefer to deliver in SA* -overload and burned out hospital systems -High-risk admissions with no ANC reports

	Midwives		Patients from rural areas do not attend ANC *No antenatal records* - No risk assessment *Incomplete referral system* - Low socio-economic status - Financial constraints - Transport costs *Migrant workers' partners prefer to deliver in SA* - overload and burned out hospital systems - High-risk admissions with no ANC reports
UNKNOW-LEDGEABLE PATIENTS	**Management**	Not mentioned	Extra health education needed
	Midwives	Not mentioned	Higher workload for midwife
SUPPORT	**Management**	Awareness of challenges Understanding Encourage staff	Not mentioned
	Midwives	Not mentioned	Not mentioned

5.9.3 Integrated discussion of results and embedded knowledge regarding the patients that was identified

The following sub-themes were initially identified and then synthesised to identify the final sub-themes regarding the patients (see Table 5.27).

Table 5.27 Consolidation of sub-themes regarding patients

SUB-THEMES	FINAL SUB-THEMES
• **Changing demographics**	
• **High-risk patients**	**Patient profile**
• **Unknowledgeable patients**	
• **Support**	
• **Patient satisfaction monitoring**	**Patient's voice**
• **Trust in care**	

- **Patient profile**

In this research study it became evident that the **demographics** of the people using the maternity wards in the province are **changing**. This may be the result of the many migrant workers flocking to South Africa looking for work. This then leads to these workers' spouses or girlfriends also coming to South Africa and then delivering in the nearest maternity ward. This places an extra load on the already over-burdened hospital facilities. The fact that there is a **language barrier** between the midwives and the patients makes the situation even more difficult. It also makes health education more difficult which further causes the patients to be **unknowledgeable.**

Supporting statements include:

"migrant population.....from Mozambique, Zimbabwe, Lesotho, Swaziland and as far as East Africa"

"Big geographical area with referral that leads to high caesarean section"

"A lot of high-risk patients from referral hospitals – most problems are too late and cause high perinatal mortalities"

Most of these patients do not attend antenatal clinics and therefore they are viewed as **high-risk patients** with no screening profile and also no early detection of high-risk problems. The fact that **HIV** is the leading cause of maternal deaths in South Africa also adds to the high-risk profile of the patients. If the mothers' HIV status is not known, they cannot benefit from the PMTCT programme which provides anti-retroviral therapy to the patients. This also increases the workload of the midwives as these patients need extra health care education.

- **Patient's voice**

Patient satisfaction monitoring reveals whether the health care organisation is successful in the eyes of the patients (pregnant women) (Eygelaar & Uys, 2004:33). It also reveals how the organisation (hospital/maternity ward) is satisfying the needs and expectations of the community. Thus patient satisfaction is becoming more important (Van Heerden & Roodt, 2007:18; Eygelaar & Uys, 2004:33).

Quotes include:

"Management praise them – well done"

"Patients understand the circumstances ..."

On the other hand, this has an **impact on** how **society** views the health care organisation (Eygelaar & Uys, 2004:33). Mutual **trust** and **respect** are essential to form the basis for a safe environment and fundamental **care** and **discourse** (Edmonson *et al.* 2001:5).

The following section compares management's and the midwives' perceptions of knowledge orientation (see Table 5.28) and includes the embedded literature (see Table 5.29).

Table 5.28 Comparison of the main and sub-themes regarding knowledge orientation as perceived by management and midwives and the embedded literature

KNOWLEDGE ORIENTATION			
Sub themes		**Facilitating factors**	**Impeding factors**
LIFE-LONG LEARNING	**Management**	Support staff through external study	Is there sufficient opportunity for continuous education, support for study leave?
	Midwives	Support staff through external study	Cannot attend everything
CONTINUOUS PROFESSIONAL DEVELOPMENT	**Management**	Not mentioned	Who can attend courses/conferences?
	Midwives	OSD in place	Skills development and compensation is defragmented due to rotation Evidence of EBP?

MATERNITY GUIDELINES	**Management**	Not mentioned	Really implemented?
	Midwives	Need for formal, scientific knowledge	Not mentioned
INFORMATION TRANSFER	**Management**	Eagerness to share information and distribute knowledge	"Some staff are really tight headed"
	Midwives	Important focus to staff Feedback from meetings	"Some staff are really tight headed" Absence of a clinical educator

5.9.4 Integrated discussion of results regarding knowledge orientation that was identified

The following sub-themes were initially identified and then synthesised to identify the final sub-themes regarding knowledge orientation.

Table 5.29 Consolidation of sub-themes regarding knowledge orientation

SUB-THEMES	FINAL SUB-THEMES
• **Life-long learning**	**Life-long learning**
• **Continuous professional education**	
• **Maternity guidelines**	**Knowledge transfer**
• **Information transfer**	

- **Life-long learning**

Academic outreach as part of **life-long learning** forms part of striving towards **continuous professional education,** where health professionals strive to improve their skills and competencies (Smith *et al.* 2005:108; Pearson *et al.* 2005:214). Midwives emphasise that on-going training is important to help them to do their job well and to improve their professional development (Lapido *et al.* 1999:11). Van Heerden and Roodt (2007:18) state that only a few organisations can claim that they have enough skills and experience to compete against national or global competition.

Quotes include:

"OSD ....the money help"

- **Knowledge transfer**

Eygelaar and Uys (2004:33) state that all the value-added activities that take place in an organisation lead to processes that are developed and analysed, which ensures continuous quality improvement. The **JBI model** of evidence-based health care describes knowledge transfer as the act of **transferring knowledge** to individuals, facilities and systems by means of publications, electronic media, education, training and decision-support systems (Pearson *et al.* 2005:213; Sorensen, 2006:1). Knowledge transfer is also linked to the way **policies** and **strategies** are converted into **plans** and **actions** (Edwards & Smit, 2008:117; Eygelaar & Uys, 2004:38). Sorensen (2006:4) confirms that **connectedness** is important as **technology** is not completely **transferred** in patents and publications.

Supporting statements include:

"Congresses uplift the spirits."

"... training is allowed"

"We found them to go on short courses and empower them."

Versus

"Budget constraints do not allow everybody to attend to congresses:

In the following section a comparison of human resources as perceived by management and midwives is shown in Table 5.30, followed by the embedded knowledge on human resources.

Table 5.30 Comparison of the main and sub-themes regarding human resources as perceived by management and midwives

HUMAN RESOURCES			
SUB-THEMES		**FACILITATING FACTORS**	**IMPEDING FACTORS**
STAFF	**Management**	Dedicated Most important asset Acknowledgement by management All staff essential, not only midwives	*Staff shortages* - incompetent - lack of skills Global challenge *Complicated asset to manage* *Flooding of clinical facilities by student numbers* *Agency staff without midwifery experiences causes permanent staff to work overtime which leads to burnout and tiredness*

	Midwives	Most important asset Dedicated staff Passionate All staff essential not only nurses (midwives, nurses, student nurses, student midwives, medical officers, consultants, specialists, registrars, community service doctors) New staff and students inducted and orientated	• Complicated asset • Demotivated – no acknowledgements • Flooding of clinical facilities by student numbers • Is there an induction programme? • Who is the facilitator? • How frequently is it conducted? • *Staff shortages* ↑absenteeism • *Exhausted staff* • *No time for lunch* • *High workload* • *Staff cannot rest* • *Burden of non-nursing tasks - no cleaners, porters and ward clerk*

RECRUITMENT	**Management**	• Advertisements • Headhunt midwives • Fit for job profile *"You need to enjoy the ward"* • New staff inducted and orientated	• Insufficient applications • General advertisements (not midwifery specific) • There are vacancies that cannot be filled due to financial constraints • Is there an induction programme? • Who is the facilitator? • How frequently is this conducted?
	Midwives	• Advertisements • Headhunt midwives	• Not midwifery specific *"The management don't feel what we feel, it must be midwifery positions*"
RETENTION STRATEGY	**Management**	• Staff satisfaction • Retention bonus • Incentives • Match salary • Personal needs (accommodation)	• No follow-up of feedback to staff • Once-off on retirement only • Hospital specific • Support not enough to keep staff employed when employee comes from far • Brain drain abroad or to private sector
	Midwives	• Night duty paid extra • Match salaries	• Work hard with no extra compensation • No overtime on public holidays • No response to staff questionnaires which leads to demoralisation - forms not available • Feel unappreciated

PATIENT LOAD	**Management**	Not mentioned	Not mentioned
	Midwives	Not mentioned	• Patient:staff ratio 6:1 • ↑turnover rate • ↓short stay in hospital • burnout

5.9.5 Integrated discussion of results and embedded knowledge regarding human resources that was identified

The following sub-themes were initially identified and then synthesised to identify the final sub-themes regarding human resources.

Table 5.31 Consolidation of sub-themes regarding human resources

SUB-THEMES	FINAL SUB-THEMES
• **Staff**	
• **Recruitment**	
• **Retention strategy**	**Human resources management**
• **New appointment of management**	
• **Support**	
• **Patient load**	**Maternity-specific workload**

- **Human resources management**

The aim of many organisations is to become more skilled and therefore develop a high-performance culture (Van Heerden & Roodt, 2007:18). It is therefore important to **headhunt** midwives specifically to work in the maternity ward and that **recruitment** and **retention** strategies are in place. It is important to **headhunt** personnel who share the same vision so that they will thus fit in with the culture of the unit/hospital. This also means that these staff members will share the same **core values** and **beliefs** that are essential for successful collaboration. A position should rather not be filled at all than to fill it with a person who does not share the same vision as the unit (Edmonson *et al.* 2001:10). Essential factors in **job satisfaction** include **salaries, working conditions, job security** and the **relationship between colleagues** (Liu *et al.* 2010:127). Furthermore, poor job satisfaction is linked to a higher staff turnover. Lapido *et al.* (1999:1) report that midwives are dissatisfied with

management support when change is implemented. Job satisfaction and motivation remain high, but morale and satisfaction with working terms and conditions seem to be relatively low.

Quotes include:

"We have many vacant posts ... more than 40% in the hospital – we never receive more applications than we advertise for."

"Recruitment is very difficult because of the staff shortage, not just in Rustenburg but nationwide if not globally; there is a huge demand from them because there is such a shortage."

"We headhunt specific people for a specific position."

"The hospital itself does not have a retention process ... we function under the guidance of the retention policy of the province."

"We hope to retain them, but in terms of monetary incentives as a retention strategy, it's something that is controlled from head office, not the hospital."

Resource management refers to the way that management utilises and deploys resources in support of **policy** and **strategy** (Eygelaar & Uys, 2004:33), which also includes the operation of the vision and mission of the health care organisation. A clear, **single shared vision** and **mission** gives direction to a health care organisation and is viewed as one of the single most important dimensions of a high-performance organisation/unit to provide a platform for **strategic planning** and **setting goals** that are **sustainable** (Edwards & Smit, 2008:118; Van Heerden & Roodt, 2007:21; Edmonson *et al.* 2001:9). The frequent monitoring of progress towards set goals give a common vision to all involved in the unit/hospital/organisation (Edmonson *et al.* 2001:9). This leads to an **atmosphere of cooperation** and not competition as everyone wants the unit to succeed – all the members are **shareholders in the vision** (Edwards & Smit, 2008:114; Edmonson *et al.* 2001:9). The joint decision-making leads to **coherence** which furthermore leads to **action** (Edwards & Smit, 2008:114).

Quotes include:

"a team with a new vision to make a difference"

"...hands-on management"

- **Maternity-specific workload**

Not every registered nurse and midwife likes to work in a maternity unit because it has a specific workload of caring for the mother and the baby. It is a big responsibility, but is also fulfilling to be part of the special occasion of the birth of a baby. In the UK a midwifery team has been introduced that promotes continuity across the spectrum of antenatal, intrapartum and postnatal care. The greatest benefit is that labour wards are ensured to have adequate staff without taking resources from other areas. This also results in skilled and competent midwives who are responsible for rendering quality care in the antenatal, intrapartum and postnatal stages (Lapido *et al.* 1999:8). It also leads to broadening of the work experience and job satisfaction of the midwives (Lapido *et al.* 1999:9). This is, however, not the case in South Africa where registered nurses and midwives can apply for a vacant post in the maternity ward. In the North West province it is also the case that midwives are rotated every three months to a different ward, with the result that no expertise or continuity is built.

In the following section the multi-disciplinary team is shown in Table 5.32 as perceived by management and the midwives

Table 5.32 Comparison of the main and sub-themes regarding the multi-disciplinary team as perceived by management and midwives

MULTI-DISCIPLINARY TEAM			
SUB-THEMES		**FACILITATING FACTORS**	**IMPEDING FACTORS**
TEAM MEMBERS	**Management**	• Medical officers extremely skilled and knowledgeable • Advanced midwives skilled and knowledgeable	Not mentioned
	Midwives	• Medical officers extremely skilled and knowledgeable • ADM extremely skilled and knowledgeable	Not mentioned
AVAILABLE	**Management**	• 24/7 • Phone call away • Allocated for midwifery • Weekend plan	Not mentioned
	Midwives	• 24/7 • Phone call away • Allocated for midwifery • Weekend plan	Not mentioned

COLLABORTION/-COMMUNICATION	**Management**	• Effective between team members • Call-out roster • Partnership between public and private gynaecologists	Not mentioned
	Midwives	• Effective between team members • Call-out roster • Partnership between public and private gynaecologists	Not mentioned
COUNSELLOR	**Management**	Not mentioned	Not mentioned
	Midwives	• Available during the week	• Not available over weekends • Seeing 250 patients per week

5.9.6 Integrated discussion of results and embedded knowledge regarding the multi-disciplinary team that was identified

The following sub-themes were initially identify and then synthesised to identify the final sub-themes regarding the multi-disciplinary team.

Table 5.33 Consolidation of sub-themes regarding the multi-disciplinary team

SUB-THEMES	FINAL SUB-THEMES
• **Team members**	**Team members**
• **Counsellor**	
• **Available**	**Efficient teamwork**
• **Collaboration/Communication**	

- **Team members**

Liu *et al.* (2010:127) emphasise that the **relationship with colleagues** is essential to job satisfaction. Edmonson *et al.* (2001:10) report that being part of a team means that every person gives his or her best, resulting in one person's strengths **complementing another person's** weakness as everybody in the team has **unique contributions** to make. Edwards and Smit (2008:120) describe these "**productive, mature** and **interdependent relationships"** between colleagues as the **bonds** that will sustain the organisation/hospital/unit in a time of change.

- **Efficient teamwork**

In contrast with these findings, the COHSASA report showed that most hospitals had an overall **low compliance rate** with **professional multi-disciplinary** standards, which add up to a great deal in determining the

Quotes include:

"can rely on the team of human resources"

"we all work together"

" dedicated staff"

"knowledge-transfering hub"

possibility of becoming accredited or not (Bateman, 2007:821). **Clear** and **effective communication** fosters trust among staff which leads to progress in their work and knowing what everyone's function in the team is (CCE, 2001:12, Edmonson *et al.* 2001:8). Social development also enhances communication. Once a month a brown bag luncheon is hosted for the entire maternity unit where communication takes place in an **easy-going, non-threatening social atmosphere** (Edmonson *et al.* 2001:9). A birthday luncheon can be given once a month, to which everyone is invited. This **positive social interaction** enhances **camaraderie** among all the staff members, which is also a key to creating and maintaining a strong **collaborative culture** (Edmonson *et al.* 2001:9).

In the following section the perceptions regarding the midwife as perceived by management and midwives is compared in Table 5.34.

Table 5.34 Comparison of the main and sub-themes regarding the midwife as perceived by management and midwives

THE MIDWIVES			
SUB-THEMES		**FACILITATING FACTORS**	**IMPEDING FACTORS**
INTRA-PERSONAL DYNAMICS	**Management**	• Inside-out message • Job satisfaction • Resilience	Not mentioned
	Midwives	• Addicted to the feeling of satisfaction • Job satisfaction	Not mentioned
INTER-PERSONAL DYNAMICS	**Management**	• Comradeship • Team spirit	Not mentioned
	Midwives	• Comradeship • Team work	Not mentioned

PROFESSIONAL	**Management**	• Skills and competence	Not mentioned
	Midwives	• Advanced midwives especially skilled and competent • Identify risks • Strive to improve the quality of care rendered	• Accountable for mother and baby

5.9.7 Integrated discussion of the results regarding the midwife that was identified

The following sub-themes were initially identified and then synthesised to identify the final sub-themes regarding the midwife.

Table 5.35 Consolidation of sub-themes regarding the midwife

SUB-THEMES	FINAL SUB-THEMES
• Intra-personal dynamics	**Personal dynamics**
• Inter-personal dynamics	
• Professional	**Professional conduct**

- **Personal dynamics**

Parts of the personal dynamics that were identified were the **intra-personal** and **inter-personal dynamics**, which includes the improvement in skills and abilities of professional health care workers (Smith *et al.* 2005:107). An improved **working environment** leads to **job satisfaction** (Liu *et al.* 2010:129) and the **resilience** to carry on despite difficult circumstances. The comradeship of team work, being part of the organisation and rendering quality care to the pregnant woman result in a feeling of belonging to the organisation. Support that is given by management includes feedback and encouraging the staff in their work as well as complimenting them and recognising their work (CCE, 2001:16). **Professional, mature** and **high-quality inter-personal relationships** are needed if the shared vision of the unit/hospital is to be put into practice (Edwards & Smit, 2008:114). Lapido *et al.* (1999:2) warn that midwives' **commitment** cannot be assumed to be an **inexhaustible resource**.

Supporting statements include:

"good relationship"

"...tolerance towards actually the challenge"

- **Professional conduct**

Management further supports the staff's **professional development** (Liu *et al.* 2010:129). The CCE (2001:16) adds that management must be aware of the **strengths of the staff** and be able to tap into the experiences of each staff member to develop a strong professional culture, leading to continuous collaboration to build on the vision and mission of the organisation/hospital, while improving the quality of care rendered.

Quotes include:

"...their skills and knowledge"

In the following section the quality strategies as perceived by management and the midwives are displayed in Table 5.36 and an integrated discussion of the results and the embedded knowledge follow in Section 5.9.8.

Table 5.36 Comparison of the main and sub-themes regarding quality strategies as perceived by management and midwives

QUALITY STRATEGIES			
SUB-THEMES		**FACILITATING FACTORS**	**IMPEDING FACTORS**
QUALITY STRATEGIES	**Management**	• Baby-friendly initiative • CBERG • Breastfeeding promotion • Quality audits	• Absence of quality strategies • Lack of quality assurance mechanisms, e.g. pasteurisation technique • How effective is the PMTCT programme?
	Midwives	• Baby-friendly initiative • CBERG • Breastfeeding promotion • Wellness clinic specifically for maternity patients • PMTCT programme implemented • PMTCT/ARVT clinics • Good antenatal services • Suggestion book	
QUALITY AUDITS	**Management**	• Are done	Not mentioned
	Midwives	• 20 documents per month	Not mentioned

5.9.8 Integrated discussion of results and embedded knowledge regarding quality strategies that was identified

The following sub-themes were initially identified and then synthesised to identify the final sub-themes regarding the quality strategies.

Table 5.37 Consolidation of sub-themes regarding quality strategies

SUB-THEMES	FINAL SUB-THEMES
• **Quality strategies**	• **Quality strategies**
• **Quality audits**	• **Quality audits**

- **Quality strategies**

The COHSASA pioneered the **quality improvement programme** to help hospitals to strive towards quality standards which would ultimately lead to accreditation (Bateman, 2007:821). Eygelaar and Uys (2004:39) recommend that an electronic data base containing quality improvement processes should be created so that health care professionals have quick access to the information. Furthermore, it is recommended that standards be set and quality monitored across various areas (Ong *et al.* 2000:118; Eygelaar & Uys, 2004:39; Shaw, 2004; Zeribi & Marquez, 2005).

Quotes include:

"patient safety group meetings ... when all the maternal mortalities are discussed ... in trying to identify what went wrong".

- **Quality audits**

Quality audits as a strategy were reported to be most promising (Pearson *et al.* 2005:214). All four the Level 2 hospitals in the North West province conduct maternity audits as outlined in the *Guidelines for Maternity Care in South Africa* (SA, 2007b:145).

Quotes include:

"There is improvement..."

Documentation audits take place every month"

Recordings are well done....."

5.10 SUMMARY

Level 2 public hospitals operate despite resource constraints, which means that the improvement of the quality of intrapartum care is mainly based on midwives' commitment. However, Lapido *et al.* (1999:2) warn it is not an inexhaustible resource.

In the short term the physical and emotional impact as a result of the work intensity, and the midwives' alienation from management, had a negative impact on the quality of care that was rendered. In the long term the public sector gains a reputation as an employer who finds it difficult to retain and recruit staff with the qualifications and skills needed to create a positive environment that meets the needs of mothers and babies using the facilities.

A graphic depiction of the facilitating and impeding factors that influence the quality of intrapartum care are presented. A standard baseline is drawn of the factors influencing the quality of care. After taking into consideration the impeding factors a new QIIP™ will set the new baseline for intrapartum care, even though many factors may influence the ebb and flow of quality intrapartum care rendered, it will be on a much higher level than before.

As health care, and thus also intrapartum care, is not static, there are many factors that influence intrapartum care, namely human resources, infrastructure, organisational factors, the multi-disciplinary team, patient outcomes and the presence or absence of quality strategies. Some of the factors are controllable but others are not. These, together with the global staff shortage and the changing demographics, can lead to a total collapse of the health care system.

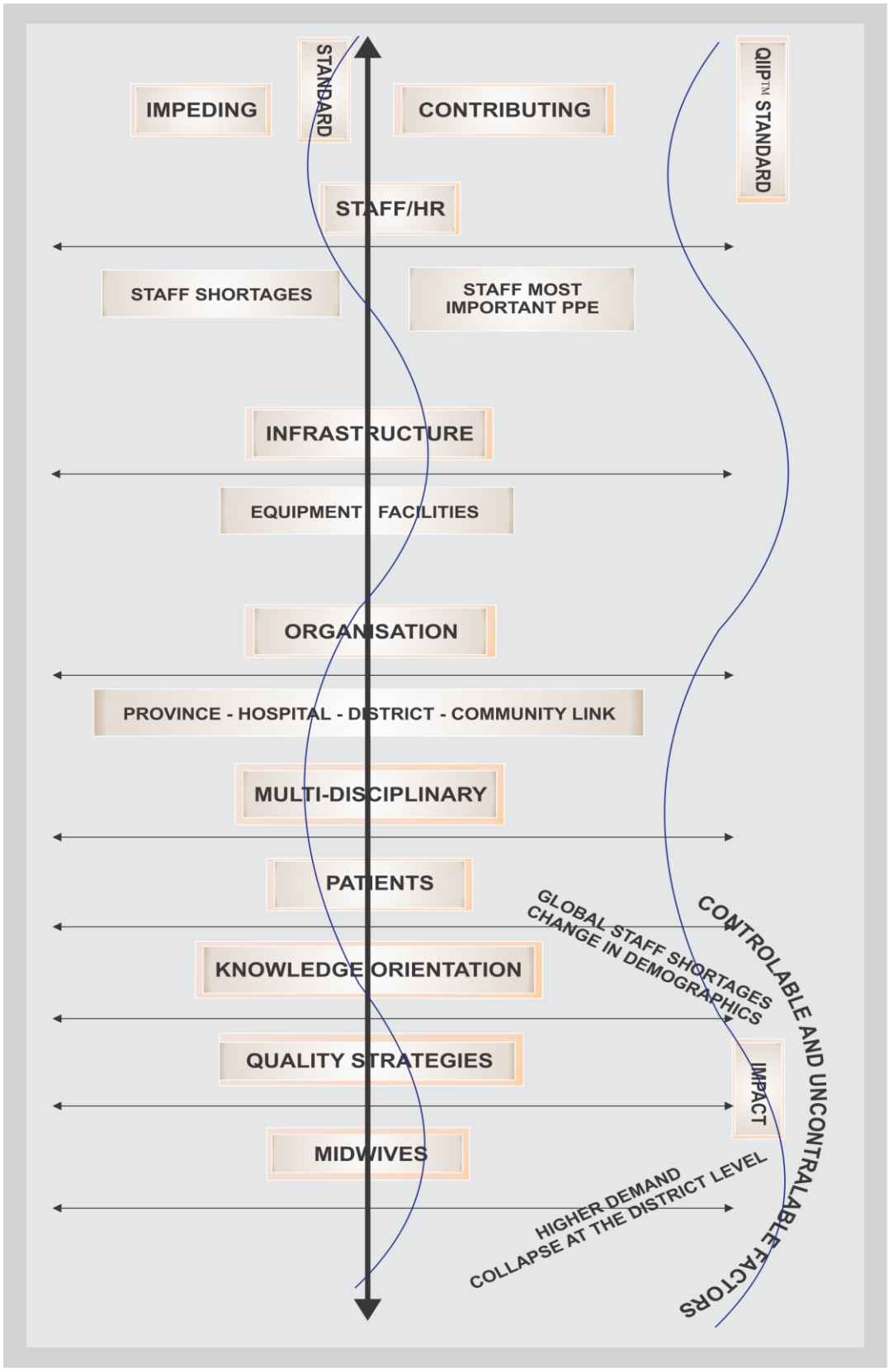


Figure 5.21 **Impeding and facilitating factors influencing quality intrapartum**

CHAPTER 6

CHAPTER 6

QUALITY IMPROVEMENT INTERVENTION PROGRAMME (QIIP™) FOR INTRAPARTUM CARE

(Phase 2: Objective 5)

6.1 INTRODUCTION

In the previous chapter the facilitating and impeding factors that influence quality intrapartum care from the perspective of the management and midwives (Chapter 5) were explored. Consideration of the findings of the literature review (Chapter 2), the resources, equipment and quality improvement initiatives needed for intrapartum care (Chapter 3) and what is held to be a desirable practice environment (Chapter 4) gave the basis for QIIP ™ and ensures content validity. The method of development of QIIP™, and the vision, mission, assumptions, objectives, situational analysis, content, implementing plan and evaluation of QIIP™, are addressed in this chapter. Table 6.1 gives an orientation as to the objectives and phases that constituted this research study.

Table 6.1 Orientation of objectives and phases constituting this study

PHASE 1	PHASE 2
Objective 1 *To explore and describe quality intrapartum care through a literature review.*	**Objective 5** *Develop a QIIP™ for Intrapartum care.*
Objective 2 *To determine the existing resources (personnel and equipment), as well as the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North West province.*	
Objective 3 *To determine the practice environment that may influence the quality of intrapartum care available at Level 2 public hospitals in the North West province.*	
Objective 4 *To explore and describe facilitating and impeding factors that influence the quality of intrapartum care in these institutions.*	

6.2 METHOD OF DEVELOPMENT OF QIIP™

The development of a QIIP™ is a process that does not take place in isolation. This is the rationale for choosing the programme development of Uys and Gwele (2005:26). Input from the various stakeholders is also important in order to develop the content of such a programme (Uys & Gwele, 2005:26). This method consists of the following five steps:

Step 1: Establish the context and foundations of QIIP™

Uys and Gwele (2005:27) stated that a situational analysis should be conducted. The situational analysis (data discussed in Chapters 2–5) provided a rich source of data to understand the context for which QIIP™ has been developed. The available resources (staff and equipment) and quality improvement initiatives that influence intrapartum care were explored and described. The facilitating and impeding factors that influence quality intrapartum care from the perspective of the management and midwives form the basis for QIIP™. The assumptions set out in Section 6.3.3, together with the results from the previous objectives, were used to formulate a mission and vision for QIIP™.

In this research a thorough situational analysis was conducted to determine the resources, staffing, quality improvement initiatives, and facilitating and impeding factors that influence quality intrapartum care in maternity units at Level 2 hospitals in the North West province. How the data obtained from the situational analysis have been incorporated into the programme is evident in Table 6.2.

Step 2: Formulate the outcomes or objectives

It is essential to identify what outcomes a programme sets out to achieve (Uys & Gwele, 2005:27). This is based on the role that the outcomes will play in the intrapartum context. The outcomes of the QIIP™ were formulated and include the establishment of a positive practice environment, staff satisfaction, patient satisfaction and a reduced MMR (see Section 6.3.4).

Step 3: Operationalise criteria for quality intrapartum care and develop a macro-content

Macro-content includes both the content of the programme and the choice of learning opportunities (Uys & Gwele, 2005:27). The internal structure of the QIIP™ was determined on the basis of content, process and outcomes, as explained by Donabedian (1990:1115) and De Geyndt (1995:3).

Step 4: Develop a micro-content

Micro-content refers to the finer detail of the macro-content. Uys and Gwele (2005:27) explain that this step indicates where the actual learning or actions take place, often referred to as the "instructional level". It includes the outline of the different courses, the learning opportunities and the specific evaluation strategies. It is important to remember that not all the staff are on the same educational level, which influences the quality of the intrapartum care rendered (Uys & Gwele, 2005:100). In this step the QIIP™ was developed for the maternity units at Level 2 hospitals in the North West province. The micro-curriculum of the QIIP™ is shown in Table 6.4.

Step 5: Plan for the evaluation of implementation and outcomes

This phase starts early so that relevant data are gathered timeously, against the stated outcomes, since a process of continuous monitoring and evaluation produces good-quality data. Two steps are used, namely implementation evaluation and outcome evaluation.

Implementation evaluation monitors the extent of the curriculum (content) on paper to determine what the students (midwives or units) experience. Outcome evaluation monitors the planned and unplanned results of the QIIP™ (Uys & Gwele, 2005:27). In this research the QIIP™ is evaluated in this step by means of subject, research, management, policy, instrument and political specialists.

6.3 QIIP™ FOR INTRAPARTUM CARE

In the following sections the vision, mission, assumptions, outcomes, content, synthesis of results, macro-content of the QIIP™, micro–content of the QIIP™, and the process of implementation and evaluation are addressed.

6.3.1 Vision

The first step in the strategic process is the development of a vision. Questions such as "Where are we going?" and "What do we want to become?" are related to the organisation's long-term direction (Coetzee, 2010). The vision statement must be culture-specific and use specific terminology (McNamara, 2010; Carr, 2010). The vision of the organisation serves as a "road map" to or inspiration for the organisation's future as is often referred to as an "enduring promise" or motivational tool composed of the organisation's ideals (Ehlers & Lazenby, 2010:68; Thompson & Strickland, 2001:6; Quigley, 1994).

"**Q**uality **I**mprovement **I**ntervention **P**rogramme for Intrapartum Care" – **QIIP™** – is not just a name but a hallmark for the gold standard in quality intrapartum care in the southern African context. It will empower the personnel, making them proud to be part of this collaboration between the patient, the midwife, the hospital and the government.

Therefore, deriving from the results of the previous chapters, the QIIP™ vision developed is as follows: **QIIP™ must be the preferred choice for ensuring excellence in intrapartum care in South Africa.**

6.3.2 Mission

Radtke (1998) stated that every organisation has a mission, a purpose, a reason for being. The mission statement is a statement that distinguishes an organisation from other, similar ones. Ward (2010) defined a mission statement as a brief description of the fundamental purpose of the organisation. It answers the question: "Why do we exist?" (Coetzee, 2010). Radtke (1998) stated that a good mission statement should accurately explain why the organisation exists and articulates the essential values and input of the staff members. It must further express the organisation's purpose in a way that inspires commitment, innovation and courage.

The mission of the QIIP™ is to facilitate and champion excellence of care during the intrapartum period by setting a culture of continuous quality improvement.

This mission will be accomplished through the development of staff capacity as a supporting pillar of the QIIP™. Each hospital or clinic that implements the QIIP™ will contribute to excellent quality intrapartum care rendered to the pregnant woman. Collaboration between every professional health-care worker and the hospital management, with a shared commitment to deliver quality intrapartum care to pregnant women, will ensure a positive birth experience. The implementation of the QIIP™ will ensure the quality care embedded in the Batho Pele principles and the Patients' Right Charter. The quality of care intended is based on the latest research, making use of EBP and BPG which are known in intrapartum care to improve the health outcomes for the mother and the neonate.

6.3.3 Assumptions

The following cornerstone assumptions must be embedded and will influence the successful implementation of the QIIP™:

- **Quality** – Quality is defined as an essential or distinctive characteristic, property or attribute, distinguishing a character or nature of high grade, superiority and excellence (Dictionary.com, 2004).
- **Integrity** – Integrity is derived from the Latin word *integritas*. Integrity implies adherence to moral principles and honesty. This wholeness and unity is an indication of a perfect condition, referring to the soundness of a person's moral character (Dictionary.com, 2004).
- **Commitment** – Commitment refers to an act of committing or a pledge of engaging oneself. It further refers to a promise and obligation towards a specific matter (Dictionary.com. 2004).
- **Respect** – Respect is derived from the Latin *respicere,* meaning to look back at or look again. It is the acknowledgement, esteem and consideration that every person is unique and a God-created being who needs to be treated with the necessary dignity and respect (Dictionary.com, 2004)**.**
- ***Guidelines for Maternity Care in South Africa*** – These guidelines were developed by leading researchers and clinicians, based on the latest research findings and modified to suit the South African context where necessary. The implementation of this strategy to improve the quality of intrapartum care will make a difference in the quality of care rendered by setting a standard through set protocols and guidelines (SA, 2007b:10).
- **EBP** and **BPG** - Evidence-Based Practice (EBP) is the practice of health care in which the practitioner systematically finds, appraises and uses the most current and valid research as the basis for clinical decisions (Dictionary.com, 2004). Researchers' rate how scientifically sound such a practice may be and the goal is to eliminate risky practices in favour of those that have better outcomes (Wikipedia, 2010).

Best Practice Guidelines (BPG) are a technique or methodology that, through experience and research, have proved to lead reliably to a desired result. Practice guidelines provide physicians and other health care givers with a medically proven "road map" for appropriate treatment. The best scientific evidence, together with the expert opinion, gives rise to recommendations based on rigorous clinical research as a soundly generated professional consensus (Spath, 2010). A commitment to using the best practices in any field is a commitment to using all the knowledge and technology at one's disposal to ensure success

(Whatis.com, 2010). Spath (2010) reported that accreditation standards do not require that caregivers blindly adopt all guidelines; however, there should be evidence that relevant guidelines and literature were considered in redesigning a patient's care process.

- **Batho Pele principles** – The eight Batho Pele principles that were developed by the Department of Health to kick-start the transformation of service delivery are as follows (SA, 1997b):
  - **Consultation** – You should be consulted about the level and quality of the public services you received and, wherever possible, should be given a choice about the services that are offered.
  - **Service standards** – You should be told what level and quality of public services you will receive so that you are aware of what to expect.
  - **Access** - You and all citizens should have equal access to the service to which you are entitled.
  - **Courtesy** – You should be treated with courtesy and consideration.
  - **Information** – You should be given full, accurate information about the public services you are entitled to receive.
  - **Openness and transparency** – You should be told how national and provincial departments are run, how much they cost, and who is in charge.
  - **Redress** – If the promised standard of service is not delivered, you should be offered an apology, a full explanation and a speedy and effective remedy. When complaints are made, you should receive a sympathetic, positive response.
  - **Value for money** – Public services should be provided economically and efficiently in order to give you the best possible value for money.

- **Patients' Right Charter** – The Department of Health is committed to upholding, promoting and protecting the rights of patients to ensure the right of access to health care services. The Patients' Rights Charter is subject to the provision of any law operating within the Republic of South Africa and to the financial means of the country, and includes the following (SA, 1996):
  - Everyone has the right to a healthy and **safe environment.**
  - Every citizen has the right to participate in the development of health policies and **decision-making** on matters affecting one's life.

- Everyone has the **right to access** to health-care services – including timely emergency care, treatment and rehabilitation, provision of special needs in the case of pregnant women and newborn babies, health care workers demonstrating courtesy, human dignity, patience, empathy and tolerance, and the availability of health information in a language they understand.
- Knowledge of one's **health insurance**/medical aid scheme is a right.
- Everyone has the **right to choose a particular health-care** provider for services or a particular health facility for treatment.
- Everyone has the right to **know the name of the person** that is providing the health care.
- Information concerning one's health, including information concerning treatment, may only be disclosed when **informed consent** is given.
- A person may **refuse treatment**, provided that such refusal does not endanger the health of others.
- Everyone has the right to be referred for a **second opinion.**
- **No one shall be abandoned** by a health-care professional who initially took responsibility for one's health.
- Everyone has the **right to complain** about health-care services and have such complaints investigated.

- **Authentic leadership** – The word authentic derives from the Greek *authentikos*, meaning one who accomplishes. To be authentic is to act, to embody and to participate in life. Authentic leadership is defined by Bob Terry (2010) as follows: "Authenticity is knowing, and acting on, what is true and real inside yourself, your team and your organization AND knowing and acting on what is true and real in the world. It is not enough to walk one's talk if one is headed off, or lead one's organization, community or nation off a cliff".

6.3.4 Outcomes

The QIIP™ sets the following outcomes:

- To strengthen the **organisational environment** through implementation of a vision, mission and objectives, while developing leadership and striving for QIIP™ accreditation for the rendering of quality intrapartum care

- To identify needs and opportunities for setting guidelines for adequate, well-equipped and maintained **infrastructure** through the necessary resources and equipment

- To uphold the proud tradition of a culture of excellence within health teams – a tradition based on scientific thinking, professional competency and positive behaviour regarding knowledge orientation – by facilitating health and community development in a way that is responsive to the needs of our time through educating the **patients** with dignity and respect to ensure patient satisfaction

- To strive to do research that conforms to outstanding academic standards and to develop, expand, facilitate and apply **knowledge orientation** in the nursing practice, nursing education and management, as well as in the community

- To aspire to excellence in our recruiting and retaining of **human resources**, to enable staff to act as leaders and researchers, to experience professional fulfilment and to be of service to the community through cultural sensitivity, while establishing a positive practice environment and staff satisfaction

- To build and expand our **multi-disciplinary team** networks to the benefit of excellence in research, practice, teaching and leadership, working together in developing a positive practice environment

- To empower all the **midwives** in the unit to become professional, skilled and competent midwives striving to excel in the quality care they render to provide the pregnant mother with an uplifting, safe birth experience so that a positive outcome will reduce the MMR

- To focus on a positive outcome through **quality improvement strategies,** by means of implementing the QIIP™, through transparency, compassion and accountability, and to implement EBP and BPG to reduce the MMR

What the QIIP™ desires is not for intrapartum care to be good, but to be great. Only through greatness can it truly achieve its vision to be the community of choice and the champion of the quality movement (Borawski & Brennan, 2008).

The following section synthesises the results discussed in Chapters 2 to 5. These results serve as the basis for the QIIP™ and ensure content validity.

6.4 CONTENT SYNTHESIS OF RESULTS

A number of themes emerged from each of the chapters and consolidations of these themes are presented in Table 6.2.

Table 6.2 Content synthesis from the previous chapters

CHAPTER 2	CHAPTER 3	CHAPTER 4	CHAPTER 5
Organisational – Strategic plans – Mission – Vision – Philosophy – Objectives – Transformational leadership – Open communication between management and staff – Cost-effectiveness – Productivity – Feedback	**Organisational** – Strategic plans – Vision – Philosophy – Transformation – Culturally sensitive environment – Leadership – Innovative climate – Technology resources – Partnership with community	**Organisational** – Positive practice environment	**Organisational influence** – Communication **Knowledge orientation** – Life-long learning – Congresses – Workshops **Human resources** – Headhunt – Skilled and competent
Staff/midwives – Good relationships – Life-long learning – Culturally sensitive environment – Skills – Competent – Communication skills between midwives and patients	**Staff/midwives** – Lifelong learning – Skills – Empowerment	**Staff/midwives** – Skilled and competent – Recruiting and retaining staff	**Multi-disciplinary team** – Collaboration **The midwife** – Skilled and competent

CHAPTER 2	CHAPTER 3	CHAPTER 4	CHAPTER 5
Quality of care – Quality audits – Quality control – Statistics – Evaluation of the unit – Plan, implement, check and act – Improve performance	**Quality of care** – Policies – Audits – Statistics		**Quality strategies** – Quality audits – Quality officer – Patients – Respect and dignity – Patient satisfaction
Patient expectations – Time management – prompt treatment, shorter queuing time – Patient satisfaction – Patient survey, patients' views – Feedback to patients	**Patient expectations** – Satisfaction – Partnership for a tailor-made service		–
Infrastructure – Enough resources – Maintenance			**Infrastructure** – Enough resources – On-site repairs

On closer investigation, some themes keep repeating themselves and they are included in the QIIP™. The main themes that keep occurring are as follows:

- Organisational factors
- Human resources
- Knowledge orientation
- Multi-disciplinary team
- The midwife
- Quality strategies
- Patients
- Infrastructure

From the results given above, eight themes of the objectives were formulated. Each objective is linked to the problem areas that need intervention. These problems were identified from the data collected, inclusive of the extensive literature review and the empirical research findings.

Table 6.3: Themes of the objectives and problems identified

THEMES OF THE OBJECTIVES	PROBLEM AREAS IDENTIFIED THAT NEED INTERVENTION
1. Organisational factors	• Leadership (Chapters 2, 5) • Creation of a culturally sensitive environment (Chapters2, 3) • Need for the establishment of a positive practice environment (Chapter 4) • Improved communication strategies (Chapters 2, 3, 5)
2. Infrastructure	• Adequate resources (Chapters 2, 3, 4, 5) • Maintenance of buildings and equipment (Chapters 2, 5) • Water and electricity (Chapters 2, 5)
3. Patients	• Communication and language barriers to be addressed (Chapters 2, 5) • Respect and dignity must be demonstrated (Chapters 2, 3, 5) • Patient satisfaction needs to improve (Chapters 2, 3, 4, 5)
4. Knowledge orientation	• Facilitation of life-long learning (Chapters 2, 3, 5) • Need for competent practitioners (Chapters 2, 5) • Skills development (Chapters 2, 4, 5)
5. Human resources	• Staff recruitment and retention (Chapters 2, 3, 4, 5) • Staff satisfaction (Chapters 2, 4, 5)

6. Multi-disciplinary team	• **Trust (Chapters 2, 5)** • **Improved communication (Chapters 2, 3, 4, 5)**
7. The midwife	• **Backbone of the maternity services (Chapters 2, 5)** • **Need for empowerment (Chapters 2, 3, 5)** • **Development needed to be competent (Chapters 2, 3, 5)**
8. Quality strategies versus absence of quality strategies	• **Need for quality audits (Chapters 2, 3)** • **Design quality interventions (Chapters 2, 3)**

6.5 CONTENT OF THE QIIP™ PROGRAMME

The QIIP™ programme is presented in a structure, process and outcome format. Table 6.3 provides a summary of the content. A clarification of the main concepts used in the QIIP™ is now presented.

- **Context**

Context is defined as “the set of circumstances or facts that surround a particular event or situation” (Dictionary.com, 2004).

QIIP™ is based on a situation that is in need; in this case it is care during the intrapartum period that needs a quality improvement intervention programme. The complex health-care context in this country, which has an unacceptably high MMR, makes a quality improvement intervention programme imperative.

- **Structure (inputs)**

Structure refers to the organisational, physical and human resources. These are quantifiable (see Section 2.5.3.2). Structure is defined as “the arrangement or interrelation of all the parts of a whole; manner of organization or construction” (Dictionary.com, 2004). In order for the programme to get started, certain structural aspects need to be in place, namely:

- Organisational influences
- Human resources
- Physical resources
- Time management
- Partnerships
- Research

- **Process (outputs)**

Process is defined as something in the course of being done: chiefly *in process*, course (of time, etc.); a continuing development involving many changes; a particular method of doing something, generally involving a number of steps or operations (Dictionary.com, 2004). It includes outputs.

These outputs can be described as what we do and whom we need to reach. This includes all the targeted people to be reached, namely individuals (pregnant women), families, communities and other organisations affected by these activities. These outputs can also involve workshops, conferences and counselling given.

- **Outcomes (impact)**

Outcomes refers to the way something turns out; result; consequence (Dictionary.com, 2004). What will be the result of this implementation? It can be divided into short-term, medium-term and long-term outcomes. Taylor-Powell and Henert (2008:15) describe short-term outcomes as including small changes such as in awareness, skills, attitudes, knowledge and opinions. Medium-term outcomes include changes that involve behaviours, decision-making and actions. Long-term outcomes include social, economic and environmental changes. We live in a fast-changing, dynamic world and various factors will influence the successful implementation of the QIIP™. Figure 6.1 is a schematic presentation of the development of the QIIP™ programme.

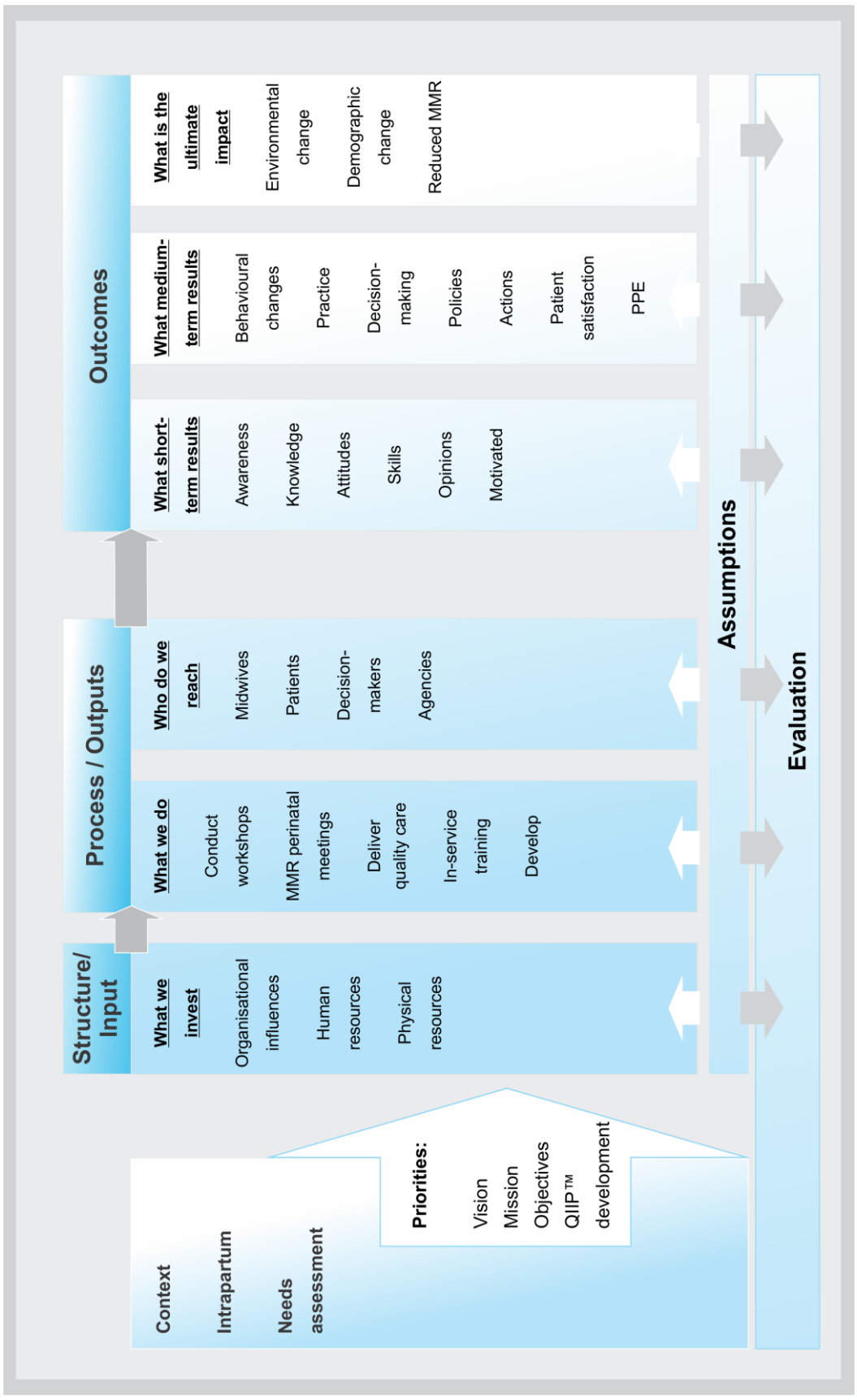


Figure 6.1 Schematic presentation of the programme development for the QIIP™

(Adapted from Taylor-Powell & Henert, 2008:14)

The content of the QIIP™ is outlined in detail in the following section. An intervention is defined as the act of interfering so as to modify or, in the medical context, as any measure whose purpose is to improve health or alter the course of disease (Dictionary.com, 2004). In this research the suggested interventions were developed to meet the objectives (see Section 6.3). The suggested interventions were developed through deductive logic (answering the question “what?”) as they are based on the literature review and the empirical findings. Each of the problems identified has its own unique colour code for easy reference. The objectives, together with the suggested interventions, are set out in macro content format in Table 6.4.

Table 6.4: Macro-content for the QIIP™

OBJECTIVE	SUGGESTED INTERVENTIONS
1. Strengthen the **organisational environment** through implementation of a vision, mission and objectives, while developing leadership and striving for QIIP™ accreditation for the rendering of quality intrapartum care	1.1 Develop a strong leadership whose vision is to make a difference in rendering quality intrapartum care (Chapters 2, 5) 1.2 Prepare the maternity unit for QIIP™ accreditation 1.3 Be culturally sensitive to staff and patients through the implementation of the Batho Pele principles and the Patients' Rights Charter (Chapters 2, 3, 5) 1.4 Establish a positive practice environment for the staff and the patients (Chapters 2, 4) 1.5 Establish open communication channels to the midwives and the patients (Chapters 2, 3, 5)
2. Identify needs and opportunities for setting up guidelines for adequate, well-equipped and well-maintained **infrastructure** through the necessary resources and equipment	2.1 Establish adequate resources and equipment to render quality intrapartum care on a safe and acceptable level (Chapters 2, 3, 4, 5) 2.2 Ensure that equipment and resources are well maintained (Chapters 2, 3, 5) 2.3 Ensure a safe water supply and back-up electricity to be able to render quality intrapartum care (Chapters 2, 5) 2.4 Keep hospital vehicles in a working condition and on the premises for quick referrals

3.	Uphold the proud tradition of a culture of excellence within health care teams – a tradition based on scientific thinking, professional competency and positive behaviour of knowledge orientation – by facilitating health care and community development in a way that is responsive to the needs of our time by educating the **patients** with dignity and respect related to patient satisfaction	3.1	Establish open communication channels between the management and midwives and also between the midwives and the patients. Language barriers can be dealt with through an interpreter (Chapters 2, 5)
		3.2	Accordingly respect and dignity to the patients is an essential part of the implementation of the Batho Pele principles and the Patients' Rights Charter (Chapters 2, 3, 5)
		3.3	Conduct patient satisfaction surveys and give midwives the necessary feedback regarding their suggestions or complaints (Chapters 2, 3, 4, 5)
4.	Strive to do research that conforms to outstanding academic standards and to develop, expand, facilitate and apply **knowledge orientation** in nursing practice, nursing education and management, as well as in the community	4.1	Instil a culture of life-long learning which will help the midwife to become an outstanding scholar who can use the new knowledge to better the quality of intrapartum care (Chapters 2, 3, 5)
		4.2	Develop competent midwives who excel in clinical practice and thus improve the quality of intrapartum care (Chapters 2, 5)
		4.3	Encourage skills development through the attendance of workshops and conferences that will add to knowledge orientation and personal development (Chapters 2, 4)

5.	Aspire in the recruiting and retaining of **human resources** to enable the staff to act as leaders and researchers, to experience professional fulfilment and to be of service to the community through cultural sensitivity, while establishing a positive practice environment and staff satisfaction	5.1	For any organisation to be successful, staff recruitment and retention are essential for establishing a positive practice environment (Chapters 2, 3, 4, 5)
		5.2	Staff satisfaction is important as it is an indicator of the quality of care rendered and thus also of patient satisfaction and a positive outcome (Chapters 2, 4, 5)
6.	Build and expand **multi-disciplinary** team networks to ensure excellence in research, practice, teaching and leadership and that the teams work together in developing a positive practice environment	6.1	Building trust is essential between members of a multi-disciplinary team, who must all work together to improve the quality intrapartum care (Chapters 2, 5)
		6.2	There must be open and clear communication between the members of the multi-disciplinary team to reduce misunderstandings (Chapters 2, 3, 4, 5)
7.	Empower all the midwives in the unit to become professional, skilled and competent **midwives** striving to excel in the quality of care that they provide to the pregnant mother to ensure an uplifting and safe birth experience; a positive outcome will also reduce the MMR	7.1	Midwives are often alone in rural areas and have to make decisions that can influence the life of the mother and the baby. It is thus important for the midwife to be a competent, skilled and proficient staff member with a passion for work (Chapters 2, 5)
		7.2	Empowering midwives through constant in-service training and life-long learning will influence the quality of intrapartum care rendered (Chapters 2, 3, 5)
		7.3	A skilled, competent midwife is essential in delivering quality intrapartum care that will have a positive outcome and reduce the MMR (Chapters 2, 3, 5)

8.	Focus on a positive outcome through **quality improvement strategies** conforming to QIIP™ through transparency, compassion and accountability, and through the implementation of EBP and BPG to reduce the MMR	8.1	Statistics from quality audits will make it clear what the actual standard of intrapartum care in the maternity unit is (Chapters 2, 3)
		8.2	The implementation of quality interventions based on EBP and BPG will improve the quality of intrapartum care rendered and reduce the MMR (Chapters 2, 3)

From this macro content the micro-content was developed for the QIIP™ through the use of inductive logic (answering the question “How”?). Each theme is further explored in Table 6.4 and is colour coded for easy reference.

Table 6.5: Micro-content for the development of the QIIP™ structure

Suggested intervention	Micro-content	Activities
1. ORGANISATIONAL		
1.1 Develop strong leadership (Chapters 2, 5)	1.1 Leadership should be authentic, visionary, democratic and visible 1.2 Get input from all the staff in developing the vision, mission and objectives of the hospital or maternity unit 1.3 Strive to deliver a cost-effective service that is the service of choice for the community	1.1 Develop and present a workshop on authentic leadership 1.2. Conduct daily ward rounds to be visible to the staff and patients and demonstrate management by walking around 1.3 Schedule a meeting to explain the formulation of the new vision, mission and objectives to all the staff to ensure their buy-in 1.4 Schedule and hold meetings twice per annum with the community leaders to find out what their needs are and to share news about the QIIP™ initiative on a continuous basis
1.2 Prepare the maternity unit for **QIIP™ accreditation**	1.2.1 Place Web-based advertisements for the hospital and maternity unit 1.2.2 Make use of technology for advertisements and to reduce time consumed on compiling monthly statistics	1.2.1 Advertise the hospital and its QIIP™ accreditation for rendering quality intrapartum care 1.2.2 Budget for computers for each ward with on-line Internet function. The unit managers can use them for their statistics each month and the midwives can go on-line to get the latest EBP and BPG if unsure about a treatment 1.2.3 Develop an on-line chat-room for the doctors and midwives of each of the provinces to serve as in-service training and consultation

1.3 **Be culturally sensitive** to staff and patients (Chapters 2, 3, 5)	1.3.1 Implement the Batho Pele principles and the Patients' Rights Charter	1.3.1 Plan and schedule workshops on cultural sensitivity to generate an awareness among all the staff and make them more sensitive towards the patients 1.3.2 Implement the Batho Pele principles in the maternity unit 1.3.3 Display the Patients' Rights Charter in the unit and educate the patients about their rights
1.4 **Establish a positive practice environment** for the staff and the patients (Chapters 2, 4)	1.4.1 Recruit staff for maternity units specifically through targeted advertisements 1.4.2 Retain staff by listening to their problems and making them feel wanted and special	1.4.1 Headhunt midwives specifically through targeted advertisements 1.4.2 Provide accommodation for midwives living far from the hospital
1.5 Establish **open, clear communication** to the midwives and the patients (Chapters 2, 3, 5)	1.5.1 Establish open communication between the management and the midwives	1.5.1 Involve all the staff in decisions that influence them directly – information meetings held once a month will let the staff feel part of the process

2. INFRASTRUCTURE		
2.1 **Adequate equipment** (Chapters 2, 3, 4, 5)	2.1.1 Set ratios for equipment so that safe, quality intrapartum care can be rendered 2.1.2 Ensure that there is enough linen to replace the dirty linen, especially over weekends	2.1.1 Keep an inventory of the equipment; replace broken equipment and update as new equipment becomes available 2.1.2 Establish on-site dry cleaners. This activity will reduce the time and effort involved in the transport and handling of the linen
2.2 **Maintenance of buildings and equipment** (Chapters 2, 5)	2.2.1 Keep both the buildings and the equipment in good working order 2.2.2 Provide a safe environment for the patients so that no risk can lead to claims due to neglect	2.2.1 The appointment of a maintenance officer to do on-site repairs of equipment will reduce the turnaround time for repairs 2.2.2 The management of the hospital should do an inspection of the buildings each weekend as part of their job and arrange for repairs within the next week. A follow-up can take place the next weekend
2.3 Water and electricity (Chapters 2, 3, 5)	2.3.1 Ensure that there is always safe water and electricity to keep the hospital functional	2.3.1 Ensure that potable water (of a high standard of purity) provided by a municipality is available and utilised 2.3.2 Keep a back-up generator in good working condition on the premises in case of power failures to cope with emergency conditions

2.4 Hospital vehicles (Chapters 2, 5)	2.4.1 Keep the hospital vehicles in good working condition and on the premises for quick referrals with a driver	2.4.1 Have the vehicles serviced regularly and have them washed and maintained on a daily basis for clean, safe transport 2.4.2 Present workshops on telephone ethics and the referral routes around the hospital once a month so that all the personnel are familiar with the shortest routes for quick referrals 2.4.3 Keep a daily record of incoming calls for referral, as well as the reaction time for bringing the patient to the hospital

3. PATIENTS		
3.1 Establish open **communication channels** between the management and the midwives (Chapters 2, 5)	3.1.1 Build a relationship of trust between the management and the midwives 3.1.2 Communicate with the patients and inform them about their condition, answering any other question that may arise	3.1.1 Honesty and transparency between the management and the midwives will be established if open communication channels are available, with an organogram displayed in the ward 3.1.2 Communicate with the patients in a clear, friendly voice, taking into consideration the Batho Pele principles 3.1.3 Language barriers can be dealt with by using an interpreter

3.2 Patients **respect and dignity** is essential (Chapters 2, 3, 5)	3.2.1 Handle patients with the respect and dignity that are part of the Batho Pele principles and the Patients' Rights Charter	3.2.1 Implement the Batho Pele principles, as well as the Patients' Rights Charter
3.3 Patient satisfaction surveys (Chapters 2, 3, 4, 5)	3.3.1 Prompt and timeous management of the patient will lead to patient satisfaction and could also reduce the MMR	3.3.1 Allocate a specific staff member to attend to new patients, starting with the recording of their baseline vital data within 10 minutes after arrival
	3.3.2 Shorten the queuing time when a patient has to wait for service at the hospital	3.3.2 Keep a record of the time the doctor is notified about the arrival of the patient in the ward, and also give the necessary feedback to the midwives about their suggestions or complaints
	3.3.3 Implement a customer-focused approach by doing evaluations through a patient satisfaction survey form	3.3.3 Give feedback to the staff about what the patients report, on both the positive and the negative side 3.3.4 Keep a record of the patient satisfaction percentage each month and try to determine the factors that may influence the outcomes 3.3.5 Present regular in-service training regarding the latest EBP and BPG that influence new policies which may influence the outcomes

		3.3.6 Send midwives to workshops on cultural sensitivity so that they can provide culturally sensitive quality intrapartum care

4. KNOWLEDGE ORIENTATION		
4.1 **Life-long learning** will help the midwife to become an outstanding scholar that can use the new knowledge to better the quality of intrapartum care (Chapters 2, 3, 5)	4.1.1 In a changing world with new knowledge emerging daily it is important for the midwife to keep up to date on the latest research findings.	4.1.1 Send the midwives to attend workshops, conferences and symposia or give them the opportunity to proceed with post-basic education such as and Advanced Diploma in Midwifery or even an MCur degree in Midwifery.
	4.1.2 Motivate midwives for additional qualification as a basis for life-long learning	4.1.2 Keep record of the CPD points the midwives obtained during the year and give everyone the opportunity to attend a workshop, conference or symposia on a rotation basis. 4.1.3 Give structured feedback to the other midwives that did not attend the workshop, conference or symposia so that the new knowledge is distributed among all. 4.1.4 Implement a policy of extra remuneration for additional qualification.

	4.1.3 Implement EBP and BPG in the policies and guidelines that are developed within the maternity unit	4.1.5 Get the midwives in the maternity unit all involved in the development of EBP and BPG 4.1.6 Appoint a champion midwife to drive the in-service training in the maternity unit
4.2 To become a competent midwife who **excels in clinical practice** and thus improve the quality of intrapartum care (Chapters 2, 5)	4.2.1 Keep up to date with the latest research findings that are implemented in clinical practice to improve the quality of care rendered 4.2.2 Remain clinically skilled and competent with every procedure that is used in practice	4.2.1 Attend workshops, symposia and conferences to remain informed about the latest findings in research that will influence clinical practice. This will narrow gap between theory and practice 4.2.2 Become part of a journal club to keep up to date with the latest research. 4.2.3 Allocate a midwife with a specific timeframe to a specific patient to render quality intrapartum care. Attend conferences and apply the latest research findings in practice
4.3 **Skills development** through the attendance of workshops and conferences (Chapters 2, 4, 5)	4.3.1 Motivate personal development through the attendance of workshops and conferences or in-service training sessions 4.3.2 Share new information based on the latest research findings	4.3.1 Practice new skills until the midwives are competent in the execution thereof 4.3.2 Ward rounds once a week with the full multi-disciplinary team will give the midwives extra knowledge and skills

	4.3.3 Give in-service training, which is an excellent way of developing skills	4.3.3 Provide a monthly incentive to the ward that gave their staff the most in-service training in that month

5. HUMAN RESOURCES		
5.1 Staff recruitment and retention are essential for establishing **a positive practice environment** (Chapters 2, 3, 4, 5)	5.1.1 Recruit staff who are passionate being midwives	5.1.1 Headhunt midwives who specifically want to work in the maternity unit by placing explicit advertisements
	5.1.2 Keep the midwives motivated and happy to stay in the organisation	5.1.2 Give an incentive for the midwife who received the most positive comments each month
	5.1.3 Aim for a staff: patient ratio of 1:6 as stipulated in the *Savings Babies report* (SA, 2009b)	5.1.3 Give recognition to the midwife who was identified by the patients as being the most helpful through a certificate and photo display in the ward
		5.1.4 Listen to the midwives' requests and improve job satisfaction among midwives through the establishment of a core staffing corps
		5.1.5 Conduct entry and exit interviews with all the staff
		5.1.6 Develop and launch annual awards to recognise midwives who render quality care as indicated by the patients
		5.1.7 Head hunt midwives and work in close collaboration with the Human resource department to get vacancies filled

5.2 **Staff satisfaction** is important as it is an indicator of the quality of care rendered and thus also of **patient satisfaction** and a **positive outcome** (Chapters 2, 4, 5)	5.2.1 A happy staff corps creates a positive practice environment for the patients 5.2.2 Allow the midwives to take part in decision-making with the management of the hospital 5.2.3 A positive practice environment is more likely to have a positive outcome for the patient and thus reduce the MMR.	5.2.1 The retention of midwives is an important indicator of a stable workforce 5.2.2 The participation of the midwives in the management structure gives them a sense of belonging and makes it much more likely that policies will be implemented successfully 5.2.3 Keep a record of the patient survey forms and re-evaluate them if a change in practice occurs 5.2.4 Keep statistics of the MMR and re-evaluate them if a constant workforce of midwives improves the MMR

6. Multi-disciplinary team		
6.1 Trust is a cornerstone requirement in **collaboration** with the other members of the multi-disciplinary team (Chapters 2, 5)	6.1.1 Work together to improve the quality of intrapartum care 6.1.2 There must be mutual respect for the role that every member of the multi-disciplinary team plays	6.1.1 Once a week conduct a full ward round with all the members of the multi-disciplinary team 6.1.2 Consult the various members of the multi-disciplinary team so that every member works in collaboration with the team, within their scope of practice

	6.1.3 Make inputs during official meetings to work in collaboration to resolve a problem	6.1.3 Schedule and attend official meetings once a week at which difficult cases are discussed, for example a maternal or perinatal death
6.2 **Open and clear communication** between the members of the multi-disciplinary team will reduce misunderstandings (Chapters 2, 3, 4, 5)	6.2.1 Know the hierarchy of the communication channel 6.2.2 Inform each other if a patient is booked from a referral	6.2.1 Display an organogram so that everyone knows the levels of communication within the organisation 6.2.2 Keep a communication book next to the phone in which to write referrals so that the rest of the staff remain informed

7. MIDWIVES		
7.1 Midwives are often alone in rural areas and have to **make decisions** that can influence the life of the mother and the baby (Chapters 2, 5)	7.1.1 It is important for the midwife to be a competent, skilled and proficient staff member with a passion for her work 7.1.2 These midwives need to function autonomously and independently within their scope of practice	7.1.1 Headhunt midwives who are passionate about midwifery through networking, word of mouth and a personal interview with the midwives after their applications have been received as a result of specific advertisements 7.1.2 Recruit and retain competent midwives by advertising and selecting appropriate candidates with specific skills. Retain these midwives by providing an environment that is inducive to life-long learning. Give them the necessary opportunities to become part of the management team, recognise their achievements and provide incentives for work well done 7.1.3 Allow the midwives to function independently with autonomy within their scope of practice (R2488)

7.2	**Empower the midwives** through constant in-service training and life-long learning (Chapters 2, 3, 5)	7.2.1 Constant in-service training and a culture of life-long learning will influence the quality of intrapartum care rendered	7.2.1 Give in-service training once a week at a set time. This should be given by the in-service training officer or otherwise a rotating roster with topics for the year can be drawn up so that there is no uncertainty about the topic or the presenter 7.2.2 Institute an incentive scheme for the midwife who attended the most in-service training sessions during the month 7.2.3 Appoint a midwife to champion in-service training in the maternity unit
7.3	**A skilled, competent midwife** is essential for delivering quality intrapartum care that will result in a positive outcome and reduce the MMR (Chapters 2, 3, 5)	7.3.1 Deliver quality intrapartum care that will result in a positive outcome and reduce the MMR	7.3.1 Keep statistics of the MMR and the perinatal deaths 7.3.2 Arrange workshops and in-service training once a month as a constant output to ensure that midwives become more skilled and competent 7.3.3 Determine staff satisfaction through a questionnaire survey 7.3.4 Provide mentorship for newly qualified midwives

8. Quality strategies					
8.1	Statistics from **quality audits** will help you know what the standard of the intrapartum care in the maternity unit is (Chapters 2, 3)	8.1.1	Implement a continuous quality improvement strategy that provides ongoing evaluation of the quality of intrapartum care	8.1.1 8.1.2 8.1.3	Undertake monthly quality audits of maternity records as stipulated in the *Guidelines for Maternity Care in South Africa* Display the audit results on the unit's noticeboard so that all the staff are aware of the ward's strengths and weaknesses Evaluate the maternity unit and determine whether you are ready for QIIP™ accreditation
8.2	The **implementation** of **quality interventions** based on EBP and BPG will improve the quality of intrapartum care rendered and reduce the MMR (Chapters 2,3)	8.2.1	Develop quality interventions for the procedures that take place in the maternity unit	8.2.1 8.2.2 8.2.3 8.2.4	Make use of EBP and BPG to develop quality interventions that may influence the quality of intrapartum care rendered in your unit Involve all the staff when developing a new policy or guideline – it gives them a sense of ownership when they are part of such a development Keep statistics of the audit every month to ensure that the quality interventions are being implemented Appoint a quality officer to show your commitment to improving the quality of intrapartum care

These themes conclude the macro-content and micro-content of the QIIP™. If the content applies to your maternity unit, you may decide to participate in the implementation process.

6.6 PROCESS OF IMPLEMENTATION

Wadsworth (1997:59) suggests that we start with the question ”What are our experiences and what is their value”? Once we get the picture of what is being evaluated (who, does what, to whom, when, where, where and how), we can move to the second question, namely “What are valued experiences and how can we experience them in future?” After a situational analysis has been conducted, the practice environment has been determined, and the facilitating and impeding factors have been determined, one will know what the strengths and weaknesses in the hospital/maternity unit are. Once the hospital/maternity unit has been evaluated, it can apply for QIIP™ accreditation.

To implement the QIIP™ it is foreseen that units that want to carry the hallmark will have to apply for evaluation and will have to meet the objectives of the QIIP™. A grading system is suggested for the implementation. A description of the application process and the grading systems is now given.

6.6.1 Steps in the application for hospital evaluation

Step 1: An on-line accreditation application system will be available for applicants.

Step 2: The fee payable for QIIP™ accreditation will depend on the size of the hospital and the extensiveness of the inspection. Fees will differ from R15 000-00 for Level 3 hospitals, to R10 000-00 for Level 2 hospitals and R5 000-00 for Level 1 hospitals.

Step 3: Ahead of the QIIP™ accreditation inspection, a date will be confirmed with the hospital letting them know when to expect the arrival of the accreditation team. For QIIP™ accreditation, a team will conduct a full situational analysis every three years.

Step 4: The QIIP™ inspection involves various aspects, namely a situational analysis, an audit of the procedures in the ward, administration of the RM4CAST questionnaire with the midwives, interviews with the patients to determine their satisfaction levels, as well as observation of actual practices by hospital staff.

Step 5: A score is given to each area to determine the actual level of the performance. However, if there is significant non-compliance in certain areas, a follow-up inspection may

be scheduled. This follow-up inspection is linked to a penalty fee. If it is found that the acceptable standards are not being met, this can result in the loss of QIIP™ accreditation.

Step 6: After a QIIP™ inspection, the results may be made available to the public and the ward receives a QIIP™ grading appraisal. The QIIP™ distinguishes itself from other potential competitors through the value added by the accreditation process (Moffett *et al.* 2005:111).

6.6.2 Grading of QIIP™ accreditation

The grading of QIIP™ accreditation includes the following main elements (adapted from Northern Ireland Quality Centre, 2010):

1. QIIP™ accreditation will be open to all public and private hospitals within the South African context.
2. The maternity unit can apply on its own for QIIP™ accreditation until the hospital as a whole is ready for QIIP™ accreditation.
3. Hospitals will be formally invited to work towards QIIP™ accreditation.
4. Application can be in the form of a written submission or can be made on-line.
5. Trained validating teams will evaluate the submission. Each team will consist of a minimum of three people.
6. A site visit with a full situational analysis will be conducted.
7. An additional amount of R3 000-00 will be charged per site visit and to cover administrative aspects.
8. There are four levels of recognition available, namely a 2 star, 3 star and 4 star grading, and the QIIP™ Symbol of Excellence.
9. The QIIP™ accreditation process will be administered by the North West University.
10. Applications for QIIP™ accreditation may be done throughout the year and site visits will be scheduled according to the team's workload.
11. In the case of renewal or application for a higher level of accreditation, this will take place every two years.
12. Official ceremonies can be organised by the applicants.
13. Recognition for the appropriate step will be granted according to the QIIP™ accreditation process.
14. Validators will undergo formal training once a year.

Various QIIP™ accreditation gradings are awarded in the striving for excellence within maternity units. Grading is done by an independent, external team of trained validators.

For a hospital or maternity unit to be awarded a 2 star recognition, it must comply with 55% of the QIIP™ accreditation standards.

– 2 star 55%

For a hospital/maternity unit to be presented with a 3 star recognition, it must comply with 65% of the QIIP™ accreditation standards.

– 3 star 65%

For a hospital/maternity unit to be awarded a 4 star recognition, it must comply with 75% of the QIIP™ accreditation standards.

– 4 star 75%

The QIIP™ hallmark of excellence for intrapartum care is awarded to hospitals/maternity units that comply with 85% of the QIIP™ accreditation standards.

QIIP™ hallmark of excellence in intrapartum care

85%+

From the process of application and the QIIP™ accreditation grading, we move to evaluation of the QIIP™.

6.7 EVALUATING PROCESS OF THE QIIP™

This section includes the benefits of QIIP™ accreditation, an example of feedback, and the main elements that the QIIP™.

6.7.1 Benefits of QIIP™ accreditation

- Gain external recognition of your ward (hospital) from the community.
- React to the feedback report on your strengths and areas that should be improved.
- Accelerate your improvement activities.
- Motivate employees through external recognition.
- Recruit and retain competent and skilled staff to become part of a QIIP™-accredited institution.
- Establish and improve a positive practice environment as measured by the Practice Environment Scale of the Nurse Work Index (PES-NWI) instrument as part of the RM4CAST questionnaire.

- Increase job satisfaction as measured by the Practice Environment Scale of the Nurse Work Index (PES-NWI) (Lake, 2002) instrument as part of the RM4CAST questionnaire.

- Reduce burnout of midwives as measured by the Maslach Burnout Inventory-HSS (Maslach & Jackson, 1985) as part of the RM4CAST questionnaire.

- Hospitals can use QIIP™ accreditation as an advertisement of the quality care rendered at their institutions and may thus attract private patients with medical aid schemes as institutions of preferred choice.

- Insurance companies can use QIIP™ accreditation as verification of payment eligibility (Moffett *et al.* 2005:111).

- The greatest benefit is the **feedback report.** These written assessments are based on the site visit for QIIP™ accreditation and are compiled by a team of trained validators. The report will include an executive summary, comments and a scoring summary.

6.7.2 The executive summary

This will be a summary of the key themes and a high-level synopsis of the organisation (ward) according to the validation team (Northern Ireland Quality Centre, 2010).

6.7.3 Comments

A detailed report on the strengths and areas for improvement will be given. This is a custom-made report specifically for your organisation (ward).

6.7.4 The scoring summary

Each of the themes is linked to a score which will help you to prioritise the area that you want to improve first.

6.7.5 Sample of the feedback

Leadership

Leadership develops a mission, vision, objectives and strategic plan according to the QIIP™ standards.

Strengths

- The commitment to quality is reflected in the appointment of a quality officer.
- A formal vision and mission statement are displayed in all the wards of the institution.
- Leadership training programmes have emerged from the management audit.
- Appraisal initiatives have been developed in line with the organisation's aims.

Areas for improvement

- Although managers may lead by example, no role model behaviour was demonstrated.
- Managers are not involved in training.
- Managers do not seem to be involved in quality initiatives.
- There is no evidence of reviewing for leadership effectiveness.
- There is no evidence of communication with staff on a weekly basis.
- Staff do not make inputs into the development of mission statements.

6.7.6 Your journey to QIIP™ accreditation

Once you have decided to apply for QIIP™ accreditation, your full commitment is needed as the QIIP™ is designed to recognise those hospitals and maternity wards that have already made an effort to improve the quality of intrapartum care. The QIIP™ provides a structured stimulus for constant quality improvement while progressing towards the QIIP™ Hallmark of Excellence.

Once your organisation (maternity ward) has decided to apply for QIIP™ accreditation, you can submit a formal application on the application form (Appendix L).

6.8 SUMMARY

The need for a tailor-made quality intervention programme within the South African public health care context was long overdue. The aim of the QIIP ™ is to improve the quality of intrapartum care and patient satisfaction, and to ensure a positive practice environment for the midwives while reducing the MMR. In this chapter the QIIP™ programme was developed and the vision, mission, assumptions, theoretical framework, objectives, situational analysis, content, implementing plan and evaluation were addressed. The process of grading for QIIP™ accreditation was discussed, and an example of feedback and an application form was given. In the next chapter the final conclusion, evaluation and limitations of the study, and recommendations for practice, research and education are discussed.

Chapter 7

CHAPTER 7

EVALUATION OF THE STUDY, LIMITATIONS OF THE STUDY, RECOMMENDATIONS FOR PRACTICE, RESEARCH, EDUCATION AND POLICY

7.1 INTRODUCTION

In this final chapter of the thesis, the researcher reflects on the findings of this study, which was motivated by the discovery that the quality of care rendered in maternity units is not up to the standard that it should be in order to meet the MDGs and to limit the MMR. The focus of the study was on the intrapartum period.

This chapter includes:

- Evaluation of the study (7.2)
- limitations of the study (7.3)
- recommendations for practice, research, education and policy (7.4).

7.2 EVALUATION OF THE STUDY

In this section each chapter is separately evaluated.

7.2.1 CHAPTER 1: Scientific grounding of the research

In Chapter 1 an overview of the study, including the introduction and background, familiarised the reader with the problem statement. The overall aim of the study was to develop a Quality Improvement Intervention Programme (QIIP™) for intrapartum care.

The research process consisted of two phases and five objectives; both inductive and deductive research strategies were used to achieve these objectives:

Objective 1: an literature review was conducted to explore and describe quality intrapartum care from a theoretical perspective;

Objective 2: the existing resources (personnel and equipment) were analysed and the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North West province were determined;

Objective 3: the practice environment in the intrapartum period was determined and described;

Objective 4: the facilitating and impeding factors that influence quality intrapartum care were explored;

Objective 5: a Quality Improvement Intervention Programme (QIIP™) for intrapartum care was developed.

In Phase 1, Objective 1 involved a literature review to give a theoretical perspective of quality intrapartum care; this objective is described in Chapter 2. For Objective 2 the resources (staffing and equipment) were analysed and the quality improvement initiatives for intrapartum care at Level 2 hospitals in the North-West province were determined; this objective is described in Chapter 3. For Objective 3 the practice environment in which intrapartum care is rendered was described; this objective is described in Chapter 4. For Objective 4 the facilitating and impeding factors that influence quality intrapartum care as perceived by the management and the midwives were explored and described; this objective is described in Chapter 5.

Phase 2 involved the development of QIIP™; this is presented in Chapter 6.

A quantitative and qualitative research design, with the aim of exploring, analysing, describing and interpreting the findings within a specific context, was used. In Chapter 1 an overview of the research methods followed to develop QIIP™ for intrapartum care is presented (see Table 1.2). The relevant research methods for each objective are, however, discussed in each chapter.

7.2.2 CHAPTER 2: Literature Review

(Phase 1: Objective 1)

A literature review was conducted to determine quality care from a theoretical perspective. Data were collected electronically using a number of search engines, e.g. EBSCO HOST, Nexus, Emerald, Medline, Academic Premier Research and CINAHL. Both qualitative and quantitative research reports were used. Purposive sampling according to the following criteria was used: quality, midwifery, labour/labor, intrapartum, BPG and EBP (Burns & Grove, 2009:335–356).

The themes applicable to this research included:

- Quality of care
- Quality improvement and quality assurance
- Quality models
- Intrapartum care
- Positive practice environments

This literature review formed the basis for the situational analysis and provided content validity.

7.2.3 CHAPTER 3: Existing resources (personnel and equipment), as well as the quality improvement initiatives for intrapartum care at level 2 hospitals in the North West province

(Phase 1: Objective 2)

Objective 2 of Phase 1 explored and described the information gathered through the situational analysis in the four Level 2 hospitals in the North West province. The realisation of the data, including the choice of a research method, population and sample, ethical considerations, data collection and data analysis, was described. This was followed by rigour. Lastly, the findings from Objective 2 were evaluated. In Chapter 3 a checklist was used to conduct the situational analysis. The checklist was preferred as the researcher

surveyed responses on a whole range of activities (Terre Blanche, 2008:487). Biographical data on the four Level 2 hospitals in the North West province were given. The structure, process and outcomes were explored and described. The aim of this chapter was to establish the position with regard to levels of staffing and equipment in order to determine a baseline for intrapartum care at Level 2 hospitals in the North West province. Although all four hospitals are classified as Level 2 hospitals, they differ with regard to the number of staff and the equipment available. It was found that the hospital with the largest number of staff also had the most equipment. Furthermore, although they all know about quality improvement initiatives, these are not being fully implemented in all the hospitals. Some of the hospitals have even more quality improvement initiatives in place.

7.2.4 CHAPTER 4: The practice environment in the maternity units at Level 2 public hospitals in the North West province that may influence the quality of intrapartum care

(Phase 1: Objective 3)

Objective 3 of Phase 1 explored and described the practice environment that may influence the quality of intrapartum care in the four Level 2 hospitals in the North West province. The realisation of the data, including the choice of research method, population and sample, ethical considerations, data collection and data analysis, was described. This was followed by rigour. Lastly, the findings from Objective 4 were evaluated.

Although all four of the participating hospitals are in the same province and are classified as Level 2 hospitals, there are some differences in the number of staff and the equipment available to render quality intrapartum care. At the time of data collection, all four hospitals had relatively stable workforces with few retention and recruitment problems, in contrast to the national situation. Regarding the practice environment, it appears that the largest hospital also has the most positive practice environment, with midwives suffering less burnout and experiencing the most job satisfaction.

7.2.5 CHAPTER 5: Facilitating and impeding factors influencing the quality of intrapartum care provided at level 2 hospitals in the North West province

(Phase 1: Objective 4)

Objective 4 of Phase 1 explored and described, through the opinions of the hospital management and the midwives in the four Level 2 hospitals in the North West province, what are perceived as the facilitating and impeding factors that influence the quality of intrapartum care provided. The realisation of the data, including the choice of research method, population and sample, a pilot study, ethical considerations, data collection and data analysis was described. This was followed by rigour. Lastly, the findings from Objective 4 were evaluated.

Interviews are regarded as a powerful and common way of trying to understand each other (Fontana & Frey, 2003:62). In this study face-to-face verbal interchanges took place on an individual basis in the offices of the two management members (Brink *et al*., 2006:151; Fontana & Frey, 2003:62; Denzin & Lincoln, 2003:69) and represent interaction and relation with the other management members (Denzin & Lincoln, 2003:64).

Focus groups are described as a "carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment" (Krueger & Casey, 2000:5). During these face-to-face verbal interchanges, the participant "provides information to the researcher" (Burns & Grove, 2009:403). A time and place for conducting the focus group sessions are agreed to by the researcher and the participants (Fain, 2004:271). During this research various focus group sessions were held with the management of the hospitals, as well as with the midwives as they are a group of people who share similar experiences (Terre Blanche *et al.,* 2008:304). Strategies to enhance trustworthiness in this research are listed in Table 5.5. Eight main themes were identified by both the management and the midwives and are given in Table 7.1, together with their sub-themes.

Table 7.1 Main and sub-themes as identified by management and midwives

	MAIN THEMES	SUB-THEMES
1	**Organisational factors**	Leadership and management Collaborative culture COHSASA accreditation
2	**Infrastructure**	Essential physical infrastructure Human resources management Reciprocal communication
3	**Patients**	Patient profile Patient's voice
4	**Knowledge orientation**	Life-long learning Knowledge transfer
5	**Human resources**	Human resources management Maternity-specific workload
6	**Multidisciplinary team**	Team members Efficient teamwork
7	**The midwife**	Personal dynamics Professional conduct
8	**Quality strategies**	Quality strategies Quality audits

7.2.6 CHAPTER 6: Quality improvement intervention programme (QIIP ™) for intrapartum care

(Phase 2: Objective 5)

The unique contribution of this thesis is the development of QIIP™ to improve intrapartum care. The programme is innovative as it provides the public sector with knowledge of what

QIIP™ entails. The ultimate outcome envisaged through the implementation of QIIP™ is the reduction of MMR in the strive to contribute to the MDG 5. QIIP™ has been registered as a trademark for utilisation within the South African context. This thesis is compiled in such a way that every chapter can be published as a separate article. During the development of this thesis I had the opportunity to attend the 39th Biennial Convention of the Honor Society of Nursing, Sigma Theta Tau International, Baltimore, Maryland, 2-7 November 2007, where I met Dr. Lake and were introduced to the PES-NWI scale that determined the practice environment. During the same year I was also invited to attend a workshop for ECSACON (East, Central and Southern African College of Nursing) in Uganda at the Speke Resort Hotel, 11-16 June 2007 for the develop of a curriculum for Advanced Midwifery within the African context.

7.3 LIMITATIONS OF THE STUDY

- The study was conducted in the public sector in the North West province, thus limiting the findings to the public context. However, it is foreseen that QIIP™ is transferable to other provinces and with minor amendments also the private sector.

- One of the limitations of this study is that the patients' perceptions of what constitutes quality intrapartum care are not taken in consideration. However, this was not the focus of the study. Exit interviews with women could be done on the day of their discharge. A variety of information regarding the communication process, decision-making, support, choice of facility and experience of care could be obtained (Hulton *et al.* 2000:15). Interviews should be designed to obtain some socio-economic data, as well relevant information such as previous pregnancies, complications and outcomes of deliveries.

- Focus group sessions and in-depth interviews with patients can reveal evidence of client satisfaction or dissatisfaction (Hulton *et al.* 2000:17), but again, this was not the focus of the study.

- Although the response rate of the midwives participating in the RM4CAST did not influence the reliability of the study findings, the response rate was not high. The ignorance of many midwives towards nursing research may influence future research projects (Pretorius, 2009:226).

Despite the limitations of this study, its purpose, namely to develop a **Q**uality **I**mprovement **I**ntervention **P**rogramme (QIIP™) for intrapartum care, was achieved.

7.4 RECOMMENDATIONS

Recommendations for practice, research, education and policy are given below.

7.4.1 Recommendations for practice

- Make the standards for quality care as displayed through QIIP™ generally available and display them outside each maternity unit throughout South Africa. Maternity units should apply for QIIP™ accreditation, thus ensuring the community of quality intrapartum care.

- Increase awareness of the factors influencing quality intrapartum care through presentations to the management of the various hospitals.

- Establish standards in the public sector that equal the best in private practice, despite limited resources, by creating a positive practice environment.

- Establish an effective and sustainable workforce, recruiting and retaining the best midwives to render quality intrapartum care.

- Identify a role model in practice and give him/her the necessary support through leadership development, such as the Maternal-Child-Health-Nurse-Leadership-Academy initiative supported by Sigma Theta Tau International (STTI) and Johnson & Johnson.

- Establish a research-friendly environment where midwives and collaborators work together to improve the quality of the intrapartum care rendered.

- Encourage midwives to take action and participate in the development of policies in the hospital.

- Encourage maternity units to implement Best Practice Guidelines in order to improve the quality of the intrapartum care rendered and to establish positive practice environments (RNAO, 2010; Baumann, 2007).

7.4.2 Recommendations for research

- Conduct a survey of patients' perceptions of quality care based on the "Patient Survey for Quality of Care" (Woodward *et al.* 2000:97). A comparison of intrapartum care between the various levels of hospitals, as well as between private and public hospitals, will clarify patients' perceptions of what quality care entails.

- Research should be conducted to measure the patient outcome (MMR) of the care rendered by midwives with diplomas as compared with midwives with degrees.

- It would be useful to determine what 'empowerment' means to midwives in the South African context and what empowerment they need to improve the outcome of MMR.

- "In order to bridge the gap between policies and practice, policy writers and policy makers must pay closer attention to the levels of proficiency and literacy" of managers and midwives that are required for the successful implementation of a particular policy (Edwards & Smit, 2008:118). It would be useful to determine this for QIIP™.

- The impact of a collaborative culture on bridging the gap between theory and practice while policy implementation is taking place should be determined.

- The difference in practice environments between public and private hospitals should be determined.

- The difference in practice environments between various units in hospitals should be determined.

- The model of care that would fit the South African context best should be established.

7.4.3 Recommendations for education

- QIIP™ should be implemented in all public hospitals. It is based on knowledge generated from this research and is aimed at resolving intrapartum care problems and leading to quality intrapartum care (Graves, 2008:17).

- Instruction in quality intrapartum care should form part of the midwives' study curriculum and factors that influence quality intrapartum care should be elucidated.
- Midwives should be trained to provide culturally sensitive intrapartum care and should be trained to be aware that various cultures have different views of what quality intrapartum care entails.
- Hospital management and midwives should be made aware of the influence of positive practice environments on the quality of intrapartum care.
- Midwives should be trained in communication skills and the necessary leadership skills.
- Capacity-building for midwives is essential and is achieved through life-long learning, especially in topics of relevance to improving the quality of intrapartum care.

7.4.4 Recommendations for policy

- Streamline policy implementation to set standards of workshops and in-service training, that management understand the importance of policy implementation.
- In a diverse country such as South Africa a cultural sensitive policy for maternity units should be develop for midwives and health care professionals.
- The Department of Health should encourage maternity units with personnel to apply for QIIP™ accreditation as benchmark for quality intrapartum care.
- Develop a recruiting and retaining policy for midwives. Recruit and retain the best midwives with extra remuneration as motivation for each additional qualification obtained to ensure that the quality of intrapartum care improves and to assure life-long learning.
- Develop a policy that hospitals must have a designated maternity theatre available as strategy to improve the MMR.
- Establish a policy research tool on the influence of positive practice environments on quality intrapartum care.

7.5 PERSONAL REFLECTION

In this research study the path I followed was sometimes smooth and sometimes strewn with obstacles. Despite the challenges, I was also blessed with wonderful opportunities. I met champions in the midwifery practice who astounded me with their perseverance and determination to keep going and keep rendering quality intrapartum care despite the fact that their practice environments were not always optimum. They are inspired by the overarching aim to ensure a safe delivery for the mother and a healthy baby. As a midwifery lecturer I strongly believe that the implementation of QIIP™ will improve the quality of intrapartum care within the South African context.

This process reminds me of a saying by Joanne McGlown, Director of Global Business Development, ***Sigma Theta Tau*** International (STTI, 2010):

"If not now – when?

"If not me – who?"

7.6 SUMMARY

In hospitals, quality assurance and improvement procedures, including formal accreditation procedures, are put in place to protect the community using the facility (Woodward *et al.,* 2000:94).

The first step towards conducting a QIIP™ assessment is making the decision to do so. Two questions will help hospitals decide whether the effort is worth their time and energy, namely:

- Does the hospital want to align its staff, resources, processes and customers (patients/community) strategically to achieve its goals and vision?
- Does the hospital want to create an enterprise (maternity unit) that can achieve sustainable results in the changing health practice environment?

If the answer is 'yes' to these questions, then conducting an assessment against the QIIP™ will be a worthwhile endeavour to pursue.

An organisation (hospital/maternity unit) that is awarded QIIP™ recognition may use this award as advertising through publications. Making QIIP™ awards visible through this

medium will help to communicate the benefits of quality and performance improvement in intrapartum care to the government, hospital managements, patients (pregnant women) and the community.

In conclusion, I would like to quote Chang (2004:1556): “You can either take action, or you can hang back and wait for a miracle. Miracles are great but they are so unpredictable”. In the absence of a miracle, to ensure that the MDGs are met, QIIP™ presents the opportunity to galvanise hospitals and midwives into action to create a better future for pregnant women during intrapartum care in South Africa.

REFERENCES

ABDOOL, K., QUARRAISHA, A., ADHIKARI, M., CASSOL, S., CHERSICH, M., COOPER, P., COOVADIA, A., COOVADIA, H., COTTON, M., COUTSOUDIS, A., HIDE, W., HUSSEY, G., MADHI, S., MARTIN, D., PETTIFOR, J.M., ROLLINS, N., SHERMAN, G., THULA, S. & URBAN, M. 2002. Vertical HIV transmission in South Africa: translating research into policy and practice. *Lancet*, 359(9311):992, 23 Mar. Date of access: 16 February 2010.

ADAMS, A. & BOND, S. 2003. Staffing in acute hospitals wards, Part 1: The relationship between number of nurses and ward organizational environment. *Journal of nursing management,* 11(5):287-292.

ADAMS, A., BOND, S. & HALE, C.A. 1998. Nursing organizational practice and its relationship with other features of ward organization and job satisfaction. *Journal of advanced nursing*, 27(6):1212-1222.

ADAMS, E. & KENNEDY, A. 2006. Positive practice environments Key considerations for the development of a framework to support the integration of international nurses. Geneva: International Centre for Nurse Migration. 68 p.

ADEYI, O. & MORROW, R. 1997. Essential obstetric care: assessment and determinants of quality. *Social science and medicine,* 45(11):1631-1639.

AFRICAN NATIONAL CONGRESS (ANC). 1994. A National Health Plan for South Africa. Benoni: Taj Printers. 91 p.

AIKEN, L.H., BUCHAN, J. SOCHALSKI, J., NICHOLIS, B. & POWELL, M. 2004. Trends in international migration. *Health Affairs*, 23(3):69-77.

AIKEN, L., CLARKE, S.P., CHUENG, R.B., SLAONE, D.M. & SILBER, J.H. 2002. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association,* 288:1987-1993.

AIKEN, L.H., CLARKE, S.P., CHEUNG, R.B., SLOANE, D.M. & SILBER, J.H. 2003. Educational levels of hospital nurses and surgical patient mortality. *Journal of American Medical Association,* 290(12):1617-1623. http://jama.ama-assen.org/cgi/content/full/290/12/1617 Date of access: 22 June 2009.

AIKEN, L.H., CLARKE, S.P., SLOANE, D.M., SOCHALSKI, J.A., BUSSE, R. & CLARKE, H. 2001. Nurses' report on hospital care in five countries. *Health affairs,* 20(3):43-53.

AIKEN, L.H., SMITH, H.L. & LAKE, E.T. 1994. Lower medicare mortality among a set of hospitals known for good nursing care. *Medical care,* 32:771-787.

AIKEN, L.H., SOCHALSKI, J.A. & LAKE, E.T. 1997. Studying outcomes of organizational change in health services. *Medical care,* 35(11 Suppl.):NS6-NS18.

AIT-KHALED, M., LYALL, E.G.H., STAINSBY, C., TAYLOR, G.P., WRIGHT, A., WEBER, J.N., McCLURE, M.O. & TUDOR-WILLIAMS, G. 1998. Intrapartum mucosal exposure to human immunodeficiency virus type 1 (HIV-1) of infants born to HIV-1 infected mothers correlates with maternal plasma virus burden. *Journal of infectious diseases; official publication of the Infectious Diseases Society of America,* 177(4):1091-1100, Apr.

AMERICAN FEDERATION OF TEACHERS. 1995. Program, Organization, History. http://www.education.stateuniversity.com/pages/1761/American-Federation-Teatchers.html Date of access: 07 December 2010.

AMERICAN HERITAGE® DICTIONARY. 2009. The American®Heritage Dictionary of the English Language. 4ed. Houghton Miffin Company. www.thefreedictionary.com/programme Date of access: 03 Nov. 2010.

AMERICAN HOSPITAL ASSOCIATION. 2002. In our hands: how hospital leaders can build a thriving workforce. Chicago, Ill.: American Hospital Association.

AMERICAN NURSES ASSOCIATION. 2002. Nursing's agenda for the future: a call to the nation. Washington, D.C.: American Nurses Association.

AMERICAN NURSES CREDENTIALING CENTER (ANCC). 2000. The Magnet Nursing Services Recognition Program for Excellence in nursing service, health care organization: instructions and application process. Washington D.C.: Author

AMERICAN NURSES CREDENTIALING CENTER (ANCC). 2005. Health care organizations with magnet designated nursing services. http://www.nursingworld.org/ancc/magnet/ magnet2.htm. Date of access: 26 March 2008.

AMERICAN NURSES CREDENTIALING CENTER (ANCC). 2006. ANCC magnet recognition program: recognizing excellence. http://www.nursingworld.org/ancc/magnet/index.html Date of access: 27 November 2006.

ANALYTIX. 2003. Analytix received certification in the South African Excellence Model. Press release. http://www.itweb.co.za/office/analytix/0305080701.htm Date of access: 22 April 2008.

ANC ***see*** AFRICAN NATIONAL CONGRESS

ANCC ***see*** AMERICAN NURSES CREDENTIALING CENTER

ANON. 2007. Locate a hospital in South Africa. http://www.selfmed.co.za/hospital.aspx Date of access: 17 April 2007.

ANTEZANA, F.S. & HAINES, A. 1997. Future of international health. WHO is taking proactive role in advancing policy of health for all. *British journal of medicine*, 315(7116):1163-1164, 1 Nov. http://www.bmj.com/cgi/content/full/315/7116/1163/c Date of access: 29 August 2007.

ANWARI, J.S., BUTT, A.A. & AL-DAR, M.A. 2004. Obstetric admissions to the intensive care unit. *Saudi medical journal*, 25(10):1394-1399.

APFER, J., ZABAVA FORD, W.S. & FOX, D.H. 2003. Predicting nurses' organizational and professional identification: the effect of nursing roles, professional autonomy, and supportive communication. *Nursing economics,* 21:226-232.

ARRIES, E. 2006. Humanising the workplace. *Nursing update,* 30(1):32-35. Feb.

AVIS, M., BOND, M. & ARTHUR, A. 1997. Questioning patient satisfaction: an empirical investigation in two outpatient clinics. *Social science and medicine,* 44(1):85-92.

AYANIAN, J.Z. & WEISSMAN, J.S. 2002. Teaching hospitals and quality of care: a review of the literature. *Milbank quarterly*, 80(3):569-593.

BABAKUS, E., YAVAS, U. & ASHILL, N.J. 2009. The role of customer orientation as a moderator of the Job-demand-burnout-performance relationship: A surface-level trait perspective. *Journal of Retailing*, 85(4):480-492.

BABBIE, E. 2007. The practice of social research. 11th ed. Belmont, Calf.: Thomson Wadsworth. (International student edition.) 512 p.

BACKMAN, A. 2000. Job satisfaction, retention, recruitment and skill mix for a sustainable health care system. Report to the Deputy Minister of Health for Saskatchewan. Heath workplace opportunities, resources and challenges for Saskatchewan: Heath Works. 113 p.

BADZEK, L. & COBER, S. 1996. 10 tips for success as a nurse manager. *American journal of nursing,* 96(6):48-49.

BALANCED SCORE CARD INSTITUTE (BSCI). 2007. What is the balanced scorecard? http://www.balancedscorecard.org/BSCResources/AbouttheBalancedScorecard Date of access: 11 April 2008.

BALDWIN, L.-M., HUTCHINSON, H.L. & ROSENBLATT, R.A. 1992. Professional relationships between midwives and physicians: collaboration of conflict? *American journal of public health,* 82(2):262-264.

BARAMEE, J. & BLEGEN, M.A. 2003. New graduate perception of clinical competence: testing a causal model. *International journal of nursing studies,* 40(4):389-399. http://www.sciencedirect.com Date of access: 08 February 2010.

BARTON, T.D. 1998. The integration of nursing and midwifery education within higher education: implications for teachers - a qualitative research study. *Journal of advanced nursing,* 27:1278-1286.

BATEMAN, C. 2007. Hospital standards: private expertise virtually unused. *South African medical journal,* 97(9):820-824, Sept.

BAUMANN, A., BLYTHE, J., CLEVERLEY, K., GRINSPUN, D. & TOMPKINS, A. 2006. Educated and unemployed: the paradox for nursing graduandi. Hamilton, Ontario: Canada: Nursing Health Service Research Unit, McMaster University. (Health Human Resource Series number 3.)

BAUMANN, A. 2007. Positive practice environments: quality workplaces = quality patient care. Information and action tool kit. http://www.icn.ch/indkit2007pdf 11 April 2008.

BENNETT, V.R. & BROWN, L.K. 2001. Myles textbook for midwives. 13th ed. London: Churchill Livingstone. 1031 p.

BERSLOW, L. 1972. A quantitative approach to the World Health Organization definition of health, physical, mental and social well-being. *International journal of epidemiology,* 1(4):347-355. http://ije.oxfordjournals.org/cgi/content Date of access: 29 August 2007.

BESTER, P. 2008. Authentic leadership embedded in a social capital framework: a theory in nursing science. Potchefstroom: North-West University. (Thesis - PhD.) 348 p.

BEYEA, S.C. 2007. Preparing for electrical power system failures. *AORN journal,* 85(4):819-822.

BHUTTA, Z.A., DARMSTADT, G.L., HAWS, R.A., YAKOOB, M.Y. & LAWN, J.E. 2009 Delivering interventions to reduce the global burden of stillbirths: improving service supply and community demand. *BMC pregnancy and childbirth*, 1:57.

BIGGAR, R.J., MIOTTI, P.G., TAHA, T.E., MTIMAVALYE, R., BROADHEAD, R., JUSTESEN, A., YELLIN, F., LIOMBA, G., MILEY, W., WATERS, D., CHIPHANGWI, J.D. & GOEDERT, J.J. 1996. Perinatal intervention trial in Africa: effect of birth canal cleaning interventions to prevent HIV transmission. *Lancet*, 347:1647-1650, June 15.

BILLAY, D. & MYRICK, F. 2008. Preceptorship: an integrative review of the literature. *Nurse education in practice*, 8(4):258-266. http://www.elsevierhealth.com/journals/nepr Date of access: 03 February 2010.

BMJ ***see*** BRITISH MEDICAL JOURNAL

BOOYENS, S.W. 2002. Introduction to health service management. 2nd ed. Lansdowne: Juta. 415 p.

BORAWSKI, P. & BRENNAN, M. 2008. The Baldrige Model: an integrated and aligned system approach to performance excellence. *Journal of association leadership*, Summer. http://www.asaecemter.org/PublicationsResources/JAL Date of access: 09 September 2008.

BOTES, A. 1991. 'n Funksionele denkbenadering in die verpleegkunde. *Curationis*, 14(1):19-22, Jul.

BOTES, A.C. 1992. A model for research in nursing. Johannesburg : Randse Afrikaanse University.

BREIER, M., WILDSCHUT., A. & MGQOLOZANA, T. 2009. Nursing in a new era. The profession and education of nurses in South Africa. Cape Town: HSRC Press. 141 p.

BRINK, H., VAN DER WALT, C. & VAN RENSBURG, G. 2006. Fundamentals of research methodology for health care professionals. 2nd ed. Cape Town: Juta. 226 p.

BRODIE, P. 2002. Addressing the barriers to midwifery: Australia midwives speaking out. *Australian College of Midwives Incorporated*, 15(3):5-14, Sept.

BROOKER, C. 2006. Churchill Livingstone's dictionary of nursing. 19th ed. London: Elsevier Churchill Livingstone. 293 p.

BROWN, L.D., *et al.* 1980. Quality assurance of health care in developing countries. Monograph. Bethesda, Md.: Quality Assurance Project, Center for Human Services.

BSCI ***see*** BALANCED SCORE CARD INSTITUTE

BUDD, K,W., WARINO, L.S. & PATTON, M.E. 2004. Traditional and non-traditional collective bargaining: strategies to improve the patient care environment. *Online journal of issues in nursing,* 9(1):153-170. http://www.puk.ac.za:2506/ehost Date of access: 31 July 2009.

BUERHAUS, P.I. & NEEDLEMAN, J. 2000. Policy implications of research on staffing and quality of patient care. *Policy, Politics & Nursing Practice,* 1(1):5-15.

BURNS, N. & GROVE, S.K. 2005. The practice of nursing research: conduct, critique and utilization. 5th ed. St. Louis, Mo.: Elsevier. 780 p.

BURNS, N. & GROVE, S.K. 2009. The practice of nursing research: appraisal, synthesis and generation of evidence. 6th ed. St. Louis, Mo.: Elsevier. 750 p.

BUSINESS DIRECTORY. 2008. Malcom Baldrige National Quality Award Definition. http://www.businessdictionary.com/definition/Malcolm-Baldrigde-National-Quallity-Award.html Date of access: 09 September 2008.

BUSINESSBALLS. 2008. Balanced scorecard: Kaplan and Norton's organizational performance management tool. http://www.businessballs.com/balanced_scorecard.htm Date of access: 25 April 2008.

CARR, L. 2010. How to make a business vision statement. http://www.ehow.com/how_6691225_make-business-vision-statement Date of access: 04 Dec. 2010.

CATHCART, E.B., GREENSPAN, M. & QUIN, M. 2010. The making of a nurse manager: the role of experiential learning in leadership development. *Journal of nursing management,* 18: 440-447.

CCE ***see*** CENTRE FOR COLLABORATIVE EDUCATION (CCE)

CENTRE FOR COLLABORATIVE EDUCATION (CCE). 2001. Turning points: transforming middle schools. Guide to collaborative culture and shared leadership. http://www.turningpts.org Date of access: 10 May 2010.

CHAPMAN, A. 2003. Frederick Herzberg motivational theory. http://www.businessballs.com/herzberg.htm Date of access: 25 April 2008.

CHANG, 2004. Speech at the Common Science and Technology Conference on Policy development, UK. 1556.

CHEN, L.C. 2010. Striking the right balance: health workforce retention in remote and rural areas. http://www.ncbi.nlm.nih.gov/pmc/articles Date of access: 07 December 2010.

CHIANG, H. & LIN, S. 2008. Psychometric testing of the Chinese version of nursing practice environment scale. *Journal of clinical nursing,* 18:919-929.

CHIDRAWI, H.C. 2000. Die paraatheid van verpleegkundiges vir spiritueel-sensitiewe verpleging. Potchefstroom: PU vir CHO. (Dissertation - MCur.) 195 p.

CHINN, P. & KRAMER. M.K. 1995. Theory and nursing a systematic approach. 4th ed. St. Louis, Mo.: Mosby. 235 p.

CHO, S.H., KETEFIAN, S., BARKAUSKAS, V.H. & SMITH, D.G. 2003. The effects of nurse staffing on adverse events, morbidity, mortality, and medical cost. *Nurse research*, 52(2):71-79. Mar.-Apr.

COETZEE, S.K. 2010. Quality of doctoral education in nursing in South Africa. Potchefstroom: North-West University. (Thesis - PhD.) 395 p.

COHEN, P. 2008. Deming's 14 points. http://www.hci.com.au/hcisite2/articles/deming.htm Date of access: 21 April 2008.

COHSASA. 2010. COHSASA accreditation criteria. http://www.cohsasa.co.za/html/criteria.htm Date of access: 12 May 2010.

COOPER, H.M. 1984. The integrative research review: a systematic approach. Belmont, Calif.: Sage. 144 p.

COYLE, J. 1999. Exploring the meaning of "dissatisfaction" with health care: the importance of "personal identity threat". *Sociology of health and illness,* 21(1):95-124.

CRESSWELL, J.W. 1994. Research design: qualitative and quantitative approaches. Thousand Oaks, Calif.: Sage.

CRESSWELL, J.W. 2003. Research design: qualitative, quantitative, and mixed methods approach. 2nd ed. London: Sage Publications. 246 p.

DANQUAH, J.B., APPAH, E.K., DJAN, J.O., OFORI, M., ESSEGBEY, I.T. & OPOKU, S. 1997. Improving recordkeeping for maternal mortality programs, Kumasi, Ghana. *International journal of gynecology and obstetrics,* 59(2):149-155.

DE GEYNDT, W. 1995. Managing the quality of health care in developing countries. Washington, D.C.: World Bank. (World Bank technical paper 258.)

DE KOCK, J. & VAN DER WALT, S.J.C. 2004. Maternal and newborn care a complete guide for midwives and other health professionals. Lansdowne: Juta.

DE LUSIGNAN, S., HAGUE, N., VAN VLYMEN, J. & KUMARAPELI, P. 2006. Routinely-collected general practice data are complex, but with systematic processing can be used for quality improvement and research. *Informatics in primary care*, 14:59-66.

DENOSA. 1998. Ethical standards for nurse researchers. Pretoria: Denosa. 7 p.

DENZIN, N.K. & LINCOLN, Y.S. 2003. Collecting and interpreting qualitative materials. 2nd ed. Belmont, Calif.: Sage. 682 p.

DENZIN, N.K. & LINCOLN, Y.S., *eds.* 2005. The Sage handbook of qualitative research. London: Sage Publications. 1210 p.

DE VOS, A.S. 2000. Combined quantitative and qualitative approach. (*In* De Vos, A.S., *ed.* Research at grass roots. Pretoria: Van Schaik. p. 357-363.)

DE VOS, A.S. & FOUCHé, C.B. 2000. General introduction to research design, data collection methods and data analysis. (*In* De Vos, A.S., *ed.* Research at grass roots. Pretoria: Van Schaik. p. 76-94.)

DE VOS, A.S. & FOUCHé, C.B. 2005. Quantitative research designs. (*In* De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. Research at grass roots: for the social science and human service professionals. 3rd ed. Pretoria:Van Schaik. p. 132-143).

DE VOS, A.S., STRYDOM, H., FOUCHé, C.B. & DELPORT, C.S.L. 2005. Research at grass roots: for the social science and human service professionals. 3rd ed. Pretoria: Van Schaik. 471 p.

DE VOS, A.S., STRYDOM, H., FOUCHé, C.B. & DELPORT, C.S.L. 2002. Research at grass roots: for the social sciences and human service professionals. 2nd ed. Pretoria:Van Schaik. 493 p.

DE VOS, A.S., STRYDOM, H., FOUCHé, C.B., POGGENPOEL, M. & SCHURNICK, E.W. 2000. Research at grass roots: a primer for the caring professions. Pretoria: Van Schaik. 436 p.

DE WITT, E. 2006. Free State MEC of Health, Mr Belot, acknowledge skills. *Health and hygiene,* 17(4):8, May.

DEPIERO, A.D., OCHESENSCHLAGER, D.W. & CHAMBERLAIN, J.M. 2002. Analysis of pediatric hospitalizations after emergency department release as a quality improvement tool. *Annals of emergency medicine*, 39:159-163.

DERR, M.K. 2010. It affects as all: Maternal healthcare. http://www.conversationsforabetterworld.com Date of access: 07 December 2010.

DESMIDT, S., PRINZIE, A. & HEENE, A. 2008. The level and determinants of mission statement use: a questionnaire survey. *International journal of nursing studies,* 45(10):1433-1441. http://www.elsevier.com/ijns Date of access: 17 February 2010.

DICKSON, M.W., RESICK, C.J. & HANGES, P.J. 2006. When organizational climate is unambiguous, it is also strong. *Journal of applied psychology,* 91(2):351-364, March. http://www.psycnet.apa.org Date of access: 23 September 2008.

DICTIONARY.COM. 2004. Dictionary.com Unabridge. Random House, Inc. http://dictionary.reference.com/browse/HELP Date of access: 04 Dec. 2010.

DOHRN, J., NZAMA, B. & MURRMAN, M. 2009. The impact of HIV scale-up on the role of nurses in South Africa: time for a new approach. *Journal Acquire Immune Deficiency Syndrome,* 52(1):27-29, Nov. http://www.jaids.com Date of access: 01 November 2009.

DONABEDIAN, A. 1966. Evaluating the quality of medical care. *Milbank Memorial Fund quarterly,* 44:166-203.

DONABEDIAN, A. 1988. The quality of care: how can it be assessed? *Journal of the American Medical Association,* 260(12):1743-1748.

DONABEDIAN, A. 1990. The seven pillars of quality. *Archives of pathology and laboratory medicine*, 114(11):1115-1118.

DRUCKER, P.F. 2004. Mexico: global health needs a new research agenda. *Lancet,* 364:1555-1556, 30 Oct. http://www.thelancet.com Date of access: 29 August 2007.

DTI ***see*** SOUTH AFRICA. Department of Trade and Industry

DUBBELMAN, B. 2010. South Africa failing to reach Millennium Development Goals. http://www.polity.org.za/article/south-africa-failing-to-reach-millennium-development Date of access: 03 Nov. 2010.

DU PREEZ, A. 2004. Intrapartum praktykgebruike om vertikale oordrag van MIV te beperk. Potchefstroom: PU vir CHO. (Verhandeling - MCur.) 229 p.

DU PREEZ, A., KLOPPER, H.C. & VAN DER WALT, S.J.C. 2010. Quality Improvement Intervention Programme for Intrapartum Care. Potchefstroom: North West University. (Thesis-PhD.) 384 p.

EDMONSON, S., FISHER, A., BROWN, G., IRBY, B., LUNENBURG, F., CREIGHTON, T., CZAJA, M., MERCHANT, J. & CHRISTIANSON, J. 2001. Creating a collaborative culture. (Paper presented at the 55th Annual Summer Conference for the National Council of Professors of Education Administration held in Houston, Texas, on 7 to 11 August 2001. Houston. p. 1-13.) http://www.eric.ed.gov/ERICWebPortal/custom/portlets/record Date of access: 10 May 2010.

EDWARDS, G. & SMIT, B. 2008. Collaborative leadership as a necessary condition for successful curriculum implementation. *Journal of education,* 4:109-122.

EHLERS, T. & LAZENBY, K. 2010. Strategic Management: Southern African concepts and cases. 3rd ed. Pretoria: Van Schaik. 427 p.

EL-JARDALI, F., DIMASSI, H., DUMIT, N., JAMAL, D. & MOURO, G. 2009. A national-cross-sectional study on nurses' intent to leave and job satisfaction in Lebanon: implications for policy and practice. *BioMed Central Nursing,* 8:3-37.

ELLIOTT, H., GAUTHIER, P-A., MITCHELL, M., OASTES, S. & PURDY, N. 2007. The clinical nurse specialist: the multi-dimensional role of the clinical nurse specialist. Registered Nurses' Association of Ontario. http://www.rnao.org/Page.asp?PageID=122&ContentID=1064 Date of access: 13 March 2007.

ELLIS, J. 2000. Sharing the evidence: clinical practice benchmarking to improve continuously the quality of care. *Journal of Advanced Nursing,* 32(1):215-225.

ENKIN, M., KEIRSE, M.J.N.C., NEILSON, J., CROWTHER, C., DULEY, L., HODNETT, E. & HOFMEYR, J. 2000. A guide to effective care in pregnancy and childbirth. 3rd ed. Oxford: Oxford University Press. 525 p.

EYGELAAR, S.J.D. & UYS, J.S. 2004. The application of the excellence model to enhance health service delivery and performance excellence in a state department. *South African journal of human resource management,* 2(3):32-41.

FAHY, K. & TRACY, S.K. 2007. Critique of Cochrane systematic review of home-like setting for birth. *International journal of evidenced based healthcare*, 5:360-364.

FAIN, J.A. 2004. Reading, understanding and applying nursing research: a text and workbook. 2nd ed. Philadelphia: F.A. Davis Co. 439 p.

FAMILY CARE AND INTERNATIONAL & SAFE MOTHERHOOD INTER-AGENCY GROUP. 2000. Good quality maternal health services. http://www.safemotherhood.org/facts_facts_and_figures/maternal_health.htm Date of access: 21 February 2001.

FAWCUS, S., MBIZVO, M., LINDMARK, G. & NYSTRöM, L. 1996. A community-based investigation of avoidable factors for maternal mortality in Zimbabwe. *Studies in family planning,* 27(6):319-327.

FAYERS, F. 2006. Midwifery in a state of crises: a peek at the issues engaged at the Conference of the Society of Midwives of South Africa. *Nursing today,* 9(4):8-9.

FELD, S. 2007. Repairing the Health Care system. What is the definition of quality medical care? http://stanleyfeldmdmace.typepad.com/repairing_the_healthcare_/20 Date of access: 12 Nov. 2010.

FESTIN, M.R., LAOPAIBOON, M., PATTANITTUM, P., EWENS, M.R., HENDERSON-SMART, D.J. & CROWTHER, C.A. 2009. Caesarean section in four South East Asian countries: reasons for, rates, associated care practices and health outcomes. *BMC pregnancy and childbirth*, 9:17

FIELD, A. 2005. Discovering statistics using SPSS. London: Sage Publications. 779 p.

FIELD, A. 2009. Discovering statistical using SPSS. 3rd ed. London: Sage Publications. 821 p.

FINKEL, A. 2007. Preceptorship: key to success. Registered Nurses' Association of Ontario. http://www.rnao.org/Page.asp?PageID=122&ContentID=1309 Date of access: 13 March 2007.

FISCHER, D., FENTER, T. & McCLURE, J. 2004. Getting serious about safety and loss prevention emergency power and standby generators. (*Proceedings of the Fourteenth Symposium on Improving Building Systems in Hot and Humid Climates, Richardson, TX,* May, 17-20.)

FISCHLER, S. 2010. Collaborative culture index: where does your organization fall? http://www.sarahfischler.org/2010/02/collaborative-culture-index Date of access: 10 May 2010.

FLYNN, M. & MCKEOWN, M. 2009. Nurse staffing levels revisited: a consideration of key issues in nurse staffing levels and skill mix research. *Journal of nursing management*, 17:759-766.

FOLEY, M. 2004. Caring for those who care: a tribute to nurses and their safety. *Online journal of issues in nursing*, 9(3), 30 Sept.

FONTANA, A. & FREY. J.H. 2003. The interview: from structured questions to negotiated text. (*In* Denzin, N.K. & Lincoln, Y.S., *eds*. Collecting and interpreting qualitative materials. Thousand Oaks, Calif.: Sage. p. 61-106.)

FORSTER, D.A., MCLACHLAN, H.L., YELLAND, J., RAYNER, J., LUMLEY, T. & DAVEY, M. 2006. Staffing in postnatal units: is it adequate for the provision of quality care? Staff perspectives from a state-wide review of postnatal care in Victoria, Australia. *BMC health services research,* 6:83.

FOUCHé, C.B. 2000. Data collection methods. (*In* De Vos, A.S., *ed.* Research at grass roots. Pretoria: Van Schaik. p. 152-177.)

FOUCHE, C.B. & DE VOS, A.S. 2005. Quantitative research designs. (*In* De Vos, A.S., Strydom, H., Fouche, C.B. & Delport, C.S.L. Research at grass roots: for the social science and human service professionals. 3rd ed. Pretoria: Van Schaik. p. 71-85.)

FOWLER, S., VAN BRUMMELSEN, H.W. & VAN DYK, J. 1990. Christiaan schooling: education of freedom. Potchefstroom: Potchefstroomse Universiteit vir CHO. (Wetenskaplike bydraes van die PU vir CHO. Series F: Institute for Reformational Studies. F3: Collections, no. 39. Potchefstroom.) p. 198.

FRASER, D.M. & COOPER, M.A. 2003. Myles textbook for midwives. 14th ed. Edinburgh: Churchill Livingstone. 1089 p.

FRASER, D.M., COOPER, M.A. & NOLTE, A.G.W. 2010. Myles textbook for midwives African edition. 2nd . Edinburgh: Churchill Livingstone. 1095 p.

FRITZPATRICK, M.A. 2001. Collective bargaining: a vulnerability assessment. *Nursing management*, 32(2):41-42.

FULLERTON, J.T., THOMPSON, J.B. & LANCEY, B.M. 2005. Examining the evidence for the International Confederation of Midwives' Essential Competencies for Midwifery Practice. *Midwifery*, 21(1):2-13, Mar.

GEEFHUYSEN, C.J. 1999. Safe motherhood in Indonesia: a task for the next century. (*In* Berer, M. & Ravindian, T.K.S. Safe motherhood initiatives. Oxford, Blackwell Science. p. 66-72.)

GELBER, D.V. & SHAPIRO, D.E. 1999. Mode of delivery and the risk of vertical transmission of HIV-1. *New England journal of medicine,* 341(3):205-207, July.

GENÉ-BADIA, J., JODAR-SOLA, G., PEGUERO-RODRIGUEZ, E., CONTEL-SEGURA, J.C. & MOLINER-MOLINS, C. 2001. The EFQM excellence model is useful for primary health care teams. *Family practice,* 18(4):407-409.

GHEBREHIWET, M., SHARAN, M., ROGO, K., GEBREAMLAK, O., HAILE, B., GAIM, M., ANDEMARIAM, Z. & GEBRESELASIE, S. 2008. Quality of maternity care at health facilities in Eritrea in 2008. *Journal of Eritrea Medical Association,* 9-14.

GOLUBIC, R., MILOSECIV, M., KNEZEVIC, B. & MUSTAJBEGOVIC, J. 2009. Work-related stress, education and work ability among hospital nurses. *Journal of advanced nursing,* 64(10):2056-2066.

GRAVES, B.A. 2008. Integrative literature review: a review of literature related information systems, healthcare access and health outcomes. *Health information management,* 5:11-19. http://www.pubmedcentral.nih.gov/artclerender.fcgi?artid=2500173 Date of access: 27 May 2009.

GREEFF, M. 2002. Information collection: Interviewing. (*In* De Vos, A.S., *ed.* Research at grass roots: for the social science and human service professions. Pretoria: Van Schaik Publishers. p. 291-319.)

GREGORY, C. 1995. Creating a vision for a nursing unit. *Nursing management,* 26(1):38-41.

GRIMSHAW, J., FREEMANTLE, N., RUSSELL, I., WALLACE, S., HURWITZ, B. & WATT, I. 1995. Developing and implementing clinical practice guidelines. *Quality in health care*, 4:55-64.

GUBA, E.G. & LINCOLN, Y.S. 1989. Fourth generation education. London:Sage.

GUBA, E.G. & LINCOLN, Y.S. 2005. Paradigmatic controversies, contradictions and emerging confluences. (*In* Denzin, N.K. & Lincoln, Y.S. *eds.* The Sage handbook of qualitative research. London: Sage Publications. p. 191-215.)

HARBER, B.W. 1998. The Balanced Scorecard solution at Peel Memorial Hospital. *Hospital Quartely,* 59-63. Summer.

HARIHARAN, S., DEY, P.K., MOSELEY, H.S.L., KUMAR, A.Y. & GORA, J. 2004. A new tool for measurement of process-based performance of multispecialty tertiary care hospitals. *International Journal of Health Care Quality Assurance*, 17(6):302-312.

HENDERSON, A., HEEL, A. & TWENTYMAN, M. 2007. Enabling student placement through strategic partnerships between a health-care organization and tertiary institutions. *Journal of Nursing Management,* 15:91-96.

HENNING, E., VAN RENSBURG, W. & SMIT, B. 2004. Finding your way in qualitative research. Pretoria: Van Schaik. 179 p.

HENRY, G. 2006. Nurses are overlooked in skills development. *Health and hygiene,* 17(4):9, May.

HINES, K. & CRUMP, S., *eds*. 2004. Igniting change: capacity-building tools for safe motherhood alliances. Baltimore: JHPIEGO Corporation - An affiliate of the John Hopkins University. 246 p.

HODNETT, E.D., DOWNE, S., EDWARDS, N. & WALSH, D. 2005. Home-like versus conventional institutional settings for birth. *Selected Cochrane reviews*, 32:151.

HULTON, L.A., MATTHEWS, Z. & STONES, R.W. 2000. A framework for the evaluation of quality of care in maternity services. Southampton: University of Southampton. 73 p.

HULTON, L.A., MATTHEWS, Z. & STONES, R.W. 2007. Applying a framework for assessing the quality of maternal health services in urban India. *Social science & medicine,* 64:2083-2095.

HUNTER, B. 2004. Conflicting ideologies as a source of emotion work in midwifery. *Midwifery,* 20:261-272.

ICM ***see*** INTERNATIONAL CONFEDERATION OF MIDWIVES

ICN ***see*** INTERNATIONAL COUNCIL OF NURSES

INSTITUTE OF MEDICINE. 1990. Medicare - a strategy for quality assurance, vol. 1. Washington D.C.: National Academy Press.

INTERNATIONAL CONFEDERATION OF MIDWIVES. 2005. International definition of the midwife. http://www.internationalmidwives.org/Portals/5/Documentation/ICMDefinitionofthemidwive2005.pdf Date of access: 07 Nov. 2011.

INTERNATIONAL COUNCIL Of NURSES. 2004. Workload measurement in determing staffing levels. Geneva, Switzerland, International Council of Nurses.

INTERNATIONAL COUNCIL OF NURSES. 2005a. Nurse / patient ratios. http://www.icn.ch/matters_rnptratio.htm Date of access: 21 September 2008.

INTERNATIONAL COUNCIL OF NURSES. 2005b. Global ICN report says supply of nurses affects health care outcomes. *International nursing review*, 52(1):4-5. http://www3.interscience.wiley.com/cgi-bin/fulltext/118685846/main Date of access: 22 September 2008.

INTERNATIONAL COUNCIL OF NURSES. 2006a. Safe staffing saves lives information and action tool kit. http://www.icn.ch/indkit2006.htm Date of access: 17 September 2008.

INTERNATIONAL COUNCIL OF NURSES. 2006b. The ICN code of ethics for nurses. Geneva: International Council of Nurses.

INTERNATIONAL COUNCIL OF NURSES. 2007. Positive practice environments: quality workplaces = quality patient care. Information and action tool kit. http://www.icn.ch/indkit2007pdf. Date of access: 19 July 2008.

INTERNATIONAL COUNCIL OF NURSES. 2009. Nurses in the workplace: expectations and needs. http//:www.icn.com Date of access: 03 September 2009.

IYUN, F. 1983. Hospital services in Ibadan city. *Social science and medicine,* 17:601-610.

JACOBS, L.G., BONUCK, K. & BURTON, W. 2002. Can “palliative care reports” improve end-of-life care for hospitalized patients? *Journal of pain and symptom management*, 24:299-311.

JCAHO ***see*** JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANISATION

JENKINS-WOELK, L. 1998. Mother-to-child transmission of HIV: issues and implications for Southern Africa. *AIDS scan*, 10(2):4-10, Jun-Jul.

JIANG, H.J., LOCKEE, C., BASS, K. & FRASER, I. 2008. Board engagement in quality: findings of a survey of hospital and system leaders. *Journal of healthcare management,* 53:121-135.

JOCHBERGER, S., ISMAILOVA, F., LEDERER, W., MAYR, V.D., LUCKNER, G., WENZEL, V., ULMER, H., HASIBEDER, W.R. & DÜNSER, M.W. 2008. Anesthesia and its allied disciplines in the developing world: a nationwide survey of the republic of Zambia. *Anesthesia and analgesia - Cleveland*, 106:942-948.

JOOSTE, K. 2010. The principles and practice of nursing and health care. Ethos and professional practice, management, staff development, and research. Pretoria: Van Schaik.

JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANISATION (JCAHO). 2002. Health care at cross roads. Strategies for addressing the evolving nursing crisis. http://www.aacn.nche.edu/media/pdf.JCAHO-02.pdf Date of access: 07 December 2010.

KAPLAN, R.S. & NORTON, D.P. 1992. The balanced scorecard: measures that drive performance. *Havard business review,* 71-79, Jan - Feb.

KEEGAN, M. 2006. Improving health care: a South African solutions. *Management today,* May. http://www. cohsasa.co.za Date of access: 12 April 2007.

KERFOOT, K. 1996. Today's patients care unit manager. The emotional side of leadership: the nurse manager's challenge. *Nursing economics,* 14(1):59-69.

KHOMEIRAN, R.T., YEKTA, Z.P., KIGER, A.M. & AHMANDI, F. 2006. Professional competence: factors described by nurses as influencing their development. *International nursing review,* 53:66-72.

KLOPPER, H.C. 2008. The qualitative research proposal. *Curationis*, 31(4):62-72.

KLOPPER, H.C., DU PREEZ, A. & VAN DER WALT, S.J.C. 2010. Positive practice environments in maternity units in the North West province of South Africa. *African Journal of Midwifery and Women's Health* (Submitted for publication.)

KLOPPER, H.C. & KNOBLOCH, S. 2010. Validity, reliability and trustworthiness (*In* Jooste, K. ed. The principles and practice of nursing and health care. Pretoria: Van Schaik Publishers. p. 317-325.)

KLOPPER, H.C. & PRETORIUS, R. 2010. Positive practice environments in critical care units in South Africa. *International nursing review* (Submitted for publication.)

KNAPP, T.R. 1998. Quantitative nursing research. Thousand Oaks, Calif.: Sage Publications. 287 p.

KOBLINSKY, M. & KURESHY, N. 2009. Safe motherhood case studies: learning with stakeholders in South Asia: an introduction. *Journal of health population nutrition*, 2:89-92.

KOCHEVAR, L.K. & YANO, E.M. 2006. Understanding health care organization needs and context. *Journal of general internal medicine*, 21:25-29.

KRAMER, M. & SCHMALENBERG, 1988. Magnet hospitals:Part 1 Institutions of excellence. *Journal of nursing administration,* 18(1):13-24. Jan.

KREFTING, L. 1991. Rigor in qualitative research: the assessment of trustworthiness. *American journal of occupational therapy,* 45(3):214-222.

KRUEGER, R.A. 1988. Focus groups: a practical guide for applied research. Thousand Oaks, Calif.: Sage. 197 p.

KRUEGER, R.A. 1994. Focus groups: a practical guide for applied research. 2nd ed. Thousand Oaks, Calif.: Sage. 255 p.

KRUEGER, R.A. & CASEY, M.A. 2000. Focus groups: a practical guide for applied research. 3rd ed. Thousand Oaks, Calif.: Sage. 215 p.

KUHN, L., ABRAMS, E., MATHESON, P. & THOMAS, P. 1997. Timing of maternal-infant HIV transmission: association between intrapartum factors and early polymerase chain reaction results. (New York City Perinatal Transmission Collaborative Study Group.) *AIDS*, 11:429-435.

KUOKKANEN, L., LEINO-KILPI, H. & KATAJISTO, J. 2003. Nurse empowerment, job-related satisfaction and organizational commitment. *Journal of nursing care quality,* 18(3):184-192.

KVALE, S. 1996. Interviews: an introduction to qualitative research interviewing. Thousand Oaks, Calif.: Sage Publications. 326 p.

LAKE, E.T. 2002. Development of the practice environment scale of the Nursing Work Index. *Research in nursing & health,* 25(3):176-188, May /June.

LAKE, E.T. & FRIESE, C.R. 2006. Variations in nursing practice environments: relation to staffing and hospital characteristics. *Nursing research,* 55(1):1-9, Jan-Feb.

LANDESMAN, S.H., KALISH, L.A. & BURNS, D.N. 1996. Obstetric factors and the transmission of HIV-1 from mother to child. *New England journal of medicine,* 334:1617-1623.

LAPIDO, D., REED, H. & WILKINSON, F. 1999. Changing midwifery: working conditions and the quality of care. Cambridge: University of Cambridge. (ESRC Centre for Business Research, Working paper no 136.) 16 p.

LAURISTEN, J.M. 2008. EpiData data entry: data management and basic statistical analysis system. Odense, Denmark: EpiData Association.

LI, Y., LAKE, E.T., SALES, A.E., SHARP, N.D., GREINER, G.T., LOWY, E., LIU, C., MITCHELL, P.H. & SOCHALSKI, J.A. 2007. Measuring nurses' practice environment with the revised nursing work index: evidence from registered nurses health administration. *Research in nursing & health.* 30:31-44.

LINCOLN, Y.S. & GUBA, E.G. 1985. Naturalistic inquiry. London: Sage. 416 p.

LITOSSELITI, L. 2003. Using focus groups in research. Continuum: London. 104 p.

LIU, J.A., WANG, Q. & LU, Z.X. 2010. Job satisfaction and its modelling among township health center employees: a quantitative study in poor rural China. *BMC Health Service Research,* 10:115-140.

LoBIONDO-WOOD, G. & HABER, J. 2002. Nursing research: methods, critical appraisal, and utilization. 3rd ed. St Louis, Mo.: Mosby. 520 p.

LOCKWOOD-RAYERMANN, S. 2003. Preceptor leadership style and the nursing practicum. *Journal of Professional Nursing,* 19(1):32-37.

LOHR, K.N., DONALDSON, M.S. & WALKER, A.J. 1991. Medicare, a strategy for quality assurance 111: beneficiary and physician focus groups. *Quality review bulletin*, 17:242-253.

LONDON, L. 2007. Issues of equity are also issues of rights: lessons from experiences in Southern Africa. *BMC public health*, 7:14.

LOWE, G. 2004. Healthy workplace strategies: creating change and achieving results. http://www.cprn.com/doc.cfm?doc=536 Date of access: 22 September 2008.

LUO, C., KANKASA, C., MULENGA, D., SICHONE, M. & MWELA, C. 2000. Prevention of mother to child transmission of HIV in Africa. *Specialist medicine*, 22(1):13-19, Jan.

LYDON-ROCHELLE, M.T., ALBERTS, L. & TEAF, D. 1995. Perineal outcomes and nurse-midwifery management. *Journal of nurse-midwifery*, 40(1):13-18, Jan. / Feb.

LYNCH, B. 2002. Care for the caregiver. *Midwifery,* 18:178-187.

MACMILLAN DICTIONARY. 2010. Learn English, live English, Love English. www.macmillandictionary.com/dictionary/british/programme Date of access: 03 Nov. 2010.

MACNEIL, E. 1985. The hospital mission statement: quality assurance, whose responsibility. *CHAC review*, 13:14-19.

MAINOUS, R.O. 2005. A collaborative quality improvement intervention was effective for promoting use of surfactant therapy in preterm infants. *Evidenced based nursing*, 329:1004.

MAKOWIECKA, K., ACHADI, E., IZATI, Y. & RONSMANS, C. 2007. Midwifery provision in two districts in Indonesia: how well are rural areas served? *Health policy and planning,* 1-9, 30 Oct.

MANFREDI, S.R., CANZIANI, M.E., DRAIBE, S.A., DALBONI, M.A., ANDREOLLI, M.C., WANTANABE, R. & CENDOROGLO, M. 2003. A model for improving quality in nephrology settings. *Nephrology nursing journal*, 30:295-302.

MARK, B.A., SALYER, J. & WAN, T.T. H. 2003. Professional nursing practice: impact on organizational and practice outcomes. *Journal of nursing administration*, 33(4):224-234.

MARLAND, G.R. & LYTTLE, C.P. 2003. Research supervision. *Nursing standard,* 17(25):33-37. http://www.ncbi.nlm.nih.gov/pubmed/12674012 Date of access: 26 October 2008.

MASILO, K.S. 2007. ECSACON questionnaire. Fax from the South African Nursing Council regarding statistics in midwifery, 19 Apr. Pretoria. (Original copy with author.)

MATTHEWS, A., SCOTT, P.A., GALLAGHER, P. & CORBALLY, M.A. 2006. An exploratory study of the conditions important in facilitating the empowerment of midwives. *Midwifery,* 22:181-191.

McCLURE, M.L. & HINSHAW, A.S. 2002. Magnet hospitals revisited. Washington D.C.: American Nurses Publishing.

McGLOWN, J. 2010. South African Maternal-Child Health Leadership Academy Pilot Planning Meeting, 4-5 November. Potchefstroom.

McINTYRE, J. & GRAY, J. 1995. Prevention of mother-to-child-transmission of HIV. *AIDS scan,* 7(2):3-5. Jun.

McNAMARA, C. 2010. Basics of developing mission, vision and value statements. http://www.managementhelp.org/plan_dec/str_plan/stmnts.htm Date of access: 04 Dec. 2010.

MEDICAL RESEARCH COUNCIL (MRC). 2006. Book 1: General principles including research in children, vulnerable groups, international collaboration and epidemiology http://www.ethicsbook Date of access: 14 March 2007.

MELUM, M.M. & SINIORIS, M.K. 1992. Total quality management: the health care pioneers. Chicago, Ill.: AHA Publishing.

MESSICK, D.M. & KRAMER, R.M. 2005. The psychology of leadership: mew perspectives and research. New Jersey: Lawrence Erlbaum Associates. 347 p.

MEYER, S., NAUDÉ, M. & VAN NIEKERK, S. 2004. The nursing unit manager: a comprehensive guide. 2nd ed. Sandton: Heinemann. 306 p.

MILLS, J., CHAPMAN, Y., FRANCIS, K. & BONNER, A. 2007. Grounded theory: a methodological spiral from positivism to postmodernism. *Journal of Advanced Nursing*, 58(1):72-79.

MILLS, J., FRANCIS, K. & BONNER, A. 2008. Getting to know a stranger. Rural nurses' experiences of mentoring: a grounded theory. *International Journal of Nursing Studies*, 45:599-607.

MILLS, J., FRANCIS, K. & BONNER, A. 2007. Live my work: rural nurses and their multiple perspectives of self. *Journal of Advanced Nursing*, 59(6):583-590.

MindJet®MindManager®Pro7. 2009. San Francisco, Calif. http://www.mindjet.com

MODJADJI, M. 2004. The birth process. (*In* De Kock, J. & Van der Walt, C., *eds.* Maternal and newborn care: a complete guide for midwives and other health professionals. Lansdowne: Juta. p 12-3 - 12-18.)

MOFFETT, M.L., MORGAN, R.O., & ASHTON, C.M. 2005. Strategic opportunities in the oversight of the U.S. hospital accreditation system. *Health Policy*, 75:109-115.

MOLLART, L., NEWING, C. & FOUREUR, M. 2009. Midwives' emotional wellbeing: impact of conducting a Structured Antenatal Psychological Assessment (SAPSA). *Women and Birth*, 22:82-88.

MOODLEY, D., MOODLEY, J., COOVADIA, H., GRAY, G., MCINTYRE, J., HOFMYER, J., NIKODEM, C., HALL, D., GIGLIOTTI, M., ROBINSON, P., BOSHOFF, L. & SULLIVAN, J.L. 2003. A multicenter randomized controlled trial of nevirapine versus a combination of zidovudine and lamivudine to reduce intrapartum and early postpartum mother-to-child transmission of human immunodeficiency virus type-1. *Journal of Infectious Diseases,* 187:725-735.

MORSE, J.M., BARRET, M., MAYAN, M., OLSON, K. & SPIERS, J. 2002. Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods,* 1(2):1-19, Spring.

MOUTON, J. & MARAIS, H.C. 1992. Basiese begrippe: metodologie van die geesteswetenskappe. Pretoria: Raad vir Geesteswetenskaplike Navorsing. 310 p.

MURPHY, P.A., & FULLERTON, J.T. 2001. Measuring outcomes of midwifery care: development of an instrument to assess optimality. *Journal of Midwifery & Women's Health,* 46 (5):274-284.

MRC ***see*** MEDICAL RESEARCH COUNCIL

MRISHO, M., OBRIST, B., SCHELLENBERG, J.A., HAWS, R.A., MUSHI, A.K., MSHINDA, H., TANNER, M. & SCHELLENBERG, D. 2009. The use of antenatal and postnatal care: perspectives and experiences of women and health care providers in rural southern Tanzania. *BMC Pregnancy and Childbirth*, 9:10.

MWABU, G.M. 1986. Health-care decisions at the household level: results of a rural health survey at Kenya. *Social Science in Medicine,* 2: 315-319.

MWANYUMBA, F., GAILLARD, P., INION, I., VERHOFSTEDE, C., CLAEYS, P., CHONAN, V., VANSTEELAND, S., MANDALINYA, K., PRAET, M & TEMMERMAN, M. 2002. Placental inflammation and perinatal transmission of HIV-1. *JAIDS. Journal of Acquired Immune Deficiency Syndromes.* 29(3):262-269, Jan.

NASSER, M.E. & VIVIERS, F.J. 1995. Mindset for new generation organisation: how leading SA companies create countertrend performance despite turbulence, Kenwyn:Juta.

NATIONAL QUALITY FORUM. 2004. National voluntary consensus standards for nursing-sensitive care: an initial performance measure set. Washington D.C.: National Quality Forum. (A consensus report, no. NQFCR-08-04). http://www.qualityforum.org Date of access: 03 March 2008.

NEEDLEMAN, J., BUERHAUS, P.I., STEWART, M., ZELEVINSKY, K. & MATTKE, S. 2006. Nurse staffing in hospitals: Is there a business case for quality? *Health Affairs*, 25(1):204-211.

NEEDLEMAN, J., BAUERHAUS, P., MATTKE, S., STEWARD, M. & ZELEVINSKY, K. 2002. Nurse-staffing levels and the quality of care in hospitals. *New England Journal of Medicine*, 346(22):1715-1722. May.

NHS EDUCATION FOR SCOTLAND. 2007. Nursing and Midwifery Workload and Workforce Planning Project: a good practice guide in the use of supplementary staffing. Edinburgh: Scottish Government. 17 p.

NHS ***see*** NHS EDUCATION FOR SCOTLAND.

NIELSEN, I.L. 1975. A midwife-physician team in private practice. *American journal of nursing,* 75(10):1693-1695.

NOLTE, A.G.W. 1998. A textbook for midwives. Pretoria: Van Schaik. 539 p.

NORDANG, K., HALL-LORD, M-L. & FARUP, P.G. 2010. Burnout in health-care professionals during reorganizations and downsizing: a cohort study in nurses. *BioMed central nursing*, 9:8-31.

NORTH-WEST UNIVERSITY. 2006. Ethics Committee of the North-West University: amended regulations. Potchefstroom: North-West University.

NORTHERN IRELAND QUALITY CENTRE. 2010. Steps to excellence public sector. http://www.dfpni.gov.uk/stepsdoc-2.pdf. Date of access: 24 Nov. 2010.

NORTH-WEST UNIVERSITY. Institutional Office. 2008. Manual for postgraduate studies. http://www.nwu.ac.za/manualpostgrad. Date accessed: 23 October 2008.

NUNALLY, J.C. & BERNSTEIN, R.L. 1994. Psychometric theory. 3rd ed. New York: McGraw-Hill.

NUNNALLY, J. 1978. Psychometric theory. New York: McGraw-Hill.

NWU ***see*** NORTH-WEST UNIVERSITY

O'DONNELL, M.J., BOYLE, M., SWAN, J., RUSSELL, R.J . & COLEMAN, D.C. 2009 A centralised, automated dental hospital water quality and biofilm management system using neutral Ecasol™ maintains dental unit waterline output at better than potable quality: a 2-year longitudinal study. *Journal of Dentistry*, 37:748-762.

OKONOFUA, F.E., ABEJIDE, A. & MAKANJUALA, R.A. 1992. Ile-Ife, Nigeria: a study of risk factors. *Studies in Family Planning,* 25(5):279-291.

OLADE, R.A. 2004. Strategic collaborative model for evidence-based nursing practice. *Worldviews on Evidence-Based Nursing,* 1(1):60-68.

OLDS, S.B., LONDON, M.L. & LADEWIG, P.W. 1996. Maternal newborn nursing: a family-centered approach. 3rd ed. Menlo Park, Calif.: Addison-Wesley Nursing. 1265 p.

OLIVERIA NETO, A.F., PARPINELLI, M.A., CECATTI, J.G., SOUZA, J.P. & SOUSA, M.H. 2009. Factors associated with maternal death in women admitted to an intensive care unit with severe maternal morbidity. *International Journal of Gynecology and Obstetrics*, 105:252-256.

OLOTU, A., NDIRITU, M., ISMAEL, M., MOHAMMED, S., MITHWANI, S., MAITLAND, K. & NEWTON, C.R.J.C. 2009. Characteristics and outcome of cardiopulmonary resuscitation in hospitalised African children. *Resuscitation*, 80:69-72.

ONCEL, S., OZER, Z.C. & EFE, E. 2007. Work-related stress, burnout and job satisfaction in Turkish midwives. *Social Behavior and Personality,* 35(3):317-328.

ONG, K.R., KINGHAM, B., SOTIRIDY, K., KAUFMAN, D., POLKOWSKI, M. & SCHOFIELD, J. 2003. Web presence of an integrated delivery system at year one: lessons learned. *International Journal of Medical Informatics,* 70:11-18.

ONG, K.R., BLACKMAN, J., BARRON, M., AHMED, J., CORBELLI, C. & SKARZYNSKI, J. 2000. *International Journal of Health Care Quality Assurance,* 13(3):118-123.

ORAL ROBERTS UNIVERSITY. Anne Vaughn School of Nursing. 1990. Self-study report, submitted to the Council of Baccalaureate and higher degree programs, National Leageue for Nursing, v.1. Narrative by criteria. Tulsa, Okla.: Oral Robert University. p. 136-142

PADARATH, A., CHAMBERLAIN, C., McCOY, D., NTULI, A., ROWSON, M., & LOEWERSON, R. 2003. Health Personnel jn Southern Africa: Confronting maldistribution and brain drain. www.hst.org.za/uploads/files/hrh_review.pdf Date of access: 07 December 2010.

PAGE, L.A. & McCANDLISH, R. 2006. The new midwifery: science and sensitivity. 2nd ed. Edinburgh: Elsevier Churchill Livingstone. 389 p.

PARKHURST, J.O., PENN-KENANA, L., BLAAUW, D., BALABANOVA, D., DANISHEVSKI, K., RAHMAN, S.A., ONAMA, V. & SSENGOOBA, F. 2005. Health system factors influencing maternal health services: a four-country comparison. *Health Policy*, 73(2):127-138. http://www.elsevier.com/locate/healthpol Date of access: 08 March 2010.

PEARSON, A., WIECHULA, R., COURT, A. & LOCKWOOD, C. 2005. The JBI model of evidence-based healthcare. *International Journal of Evidence Based Healthcare,* 3:207-215.

PEARSON, L., LARSSON, M., FAUVEAU, V. & STANDLEY, J. 2004. Childbirth care. (*In* Hines, K. & Crump, S., *eds*. Igniting change: capacity-building tools for safe motherhood alliances. Baltimore: JHPIEGO Corporation, an affiliate of the John Hopkins University. p. 246.)

PEIPERL, L. 2000. Antiretroviral treatments to reduce mother-to-child transmission of HIV. (13 p.). http://hivinsite.ucsf.edu/topics/pregnan…th/perinatal_transmission/3098.0098.htm Date of access: 14 February 2001.

PERIDES, M. 2002. Aiming at excellence in healthcare: the European Foundation for Quality Management Excellence Model. *Business briefing, global health care,* 3:56-60.

PETERSON, S.J. & BREDOW, T.S. 2004. Middle range theories: application to nursing research. Philadelphia: Lippincott Williams & Wilkens. 432 p.

PHILPOTT, H. 2001. Quality assurance: information for decision making in antenatal care. *in* MRC Unit for Maternal and Infant Health Care Strategies: saving babies 2001. 2nd Perinatal Care Survey of South Africa. Pretoria: Department of Health.

POGGENPOEL, M. 2000. Data analysis in qualitative research. (*In* De Vos, A.S., *ed.* Research at grass roots. Pretoria: Van Schaik. p. 334-356.)

POLIT, D.F. & BECK, C.T. 2004. Nursing research: principles and methods. Philadelphia: Lippincott Williams & Wilkins. 758 p.

PRETORIUS, C.F. 2001. Gesondheidsdiensbenutting van swanger vroue in die groter Mafikeng-Mmabatho distrik. Potchefstroom: PU vir CHO. (Verhandeling - MCur.) 229 p.

PRETORIUS, R. 2010. Positive practice environments in critical care units: a grounded theory. Potchefstroom: North-West University. 289 p.

PUCHTA, C. & POTTER, J. 2004. Focus group practice. London: Sage Publications. 174 p.

QUIGLEY, J.V. 1994. Vision: how leaders develop it, share it, and sustain it. *Business Horizons,* Sept-Oct. http://www.findarticles.com/p/articles/mi_m1038/is_n5_v37/ai_15859244Date of access: 04 Dec. 2010.

RADTKE, J. 1998. How to write a mission statement. http://www.tgci.com/magazine/Howtowriteamissionstatement.pdf Date of access: 04 Dec. 2010.

RANDSE AFRIKAANSE UNIVERSITEIT. Departement van Verpleegkunde. 1992. Verplegingsteorie vir mensheelheid. Johannesburg. (Ongepubliseer.)

REGISTERED NURSES ASSOCIATION OF ONTARIO (RNAO). 2005. Educator's resource: Integration of Best Practice Guidelines. [Web:] http://www.rmap.org/Page.asp?PageID=122&ContentID=822 [Date of access: 26 April 2007].

REGISTERED NURSES ASSOCIATION OF ONTARIO (RNAO). 2006. Healthy work environments: Best Practice Guidelines. Toronto.

REGISTERED NURSES ASSOCIATION OF ONTARIO (RNAO). 2010. Summary of recommendations for developing and sustaining effective staffing and workload practices. http://www.rnao.org/storage/35/2936_BPG_Staffing_workload_summary_recommendations.pdf. Date of access: 07 Nov. 2011.

REPRODUCTIVE HEALTH RESEARCH PROGRAMME (RHRP). 2010. Poverty and equity in reproductive health. University of Southampton. http://www.socstats.socton.ac.uk/choices/povertyequity.htm Date of access: 02 February 2010.

RHRP ***see*** REPRODUCTIVE HEALTH RESEARCH PROGRAMME

ROBERTS, H. 1998. Assesing students'clinical performance. *Nursing Standard,*12(48):37-41.

ROBSON, S., CAREY, A., MISHRA, R. & DEAR, K. 2008 Elective caesarean delivery at maternal request: a preliminary study of motivations influencing women's decisions-making. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 48:415-420.

ROCCO, T.S., STEIN, D., LEE, C. 2003. An exploratory examination of the literature on age and HRD policy development. *Human Resource Development*, 2:155-180. http://www.hrd.sagepub.com/cgi/content/abstrct/2/2/155 Date of access: 27 May 2009.

ROSEN, E. 2007. The culture of collaboration: the trend is toward real-time, spontaneous collaboration. http://www.industryweek.com/articles/the_culture_of_collaboration_13403.aspx. Date of access: 10 May 2010.

RNAO ***see*** REGISTERED NURSES' ASSOCIATION OF ONTARIO.

RULAND, C.M. & RAVN, I. 2003. Usefulness and effects on cost and staff management of a nursing resource management information system. *Journal of Nursing Management,* 11:208-215.

SA ***see*** SOUTH AFRICA

SAMOUTIS, G.A., SOTERIADES, E.S., STOFFERS, H.E., ZACHARIADOU, T., PHILALITHIS, A. & LIONIS, C. 2008. Designing a multifaceted quality improvement intervention in primary care in a country where general practice is seeking recognition: the case of Cyprus. *BMC Health Services Research*, 8:181.

SANC ***see*** SOUTH AFRICA NURSING COUNCIL

SANDALL, J., DEVANE, D., SOLTANI, H., HATEM, M. & GATES, S. 2010. Improving quality and safety in maternity care: the contribution of midwife-led care. *Journal of Midwifery & Women's Health*, 55:255-261.

SANDIN-BOJÖ, A. & KVIST, L.J. 2008. Care in labor: a Swedish survey using the Bologna score. *Birth*, 35:321-328.

SARACCI, R. 1997. The world health organisation needs to reconsider its definition of health. *British medical journal*, 314:1409, 10 May.

SAS ***see*** SAS Institute Inc.

SAS Institute Inc., 2003. SAS Institute Inc., SAS OnlineDoc®, Version 9.1, Cary NC

SCHALK, B. 2003. The Batho Pele programme and policy-making in the north west province. (Potchefstroom: North-West University (Potchefstroom Campus.) Dissertation - MA in Public Management.)

SCHAUFELI, W. & ENZMANN, D. 1998. The burnout companion to study and practice: a critical analysis. London: Taylor & Francis.

SOCHALSKI, J.A. 2002. Nursing shortage redux: turning the corner on an enduring problem. *Health affairs,* 21(5):157-164.

SEAGO, J.A., ASH, M., SPETZ, J., COFFMAN, J. & GRUMBACH, K. 2001. Hospital registered nurse shortage: environmental, patient and institutional predictors. *Health Service Research,* 36(5):831-852.

SEFULARO, M. 2009. Hope at last for tertiary hospitals? *What's new Doc - Health 24.com,* 3(3):7.

SENGE, P.M. 2006. The firth discipline: the art & practice of the learning organisation. 2nd ed. London: Random House Business Books. 445 p.

SERMEUS, W., AIKEN, L.A., DE GEEST, S., DIOMIDOOUS, D., DURNA, E., EKMAN, M., KLOPPER, H.C., LIU, C., MATTHEWS, MORENA-CASBAS, M., RAFFERTY, A.M., SCOTT, SCHOONOVEN, SCHUBERT, M., SHAIBU, S., TISHELMAN, ANTYPAS, BRZOSTEK, BOMMELS, BUSSE, CLARKE, S., DELAURE, FRIGAS, GRIFFITS, GUSTAVSSON, KINNUNE, LIASKOS, LESAFFRE, MANTAS, VAN ACHTERBERG, VAN DEN HEEDE, C., WÖRZ, & ZIKOS. 2008. International Collaboration Study And Multinational Comparison funded through FP 7 of the European Union.

SEVERINSSON, 1998. Bridging the gap between thory and practice: a supervisin programme for nursing students. *Journal of Advanced Nursing,* 27:1269-1277.

SHAMAIN, J., KERR, M.S., LASHINGER, H.K.S. & THOMSON, D. 2002. A hospital-level analysis of the work environment and workforce health indicators for registered nurses in Ontario's acute-care hospitals. *Canadian Journal of Nursing Research,* 33(4):35-50.

SHAW, C.D. 2004. Toolkit for accreditation programs: some issues in the design and redesign of external health care assessment and improvement systems. *International Society for Quality in Health Care.* http://www.isqua.org Date of access: 11 April 2007. 67 p.

SHEY WISONGE, C.U, BROCKLEHURST, P. & STERNE, J.A.C. 2002. Vaginal disinfection during labour for reducing the risk of mother-to-child transmission of HIV infection (Cochrane review). http://www.update-software.com/abstracts/ab003651.htm Date of access: 25 November 2002.

SIMPSON, K.R. 2005. Failure to rescue: implications for evaluating quality of care during labor and birth. *Journal of perinatal & neonatal nursing*, 19:24-34.

SLEUTEL, M., SCHULTZ, S. & WYBLE, K. 2007. Nurses' views of factors that help and hinder their intrapartum care. *JOGNN*, 36:203-211.

SMITH, A. 2006. Total quality management from the top. *Quality edge, 29* May.

SMITH, A.H.K., CANTAB, M.A., DIXON, A.L., CANTAB, B.A. & PAGE,. L.A. 2009. Health professionals' views about safety in maternity services: a qualitative study. *Midwifery,* 25:21-31.

SMITH, E., ROSS, F.M., MACKENZIE, A. & MASTERSON, A. 2005. Developing a service-user framework to shape priorities for nursing and midwifery research. *Journal of research in nursing,* 10(1):107-118.

SOEIRO, R., RUBINSTEIN, A., RASHBAUM, W.K. & LYMAN, W.D. 1992. Materno-fetal transmission of AIDS: frequency of immunodeficiency virus type-1 nucleic aicid sequences in human fetal DNA. *Journal of infectious diseases,* 166(4):699-703.

SORENSEN, K.J. 2006. Firm characteristics: collaborative culture and perceived issues with university-to industry knowledge transfer. Hoboken: Stens Institute of Technology. 19 p.

SOUTH AFRICA. 2007c. Traditional Health Practioners Bill. Creda Communications. 27 p.

SOUTH AFRICA. 2007b. Millennium Development Goals Mid-term country report. www.planinpolis.iiep.unesco.org/South_Africa_MDG_midterm.pdf Date of access: 01 Nov. 2010.

SOUTH AFRICA. 1996. Patient Right Charter. http://www.ncf.org.za/docs.patientrights.html. Date of access: 13 Nov. 2010.

SOUTH AFRICA. Department of Health. 1997a. White paper for the transformation of the health system in South Africa. (WPJ - 667.) *Government Gazette,* 17910, Apr. 16. 232 p.

SOUTH AFRICA. Department of Health. 1997b. Batho Pele principles. Together beating the drum for service delivery. http://www.dpsa.gov.za/batho-pele/Principles.asp Date of access: 01 Nov. 2010.

SOUTH AFRICA. Department of Health. 1998. Report on the evaluation of advanced midwifery training through the decentralised education programme and the utilisation of the perinatal education programme in South Africa. Pretoria: Department of Health. 55 p.

SOUTH AFRICA. Department of Health. 1999. Health sector strategic framework, 1999-2004. Pretoria: Department of Health. 39 p.

SOUTH AFRICA. Department of Health. 2000. Guidelines for maternity care in Southern Africa: a manual for clinics, community health centres and district hospitals. Pretoria: Department of Health. 157 p.

SOUTH AFRICA. Department of Health. 2001. Saving mothers policy and management guidelines for common causes of maternal deaths. Pretoria: Department of Health. 67 p.

SOUTH AFRICA. Department of Health. 2002a. Guidelines for maternity care in South Africa: a manual for clinic, community health centres and district hospitals. 2nd ed. Pretoria: Department of Health. 140 p.

SOUTH AFRICA. Department of Health. 2002b. Saving mothers: Second report on Confidential Enquiries into Maternal Deaths in South Africa 1999-2001. Pretoria: Department of Health. 261 p.

SOUTH AFRICA. Department of Health. 2002c. Circular minute on prevention of mother-to-child transmission of HIV. http://www.doh.gov.za/docs/factsheets/guidelines/hivcirc041602.html Date of access: 09 July 2003.

SOUTH AFRICA. Department of Health. 2003. Saving babies. Fourth perinatal care survey of South Africa. Pretoria: Department of Health. 167 p.

SOUTH AFRICA. Department of Health. 2006a. Confidential Enquiry into Maternal Deaths in South Africa, 2002-2004. Executive summary. Pretoria: Department of Health. 7 p.

SOUTH AFRICA. Department of Health. 2006b. Saving mothers: Third report on Confidential enquiries into Maternal Deaths in South Africa 2002-2004. Pretoria: Department of Health. 331 p.

SOUTH AFRICA. Department of Health. 2006c. Strategic plan 2004-2009. http://www.dov.gov.za/docs/misc/stratplan/index.html Date of access: 14 March 2007.

SOUTH AFRICA. Department of Health. 2007a. A policy on quality in health care for South Africa. Pretoria: Department of Health. 22 p.

SOUTH AFRICA. Department of Health. 2007b. Guidelines for maternity care in South Africa: a manual for clinics, community health centres and district hospitals. 3rd ed. Pretoria: Department of Health. 171 p.

SOUTH AFRICA. Department of Health. 2009a. Saving mothers 2005-2007: Fourth Report on Confidential Enquiries into Maternal Deaths in South Africa. Expanded executive summary. Pretoria: Department of Health. 46 p.

SOUTH AFRICA. Department of Health. 2009b. Saving babies 2006-2007: Sixth Perinatal care survey of South Africa. Ed. RC Pattinson. Pretoria Tshepesa Press. 119 p.

SOUTH AFRICA. Department of Trade and Industry (DTI). 2008. A framework for excellence. http://www.dti.gov.uk/quality/excellence Date of access: 24 April 2008.

SOUTH AFRICAN CONCISE OXFORD DICTIONARY. 2002. Oxford: Oxford University Press. 1368 p.

SOUTH AFRICAN NURSING COUNCIL. 1988. R. 425 – Regulations Relating to the Approval of and the Minimum Requirements for the Education and Training of a Nurse (General, Pschiatric and Community) and Midwife leading to Registration. http://www.sanc.co.za/regulat/Reg-4yr.htm Date of access: 07 November 2010.

SOUTH AFRICAN NURSING COUNCIL. 1990. Regulation 2488 - Regulations Relating to the Conditions under which Registered Midwives and Enrolled Midwives may Carry On Their Profession . http://www.sanc.co.za/regulat/Reg-cmi.htm Date of access: 07 November 2010.

SOUTH AFRICAN NURSING COUNCIL. 1993. SANC regulations: Course in clinical nursing science R212. 19 Feb. 1993 as amended by. No. R. 74. 17 January 1997. http://www.sanc.co.za.regulat/Reg-cln.htm Date of access: 13 November 2010.

SOUTH AFRICAN NURSING COUNCIL. 2005. Nursing Act, Act no. 33 of 2005. http://sanc.co.za Date of access: 07 December 2010.

SOUTH AFRICAN NURSING COUNCIL. 2006. Geographical distribution of the population of South Africa versus nursing manpower. http://www.sanc.co.za/stats/stat2006/distribution%202006xls.htm Date of access: 17 April 2007.

SOUTH AFRICAN NURSING COUNCIL. 2008. Mission of the South African Nursing Council. http://www.sanc.co.za/aboutmis Date of access: 03 February 2010.

SOUTH AFRICAN NURSING COUNCIL. 2010. SA Nursing Council growth in the registers. http://www.sanc.co.za/statsof access: 04 February 2010.

SPATH, P.L. 2010. Use practice guidelines to meet JCAHO standards. http://www.brownspath.com/orginal_aricles/practice.html Date of access: 04 December 2010.

SPSS Inc. 2007. SPSS®16.0 for Windows, Release 16.0.0. Copyright © by SPSS Inc., Chicago, Illinois. http://www.spss.com.

STANTON, M.W. & RUTHERFORD, M. 2004. Hospital nurse staffing and quality care. *Research in Action*, 14:1-11. March.

STATISTICA ***see*** StatSoft

StatsSA ***see*** STATISTICS SOUTH AFRICA

STATISTICS SOUTH AFRICA. 2009. Mid-year population estimates. http:///www.statssa. gov.za/publications Date of access: 09 August 2010.

StatSoft, Inc. 2009. STATISTICA (data analysis software system), version 9.0 http://www.statsoft.com.

STEENKAMP, L. 2007. Verpleeg-krisis: gehalte van sorg in privaat klinieke versleg. *Rapport:* 1, 8 April.

STRAUSS, A. & CORBIN, J. 1990. Basics of qualitative research: grounded theory procedures and techniques. Belmont, Calif.: Sage Publications. 193 p.

STRETTON, D.V. & BOLON, D.S. 2008. Recruitment and retention of rural hospital administrators: a multifaceted approach. *Hospital topics: research and perspectives on healthcare*, 87:10-14.

STRYDOM, H. & DELPORT, C.S.L. 2002. Sampling and pilot study in qualitative research. (*In* De Vos, A.S., *ed.* Research at grass roots: for the social science and human service professions. Pretoria: Van Schaik Publishers. p. 333-338.)

SULLIVAN, N.H. & WITTE, M. 1995. Care of the at-risk neonate born at home: a model for nurse-midwife/physician collaboration. *Journal of nurse-midwifery,* 40(6):534-540.

SUMMERS, D. 1995. Longman dictionary of contemporary English: the complete guide to written and spoken English. 3rd ed. London: Pearson Education. 1668 p.

SZWARCWALD, C.L. 2002. Research report on World Health Organisation's measurement of health inequalities. *Journal epidemiology community health,* 56:177-182.

TAYLOR-POWELL, E.T. & HENERT, E. 2008. Developing a logic model: Teaching and training guide. Madison:University of Wisconson. (Extension cooperative extension program development and evaluation) 54 p.

TEASDALE-CORTI. 2006. Teasdale-Corti draft project on knowledge utilization, August 24, 2006. (E-mail to: Klopper, H.C. (Hester.Klopper@nwu.ac.za).

TEOH, D.C. & SCHRAMM, B. 2006. Changes in clinical research in anaesthesia and intensive care from 1974-2004. *Anaesth intensive care*, 34:753-757.

TERRE BLANCHE, M., DURRHEIM, K. & PAINTER, D. 2008. Research in practice: applied methods for the social sciences. 2nd ed. Cape Town: UCT Press. 594 p.

TERRY, B. 2010. Autentic leadership. http://www.action-wheel.com/autentic-leadership.html Date of access: 04 December 2010.

TERZIOGLU, F. 2006. The perceived problem-solving ability of nurse managers. *Journal of nursing management,* 14:340-347.

TESCH, R. 1990. (*In* Creswell, J.W. 1994. Research design: qualitative and quantitative approaches. Thousand Oaks, Calif.: Sage, 154-155.)

THERON, G.B. 1999. Effect of the maternal care manual from the perinatal education programme on the quality of antenatal and intrapartum care rendered by midwives. *South African medical journal*, 89(3):336.

THOMSON, A. 2007. Gateway to improvement. *National Institute of Adult Continuing Education,* Dec 23. http://excellence.qia.org.uk Date of access: 26 November 2009.

THOMPSON, A.A. & STRICKLAND, A.J. 2001. Strategic Management: Concepts and cases. 12th ed. New York: McGraw-Hill. 440 p.

TLEBERE, P., JACKSON, D., LOVEDAY, M., MATIZIROFA, L., MBOMBO, N., DOHERTY, T., WIGTON, A., TREGER, L. & CHOPRA, M. 2007. Community-based situation analysis of maternal and neonatal care in South Africa to explore factors that impact utilization of maternal health services. *Journal of midwifery & women's health*, 52(4):342-350.

TORRACO, R.J. 2005. Writing integrative literature reviews: guidelines and examples. *Human resource development review*, 4:356. http://www.hrd.sagepub.com/cgi/content/abstract/4/3/356 Date of access: 27 May 2009.

TRAVIS, P., BENNETT, S., HAINES, A., PANG, T., BHUTTA, Z., HYDER, A.A., PIELEMEIER, N.R., MILLS, A. & EVANS, T. 2004. Overcoming health-systems constraints to achieve the millennium development goals. *Lancet*, 364:900-906, September 4.

UN ***see*** UNITED NATIONS

UNICEF. 2007. Maternal mortality rate by country: Africa. http://www.unicef.org/pon96/leag1wom.htm Date of access: 14 March 2007.

UNITED NATIONS. 2000. A better world for all: progress towards the international development goals. http://www.paris21.org/betterworld Date of access: 14 March 2007.

UNIVERSITY OF PRETORIA. 2007. Students Research Ethics Committee. http://www.up.ac.za/academic/healthscience_old/ethics/studentsProtocol.html. Date of access: 2 October 2007.

UYS, L.R. & GWELE, N.S. 2005. Curriculum development in nursing: process and innovation. London: Routledge. 229 p.

VAN DER WALT, C.S. 2004. Improving the quality of midwifery care: a participatory action research project. (Unpublished research proposal with author.) 17 p.

VAN DER WIELE, A., DALE, B.D. & WILLIAMS, A.R.T. 1997. "ISO 9000 Series Registration to Total Quality Management: the transformation journey." *International journal of quality science,* 2(4):236-252.

VAN HEERDEN, E. 2008. Getting started with the South African excellence programme. criteria for performance excellence. Email: evdheever@bussassess.co.za Date of access: 24 April 2008.

VAN HEERDEN, W. & ROODT, G. 2007. The development of a measuring instrument for assessing a high performance culture. *South African journal for industrial psychology,* 33(1): 18-28.

VERA, H. 1993. The client's view of high quality care in Santiago, Chile. *Studies in family planning,* 24(1):40-49.

WADSWORTH, Y. 1997. Everyday evaluation on the run. 2nd ed. Sydney:Allen & Unwin, 115 p.

WANG, D. 2010. Definition of quality health care. http://www.ehow.com/about_5085075_definition-quality-health-care Date of access: 12 November 2010.

WARD, S. 2010. Mission statement. http://www.sbinocanada.about.com/od/bussinessplanning/a/missionstatement.htm Date of access: 4 December 2010.

WATKINS, M.J. 2000. Competency for nursing practice. *Journal of clinical nursing,* 9(3):338-346.

WATSON, P. 2002. Implementing the European Foundation for Quality Management Excellence Model. http://www.fig.net/pub/fig_2002/Ts1-1/Ts1_1_watson.pdf Date of access: 26 April 2008. 18 p.

WEISMAN, C.S., HENDERSON, J.T., SCHIFRIN, E., ROMANS, M. & CLANCY, C.M. 2001. Gender and patient satisfaction in managed care plans: analysis of the 1999 HEDIS/CAHPS 2.0H Adult Survey. *Women health issues,* 11(5):401-413, Sep. Date of access: 16 August 2009.

WELMAN, C., KRUGER, F. & MITCHELL, B. 2010. Research Methodology. 3rd ed. Cape Town: Oxford. 342 p.

WHATIS.COM. 2010. What is best practice? http://www.serachsoftwarequality.techtarget.com/definition/best-practice Date of access: 04 December 2010.12.05

WHATIS.COM. 2010. Best practice definitions. http://www.searchsoftwarequality.techtarget.com/definition/best-practice Date of access: 04 December 2010.

WHITTAKER, S. 2006. From the office of the CEO. *COHSASA bulletin:* 3, May. http://www.cohsasa.co.za Date of access: 12 April 2007.

WHO ***see*** WORLD HEALTH ORGANISATION

WIKIPEDIA. 2008a. Malcom Baldrige National Quality Award. http://en.wikipedia.org/wiki/Malcom_Baldrige_National_Quality Date of access: 09 September 2008.

WIKIPEDIA. 2008b. Best practice. http://en.wikipedia.org/wiki/Best_practice Date of access: 09 September 2008.

WIKIPEDIA. 2008c. W. Edward Deming. http://www.en.wikipedia.org/wiki/ W._Edwards_Deming Date of access: 21 April 2008.

WIKIPEDIA. 2008d. Health care criteria for performance excellence: a self-analysis worksheet. http://www.quality.nist.gov/HealthCare_Criteria.html Date of access: 09 September 2008.

WIKIPEDIA. 2008e. Quality assurance. http://en.wikipedia.org/wiki/Quality_Assurance Date of access: 09 September 2008.

WIKIPEDIA. 2010. Evidence-Based practice. http://www.en.wikipedia.org/wiki/Evidence-based_practices Date of access: 04 December 2010.

WILKONSON, D.J., BUTTERY, J.P. & ANDERSEN, C.C. 2006. Influenza in the neonatal intensive care unit. *Journal of Perinatology*, 26:772-776.

WILLIAMS. E. 2001. Manual of midwifery procedures. 2nd ed. Cape Town: Kagiso Education. 329 p.

WOLFENSOHN, J.D. 1998. Speech by President of the World Bank, for World Health Day, 7 April 1998. Washington, D.C.: World Bank.

WOODS, D.L. 1999. Perinatal HIV/AIDS. Observatory: the programme: 31-1 - 35-13 [Units separately paged]. (Perinatal education programme, manual 3.)

WOODS, D.L., *red*. 1993. Midwifery. Observatory: the program: Unit 1-1 - 15-26. [Units separately paged]. (Perinatal education programme, manual 1.)

WOODWARD, C.A., OSTBYE, T., CRAIGHEAD, J., GOLD, G. & WENGHOFER, E.F. 2000. Patient satisfaction as an indicator of quality care in independent health facilities: developing and assessing a tool to enhance public accountability. *American journal of medical quality,* 15(3):94-105, May.

WORLD BANK. 2005. 05 world development indicators: caring for mothers. http://www.devdata.worldbank.org/wdi2005/section1_1_5.htm Date of access: 11 April 2007.

WORLD HEALTH ORGANISATION. 1996. Care in normal birth: a practical guide. Geneva: World Health Organisation.

WORLD HEALTH ORGANISATION. 1997. Care in normal birth: a practical guide. Report of a technical working group. WHO/FRH/MSM_96_24 Date of access: 04 February 2010.

WORLD HEALTH ORGANISATION. 1998. Postpartum care of the mother and the newborn: a practical guide. Geneva: World Health Organisation.

WORLD HEALTH ORGANISATION. 2000. Managing complications in pregnancy and childbirth: a guide for midwives and doctors. WHO/RHR/00.7. WHO: GENEVA.

WORLD HEALTH ORGANISATION. 2006. Country health system fact sheet: South Africa. http://www.who.int/whosis/en/ Date of access: 11 April 2007.

WORLD HEALTH ORGANISATION. 2008a. Maternal mortality fact sheet. http://www.who.int/making_pregnancy_safer/events/2008/mdg5/factsheet_maternal_mortality.pdf Date of access: 09 February 2010.

WORLD HEALTH ORGANISATION. 2008b. Establishing and monitoring benchmarks for human resources for health: the workforce density approach. *Spotlight on Health Workforce Statistics,* 6. http://www.who.int/hrh/statistics/Spotlight_6_Nov_2008.benchmarking.pdf Date of access: 11 August 2009.

WORLD HEALTH ORGANISATION. 2009. Newborns: reducing mortality. http://www.who.int/mediacentre/factsheets/fs333/en/index.html. Date of access: 03 Nov. 2010.

WORLD HEALTH ORGANISATION. 2010a. MDG 5: improve maternal health. http://www.who.int/topics/millennium_development_goals/maternal_health/en/index Date of access: 03 Nov. 2010.

WORLD HEALTH ORGANISATION. 2010b. Positive practice environment campaign: a retention initiative from health professionals. http://www.wma.net/en/20activities/40healthsystems/30positivepractice/index.html Date of access: 10 Nov. 2010.

ZEREBI, K.A. & MARQUEZ, L. 2005. Approaches to healthcare quality regulation in Latin America and the Caribbean: regional experiences and challenges. *LACHSR report no. 63.* http://www.qaproject.org Date of access: 11 April 2007.

APPENDICES

Appendix A

Ethical approval: NWU – 0015 – 08 – S1 (Prof HC Klopper)

Appendix B

Ethical approval: North West Department of Health

Appendix C

Permission to conduct research at Potchefstroom Hospital

Appendix D

Permission to conduct research at Klerksdorp/Tshepong Hospital

Appendix E

Permission to conduct research at Rustenburg Hospital

Appendix F

Permission to conduct research at Mafikeng/Bophelong Hospital Complex

Appendix G

Information leaflet and consent for non-clinical research

Appendix H

Field notes of focus group interviews

Appendix I

Transcription of interview

Appendix J

Quality improvement intervention situational analysis (QIIP™) for a clinical facility

Appendix K

RM4CAST questionnaire

Appendix L

Application form for QIIP™ accreditation