Positive practice environments in community health centres of the North West Province: A case study

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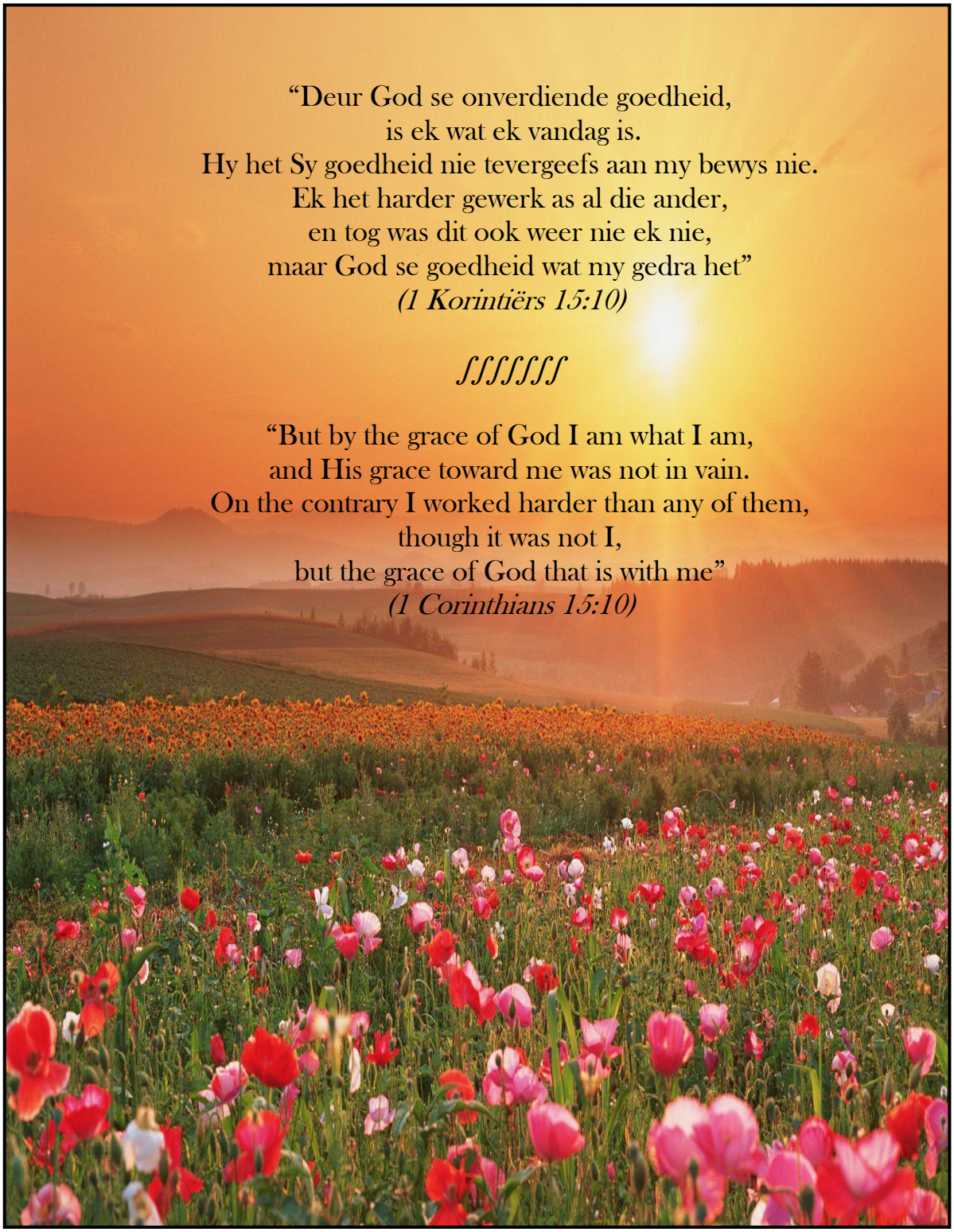
"Deur God se onverdiende goedheid,
is ek wat ek vandag is.
Hy het Sy goedheid nie tevergeefs aan my bewys nie.
Ek het harder gewerk as al die ander,
en tog was dit ook weer nie ek nie,
maar God se goedheid wat my gedra het"
(1 Korintiërs 15:10)
ʃʃʃʃʃʃʃ
"But by the grace of God I am what I am,
and His grace toward me was not in vain.
On the contrary I worked harder than any of them,
though it was not I,
but the grace of God that is with me"
(1 Corinthians 15:10)

DECLARATION

I, Tinda Rabie, student number 21202540, declare that:

POSITIVE PRACTICE ENVIRONMENTS IN COMMUNITY HEALTH CENTRES OF THE NORTH WEST PROVINCE: A CASE STUDY is my own work and that all the sources that I used are indicated or acknowledged in the reference list.

This study has been approved by the Ethics Committee of the Institutional Office of the North-West University (Potchefstroom Campus); Directorate Research, Policy and Planning of North West Province; as well as public health institutions involved in this study.

This study complies with the research ethical standards of the North-West University (Potchefstroom Campus).

_____ _____

T RABIE DATE

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∞ for my dearest husband Gerhard
and darling daughter Janke ∞

ABSTRACT

Keywords: Positive practice environments; primary health care; community health centre; nursing.

The practice environment of nurses plays a very important role in the delivery of quality health care. However, there is limited knowledge on what positive practice environments entail with specific reference to the primary health context of the public health care sector of South Africa. Nurses in this context are the frontline health personnel and are affected not only by nursing shortages, but also high workloads as the public health care sector serves 83% of the South African population and the private health care sector only 17%. In this study the researcher decided to conduct a study to explore the practice environment of nurses in the primary health care context as no studies have previously been undertaken in this regard.

The researcher used a case study design with quantitative and qualitative approaches and implemented descriptive, explanatory and contextual strategies. This design, together with the findings of objectives one, two and three, the World Health Organization Strengthening of Health Systems and Fourteen Forces of Magnetism Frameworks and inductive and deductive logic enabled the researcher to achieve the overarching aim, which is objective four, of this study.

Descriptive statistics, confirmatory factor analysis and Cronbach's alpha assisted the researcher in assessing the demographic profile (objective 1) and the status of the practice environment of community health centres in North West Province (objective 2). Thereafter, the researcher was also able to identify the community health centre with the most favourable practice environment in order to conduct semi-structured individual interviews (objective 3).

The descriptive data of objective 1 revealed that community health centres in the North West Province are located on average 36 km from the nearest referral hospital to which an average of five patients per day are referred. The average number of patients consulted per month is 3 545 of which the nurse consults an average of 40 and the physician 15 patients per day.

In the community health centres the average age of nurses is 40, with 10 years of nursing experience. There were more female than male nurses of which 65% of the

registered nurses had a diploma in nursing and had only started their careers at 31 years of age. There is an average of eleven registered nurses, five auxiliary and one enrolled nurse in the community health centres of which only four of the registered nurses (36%) had a qualification in Clinical Health Assessment, Treatment and Care. The overall staff turnover rates were very low and the satisfaction levels were high.

The factor analysis of objective 2 revealed that the Practice Environment Scale of the Nursing Work Index's sub-scales staffing and resource adequacy and nurse participation in primary health care/community health centre affairs had means below 2.5, indicating that nurses were not in agreement with these sub-scales. However, nurse manager ability, leadership and support; collegial nurse-physician relationships and nursing foundations for quality of care had a mean above 2.5 indicating that the nurses were in agreement with these sub-scales.

Lastly, the qualitative findings indicated that although the community health centres with the most favourable practice environment were affected by factors that decrease quality of care which included a lack of resources, limited infrastructure, limited support from pharmacy and staff shortages. These mentioned factors were not in the control of the community health centres. Although the community health centres were affected by the above-mentioned factors these community health centres excelled in support, leadership and governance, collegial nurse-physician relationships and factors influencing quality of care which were in the control of the community health centre.

OPSOMMING

Sleutelwoorde: Positiewe praktykomgewings; primêre gesondheidsorg; gemeenskapgesondheidsentrum; verpleging.

Die praktykomgewing van verpleegkundiges speel 'n baie belangrike rol in die lewering van gehalte gesondheidsorg. Daar is egter beperkte kennis oor wat positiewe praktykomgewings behels met spesifieke verwysing na die primêre gesondheidsorgkonteks van die openbare gesondheidsorgsektor van Suid-Afrika. Verpleegkundiges in hierdie konteks is die eerste linie gesondheidsorgpersoneel en word geraak deur nie net tekorte aan verpleegkundiges nie, maar ook 'n hoë werklading omdat die openbare gesondheidsorgsektor 83% van die Suid-Afrikaanse bevolking en die private gesondheidsorgsektor slegs 17% dien. Die navorser het hierdie studie uitgevoer om die praktykomgewing van verpleegkundiges in hierdie konteks te verken, aangesien geen studies voorheen in die praktykomgewing gedoen is nie.

Die navorser het 'n gevallestudie-ontwerp gebruik met kwantitatiewe en kwalitatiewe benaderings asook beskrywende, verklarende en kontekstuele strategieë. Hierdie ontwerp, saam met die bevindinge van doelwitte een, twee en drie, die Wêreld-Gesondheidsorganisasie, Versterking van Gesondheidstelsels en Veertien Magte van Aantrekkingskragte-raamwerke asook induktiewe en deduktiewe logika het die navorser gehelp om die oorkoepelende doel en dus doelwit vier van die studie te bereik.

Beskrywende statistieke, bevestigende faktorontleding en Cronbach alfa het die navorser gehelp om die demografiese profiel (doelwit 1) en die status van die praktykomgewing van gemeenskapsgesondheidsentra in die Noordwesprovinsie (doelwit 2) te assesseer. Daarna is die gemeenskapsgesondheidsentrum met die mees gunstigste praktyk omgewing geïdentifiseer om semi-gestruktureerde individuele onderhoude (doelwit 3) te voer.

Die beskrywende data van doelwit 1 het aan die lig gebring dat gemeenskaps-gesondheidsentra in die Noordwesprovinsie 'n gemiddeld van 36 km vanaf die naaste verwysing hospitaal geleë is en dat 'n gemiddeld van vyf pasiënte per dag verwys word. Die gemiddelde aantal pasiënte wat per maand gekonsulteer word is 3

545 waarvan die verpleegkundige gemiddeld 40 en die dokter 15 pasiënte per dag konsulteer.

Die gemiddelde ouderdom van verpleegkundiges in die gemeenskapgesondheid-sentrums was 40 jaar met 10 jaar verpleegervaring. Daar was meer vroulike as manlike verpleegkundiges, waarvan 65% van die geregistreerde verpleegkundiges ‘n diploma in verpleging het en hulle loopbaan op 31 jaar begin het. Daar was 'n gemiddeld van elf geregistreerde verpleegkundiges, vyf assistent en een staf-verpleegster in die gemeenskapgesondheidsentra in diens, waarvan slegs vier van die geregistreerde verpleegkundiges (36%) 'n kwalifikasie in Kliniese Assessering, Behandeling en Sorg gehad het. Die personeelomset was laag en die bevredigingsvlakke was hoog.

Die faktoranalise van doelwit 2 het aangedui dat die Praktyk-omgewing Skaal van die Verpleegkunde Werk Indeks se sub-skale voldoende personeel en hulpbronne; verpleegkundige deelname in primêre gesondheid sorg / gemeenskapgesondheidsentra aangeleenthede ’n telling van onder 2,5 aandui wat beteken dat die verpleegkundiges nie saamgestem het met hierdie sub-skale nie. bestuursvermoë, leierskap en ondersteuning; kollegiale verpleegkundige-dokterverhoudings en verpleeggrondslae vir gehalte van sorg het egter 'n gemiddeld bo 2,5 wat aandui dat die verpleegkundiges saamgestem het met hierdie sub-skale.

Ten slotte het die kwalitatiewe bevindinge aangedui dat, ondanks die gemeenskap-gesondheidsentra met die gunstigste praktyk ook beïnvloed is deur faktore wat die kwaliteit van sorg kan beïnvloed wat gebrek aan hulpbronne, beperkte infrastruktuur, beperkte ondersteuning deur die apteek en personeeltekorte insluit. Hierdie bogenoemde faktore was nie in die beheer van die gemeenskapgesondheid-sentrums nie. Hoewel die gemeenskapgesondheidsentra geraak word deur die bogenoemde faktore het die gemeenskapsgesondheidsentra met die gunstigste praktykomgewing uitgeblink in ondersteuning, leierskap en bestuur, kollegiale verpleegkundige-dokter verhoudings en inwerkende faktore op die gehalte van sorg, wat wel binne hulle beheer was.

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ACRONYMS

A

AACN	American Association of Critical-care nurses
AAN	American Academy of Nursing
ANA	American Nurses Association
ANCC	American Nurses Credentialing Centre
ANC	African National Congress
ARV	Antiretroviral treatment

C

CHC(s)	Community Health Centre(s)
COPC	Community Orientated Primary Care
CCU(s)	Critical Care Unit(s)

D

DoH	Department of Health
DHS	District Health System

H

HIV/AIDS	Human Immuno Deficiency Virus / Auto Immune Deficiency Syndrome
HSRC	Human Sciences Research Council
HST	Health Systems Trust

I

ICN	International Council of Nurses

ICT	Information, communication and technology

K

KMO	Kaiser-Meyer-Olkin

M

M	Mean

N

NGOs	Non-governmental organizations
NHSP	National Health Service Programme
NNS	National Nurses Survey
NWI	Nursing Work Index
NWI–R	Revised Nursing Work Index
NWU	North-West University

O

OSD	Occupation Specific Dispensation

P

PE	Practice Environment(s)
PES-NWI	Practice Environment Scale of the Nursing Work Index
PHC	Primary Health Care
PMTCT	Prevention of Mother-to-child Transmission
PPE	Positive Practice Environment

R

R.	Regulation
RDP	Reconstruction and Development Programme
RNAO	Registered Nurses Association of Ontario
RN4CAST	Registered Nurse Forecasting

S

SANC	South African Nursing Council
SD	Standard Deviation
SSA	Sub-Saharan Africa

T

TB	Tuberculosis

U

UK	United Kingdom
UNICEF	United Nations Children’s Emergency Fund

W

WHO	World Health Organization

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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Globally there is a great shortage of nurses[1] (healthcare personnel) (International Council for Nurses (ICN), 2009:280; Zori *et al*., 2010:306; Kanai-Pak *et al*., 2008:3324; Parker *et al*., 2010:352; Duvall & Andrews, 2010:109). This shortage of health care personnel includes registered nurses who are the frontline personnel in the primary health care (PHC) context. These nurses are supposed to deliver safe, well-organized and quality health care services to the individual, family and community whom they serve. According to the ICN, nursing shortages adversely affect the progress in health care services and achievement of health goals (ICN, 2009:280). Nursing shortages and other reasons, some of which include the availability of resources, support for nurses, lack of leadership and interdisciplinary relationships, adversely affect job satisfaction in the practice environments (PE) of nurses (Zori *et al.,* 2010:306; Keeton, 2010:803). This statement is supported by Gada (2010:28) who mentioned that job dissatisfaction in the workplace causes a negative PE which adversely affects interaction and quality care of patients, as well as wasting time, poor productivity and a lack of motivation, making non-productivity in this health profession the norm.

According to ICN (2009:280) a positive practice environment[2] (PPE) ensures that quality care is delivered to the individual, the family and the community. However, there is limited knowledge about PPE and what PPE entails with specific reference to the PHC context in the public health care sector of South Africa. The researcher found articles focusing on a PPE in the hospital environment specifically in the surgical, medical and critical care units, but none focusing specifically on the PHC context of South Africa. It is, however, a fact that the public PHC context of South Africa is the first line of health care delivered to the largest percentage (83%) of the South African population (Council of Medical Schemes, 2011).

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[1] In this study the researcher uses only the terms nurse and registered nurses interchangeably, but both mean "registered professional nurse, registered at the South African Nursing Council (SANC)".

[2] The terms "positive practice environment, healthy work environment and favourable practice environment" are interchangeably used in articles; in this study the researcher uses the term "positive practice environment".

In addition to the above-mentioned, the National Nursing Summit held in April 2011 (Department of Health (DoH), 2011a) mentioned that one of the main concerns raised by the nurses was their PE. As a result, the Minister of Health appointed a task team to focus on various matters which included the PE, as the establishment of PPEs is a concern of the DoH. Therefore this study is unique, significant and contributes to current developments in the public health care sector of South Africa.

This study is embedded in the public PHC context of the North West Province in South Africa and is an extension of the international collaborative research programme, Registered Nurse Forecasting (RN4CAST). The RN4CAST programme aims to develop human resource forecast models in nursing (Sermeus *et al.,* 2011).

1.2 BACKGROUND AND RATIONALE FOR THE STUDY

Nurses are the leading group of health care workers globally (Duvall & Andrews, 2010:109). Despite this reality, there is currently a global shortage of nurses (ICN, 2009:280; Zori *et al*., 2010:306; Keeton, 2010:803; Kanai-Pak *et al*., 2008:3324; Wade *et al*., 2008:345; Aiken *et al*., 2002:1987; Li *et al*., 2007:32; Parker *et al*., 2010:352; Solidarity, 2009:2 & 19; Phaswana-Mafuya *et al*., 2008:621; Schaay & Sanders, 2008:10; Duvall & Randall Andrews, 2010:109; Robinson, 2001:411; Aiken *et al*., 2001:255). This evidently increases the workload and burden on nurses who have to deliver essential care of high quality to the individual, families and community daily in especially the PHC sector. PHC has been endorsed by the developing world since the 1970s. In cooperation with the World Health Organization (WHO) and United Nations Children's Emergency Fund (UNICEF), the Alma Ata Conference that was held in 1978 emphasized the main principles of the PHC approach and by 1979, the WHO strategy to ensure "Health for All by the year 2000" was endorsed globally (Schaay & Sanders, 2008:5 & Hattingh *et al*., 2010:83). PHCs main focus is to ensure accessible basic services and holistic care that focus on disease prevention, health promotion and self-care. During 2008, it was the 30th anniversary of the Alma Ata Declaration that launched the PHC movement. In that time more than 700 nurses, midwives and other members of the multi-disciplinary team representing 33 countries in six regions that worked in different health care sectors participated in an *"International conference on New Frontiers in PHC: Role of Nursing and Other Professions"*, in Chiang Mai, Thailand. During this conference all the participants unanimously endorsed the Chiang Mai Declaration. This declaration focused on

strengthening PHC and accelerating the achievement of the Millennium Development Goals (Chiang Mai Declaration, 2008).

In the following section the researcher explains the health care services delivered in South Africa. In South Africa there are the private and public health care sectors which deliver health care services to the individual, family and community (Fish & Ramjee, 2007:29-37). The following figure (Figure 1.1) below, schematically illustrates the different health care services delivered in South Africa. The discussion follows in the subsequent paragraphs.

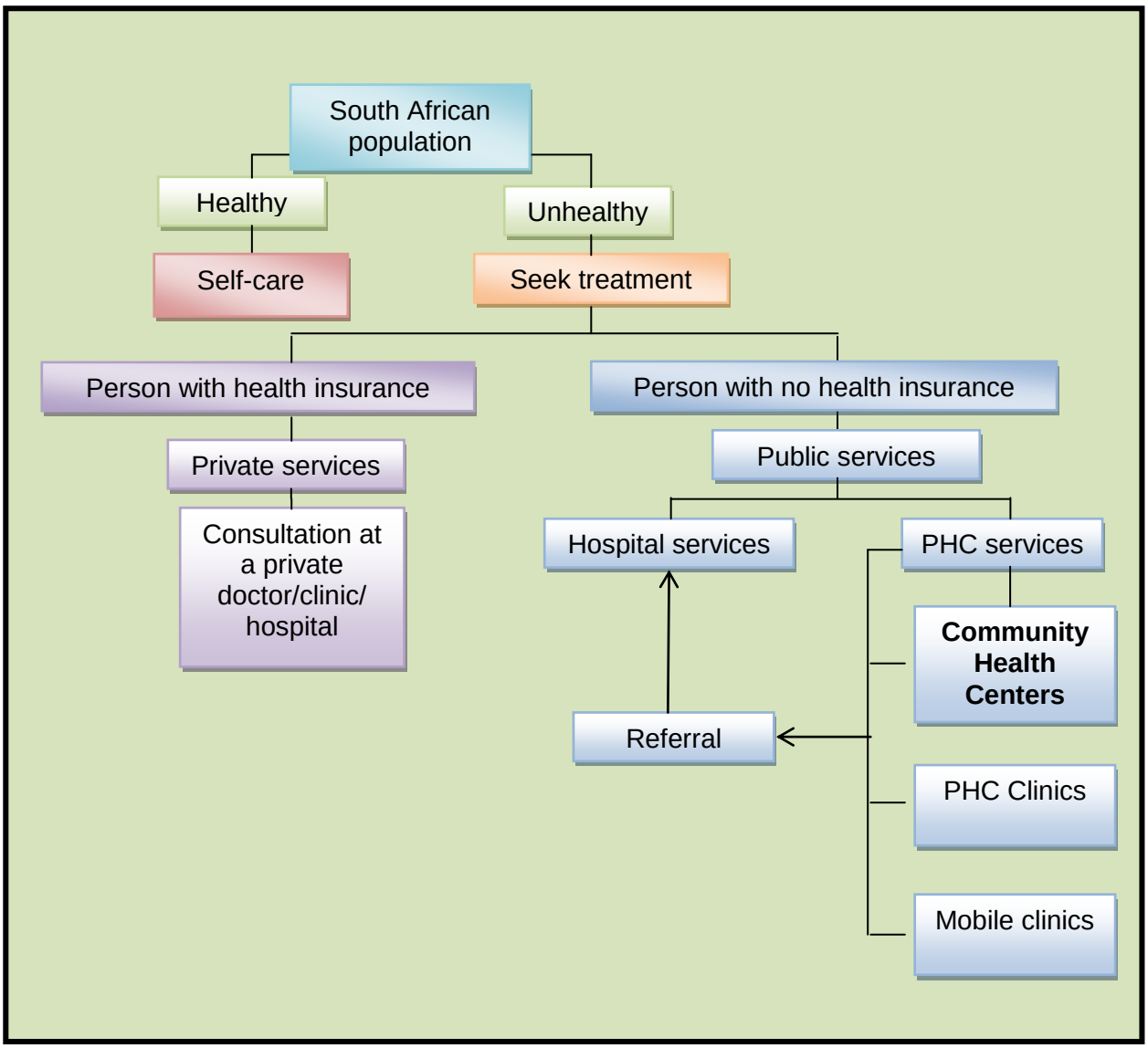

Figure: 1.1 Health care services in South Africa

As indicated in Figure 1.1 above, South Africa has different health care services. When an individual seeks health care, he/she can either go to the private health care sector if he/she has health insurance (medical aid) or have the financial means to pay, if not he/she

must go to the public health care sector if he/she does not have health insurance. In this study the researcher focused her study on the public health care sector as the public health care sector serves 83% of the population, whereas the private sector serves a mere 17% (Council of Medical Schemes, 2011). Moreover, 43% of the population served by the public health care sector live in rural areas (Cooke *et al.,* 2011:113).

The public health care sector of South Africa consists of two types of services, which include PHC and hospital services.

PHC services were introduced in South Africa in 1994 after the election of a democratic government as part of the transformation plan for public health care services. The focus of the government was to provide essential health care services free of charge, cost-effectively, reasonably and equally to the community (Hattingh *et al*., 2010:65; Human, 2010:33, Phaswana-Mfuya *et al*., 2008:611 & 612). PHC services aim to make health care available to every citizen of South Africa who does not have the financial means to afford health insurance or who does not have health insurance benefits from his/her employer (Human, 2010:33).

According to Dennill *et al.* (1999:16) the Alma-Ata advised countries to rather follow a comprehensive or supermarket approach than a selective approach when delivering health care at PHC services. This ensured that physical, mental and social (holistic) needs of the individual, family and community were addressed, whereas a selective approach opposed equitability in PHC (Dennill *et al*., 1999:17). If a person without health insurance seeks health care in the public health care sector they are required to initially go to a PHC service (PHC clinic, community health centre (CHC) or mobile clinic), then the health care provider, who is most often the nurse, refers the patient to the district hospital if he/she deems it necessary. This is done because PHC services are the first level of care before a patient is referred to the second level (hospitals).

PHC services must be functionally, geographically and financially available to all South African citizens, in spite of race, age, ethnicity, faith or social position (Dennill *et al*., 1999:6). These services focus more on promotion, prevention, curative and rehabilitation services (Hattingh *et al.,* 2012:10). Therefore, PHC services (in the public health care sector) endorsed the District Health System (DHS) (Phaswana-Mfuya *et al.*, 2008:612). The DHS consists of district hospitals, PHC clinics; CHCs and mobile PHC clinics. District hospitals are the first level of referral, and they deliver services not only in emergencies, but also services according to the disease profile of the district. If more specialized care is

needed patients are referred to provincial and/or national hospitals. District hospitals (the first level of referral), PHC clinics, CHCs and mobile clinics (the first level of care) are responsible for a population in a defined geographical area (district) (WHO, s.a:5-7). The only differences between PHC clinics and CHC are their size, physical structure and types of services delivered (see 1.5.2.2). Mobile clinics, on the other hand, are vehicles containing essential PHC equipment and medication. These mobile clinics are used in the community to deliver essential PHC services (see 1.5.2.2).

In this study, the researcher focuses specifically on CHCs which form part of the public health care sector of the North West Province. CHCs are 24-hour clinics, supplying follow-up anti-retroviral treatment (ARV) treatment, have maternity departments and are larger clinics enabling them to care for more individuals in the community. The following form part of the public health care sector in the North-West Province, namely two provincial hospitals, one psychiatric hospital, 29 district hospitals, 275 clinics, 70 mobile clinics (Muller, 2010:52) and 41 CHCs.

The public health care sector provides health care services free of charge to the larger part of the South African community (83%) as mentioned previously (Kautzky & Tollman, 2008:24; Human 2010:33; Council of Medical Schemes, 2011). This is due to various reasons which include the high unemployment rate in the country, a high number of refugees and the impact of the global financial crisis on South Africa.

This evidently increases the workload and burden that nurses in especially the public health care sector have to carry. In view of the above-mentioned, the nurses in the public sector are not only faced by heavy workloads but also job dissatisfaction in their PE. Pillay (2009:1) and Kaplan *et al*. (1991:3) have revealed that the level of job satisfaction of South African nurses is poor. More recently Pillay (2009:1) conducted a comparative analysis to determine job satisfaction of registered nurses in the public and private health care sector of South Africa. The results of the study revealed that nurses working in the public health care sector of South Africa had higher levels of job dissatisfaction than nurses in the private health care sector (Coetzee *et al*., 2012:1; Pillay, 2009:1). The main reasons are high workloads, poor wages, no career development opportunities, lack of resources and leadership (Coetzee *et al*., 2012:5-6; Klopper *et al.*, 2012:686, DoH, 2011b:9 and Pillay, 2009:1). These factors could possibly affect the quality of care delivered to patients, as Coetzee *et al*. (2012:1), mentioned that a more favourable PE is linked to quality of care.

Various studies have revealed that if the PE of the nurse is positive, quality of care of the individual, family and community follows (Kramer & Schmalenberg, 2008:56; Vollers *et al.,* 2009:20). The term PE is defined by Kutney-Lee *et al*. (2009:221) according to Lake (2002) as "the organizational characteristics of a work setting that facilitate or constrain professional nursing practice". Therefore, in order to facilitate or in other words, smooth out professional nursing practice and increase quality of care given to patients the establishment of a PPE is of the utmost importance.

PPE and healthy work environments are used interchangeably in different articles. Consequently the researcher sees the terms "positive", "healthy" and "favourable" as synonyms. According to the Registered Nurses Association of Ontario (RNAO) (2010:2), Kramer and Schmalenberg (2008:56) and Aiken *et al*. (2001:256) the term "healthy" (in this study positive) is an environment where the health care workers are satisfied, personal needs and developmental opportunities are met, organizational outcomes are reached and quality of care is delivered. Aiken *et al*. (2001:256) and Gada (2010:28) add to the list effective leadership and organizational attributes, competent managers, decentralized decision-making, investment in employees and acknowledgment of employees' contributions and adequate resources.

The concept of healthy work environments originated in the 1980s when the American Academy of Nursing (AAN) revealed that there were 41 hospitals in America which had the ability to recruit and retain nurses, decrease burnout and job dissatisfaction in the PE and improve quality of care to patients in a competitive market (Aiken *et al*., 2009b:S5-S7; Roche and Duffield, 2010:196; Lake, 2007:104S; Aiken *et al*., 1998:225; Robinson, 2001:412; Aiken *et al.,* 2001:256). These 41 hospitals that had that ability were called magnet hospitals and the others non-magnet hospitals. During those years studies were conducted by the AAN to determine the organizational characteristics shared by these hospitals with the magnet status, these hospitals were called the AAN magnet hospitals or "original magnet hospitals".

The characteristics which gave hospitals the magnet status included a "flat organizational structure, unit-based decision-making processes, influential nurse executives and investments in the education and expertise of nurses".

Thereafter, in the 1990s the American Nurses Association (ANA) through the American Nurses Credentialing Centre (ANCC) established an official programme called the Magnet Nursing Services Recognition Programme that acknowledges excellence in nursing

services. After various research studies had been conducted in magnet and non-magnet hospitals, it was revealed by the ANCC that a magnet hospital had to meet Fourteen Forces of Magnetism (see 1.5.2.3.2) as determined by nurse experts using a multistage process of written documentation and on-site evaluation. This evaluation included points such as nurses' education and experience, nurse staffing, clinical PE, burnout, job satisfaction and quality of care. In order for a hospital to receive "magnet" status, the hospital had to undergo a voluntary accreditation which had to be renewed every four years (Aiken *et al.*, 2009b:S5-S9, Robinson, 2001:412).

The Fourteen Forces of Magnetism were quality of nursing leadership, organizational structure, management style, personnel policies and programmes, professional models of care, quality of care, quality improvement, consultation and resources, autonomy, community and the hospital, nurses as teacher, image of nursing, interdisciplinary relationships and professional development (Kramer & Schmalenberg, 2005:279; Alspach, 2009:13) (see 1.5.2.3.2).

This researcher's study focuses on the characteristics in the PE set by the ANCC which gives a hospital magnet status. The PE or organizational characteristics of an institution are best measured by using the Practice Environment Scale of the Nursing Work Index (PES-NWI) instrument which measures five sub-scales in the PE.

The five sub-scales include nurse manager ability; leadership and support of nurses; collegial nurse-physician relations; staffing and resource adequacy; nurse participation in hospital affairs[3] (in this study nurse participation in PHC/CHC affairs); and nursing foundations for quality of care (Lake, 2001:109S, Lake 2002:176; Roche & Duffield, 2010:199; Friese, 2005:767, Parker *et al.*, 2010:353; Kutney-Lee *et al*., 2009:221). These sub-scales were determined after various studies had been conducted in the PE which found that they were foundational predictors when measuring the PE (Wade *et al.*, 2008:350).

When considering the above-mentioned discussion, one of the most important points to give attention to when trying to support and ensure that nurses experience more job satisfaction is to address the PE. Nursing and resource shortages cannot be addressed so

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[3] In this study the domain "*nurse participation in hospital affairs*" was changed to "*nurse participation in PHC/CHC affairs*" as the study was conducted in the PHC context and not the hospital context.

rapidly, but a PPE can be established more promptly when there is a model CHC that exemplifies a PPE to benchmark with.

Therefore the researcher explored the PE of CHCs in order to describe a case study of a model CHC which exemplifies a PPE, as well as to develop guidelines to facilitate the establishment of a PPE in CHCs in the North West Province.

1.3 STATEMENT OF PROBLEM

Various studies that have been conducted have revealed that a PPE not only retains and recruits nurses but also ensures quality of care given to the individual, the family and the community (Kramer & Schmalenberg, 2008:56; Vollers *et al*., 2009:20). As mentioned previously a PPE is defined as an environment where the following sub-scales are positive namely nurse manager ability, leadership and support; staffing and resource adequacy; collegial nurse-physician relations; nurse participation in PHC/CHC affairs and nursing foundations for quality of care (Roche & Duffield, 2010:199; Friese, 2005:767, Lake 2002:176; Lake, 2001:109S; Parker *et al.*, 2010:353; Kutney-Lee *et al*., 2009:221).

These sub-scales are seen as foundational predictors when measuring the PE of nurses (Wade *et al.*, 2008:350). However, some of these sub-scales are not optimal in the public health care sector of South Africa (which includes PHC services), due to nursing shortages and lack of resources (Solidarity, 2009:2 & Pillay, 2009:1) poor wages, limited career development opportunities and leadership (Coetzee *et al*., 2012:5-6; Klopper *et al.*, 2012:686; Pillay, 2009:1) causing an unfavourable PE and leading to a gradual decline in the quality of care given (Keeton, 2010:803).

Despite the above-mentioned challenges the public health care sector is also faced with high workloads due to the high unemployment rates and poverty of the country. This is due to various reasons of which some include the effect of the global financial crisis and high numbers of refugees. In addition, South Africa is also affected by an increased number of people suffering from Human Immuno-Deficiency Virus / Auto Immuno-Deficiency Syndrome (HIV/AIDS) and related illnesses, making the South African population more dependent on health care (Solidarity, 2009:5, 6, 7 & 12, Phaswana-Mafuya *et al*., 2008:611).

Thus, the nurses and PE of the public health care sector are affected by various factors leading to a possible decrease in the quality of care delivered to the individual, family and

community. In order to engage with the above-mentioned problem statement, the following research questions are posed:

- How can a case study of a model CHC be described that exemplifies a PPE in the North West Province?
- What is the demographic profile of the CHCs in the North West Province?
- What is the status of the PE in CHCs in the North West Province?
- What are the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in the North West Province?
- What guidelines can be developed to facilitate the establishment of PPE in CHCs in the North West Province?

1.4 AIM AND OBJECTIVES

The overarching aim of the study is to describe a case study of a model[4] CHC that exemplifies a PPE in the North West Province. In order to achieve the aim, the following research objectives are set:

Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province.

Objective 2: To explore and describe the status of the PE in CHCs in the North West Province.

Objective 3: To explore and describe the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in the North West Province.

Objective 4: To develop guidelines to facilitate the establishment of PPE in CHCs in the North West Province.

[4] With the term “model” the researcher means a CHC with the same or nearly reflecting the characteristics of a PPE.

1.5 RESEARCHER'S ASSUMPTIONS

The researcher's assumptions underlie the decision-making during the research study and are grounded in a philosophical paradigm.

In the ontological paradigm of constructivism, realities hold different indefinable mental constructs, but depend on the form and content of the person who holds the constructions. These constructions are not necessarily intended to convey an absolute truth but are specific, informed, sophisticated and changeable, because they are related realities. In the epistemological paradigm the constructivist is transactional and subjective, and findings are created during the investigation (Guba & Lincoln, 1994:110-111). Epistemology is regarded as the knowledge that is seen as suitable in the social phenomenon studied (Matthews & Ross, 2010:26). According to the same authors epistemology is defined as "a theory of knowledge; it presents a view and a justification from what can be regarded as knowledge – what can be known and what criteria such knowledge must satisfy in order to be called knowledge rather than beliefs". In this study the researcher applied this philosophical paradigm by exploring the realities of the participants with regard to their PE and constructed these realities in order to achieve the overarching aim and objectives of this study.

In the following section the researcher discusses the meta-theoretical, theoretical and methodological assumptions that define the framework within which the researcher conducted this study.

1.5.1 Meta-theoretical assumptions

In this study the researcher views man, health, nursing and the environment in the PHC context from a constructivist position.

1.5.1.1 View of man

In this study the term man is used to refer to the nurses working in the CHCs of the North West Province. Nurses are professional practitioners who continuously construct their own individual realities and construct their own representative models of the world (Kinsella, 2009:9). This nurse is a human being consisting of an external and internal environment that encompasses the physical, psychological, spiritual and social domains. These

domains are in constant interaction with one another; so that when one domain is negatively affected, the other domains are also affected. Therefore, the environment plays an important role in developing and maintaining these dimensions.

Definition of nurse: In this study the term "**nurse**" means the professional nurse who is a person registered at the SANC as a registered nurse. The SANC defines a registered nurse according to regulation (R) 2598 and Solidarity (2009:4) as "a person who is registered as a nurse or as a midwife". Therefore, in this study the participants in this study are professional nurses registered at SANC working in the CHCs of the North West Province.

1.5.1.2 View of health

In this study health is the absolute state of well-being of the nurse and individual, the family and the community in the CHCs of the North West Province. According to the WHO (1948) health is defined as a "state of complete physical, mental and social well-being, not merely the absence of disease or infirmity" (Hattingh *et al.*, 2010:4, 21 & 150; Zweigenthal *et al.,* 2009:25).

1.5.1.3 View of nursing

According to Botes (1991:3) "nursing is a profession". This profession originated from the needs of an individual, family or community for specific services. Nursing is defined by the ICN (2007:54) as the "promotion of health, prevention of illness, and care of ill, disabled and dying people". In the PHC context nurses strive to optimise health by promoting, maintaining and restoring health and providing quality care. This is done by endorsing a holistic approach in the diagnosis and treatment of diseases, in order to decrease the effects of illness, promote comfort and healing and assist the patient to achieve an optimal level of self-care (Robinson, 2001:414).

1.5.1.4 View of environment

In this study the environment refers to a PE of CHCs in the North West Province. This environment is the place where the nurse delivers health care to the individual, the family and the community with the help of a multi-disciplinary team. Therefore, the PE of the

nurse not only affects the nurse when carrying out nursing tasks but also the individual, the family and the community who receive their health care in that environment. Therefore the establishment of a PPE not only positively affects the nurse but also ensures the delivery of quality of care to individuals; families and communities (see 1.5.2.2 for the theoretical meaning of a PPE).

1.5.2 Theoretical assumptions

The theoretical assumptions include the central-theoretical statement, which includes the conceptual definitions and theory used to underpin this study.

1.5.2.1 Central theoretical statement

The exploration and description of the demographic profile and status of CHCs in the North West Province assisted the researcher in understanding the PEs of CHCs in the North West Province. These findings also assisted the researcher in identifying the CHC with the most favourable PE, in order to explore and describe the perceptions of the managers, physician and nurses in that CHC. All the above mentioned empirical data was used as a basis with the WHO Strengthening of Health Systems and the Fourteen Forces of Magnetism Frameworks to reach the overarching aim of this study which is to describe a case study of a model CHC that exemplifies a PPE in the North West Province and thereafter develops guidelines to facilitate the establishment of PPEs in CHCs in the North West Province.

1.5.2.2 Conceptual definitions

The following concepts are central in this study and are defined as:

- **Primary Health Care**

PHC was introduced as part of the transformation of public health care services in South Africa in 1994 after the election of the new government. The focus of the government was on providing essential health services that would be free of charge, cost-effective, reasonable and equal to the individual, the family and the community (Hattingh *et al*.,

2010:65; Human, 2010:33, Phaswana-Mfuya *et al*., 2008:611 & 612). This included the redistribution of some control to the patient, building confidence in the patient and enhancement of autonomous health care. Hattingh *et al.* (2010:61-65) define PHC as first level health care services to an individual, a family or a community that are "accessible, affordable, acceptable, available, equal, effective, efficient, continuous, caring comprehensive, comfortable, considerate, scientifically advanced and careful with the patients safety". This service is delivered at PHC clinics, CHCs and mobile clinics that aim at providing holistic care that is preventative and promotional in nature. This includes the assessment, diagnosis, management (drug and non-drug) and care for individuals, families and communities who have a health problem. Many nurses in the PHC context of South Africa do not have the additional qualification of Clinical Health Assessment, Treatment and Care Diploma, but have Community Health Nursing Science as qualification, integrated in the 4-year Nursing Diploma or Baccalaureate Degree. This diploma and degree leads to registration in general nursing, community health nursing, psychiatric nursing and midwifery. In PHC it is strongly advised to obtain the specialized qualification called Clinical Nursing Science, Health Assessment, Treatment and Care, which prepares registered nurses with advanced competence and skills in the management of patients.

- **Clinical Nursing Science, Health Assessment, Treatment and Care qualification**

This qualification is specifically developed to enable the nurse in the PHC context to be able to conduct proper assessments which include history-taking and physical examination, diagnosis of the physical problem, illness or deficiency, prescribing and dispensing medication up to Schedule 4 (SANC, R48 of 20 January 1982). This qualification is a specialisation which is especially important in the rural communities of South Africa where these nurses work in the PHC context under very isolated conditions and exposed to low levels of resources (Cooke *et al.,* 2011:108).

- **PHC clinic**

A clinic delivers a service that provides preventative, promotional and curative services at a less specialised level. According to Dennill *et al*. (1999:49) a clinic's physical structure consists of less than four consulting rooms and the operating hours range from eight to twelve hours a day for five to seven days a week depending on where the clinic is situated in the community.

- **Community Health Centre**

In this study, the focus is on CHCs. The reason is that a CHC provides the same preventative, promotional and curative services as a PHC clinic, but also has a maternity service, therefore not only delivering prenatal but also post-natal services (Van Rensburg, 2004:429). A CHC also provides ARV medication; therefore the patients do not have to be referred to a Wellness Clinic as has to be done in PHC clinics. Lastly, the CHC also performs circumcisions once a month. The physical structure consists of more than four consulting rooms with a maternity ward, the CHC is open 24 hours a day, seven days a week or in some cases 12 hours a day for 7 days a week. This centre is visited weekly by the multi-disciplinary team. Daily services are provided by the nurse and a physician, and should the CHCs location be in a rural area the physician only visits the CHC weekly (Dennill *et al.,* 1999:49; Muller, 2010:53) or on predetermined days. A CHC also delivers services to a larger number of clients than a PHC clinic, but each CHC has satellite PHC clinics in the geographical region.

- **Mobile clinic**

A mobile clinic is a vehicle that moves around in the rural parts of a specific geographical area in the community. The vehicle then stations itself at a specific location in order to deliver health services. These vehicles are equipped with the necessary equipment to deliver basic PHC services. Some of the equipment on the vehicle is an examination couch, medication cupboard, otoscope, scale, fetoscope and baumanometer, as well as space to write notes after the consultation. Usually there are support staff (enrolled and auxiliary nurses) outside the mobile clinic that help the nurse to obtain needed information from patients as well as information necessary for statistical purposes (Muller, 2010:54).

- **Positive Practice Environment**

Various studies have been conducted over the last two decades with a specific focus on the PE of nurses and how to establish a PPE. Earlier in the 1980s the AAN identified various characteristics which ensured a healthy work environment for nurses. Hospitals with these characteristics were called “magnet hospitals”. Later in the 1990s the ANA through the ANCC established a programme with Fourteen Forces (standards) of Magnetism called the Magnet Nursing Services Recognition Programme which acknowledges excellence in nursing services. These 14 standards include different points such as education and experience levels of nurses, staffing rates, PE, burnout, job satisfaction in the PE and quality of care (Aiken *et al*., 2009b:S5-S9; Robinson, 2001:412) (see 1.5.2.3.2).

Different researchers have proposed different definitions of the term PPE, but all these definitions have the same underpinning of which some are discussed in the following section. According to Robinson (2001:411) who conducted different research studies in magnet hospitals, a PPE is defined as an environment where there are structured policies, procedures and systems which give the employees the opportunity to achieve not only personal but also organizational goals. Aiken *et al*. (2009b:S5); Aiken *et al*. (2001:256); Roche and Duffield (2010:196); Lake (2007:104S); Aiken *et al*. (1998:225) and Robinson (2001:412) added that an environment with a PPE have lower burnout levels, better retention and attraction of nurses, and patients experience better quality of care. Kramer and Schmalenberg (2008:56-57) mention the fact that the AACN defines a healthy (in this study positive) PE as an environment where there are productivity, satisfied employees and quality of care given to individuals, families and communities.

As seen above, all of the above-mentioned definitions of the term PPE have the same underpinning. Therefore, in this study a PPE refers to an environment where patients experience quality of care due to excellent leadership and governance, support for nurses on an organizational and personal level, collegial nurse-physician relationships and a PE with structured policies and procedures.

1.5.2.3 Theoretical frameworks

After studying different theories, the researcher decided to use the WHO Strengthening of Health Systems Framework (WHO, 2007:3) as well as the 14 Forces of Magnetism as theoretical frameworks for this study (Kramer & Schmalenberg, 2005:279; Alspach 2009:13).

The Strengthening of Health Systems Framework was developed by the WHO to create an understanding of how to strengthen health systems in a changing world. The underpinning of this framework is from the Alma Ata Declaration of Health for All and the principles for PHC. This framework aims at defining six “building blocks” that the health system consists of (WHO, 2007:v). These building blocks include leadership and governance, health workforce, health information systems; health services, medical products, vaccines and technologies and health financing. These building blocks lead to the overall goals and outcomes of a health system which includes responsiveness, social and financial risk protection and improved health.

The second Framework is the Fourteen Forces of Magnetism intended to evaluate and recognize a hospital that has magnet status. These characteristics and attributes were obtained after regional interviews were done during 1983 in 41 hospitals (Kramer & Schmalenberg, 2005:279; Alspach, 2009:13).

In the following section the researcher firstly discusses the Strengthening of Health Systems and then the Fourteen Forces of Magnetism Frameworks.

1.5.2.3.1 WHO Strengthening of Health Systems Framework

A health system is a set of interrelated parts that have to function collectively to be effective (WHO, 2007:14). In order for a health system (the CHC in this study) to reach health goals, some basic functions have to be carried out. These functions include the development of staff and key resources, mobilization and allocation of finances, assurance for health systems leadership and governance. Therefore, the WHO developed six critical building blocks that are seen as important in facilitating improved health outcomes, responsiveness and social and financial risk protection (see Figure 1.2)(WHO, 2007:3). In the following section the researcher indicates the important linkages between the building blocks. These are, according to the WHO (2007:14):

- **Leadership and governance:** Policies in the health sector, harmonization and alignment, oversight and regulation;
- **Health workforce:** National workforce policies and plans for investments, advocacy, norms, standards and data;
- **Health information system:** Facility and population-based information, observation systems, universal standards and tools;
- **Health services (service delivery):** Packages, delivery models, infrastructure, organization safety, and quality and health care requirements;
- **Medical products, vaccines and technologies:** Norms, standards, policies, dependable procurement, equitable entrance and quality; and
- **Health financing:** National health financing policies, tools and statistics on health expenditures, and costing.

The researcher provides an in-depth discussion of each of the building blocks in the subsequent paragraphs.

1.5.2.3.1.1 Leadership and governance

This building block is the most important one in a health facility because it involves the guidance and oversight of the total health care facility and integration of demands for, for example limited resources. Because there is no blueprint available on effective health leadership and governance there are some key functions that all health systems should abide by, irrespective of how they are organized (WHO, 2007:23). These include:

- Policy guidance by formulation of strategies and policies, description of goals, directions and prioritization of spending between different programmes and lastly the identification of public, private and voluntary role-players in the health centre;
- Intelligence and oversight by “ensuring generation, analysis and use of intelligence on trends and differentials in inputs, service access, coverage, safety; on responsiveness, financial protection and health outcomes for vulnerable groups, on the effects of policies and reforms; on the political environment and opportunity for action; and on policy options”;

- Collaboration and coalition building with role-players outside the government, by keeping the different parts “joined up in government”;
- Designing regulations and incentives that are fairly imposed;
- System design by ensuring that there is a connection between strategy and structure and a decrease in repetition and division; and
- Accountability by ensuring that all role-players in the health system are accountable by being transparent.

1.5.2.3.1.2 Health workforce

The health workforce involves the persons who must deliver health care. These are the health service providers (nurses in this study), health management and support workers (in this study the intermediates, non-governmental organizations (NGOs), care givers in the community and other health care support, e.g. physician and pharmacy). This health workforce must be available, competent, responsive and productive (WHO, 2007:16-17).

This means that in this building block attention should be given to:

- Monitoring of availability, allocation and performance of the health workforce; determination of what forms of education and training are in place and where shortage of personnel is evident, how this shortage can be eliminated and staff given extra skills; and
- The designing of training programmes, financing of scaling-up of education programmes and numbers, organization of staff for effective service delivery at primary, secondary and tertiary level and retention of an effective workforce.

1.5.2.3.1.3 Health information system

The generation and planned use of information are of utmost importance for effective leadership and governance of any health care service. Therefore, to ensure production, analysis, dissemination and use of dependable and timely health information by the health care providers at different levels on a regular and emergency basis is of utmost importance. This is done through (WHO, 2007:18-19):

- The establishment of population and facility data from, for example, medical records as well as data on health services;
- Ensuring the facility has the capacity to note, examine and communicate events that threaten health security as soon as they happen; and
- Synthesis of information and promotion of the accessibility and application of the gained knowledge.

1.5.2.3.1.4 Health services (service delivery)

In any health care service, the services delivered should be effective and safe in order to ensure quality care to the individual, family and community, and with minimum waste. In order to deliver quality care, well-trained staff, necessary medication and equipment and sufficient finances are of the utmost importance. This building block is concerned with how services are organized and managed in order to ensure that access, quality and continuity of care are delivered across all health conditions in different locations and time. This means that attention should be given to demand (WHO, 2007:14-15):

- *Demand for services* which include a proper understanding of the users' (community members) viewpoints and communication with the public to decrease barriers to care. This is done through engagement of community members in the management of service (services provided by the CHC) performance;
- *Package of integrated services* based on the community's needs and the availability of finances, staff, medication and medical supplies;
- *Organization of the provider network* ensures "close-to-client" care, promotes continuity of care between facilities and consideration of network providers and includes the responsibly for and linkages between different providers and the functioning of referral systems;
- *Management* which is done by management of the facility to encourage innovation, balanced by policy and programme consistency and accountability; and
- *Infra-structure and logistics* which include buildings, equipment, electricity and water supply, waste management, transport, maintenance of equipment, skills needed by staff, addressing of staff numbers and communication.

1.5.2.3.1.5 Medical products, vaccines and technologies

A health care system that functions optimally ensures equitable access to essential medical products, vaccines and technologies to the individual, the family and the community. This ensures that quality, safe, efficient and cost-effective health care is delivered. This is done according to the WHO (2007:20) by:

- Implementation of national policies, guidelines and regulations;
- Information on prices and trade agreements as well as the negotiation of prices;
- Reliable manufacturing practices and quality products;
- Procurement, supply, storage and distribution of services to decrease waste; and
- Support for rational use of medication, equipment through guidelines and strategies and training to increase quality of care.

1.4.2.3.1.6 Health financing

This building block focuses on raising adequate funds for health in order for individuals, families and communities to use the needed services. Therefore it is important for the country to use the following principles to guide finances (WHO, 2007:21):

- Raising of extra funds where health care needs are high;
- Decreasing out of pocket payments, by rather using payment systems involving pooling of financial risks across population groups, e.g. taxation;
- Ensuring access to services by poor and vulnerable groups in the community;
- Improving efficiency of provision of resources;
- Promoting transparency and accountability in health finance systems; and
- Improving generation of information on the health finance system.

From the discussion above the six building blocks of the WHO are important components that must be paid attention to in order to ensure strengthening of the health system. But according to the WHO (2007:23) the building block leadership and governance, also called

stewardship, is the most important building block in the strengthening of the health systems (in this study CHCs in the North-West Province).

Figure 1.2 was the original model of the WHO (WHO, 2007:3) based on the six building blocks of health systems (discussed above) used as the theoretical framework for this study.

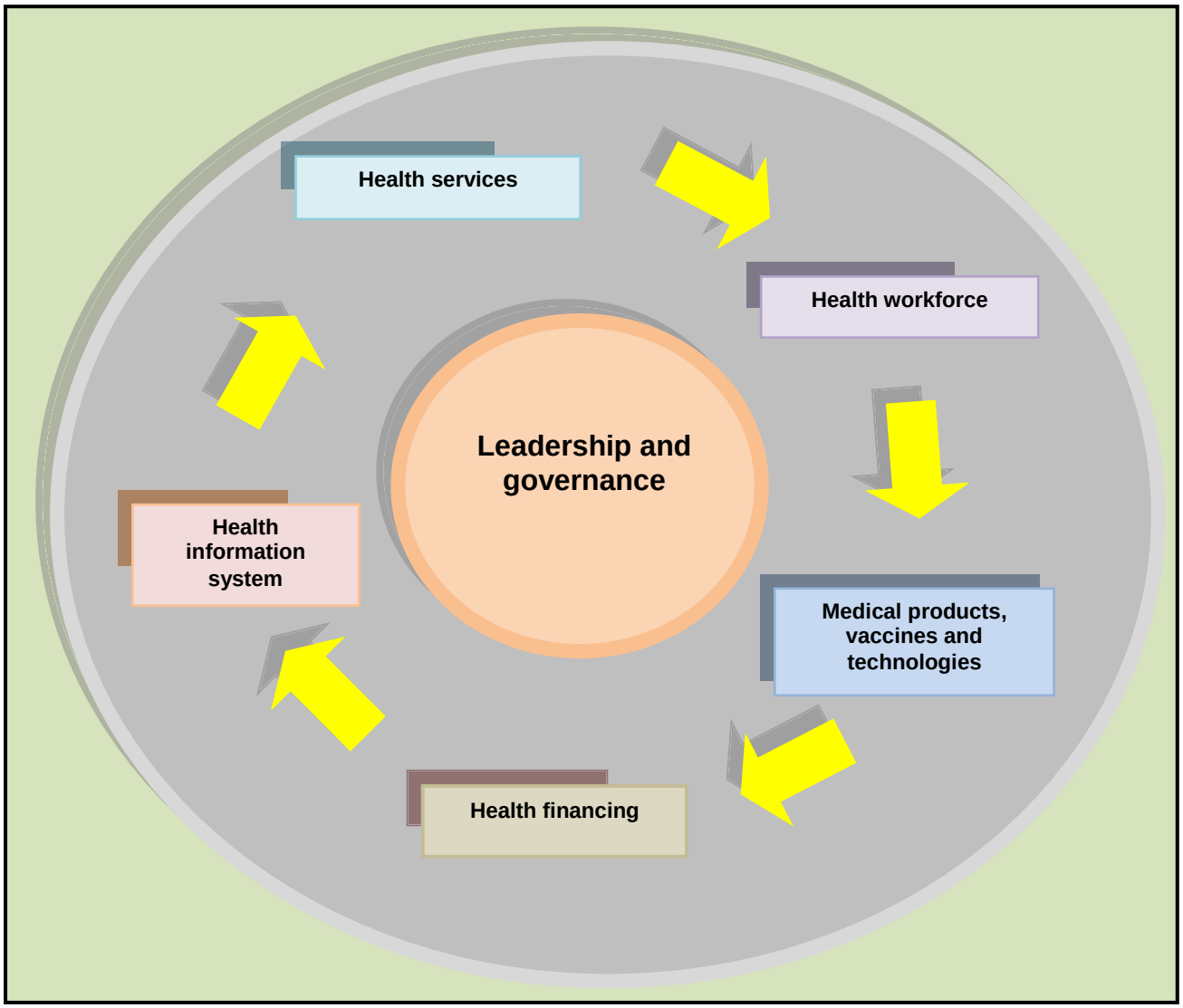


Figure 1.2 Health Systems Framework of the WHO (WHO, 2007:3)

1.5.2.3.2 The Fourteen Forces of Magnetism

In order for a hospital to receive magnet status, it should have Fourteen Forces of Magnetism. These include quality of nursing leadership, organizational structure, management style, personnel policies and programmes, professional models of care, quality of care, quality improvement, consultation and resources, autonomy, community

and the hospital, nurses as teachers, image of nursing, interdisciplinary relationships and professional development (Kramer & Schmalenberg, 2005:279; Alspach, 2009:13). In the following section the researcher defines each of the Fourteen Forces of Magnetism (Kramer & Schmalenberg, 2005:279; Alspach, 2009:13).

1.5.2.3.2.1 Quality of nursing leadership (Force 1)

The nursing manager has leadership characteristics that are guided by an expressed philosophy addressing advocacy and support for staff. The manager is also a leader who is actively involved in professional nursing organizations.

1.5.2.3.2.2 Organizational structure (Force 2)

An organizational structure that is horizontal, decentralised and supports a participative decision-making culture at unit level. This force also includes nurse representation in committees and a nurse leader who serves at management levels of organizations and reports directly to the Chief Executive Officer of the institution.

1.5.2.3.2.3 Management style (Force 3)

A management style where the manager is visible, accessible, allows participative decision-making and is devoted to open channels of communication with staff.

1.5.2.3.2.4 Personnel policies and programmes (Force 4)

This force supports reasonable salaries and benefits, ensures promotion opportunities for staff, and makes sure that staff members are minimally rotated as well as including personnel in the formation of policies.

1.5.2.3.2.5 Professional models of care (Force 5)

Care delivery models where the nurses are accountable for their nursing practice and coordinate their own care.

1.5.2.3.2.6 Quality of care (Force 6)

A PE where quality of care is an organizational priority. Quality of care is delivered to the patient, and staff members perceive that as true.

1.5.2.3.2.7 Quality improvement (Force 7)

Nurses participating in quality improvement and educational activities which aim at improving quality of care.

1.5.2.3.2.8 Consultation and resources (Force 8)

This force includes the availability of sufficient consultation and human resources such as advanced practice nursing staff.

1.5.2.3.2.9 Autonomy (Force 9)

Nurses who are independent practitioners maintaining professional principles within the multi-disciplinary context.

1.5.2.3.2.10 Community and the hospital (CHC in this study) (Force 10)

Inclusion of the community in the organization by establishing long-standing outreach programmes.

1.5.2.3.2.11 Nurse as teacher (Force 11)

Advocate to nurses the need to include teaching in their practice.

1.5.2.3.2.12 Image of nursing (Force 12)

Ensuring that nursing services are viewed as essential in the context of the care of the patient.

1.5.2.3.2.13 Interdisciplinary relationships (Force 13)

Mutual respect among all disciplines.

1.5.2.3.2.14 Professional development (Force 14)

Nurse Manager ensuring that there are opportunities for staff to receive orientation, in-service training and formal education aimed at enhancing clinical skills.

1.5.3 Methodological assumptions

According to Burns and Grove (2009:40) assumptions are rooted in the philosophical base of the study's framework, design and analysis of findings; therefore, they influence the research process. The same authors add that assumptions manipulate the logic of the study; therefore the acknowledgment of assumptions may lead to a more accurate study. In this study the basis for the methodological assumption is constructivism. According to Kinsella (2009:9) the constructivist view encompasses individuals' manner of shaping themselves and their worlds. In the constructivist point of view realities are captured in the form of various elusive mental constructions, which can be shared by diverse persons (Guba & Lincoln, 1994:111). This reality is reliant on individual persons advocating the constructions which are socially and experientially based. These constructions are not more or less accurate, but are more or less refined, as they are associated with different realities. The constructivist sees knowledge generation in constructions as a form of interaction between researcher and the participants (those who have the knowledge) where agreement has been reached. The constructivist also agrees that knowledge can coexist when different interpreters have different beliefs of what is true due to diverse backgrounds. Schwandt (1994:129) adds by mentioning that all constructions are attempts at understanding and interpreting different experiences which are self-sustaining and self-renewing. Knowledge is collected through discussions between the participants. This knowledge is then combined into different constructions which are transferred through case study reports (as in this study) transferring explicit experiences (Guba & Lincoln, 1994:114). The trustworthiness of knowledge through constructivism is proved through credibility, transferability, dependability and confirmability (see Chapter 3 [Table 3.3]) as well as "authenticity criteria of fairness, ontological authenticity (enlarges personal constructions), educative authenticity (leads to improved understanding of constructions of

others), catalytic authenticity (stimulates to action), and tactical authenticity (empowers action)". The constructivist believes that values play an important role, especially in the shaping of findings. If values should be left out there would be a disadvantage to the vulnerable participants whose contributions must be treated equally to the less vulnerable participants. In the constructivist point of view, the researcher acts as a facilitator or participant in the data-collection process and does not play an authoritative role. The constructivist also provides the aim of a study (intent) and does not hide this. Should the researcher hide the aim of the study it would have a detrimental effect on the study, which focuses on exposing and improving constructions. The constructivist aims at reconstructing personal and participants' constructions and to direct the change to new constructions (Guba & Lincoln, 1994:105-115). In this study the researcher used the case study design in order to give consideration to the totality of cases under study. This was done by taking the realities of the participants obtained through different data-collection methods and thereafter analysing and reconstructing these realities. This enabled the researcher to describe a model CHC that exemplifies a PPE and develops guidelines to facilitate the establishment of a PPE in CHCs of the North West Province.

1.6 RESEARCH DESIGN AND -METHOD

An outline of the research design and method is provided to familiarize the reader with this study. The research design and method are discussed in-depth in Chapter 3.

1.6.1 Research design

In this study the researcher used a design with approaches and strategies which assisted in reaching the overarching aim and objectives of this study. This study used a case study design with quantitative and qualitative approaches and descriptive, explanatory and contextual strategies. The subsequent paragraphs explain the design, approaches and strategies used.

The research design used for this study was a case study design. The case study design is defined by Yin (2009:18) as an empirical inquiry where a contemporary phenomenon is investigated in-depth within a real-life context, especially when the borders between the phenomenon and context are not clear. In this study the researcher used the case study method because the researcher desired to understand a real-life phenomenon in depth,

but this understanding encompasses essential contextual conditions which are greatly pertinent in the phenomenon studied.

According to Maree *et al.* (2008:76) and Babbie (2010:309) a case study focuses on acquiring “insight and understanding of the dynamics of a specific situation”. According to Burns and Grove (2009:690) a case study is a form of descriptive study. This method is a rigorous investigation of a particular unit of study. Case studies are excellent sources of descriptive information and can be used to disclose significant findings. Various data-collection approaches could be used when using the case study design which includes both quantitative and qualitative approaches (Burns & Grove, 2009:244 & 245; Maree *et al*., 2008:75 & 291). The case study method focuses on collecting data to illuminate a specific environment focusing on issues that are essential for understanding. In this study, the CHC with the most favourable PE in the North West Province in order to describe a case study of a model CHC that exemplifies a PPE as well as developing guidelines to facilitate the establishment of PPE in the North West Province. This design mainly involves quantitative and qualitative data. According to Maree *et al*. (2008:130) the findings of this design are not generalizable to a different environment. But according to Yin, 1989a (cited in Tellis, 1997:1-3) the generalization of results found in the case study is set by the methodological qualities of the case and the rigour used. This case study was rigorous as evidence sources were converged in a triangulating fashion (Yin, 2009:18) (see Chapter 3 [Table 3.3]). In this study the researcher also used deductive and inductive reasoning. Deductive reasoning is the deduction of information by drawing conclusions from premises that automatically follow from such premises, whereas inductive reasoning involves the application of inferences which are made from particular observations of a theoretical population (Mouton, 2012:117).

1.6.1.1 Quantitative research approach

A **quantitative research approach** is an approach used to investigate the phenomenon under investigation by using accurate measurement and quantification (Polit & Hungler, 1997:466). This approach is explained by Creswell (2003:18) as an approach which enables the researcher to use different measures to collect data, including experiments, surveys or instruments. These measures are used to obtain statistical data. Denzin and Lincoln (2003:15) add to this by mentioning that in quantitative approaches instrumentation and quantification are basically employed to broaden and strengthen data obtained,

interpretations made or hypotheses tested. In Denzin and Lincoln (1998:8) the authors mentioned that the data obtained through quantitative research approaches is examined more rigorously in terms of quantity, amount, intensity and frequency.

This approach was used in the RN4CAST project of which this study is an extension. The National Nurses Survey (NNS) used in the RN4CAST project included the PES-NWI questionnaire (Section A) as well as additional section with questions focussing on the demographic profile of the nurses (Section D) working in the CHCs of the North West Province (see Appendix H). The researcher had an additional questionnaire which specifically focused on the demographic profile of the CHCs (see Appendix E). The questionnaire used in this study is discussed in detail in Chapter 3 [see 3.3.2.1].

1.6.1.2 Qualitative research approach

Polit and Hungler (1997:466) explain that a qualitative research approach is an approach used to obtain an in-depth, holistic understanding of the phenomenon studied by collecting data in order to obtain rich narrative information. Creswell (2003:18) defines a qualitative research approach as an approach whereby the researcher often makes knowledge claims by using different strategies such as narratives, phenomenologies, ethnographies, grounded theory and case studies. In this study the researcher used a case study. The qualitative research approach, according to Denzin and Lincoln (2003:5); Burns and Grove (2009:23) and Downing (2010:300), uses an interpretive, naturalistic approach to the world as the researcher examines phenomena in their natural settings and afterwards tries to make sense and interpret the data obtained. This is done so that the researcher can have an intimate relationship with the studied population or problem (Denzin & Lincoln, 1998:8). Creswell (2003:181-182) supports this, claiming that the researcher uses a natural setting and different data-collection methods which include observations, interviews and documents. These data collection methods ensured that data obtained is emergent and interpretive rather than prefigured. In this study the researcher used semi-structured individual interviews in order to explore the perceptions of managers, physicians and nurses working in the CHC with the most favourable PE in the North West Province. The same author mentioned that it is important that the researcher should systematically reflect in order to guard against personal feelings and beliefs shaping the study. After the researcher has obtained the data, the data was analysed and themes were developed which gave the researcher a thorough understanding of the problem under investigation.

1.6.1.3 Descriptive strategy

In this study the researcher also used a descriptive strategy. The descriptive strategy is described by Burns and Grove (2009:237) and Maree *et al.* (2008:291) as a strategy used to inspect characteristics and describe a certain phenomenon of a particular sample. This research strategy also aims at portraying an accurate picture of the characteristics of the population studied (Polit & Hungler, 1997:456). In this study the descriptive strategy was used to describe the data obtained of the demographic profile of the CHCs (objective 1), the PES-NWI which focuses on the status of PE in CHCs (objective 2) and to describe the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in North West Province (objective 3).

1.6.1.4 Explanatory strategy

According to Maree *et al*. (2008:264) the explanatory strategy "uses the qualitative findings to clarify the quantitative results". This is because quantitative data gives the reader a broad picture of the results whereas the qualitative data improves, explains and expands the picture. The explanatory strategy is used by the researcher in order to understand "why" something occurs in a particular way. This enables the researcher to have a better understanding of the topic under investigation in order to draw a better picture through explanation (Babbie, 2010:94).

1.6.1.5 Contextual strategy

A context is explained by Strauss and Corbin (1990:101) as "a particular set of properties pertaining to a phenomenon and a particular set of circumstances", in which an action occurs. This study was contextual and conducted in the CHCs of the public health care sector of North West Province of South Africa. The North West Province consists of four districts (N = 4) which encompass 18 sub-districts (N = 18) and these sub-districts consist of 41 CHCs (N = 41) (see Chapter 3 [Table 3.2]).

The researcher initially planned to conduct this study in the entire North West Province. However, although the researcher attempted various times to obtain permission (ethical approval) to conduct this study from all the relevant parties of all four districts, the researcher was only able to obtain permission from two districts.

Thus the study was conducted in two of the four districts, namely Dr. Kenneth Kaunda and Ngaka Modiri Molema. The researcher then contacted the sub-district offices (n = 9) and received permission to conduct the research in those CHCs (n = 26).

Figure 1.3 indicates how the components of the research design were used to reach the overarching aim, as well as objectives 1, 2, 3 and 4 of this study.

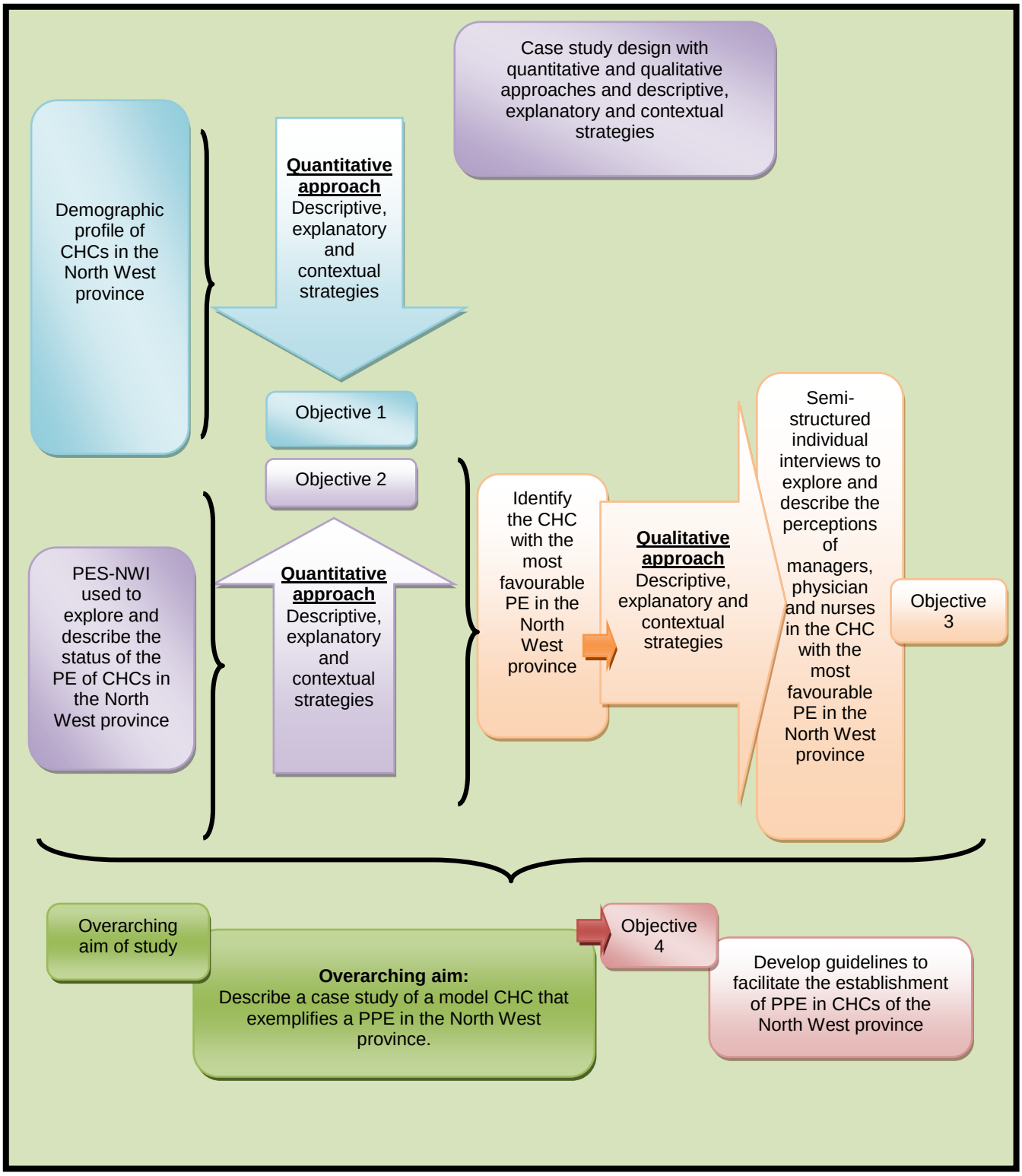


Figure 1.3 Demonstration of research design, approaches and strategies used in this study

1.6.2 Research method

In order to describe a case study of a model CHC that exemplifies PPE in the North West Province and thereafter develop guidelines to facilitate the establishment of a PPE, two phases were used. The first phase consisted of objectives 1, 2 and 3, and the second phase of the main aim and objective 4. Firstly the researcher explored the demographic profile of CHCs in the North West Province CHCs (objective 1); secondly the current status of the PE of CHCs was determined by using the PES-NWI (objective 2). After completion of objective 1 and objective 2, the researcher was able to identify the CHC with the most favourable PE. The researcher then conducted semi-structured individual interviews to explore and describe the perceptions of the managers, physician and nurses working in the CHC with the most favourable PE reaching objective 3 of this study. The second phase involved the overarching aim of this study which was the description of a case study of a model CHC which exemplifies PPE for CHCs in the North West Province as well as objective 4 which was the development of guidelines to facilitate the establishment of PPE in the CHCs in the North West Province (see Table 1.1, which indicates the project exposition of this study).

Table 1.1 indicates the project exposition of this research study.

Table 1.1: Indication of project exposition

Phase 1: Situational analysis in order to compile evidence regarding the PE of nurses in the CHCs in the North West Province
Objectives
Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province.
Objective 2: To explore and describe the status of PE in CHCs in the North West Province.
Objective 3: To explore and describe the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in the North West Province.
Phase 2: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province
Overarching aim
Overarching aim: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province.
Objective
Objective 4: To develop guidelines to facilitate the establishment of PPE in CHCs in the North West Province.

Table 1.2 below indicates the research method which consists of data collection, sampling population and sample, data analysis and rigour (Klopper, 2008:69). The table provides an overview; the detail of the research design and method is discussed in Chapter 3.

Table 1.2: Research methods used in the different phases and objectives

Phase 1: Situational analysis in order to compile evidence regarding the PE of nurses in the CHCs in the North West Province					
Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province	**Data collection:** ●Structured telephonic interviews to obtain data regarding demographic profile of the CHCs. ●Additional questions in NNS which focussed on the demographic profile of the nurses working in the CHCs	**Population and sample:** ●Multi-level sampling -Purposive sampling in North West Province -All-inclusive sampling in districts and sub-districts. **CHCs:** N = 26 n = 26 -All-inclusive sampling in districts and, sub-districts. **Nurses:** N = 291 n = 195	**Data analysis:** ●Descriptive statistics	**Rigour:** ●Validity ●Reliability	Methods detailed in Chapter 3
Objective 2: To explore and describe the status of PE in CHCs in the North West Province	**Data collection:** PES-NWI that measures the PE of the nurse (Lake 2002:176)	**Population and sample:** -All-inclusive sampling in districts and sub-districts. **Nurses:** N = 291 n = 195	**Data analysis:** ●Descriptive statistics ●Confirmatory factor analysis ●Cronbach's alpha	**Rigour:** ●Validity ●Reliability	Methods detailed in Chapter 3

Table 1.2: Research methods used in the different phases and objectives (continued)

Objective 3: To explore and describe the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in the North West Province	**Data collection** Semi-structured individual interviews (Kvale & Brinkmann, 2009:150 & 324)	**Population and sample:** All-inclusive sampling N = 10 n = 2 managers n = 1 physician n = 7 nurses in the most favourable CHCs PE	**Data analysis:** Tesch's (in Creswell, 1994:153-155) steps of content analysis	**Rigour:** Trustworthiness	Methods detailed in Chapter 3
Phase 2: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province					
Overarching Aim: Describe a case study of a model CHC which exemplifies a PPE in the North West Province.	**Data collection:** Integrating and synthesising results from objectives 1, 2 and 3	**Population and sample:** Empirical data obtained from objectives 1, 2 and 3	**Data analysis:** Deductive and inductive reasoning	**Rigour:** Trustworthiness	Methods detailed in Chapter 3
Objective 4: Develop guidelines to facilitate the establishment of PPE in CHCs in the North West Province	**Data collection:** As above	**Population and sample:** As above	**Data analysis:** As above	**Rigour:** As above	Methods detailed in Chapter 3

1.7 RIGOUR

Scientific rigour is related to the greater value of the research outcomes. Therefore, the understanding and scientific application of rigour by the researcher are of utmost importance. In order to ensure that the quantitative data findings were rigorous the researcher applied validity and reliability scoring. The researcher also used Guba and Lincoln's (1985) universal principles of trustworthiness to ensure the qualitative findings of this study were rigorous. These principles include strategies for credibility, transferability, dependability and conformability. Refer to Chapter 3 (see Chapter 3 [Table 3.3]) for an in-depth discussion of the rigour applied in this study.

1.8 ETHICAL CONSIDERATIONS

When a researcher conducts research, the study must be conducted in an ethical and scientific manner. The reason is not only to prevent the participants in the study from suffering any harm and discomfort but also to prevent undermining of the scientific process, which could have potentially harmful consequences (Brink *et al*., 2006:30). The researcher conducted this study in an ethical manner by adhering to the ethical principles aimed at keeping the participants from suffering any potential harm and discomfort during the conduct of the research process. This study is an extension of the international collaborative research programme, RN4CAST. The RN4CAST project study aims at developing nurse forecast models (Ethical approval number NWU-0015-08-S1 from North-West University (NWU) and the DoH and Social Development in North West Province which gave permission for all the districts and sub-districts in the Province)(see Appendix A and B). The ethical principles adhered to by the researcher is discussed in-depth in Table 1.3.

Table 1.3 Ethical considerations

Ethical aspects / Principles	Application in this study
Self-determination	According to Burns and Grove (2009:189) self-determination is explained as the ability of the participants to decide for themselves whether they want to participate in a research study. The participating nurses had the right to withdraw from this study at any time he/she chose to do so without any penalty held against them. The researcher adhered to this principle by firstly explaining the research study to the operational manager in charge, thereafter supplying each potential participant with an information leaflet of the RN4CAST programme (see Appendix F) and an information leaflet of the study before completing the questionnaires (see Appendix G). The participants implied consent if they completed the anonymous questionnaire. Before conducting the semi-structured individual interviews the researcher firstly verbally explained to the participant the research study, thereafter gave an information letter, before informed consent was signed if they chose to be involved in the study (see Appendix I).

Table 1.3 Ethical considerations (continued)

Ethical aspects / Principles	Application in this study
Privacy	Right of privacy is explained by Brink *et al*., (2006:33) and Burns and Grove (2009:195) as the right of the participant to choose with whom they are willing to share information. During the first round of data collection the participants who were willing to participate were given a questionnaire to complete, this questionnaire was completed anonymously and the participant was given a week to complete the questionnaire in their own time. On the front page of the questionnaire, the researcher used coding to identify the Province, sub-district and CHC name, this was kept confidential and was only for the researchers use in order to determine during data analysis which CHC had the most favourable PE. Before the conduct of the semi-structured individual interviews, an agreement was made between the interviewer and the participant that the information shared in the room had to be kept confidential, in order to respect everyone's right of privacy. These participants also signed voluntary consent forms before the interviews were started.

Table 1.3 Ethical considerations (continued)

Ethical aspects / Principles	Application in this study
Autonomy and confidentiality	The right to autonomy and confidentiality (breach of confidentiality, maintaining confidentiality) is explained by Burns and Grove (2009:196-198) as the right of the participant to assume that data collected during questionnaires and interviews is treated anonymously and confidentially. As mentioned earlier the questionnaires were marked with a code, no participants wrote their names on the questionnaire, therefore the completed questionnaire could not be linked to the participant after submission of the completed questionnaires, only the CHC could be identified. The questionnaires were kept safe by the researcher and taken to the statistical consultation department of the NWU for data capturing and analysis. Thereafter, the questionnaires were stored by the researcher for safekeeping with other records of the RN4CAST programme. Before conducting the semi-structured individual interviews, voluntary consent forms were signed by the participants. There was agreement between the interviewer and participants that all information that was shared in the interview room would be treated as anonymous and confidential. Anonymity during the semi-structured individual interviews was also ensured by not recording the names of the participants on the digital recorder, and after conducting the interviews, the researcher used an independent transcriber to transcribe the interviews verbatim. Thereafter, the researcher and the co-coder read the anonymous interviews and started with the coding process. The interviews were also stored for safekeeping afterwards.

Table 1.3 Ethical considerations (continued)

Ethical aspects / Principles	Application in this study
Fair treatment	Fair treatment (fair selection of subjects, fair treatment of subjects) means that the participant was to be treated fairly, no matter what race, culture, social values and sexual preference (Brink *et al.,* 2006:33; Burns & Grove, 2009:198). There was no discrimination with regard to race, culture, social values and sexual preferences, as the researcher used all-inclusive sampling. The participants in the study were registered nurses who worked in CHCs of the North West Province. Each participant had the right to withdraw at any stage while completing the questionnaire, as well as during the semi-structured individual interviews, without facing any form of discrimination.
Right of beneficence	The right of beneficence means that the participant is protected from discomfort and harm (no unanticipated effects, temporary discomfort, unusual levels of temporary discomfort, risk of permanent damage, and certainty of permanent damage). Harm could be of a physiological, emotional, social and of economic nature. The researcher guarded against non-compliance of this right during this study. The participants may have experienced some discomfort in completing the questionnaire about their PE, especially with regard to questions about their managers, but participants were assured that they can stop answering of the questionnaires without any penalty (Burns & Grove, 2009:198-199, Brink *et al.,* 2006:32). During conduction of the interviews in the CHC with the most favourable PE the researcher realized that the participants felt proud of their PE and enjoyed talking about their managers and PE.

Table 1.3 Ethical considerations (continued)

Ethical aspects / Principles	Application in this study
Informed consent	According to Burns and Grove (2009:201) information essential for consent (introduction of research activities, description of risks and discomforts, description of benefits, disclosure of alternatives, assurance of anonymity and confidentiality, compensation for participants in research, offer to answer questions, no coercive disclaimer, option to withdraw, consent to incomplete disclosure) means that the participants must firstly be informed about the research conducted and secondly give voluntary consent before participating. This ensures that the research is conducted in an ethical manner. Informed consent means that there is an agreement between the researcher and the participants participating in the research that they received the necessary information regarding the study they participate in. Brink *et al.,* (2006:33) add to this by mentioning that informed consent means that the participant was informed about the research study before participation. The participants in this study were informed before the completion of the questionnaires by receiving an information leaflet explaining both the RN4CAST programme as well as the research study (see Appendices F & G). Before conducting the semi-structured individual interviews, the participants were verbally briefed, before being given an information leaflet and signing voluntary consent forms (see Appendix I).

Table 1.3 Ethical considerations (continued)

Ethical aspects / Principles	Application in this study
Voluntary consent	Voluntary consent is the decision of the participant to take part in the study, without coercion, persuasion or power applied by the researcher (Burns & Grove, 2009:204). In each of the questionnaires there was a letter on the RN4CAST project (see Appendix F) as well as an information letter and informed consent for the particular study (see Appendix G) The consent form was explained to each participant and the participant gave voluntary consent when they completed the questionnaire (objectives 1 and 2). Before conducting the semi-structured individual interviews the participants were also given an verbal explanation of the study, information letter on the study and informed consent, if participants agreed to participate they signed voluntary consent forms (objective 3)(see Appendix I). As a token of appreciation the participants in this research study received a badge with the RN4CAST emblem.

1.9 THESIS LAYOUT

The thesis consists of the following chapters:

Chapter 1 Overview of the study

Chapter 2 Literature review

Chapter 3 Research design and -method

Chapter 4 Research results – Phase 1: objectives 1 and 2

Chapter 5 Research results – Phase 1: objective 3

Chapter 6 Case study of a model CHC that exemplifies a PPE in the North West Province and guidelines to facilitate the establishment of a PPE in CHCs of the North West Province – Phase 2, overarching aim and objective 4

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

1.10 CHAPTER SUMMARY

This Chapter focuses on a condensed description of the introduction, background and rationale of the study, statement of the problem, research aim, questions and objectives and the researcher's assumptions. The research design and method, rigour and ethical considerations were outlined and finally a brief outline of the rest of the chapters was given.

Chapter 2 focuses on an in-depth literature review on PHC and PPE including the foundational concepts used in this study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In Chapter 1, an overview of the introduction, background and rationale for the study, the problem statement, research aim, research questions and objectives, assumptions of the researcher, research design and method, rigour as well as the ethical considerations of the study were presented. In this chapter, an in-depth literature review is conducted to understand PHC and PPE from a theoretical point of view. Table 2.1 indicates the structure of the research project indicating the method for Phase 1, objectives 1, 2 and 3 and Phase 2, the overarching aim of the study and objective 4.

Table 2.1: Structure of research study indicating the phases and objectives

Phase 1: Situational analysis in order to compile evidence regarding the PE of nurses in the CHCs in the North West Province
Objectives
Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province.
Objective 2: To explore and describe the status of PE in CHCs in the North West Province.
Objective 3: To explore and describe the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in the North West Province.
Phase 2: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province
Overarching aim
Overarching aim: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province.
Objective
Objective 4: To develop guidelines to facilitate the establishment of PPE in CHCs in the North West Province.

In the following section, the researcher discusses in depth the PHC with specific reference to the international and sub-Saharan perspectives and the national perspective on PHC, followed by a consideration of the context of North West Province and its influences on PHC and health care and finally PPEs.

2.2 PRIMARY HEALTH CARE

The term PHC is defined by the (WHO/UNICEF) Joint Report, (1978:2) according to Hattingh *et al*. (2010:9) as “essential health care made universally accessible to individuals and families in the community, in a way acceptable to them, with their full participation and at a cost that the community can afford. It forms an integral part both of the country’s health system of which it is the nucleus and of the overall social and economic development of the country”.

This PHC approach was adopted by many countries, and focuses on achieving “Health for All” by the year 2000 (Hattingh *et al*., 2010:83). This date has since been changed to the twenty-first century. The main role-players contributing to “Health for All” are nurses, in especially the PHC context. The foundational principles for this approach include equity, collaboration, affordability, effectiveness, efficiency and acceptability of services (Phaswana-Mfuya *et al.,* 2008:611). PHC is the first level of contact the individual, the family or the community has with health care providers, in the public health care sector before they are referred to the second level of contact (district hospital) if the health problem needs more specialized care. In order for health care providers to provide optimal care at the PHC level to individuals, families and the community the necessary qualifications; skills and a PPE are vital.

2.2.1 International and sub-Saharan perspectives on PHC

In the 1960s, it was noted that hospital-based care was not helping most of the world’s populations. In order to address this problem many countries established health groups and organizations to establish other health care approaches (Zweighenthal *et al.,* 2009:5). In those times missionary physicians reached out to the World Council of Churches and realized that the involvement of local people and resources was critical to improving health. From there “The Christian Medical Commission” was the first group who used the term PHC (Zweighenthal *et al*., 2009:5).

Thereafter, during the 1970s, the approach towards health care changed in especially the developing world. These changes were due to different reasons which included changing theories, debt crises, and economic stagnation, emergent

dominance of worldwide economic policies, growing populations and concerns about whether Western medical services really applied to developed countries. In cooperation with the WHO and UNICEF, the Alma Ata Conference in 1978 highlighted the principles and characteristics of a PHC approach, which was the strategy of the WHO to ensure “Health for All by the year 2000” (Zweighenthal *et al.,* 2009:5-6; Schaay & Sanders, 2008:4; Van Rensburg, 2004:28). By 1979, “Health for All by 2000” had been endorsed globally and was seen as the basis for the PHC approach (Schaay & Sanders, 2008:5; Hattingh *et al*., 2010:83).

The PHC approach, which was formulated by the Alma Ata Declaration and the WHO, is governed by values and strategies aimed at arranging health systems (Naledi *et al.,* 2011:18) and emphasizing the importance of accessibility, provision of basic services and holistic care which also focus on disease prevention, health promotion and self-care. The changes made in PHC to apply PHC principles and characteristics focused not only on the health care sector but also the social and economic sectors. Some of the changes made to effectively implement the PHC approach included the division of current resources for health and the expansion of health care workers’ skills.

As discussed in Schaay and Sanders (2008:6-8) the implementation of this approach was not without difficulties. The following section focuses on the most important PHC developments, which include the influence of macro-economic factors, health sector reforms, rising of global health initiatives and the predicament in human resource development in the world which continue to place a strain on the PHC approach (Schaay & Sanders, 2008:8-10).

- **Influence of macro-economic factors**

By the end of the 1980s the energy that had been invested in the PHC approach was becoming lost, due to the economic constraints the world was undergoing. There was no significant development in immunization of the population. Diarrhoea and respiratory infections were still the largest reason for death in children under 5 (Schaay & Sanders, 2008:8). However, today, 15 years later, South Africa has adopted the Brazilian model of health care which has proven to be a great success in addressing these child mortalities (Naledi *et al.,* 2011:22).

- **Health sector reforms**

During the late 1980s health care was also reformed in poor countries due to different factors which also included the economic crisis, demographic changes and increases in health care service expenses. These factors caused a reform in countrywide health agencies which included free public services, competition between different health services, as well as incorporating the private health care sector into the public health care sector.

Since the initial focus of the PHC, the emphasis has been on more cost-effective health care services, and the scope of PHC was narrowed. This caused a loss in local ownership and dedication in the district system, especially the members who were in charge of implementing the changes. At the same time, the health care sector was also faced with the HIV pandemic and accompanying diseases.

Therefore, various countries believed that these changes (PHC approach) caused a weakening in the health care system, especially China where it was felt that these changes left hundreds of millions of poor people without fundamental health care (Schaay & Sanders, 2008:8-9). According to Walley *et al.* (2008:1001) other challenges that also contributed to the a weakening in PHC included inadequate political prioritization of health, adjustments in policies, poor authority, increasing population, insufficient health systems and a poor assessment of PHC.

- **Rising of global health initiatives**

The worldwide health crisis, especially in Africa, caused a rise in global health initiatives and partnerships during 2000. The worldwide alliance included various focal points for example vaccines and immunizations, global funds to fight AIDS, Tuberculosis (TB) and Malaria, and emergency plans for AIDS relief of America and the World Bank multi-country AIDS programme. These initiatives and partnerships affected the PHC approach positively but caused a narrowing in the approach because there was an increased focus on antiretroviral treatment (ARV) and prevention of mother-to-child transmission (PMTCT) and not on the determinants and consequences of these diseases.

Although these initiatives and partnerships caused a narrowed approach, this problem was raised and enormous support was given by these initiatives and partnerships to poorer countries (Schaay & Sanders, 2008:9).

- **Predicament in human resource development**

Hand-in-hand with the above-mentioned there was a predicament with regard to human resource development with specific reference to numbers and competencies of staff. This is because 42% of the total amount is spent on health services by government.

After 1978 there was an expansion in human resources in developed countries, but the developing countries were still at a disadvantage as they were not only faced with scarcity and lack of teamwork, but also by an imbalance in the type of health care workers. In the World Health Report it was noted that there were approximately 57 countries that had severe shortages, adding up to 2.4 million doctors, nurses and midwives, with the main reason being nurses who were leaving their countries to work for higher wages in developed countries.

In view of this, the other problem the PHC approach was faced with is that the tertiary education institutions had not shifted their focus to the PHC approach; therefore there was restricted exposure of students to PHC and community work (Schaay & Sanders, 2008:10).

Although the PHC approach is faced with various challenges, there have been various examples of PHC initiatives. The following initiatives are success stories in different countries (Schaay & Sanders, 2008:11-12)

- The Mitanin community health worker programme supporting child survival in Chhattisgarh State, India.
- Participatory intervention with the impact of women's group meetings on birth outcomes in Makwanpur District, Nepal;
- The Navrongo experiment developed in Ghana through the Community-based health planning and service initiative;

- In Taiwan, children's nutritional status improved from 47% to 79%, as did rates of vaccination, sanitation and water; and
- The Family Health programme in Brazil which decreased diarrhoea and deaths in infants.

As discussed above, the PHC approach was accepted globally, but it was not without stumbling blocks. The following section provides an in-depth discussion of the origin and development of the PHC approach in South Africa.

2.2.2 National perspective on PHC

PHC is a fundamental strategy aimed at transforming health care by supplying preventative and curative services in most developing countries, including South Africa (Phaswana-Mfuya *et al.*, 2008:611). The following paragraphs focus on the origin of PHC in South Africa.

- **South African PHC origins, 1940-1970**

Although PHC is often associated with an international notion adopted at the Alma Ata Conference in 1978, the PHC approach of South Africa (or at least a small part of it) links to a small health care centre called the Pholela Health Centre located in Bantustan in Kwazulu-Natal. Kwazulu-Natal was still a very rural area in the 1940s (Phillips, 1993:1038; Kautzky & Tollman, 2008:18-19). The Pholela Health Centre model was seen as the predecessor to community-oriented primary care, which was seen as representing some of the original efforts to define PHC. The initiators of this state funded centre were Dr. Eustace Cluver, the South Africa Secretary of Health and Dr. Harry Gear, Deputy Chief Health Officer. Their idea was to deliver health care services to the "invisible" ethnic homelands (Susser, 1993:1039; Kautzky & Tollman, 2008:18 & 19).

The first physician appointed at this centre was Dr. Sidney Kark together with his spouse Dr. Emily Kark, Mr. Edward Jali (a medical aid graduate from Fort Hare University) and a nurse who graduated from the McCord Zulu Hospital, Sr. Amelia Jali. They founded the Pholela Health Centre in 1940 (Zweigenthal *et al.*, 2009:3;

Phillips, 1993:1038; Susser, 1993:1039). Dr. Sidney Kark seems to have had a very broad view of health in society (Susser, 1993:1039).

This centre focused on delivering curative and preventative services which concentrated on the family and community, rather than only the individual. Specific needs were also identified in the community in order for the health care workers to know what health services to deliver. These services focused on holistic health care (including social and other determinants), for example health education and health promotion, and not only on basic medical care, which was seen as extremely innovative in those times (Zweigenthal *et al.,* 2009:3; Kautzky & Tollman, 2008:18 & 19).

Their main focal points were sanitation, nutrition, water, housing, occupational threats, community food gardens to risk groups which included woman and children, school-feeding programmes, immunizations, child growth monitoring, breastfeeding and contraception (Kautzky & Tollman, 2008:18). The Karks took into consideration the communities' culture and living conditions and tried to involve people in managing their own health problems (Zweigenthal *et al.*, 2009:3). Therefore, the focal point of the "Pholela model" was the importance of community empowerment and participation (Phillips, 1993:1038; Kautzky & Tollman, 2008:18). As a result, the community was directly involved in programme development and health services management. But it did not stop there; they recruited and trained local people in the community who could potentially help in the provision of health education, health promotion and skills development at the township and domestic level. This was a very work-intensive and demanding approach, but they were committed to providing the community with comprehensive health care. Consequently Pholela provided the National DoH with a "comprehensive PHC-orientated health systems approach" (Phillips, 1993:1038; Kautzky & Tollman, 2008:18 & 19).

The Pholela approach to health care delivery was such a success that Dr. Kark was appointed as the technical advisor to the newly-established National Health Services Commission in 1942 with Dr. Henry Gluckman who led the Commission. In 1944 the Gluckman Report was released which focused on a National Health Service Programme (NHSP) with a community-oriented primary care approach (COPC) which was funded through taxation. The Gluckman Commission sought a single

National Health Department that provided for all divisions of the population, depending on needs, without any discrimination in terms of race, colour, station or means in life (Zweigenthal *et al.,* 2009:4; Phillips, 1993:1038; Dennill *et al*., 1999:34). The commission's report emphasised cure and prevention, addressing lack of services to black South Africans in those times, preventing poor coordination between services, and addressing growth of private health care which used the public resources which were only available to persons who could afford it (Zweigenthal *et al*., 2009:4).

This enabled the provision of sufficient health services to all sections in the South African population, according to their requirements and not according to their financial means. This NHSP would be based on the Pholela model which delivered comprehensive PHC services. In 1946 Dr. Gluckman was appointed as the new Minister of Health and Dr. George Gale as the Chief Health Officer of the Department of Health. These appointments fast-tracked the execution of the NHSP. However, the establishment of the NHSP was not without problems as the dominant white population were faced with a higher tax burden and the nursing profession felt threatened by this approach. Therefore, opposition to this approach increased, despite the founders' and developers' commitment (Phillips, 1993:1039; Kautzky & Tollman, 2008:19).

After the ruling party (United Party) was defeated in 1948 by the National Party, the idea of health system reform was removed from office, as well as the support for the NHSP. The supporters of the NHSP struggled for almost ten years to keep the COPC approach alive, but eventually saw no future for it. For that reason the most passionate supporters for this approach left the country and the NSHP programme eventually collapsed in 1960. The 44 health centres that had been established in that time were immediately closed and changed to provincial outpatient clinics without even informing the community. Consequently, the PHC doctors, nurses and community health workers who had been trained for the COPC approach had to search for other posts. This inevitably caused the loss of 20 years of inventive community-based research, training and health system establishment. As a result the health care system of South Africa focused on hospitals and an exclusive private health care sector (Kautzky & Tollman, 2008:19-20).

The emigration of South Africa's PHC leadership resulted in the development of COPC in a range of other countries which included Israel, United States of America, Uganda, Tanzania, Iran, Malaysia and Thailand (Kautzky & Tollman, 2008:20). These authors also added that "although profound and far-reaching, we may never realise the full extent to which the dispersion of South Africa founding COPC proponents progressed the realisation of its ideals internationally".

- **South African PHC an apartheid legacy, 1970-1994**

In the apartheid era there were two developments in the health care sector that had potentially destructive effects; racial division of health services and deregulation of the health sector. Although the apartheid era of South Africa was seen as involving totally unacceptable practices implemented by government, the COPC was partly restored with different grassroots initiatives. This was done by the government that established Bantustans (ethnic homelands) which provided health and other public services. However, due to poor control, unproductiveness, overcrowding, poverty, unemployment and illiteracy there were great struggles involved in providing these services in many of the homelands (Kautzky & Tollman, 2008:20; van Rensburg, 2004:81).

During and before the apartheid period other countries contributed considerably to South African health care. Various countries sent missionaries (such as the British, Dutch, German, American, Swedish, and the Swiss) who played an important role in establishing hospitals and clinics in under-served areas (Kautzky & Tollman, 2008:2; van Rensburg, 2004:85). Although the missionaries made a foundational contribution to the homelands, the need for health care in these areas remained profound. Therefore, Elim (in Limpopo) and Gelukspan in Mpumalanga (the old Transvaal Province), Cecilia Makiwane in the Cape and Charles Jonson, Manguzi and Bethesda Hospitals in Kwazulu-Natal (the old Natal Province) and various other missionary hospitals were established. These hospitals not only attracted and retained exceedingly competent health care providers, but were also foundational for community-based health and development initiatives. A good example was Erika Sutter of Elim Hospital, who established the "care-group" society. This society consisted of village women who volunteered to help prevent the transmissible eye

condition trachoma, address nutritional issues and facilitate income generation (Kautzky & Tollman, 2008:20).

After the establishment of the ethnic homelands, health services were separated into African, Coloured, Indian and White, making the public health care sector ineffective and expensive. This resulted in an unfair distribution of resources like equipment and personnel, causing discrimination in health care services. Therefore, health care focused on race, income and location rather than the intrinsic need.

At that stage health care all over the globe was in chaos. This was recognised globally and an International Conference on PHC was arranged by the WHO and UNICEF at Alma Ata, the former Union of Soviet Socialist Republics, in 1978. This conference was attended by many governmental and non-governmental organizations which allowed the PHC approach to be followed, which involved "Health for All" (Kautzky & Tollman, 2008:21). The PHC approach provided the South African government with insight into the importance of the right to access of health for everyone (Kautzky & Tollman, 2008:22).

As result of the Soweto uprising in 1976, many health care workers were unable to enter townships to work, especially in the Baragwanath hospital. This caused more than half of the medical practitioners to resign their jobs. Due to this predicament Dr. Koos Beukes, the Chief Superintendent, contacted Dr. Lucy Wagstaff and other medical practitioners. They initiated a course to develop clinical skills for especially nurses. This would improve the provision of health care delivery at clinics. At that time, six nurses were trained and within three months these nurses were controlling the Diepkloof Clinic. Thereafter, nurses were trained to manage paediatric and adult patients, and this training led to the establishment of the PHC nurse. This gave the nurse the competence to assess (history-taking and physical examination), diagnose (the physical defect, illness or deficiency), prescribe and dispense medication up to schedule 4 (SANC, R.48 of 20 January 1982). These competences had previously been restricted to medical practitioners. After a number of years, SANC acknowledged this training as a post-graduate diploma (Kautzky & Tollman, 2008:22). This diploma was called the "Clinical Nursing Science, Health Assessment, Treatment and Care" diploma (SANC, R.48 of 20 January 1982) (see Chapter 1, [1.5.2.2]).

Motivated by the Alma Ata Conference, a PHC strategy was developed for South Africa. The National Progressive PHC Network sought to implement a “progressive PHC” with the following four principles as foundation: “Commitment to socio-economic development, community accountability, concerned health worker practice and comprehensive care”. The National Progressive PHC Networks grew and a strong link was formed with the democratic participatory principles of the political opposition. Therefore a “progressive PHC” was a distinctive South African PHC approach, formed from the apartheid struggles (Kautzky & Tollman, 2008:22).

When Dr. Rina Venter was appointed as Minister of Health and Dr. Coen Slabber as Director-General of the National Department of Health, they attempted to employ the elements of PHC in the government’s health policy in the late 1980s and early 1990s. These efforts were disregarded due to the apartheid era not allowing the “democratic PHC approach” (Kautzky & Tollman, 2008:22).

As the establishment of a new government became unavoidable, the ruling party then called the African National Congress (ANC), established the ANC National Health Plan (developed and planned prior to 1994) (Kautzky & Tollman, 2008:23; van Rensburg, 2004:92).

This National Health Plan was presented to South Africa in 1994, and had quite a lot of relationships with the Pholela Health Centre and Gluckman Commission. This plan focused on coordinating health among local, district and national health authorities. This gave the district a critical role in the decentralization and reform of health services, as the newly-formed health districts and health centres formed the foundation of the National Health System. This made clinics, CHCs and autonomous practitioners the initial point of contact for patients with the health care system (Hattingh *et al.,* 2012:11-12). The Gluckman Commission was strongly supported by the political opposition groups in those years (Van Rensburg, 2004:100). This plan focused on following a PHC approach (Phillips, 1993:1038; Kautzky & Tollman, 2008:23). The National Health Plan had different principles and the Alma Ata Declaration had different characteristics and elements with regard to PHC. The subsequent paragraphs and tables focus on these principles, characteristics and elements.

Hattingh *et al.* (2010:63) and Zweigenthal *et al.* (2009:8-14) mentioned the following principles of PHC as stated by The National Health Plan of the African National Congress:

- The health care setting should encourage health promotion;
- Sufficient and flexible PHC service delivery;
- The foundations of PHC services should be equity, affordability availability, accessibility, acceptable, effective and efficient;
- Comprehensive health services should be provided;
- Quality and high standards of PHC services delivery were essential;
- Sufficient referral systems should be in place;
- Well-distributed resources should be provided;
- Community participation was essential;
- The PHC programme should be adapted according to the needs of the community it served;
- Self-care should be promoted; and
- Professional commitment from all PHC team members is needed.

These teams consisted of doctors, PHC nurses, nurses, community health nurses, oral hygienists; pharmacists and assistants, dieticians, psychologists, optometrists, social workers, dentists, radiographers, laboratory technicians, pathologists and environmental health officers (Hattingh *et al.,* 2010:63). PHC is a responsibility that all members of the health care team have to assume to ensure the protection and promotion of health in the individual, family and community they served (Hattingh *et al*., 2010:53).

The following characteristics of the (Alma Ata Conference, 1978) are ideal for PHC services (Hattingh *et al.,* 2010:64-66; Gaede & Versteeg, 2011:100).

Table 2.2 Characteristics of an ideal PHC service

Characteristics	Explanation
Accessible	This means the services rendered at the PHC service must be geographically, functionally, financially and culturally accessible. Geographically accessible means that the PHC service should be in a 5km range from where the patients live. Functionally accessible means that the health service must be open at times which are conducive for individuals, families and communities to attend. Financially accessible implies that patients may not be refused health care, because they are unable to pay. Culturally accessible means that the patient must be served in the language that they prefer.
Affordable	Affordable implies that the health services delivered must be affordable not only for the patient, but also the country rendering the service.
Acceptable	Acceptable means that the health services delivered must be acceptable to the patient, in other words it must "accessible, affordable, available, equal, effective, efficient, continuous, caring, comprehensive and comfortable" (Hattingh *et al*., 2010:65).
Available	Available means that the services must be comprehensive and available at times, the public needs the service.
Equal	The term equal means that there may be no discrimination with regards to race, sex, age, career or language of the patient.
Effective	The word effective means that appropriate qualified professional persons must deliver PHC services.
Efficient	Efficient means that the patient does not always have to receive medication in order to stay healthy; health education on self-care can be given.
Continuous	The term continuous implies that the services must be available 24 hours a day the entire year.

Table 2.2 Characteristics of an ideal PHC service (continued)

Characteristics	Explanation
Caring	Caring means that the health care personnel (which include nurses) must apply the Batho Pele principles which include consultation, setting service standards, increasing access, ensuring courtesy, providing information, openness and transparency, redress and value for money.
Comprehensive	Comprehensive means that all-inclusive services for all age groups must be rendered.
Comfortable	Services delivered should be safe, secure and should contribute to human dignity.
Considerate regarding the uniqueness of the patient	The nurse and other health professionals should treat every person attending the clinic as a unique person.
Scientifically advanced	Continuous research should be done to ensure each nurse manages the patient with the latest scientific information available.
Careful with the safety of the patient	All personnel delivering services at the health service must have the appropriate qualifications.

The eight elements for PHC services as stated by (Alma Ata Conference, 1978) in Hattingh *et al*. (2010:61 & 152) and Schaay and Sanders (2008:6) include:

- Promotion of sufficient nourishment;
- Promotion of sufficient and safe water supplies;
- Provision of essential sanitation;
- Mother and child care and family planning services;
- Immunizations against communicable diseases;
- Prevention and management of prevalent diseases;
- Health education; and
- Proper treatment of common diseases and injuries.

After the Alma Ata Conference in 1978, a ninth element was added by the WHO namely mental health, due to the increased load that mental disorders exert in human, social and financial terms (Schaay & Sanders, 2008:7).

The paragraphs above discussed the principles of the National Health plan of the ANC (Hattingh *et al.,* 2010:63) characteristics and elements of PHC by the Alma Ata Conference (1978) (Hattingh *et al*., 2010:61 & 152 and Schaay & Sanders, 2008:6). The paragraphs below focus on PHC after 1994.

- **Post-apartheid South Africa, 1994 to date**

After the election of the new government in 1994, various pre-equity dynamic policies were initiated in the public sector. Some of these policies included the Reconstruction and Development Programme (RDP) and the focus of health care on PHC, preventative and community-based care (Kautzky & Tollman, 2008:25; van Rensburg, 2004:99 & 113). The RDP programme firstly introduced free mother and child care and thereafter free PHC services for all individuals, families and communities using the public health care sector, as well as infrastructure development which focused on access to water and electricity, social welfare grants to formerly deprived populations and national school nutrition programme (Naledi *et al.*, 2011:18; Kautzky & Tollman, 2008:25).

However, the initiation of the new government's policies was problematic, because it lacked a consistent strategy. This was because the new government failed to sufficiently upgrade and empower health workers and the population, before announcing the prerequisites of services. This resulted in the population progressively relying more on government for fundamental services and necessities (Kautzky & Tollman, 2008:25).

Therefore, the government (National DoH) established a group consisting of officers from all nine newly-established Provinces who were responsible to draft an "implementation strategy for the development of the decentralised, district-based health system". This draft was released to the public for comment during 1995, which led to the "White Paper on the Transformation of the Health System" which was approved by Parliament in 1997. The eight principles of Batho Pele intended to

transform health services are included in the White Paper (Kautzky & Tollman, 2008:25; van Rensburg, 2004:119).

After the district administrative authorities for each “ethnic homeland” and racial group had been established, there were fourteen different health departments, running independently in the various districts of South Africa. The problem with these departments was that there was originally a lack in geographic consistency, with overlapping city, district and provincial health systems. The realigning of the health departments under a single Ministry of Health was quite smooth but not without obstacles. The obstacles included the employment of people under a single health authority, because the restructuring at district level occurred at a slower pace than at the local and provincial levels. This was due to there being no standardized salary levels at the different health systems as well as a lack of administrative correspondence between the levels (Kautzky & Tollman, 2008:25). Other challenges that also affected the district PHC system included the fact that there was a lack of trust between different Provinces and their local governments. Also, unclear support and supervision roles were provided to the Province and districts, an unregulated flow of funds for delivery of PHC services, the roles and future of the district hospitals and health regions were not clear enough to support PHC services and there were poor management skills (van Rensburg, 2004:152).

The preoccupation with the organisational arrangements and authority led to a loss of energy in the different health care developments. This resulted in problems occurring in both the health care sector and the community. With regard to the health care sector there was an under-performance in PHC services which was due to different factors which included a shortage of health personnel, unequal health resources distribution and a lack of political, public sector and health leadership (Naledi *et al*., 2011:19; Kautzky & Tollman, 2008:17). The community, on the other hand, was affected by inaccessibility and inequality between rural and urban areas which was accompanied by factors such as a lack of water and basic sanitation, an increasing number of squatter areas, uncontrolled urbanization, low socio-economic status of people, increases in epidemic diseases which included HIV/AIDS, communicable diseases, diarrhoeal diseases, malaria, mother and child health problems (Hattingh *et al.,* 2010:83; Kautzky & Tollman, 2008:17).

Due to the above-mentioned the target date of “Health for All” by 2000 was not realistic (Naledi *et al.,* 2011:19) and was extended to the twenty-first century. This was because of different factors which included circumstances prevalent in low income countries, the burden of tropical and communicable diseases, disasters caused by nature and man, malnutrition, lack of infra-structure, shortages of staff and remote PHC clinics (Van Rensburg, 2004:30, DoH, 2011:8). This extension gave countries with the help of the WHO the opportunity to develop fresh and holistic health care policies to focus on the individual, the family and the community at the PHC level.

Although the South African health sector is affected by the above-mentioned factors, South Africa has always been seen as the global leader in terms of the PHC approach. In order to implement this approach in the public health care sector South Africa uses the District Health System (DHS) at community level (Health Systems Trust (HST), 2003:iv; Phaswana-Mafuya *et al*., 2008:612)). The DHS uses districts and sub-districts according to geographic sub-divisions to provide essential holistic health services to the individual, the family and the community. These levels are managed by means of a decentralized management structure which uses die bottom-up approach for planning, policy-making and management of PHC services. The division of districts into smaller sub-districts was implemented to ensure that quality health care services could be delivered. These services are basic services which include a holistic approach to health care, agriculture support, sanitation and water. The effectiveness of the DHS is mainly determined by the successful management of the sub-districts (Phaswana-Mafuya *et al.*, 2008:612; Van Rensburg, 2004:147-148).

In order to facilitate the strengthening of health systems the WHO developed a framework for health systems which aims at strengthening Health Systems by outlining six building blocks in service delivery. This framework focuses on increasing quality of care and improving health in all health institutions which includes CHCs in the PHC context of South Africa (Naledi *et al.*, 2011:19; WHO, 2007:14). These building blocks include leadership and governance, health workforce, health information system, health services, medical products, vaccines and technologies

and health financing (Naledi *et al.,* 2011:20; WHO, 2007:14) (see Chapter 1 [1.5.2.3.1] for an in-depth discussion of the framework).

South Africa also developed a new focus on PHC called the re-engineering of PHC and the health system. The re-engineering will change the PHC from a curative service to a patient-centred service with more attention paid to promotion, prevention, and community involvement (Whittaker *et al.,* 2011:60). PHC will focus on three key areas and will unite PHC as the primary mode of health care delivery focusing on prevention of disease and promotion of health. These key areas include (DoH, 2011b:8 & 18; Naledi *et al.,* 2011:24; Cooke *et al.,* 2011:108):

- Service at district level focusing on maternal and child mortality. Each clinic/CHC will have a district team (health team) which will consist of expert physicians, nurses, obstetricians and gynaecologists, paediatricians, advanced midwives and PHC qualified nurses (DoH, 2011b:8 & 18; Naledi *et al*., 2011:24). This health team was developed from the PHC models (approach) used in Brazil and Thailand to improve economic well-being and increase universal access to PHC. The greatest success of this health team in both Brazil and Thailand was the significant decline in mortality rates of infants and children under 5 (Naledi *et al*., 2011:22);
- *School Health Programmes* that specifically deal with dental and auditory problems, immunizations, eye care, contraceptives, teenage pregnancy, abortions, HIV and AIDS and issues of drugs and alcohol in schools (DoH, 2011b:8). Schools that will receive attention first are schools located in the poorest socio-economic areas (Naledi *et al.*, 2011:24); and
- Community Outreach PHC team, where there are 10 well-trained PHC workers and community health workers allocated per ward (DoH, 2011:8). Each ward will consist of approximately 250 households (Cooke *et al.,* 2011:108) and the functions of the Community Outreach PHC team include the screening, assessment and referral of patients to the PHC facility, provision of health education and psychosocial and adherence support (Naledi *et al.,* 2011:24).

Regardless of the lack of interest in the PHC approach during the 1980s and 1990s, many countries, which include South Africa, continued to follow this classical approach and this approach has now proven to be viable and sustainable. Brazil and Thailand are examples of many healthy gains to be had in following this approach.

The Brazilian model followed in South Africa includes the appointment of a health team that consists of a physician, nurse, nursing assistant and community workers who are assigned to a population. This health team must ensure the health of the population by providing PHC services and making referrals to other disciplinary teams where necessary (Naledi *et al*., 2011:22; Cooke *et al.,* 2011:108).

Therefore, the re-engineering of PHC in South Africa has as main strategy attempts to bring health services and the users of health services closer together. The main focus of the health team will be to ensure "a continuum of preventative, promotive, curative and rehabilitative services, from home to health facilities and back again through referral and follow-up" (Naledi *et al*., 2011:25). It is, however, important to keep in mind that the re-engineering of health services is a very time-consuming process so that the Brazilian strategy is only now, after fifteen years of implementation, seen as a success story in the world (Naledi *et al.,* 2011:26).

2.2.3 Context of North West Province influencing PHC and health care

In the following section the researcher provides an in-depth discussion of the North West Province, economic status, population, health care facilities in the public health care sector and disease profile of the North West Province.

2.2.3.1 North West Province

As indicated in Figure 2.1 the North West Province is situated in the central northern part of South Africa (Bradshaw *et al.,* 2004:3; http://www.southafrica.info /about/geography/north-west.htm). This Province is bordered by Botswana, the Northern Cape, Gauteng Province and the Free State. This Province is somewhat smaller than the American state of Pennsylvania and makes up 8.7% of the total South African land mass. The population of this Province during middle 2010 was an estimated 3 253 390 million people (Statistics South Africa, 2011:3) which is 6.43%

of the total South African population. There are three dominant languages in this Province (65.4% Setswana, 7,5% Afrikaans and 5.8 % Xhosa) (http://www.southafrica.info/about/geography/north-west.htm). Fifty-nine per cent (59%) of the population live in rural areas with 41% of the population living in this Province being urbanized (Gaede & Versteeg, 2011:100).

The landscape of this Province is mainly level regions with scattered trees and grasslands. This Province falls in the summer rainfall region and the temperature ranges from an average of 3ºC in winter to 31ºC and slightly higher in summer. This Province has two World Heritage sites – the Vredefort Dome and the Taung hominid fossil site which is integrated into the South African Cradle of Humankind (http://www.southafrica.info/about/geography/north-west.htm).

This Province is also known for the large amounts of precious metals such as gold and platinum; therefore this Province is called the Platinum Province. The greatest economic activity, which amounts to 83.3%, is located in the southern region of the Province, which includes Potchefstroom, Klerksdorp and Rustenburg. The North West Province has some of the largest cattle herds in South Africa and is therefore frequently referred to as the Texas of South Africa. Lastly this Province also has a large share in the amount of maize (especially white) and sunflower delivered to the country (http://www.southafrica.info/about/geography/north-west.htm).

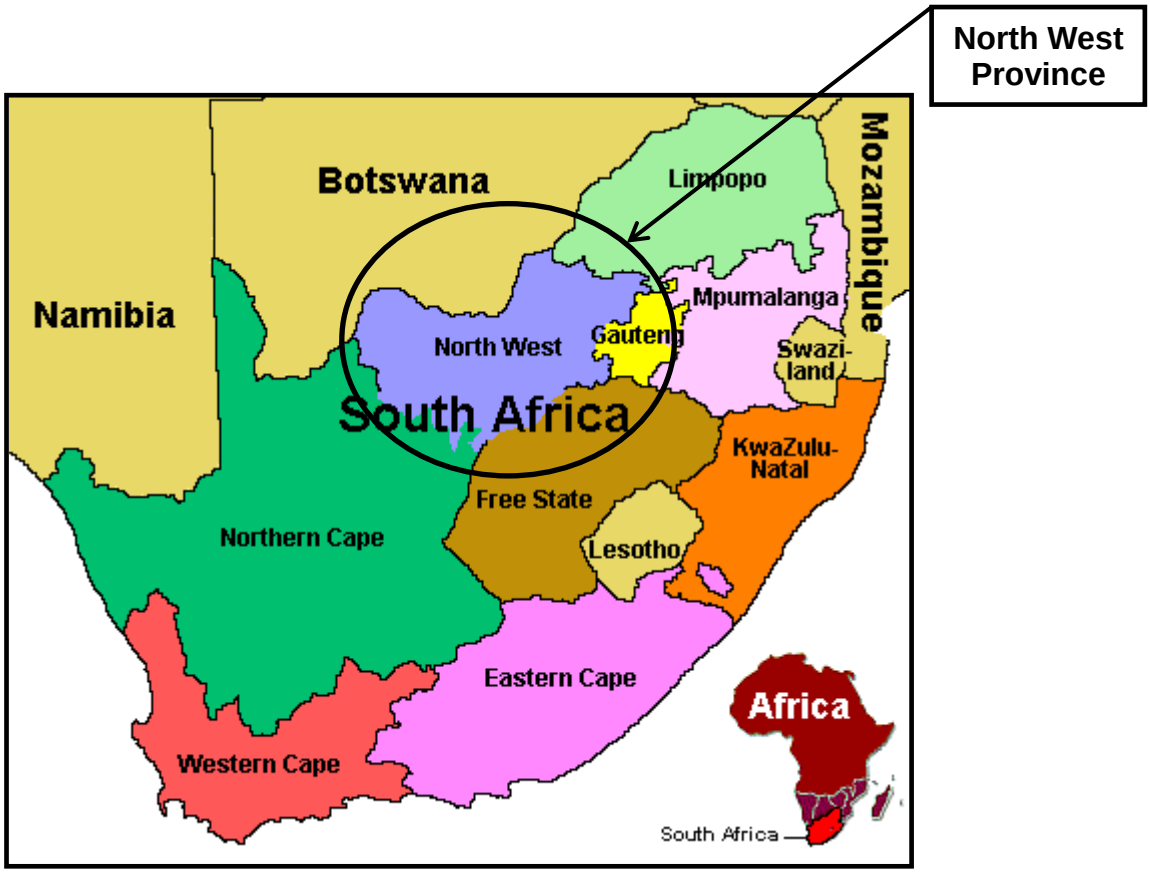


Figure 2.1 Indicates where the North West Province is situated in South Africa

In Figure 2.2 below the districts of the Province are divided as shown. This Province consists of four districts namely Bojanala Platinum District, Ngaka Modiri Molema District Dr. Ruth Segomotsi Mompati District and Dr. Kenneth Kaunda District. The districts highlighted in grey are the districts this study was conducted in.

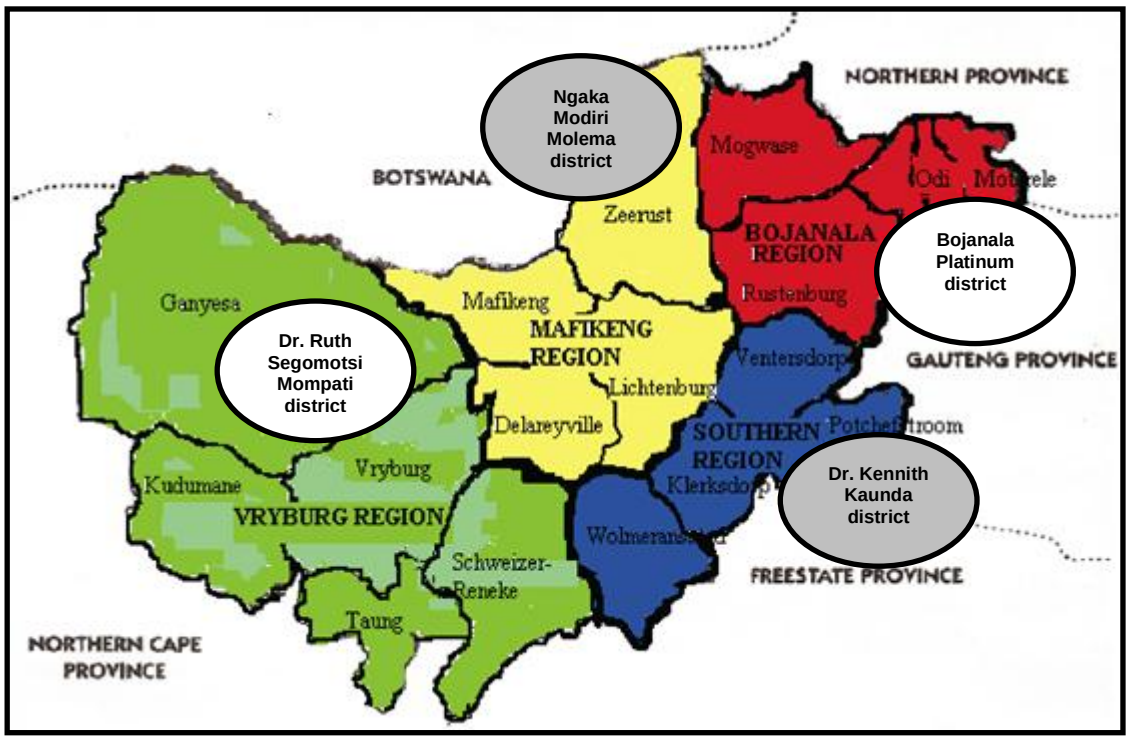


Figure 2.2 Indicates the four districts situated in the North West Province

As discussed above, the North West Province is divided into four districts, and each has its own Chief Director in charge of the district. The different districts are thereafter divided into different sub-districts, each of which has its own PHC directors in the PHC context. In order to conduct the research the researcher had to obtain permission from first the district Chief Directors and thereafter the PHC directors located in each sub-district. The PHC directors are in charge of all PHC and community-related duties, as well as the CHCs, which were the focus of this research study. In the following part the researcher focuses on the economic status of this Province.

2.2.3.2 Economic status

According to Bradshaw *et al.* (2004:5) 20% of the population living in North West Province older than 20 years did not have formal school training. Forty-four per cent (44%) of the age group between 18-64 years were unemployed and 57% of the population lived below the national poverty line. Altogether 47.7% of the population own their own home. In this province 82.5% of the population have electricity for lighting, 65.8% for cooking and 58.9% for heating, while 89.9% have access to piped water (Statistics South Africa, 2007). The statistics also revealed that 41.7% of

households use pit latrines in the province, 4.2% use bucket toilets and 5.8% have no toilet facilities. The percentage of 54.8% of households has refuse services. In the households 71.9% had a radio, 9.1% had a computer, 61% a television, 59.6% a refrigerator, 70.9% have access to a cell phone and 8.3% have a landline telephone (Statistics South Africa, 2007). The researcher believes that these statistics have improved over the past five years.

2.2.3.3 Population

Table 2.3 Estimated populations with regard to gender and age in the North West Province (Statistics South Africa, 2011)

Age:	Male:	Female:
0-9 years	347 392 (21%)	345 802 (21%)
10-19 years	329 131 (20%)	328 997 (20%)
20-29 years	295 832 (18%)	290 636 (18%)
30-39 years	245 804 (15%)	235 042 (14%)
40-49 years	163 203 (10%)	163 945 (10%)
50-59 years	127 824 (7%)	127 979 (8%)
60-69 years	71 646 (4%)	82 144 (5%)
70-79 years	42 409 (3%)	42 409 (3%)
80+ years	32 250 (2%)	14 705 (1%)
Total number of males and females:	1 611 572	1 631 659
Estimated total population of the North West Province:	3 243 231	

As seen above the total estimated number of people in the North West Province during 2004 was 3 243 231. As mentioned previously 83% of the total number of inhabitants of South Africa use the public health care sector (Council of Medical

Schemes, 2011) for health care. Therefore, the researcher assumes that this percentage more or less prevails in this Province as well. As a result there are approximately 2 691 882 people served by the public health care sector in the North West Province. In the above statistics it is also interesting to note that females are fewer than males in the age group 0-39 years, but in the older than 39 groups the female population is larger.

2.2.3.4 Health care facilities in the public health care sector of North West Province

The public health care sector of this Province has two provincial hospitals (second level) located in the Southern and Bojanala Districts, and within the districts there are 29 district hospitals (first level), 275 clinics, 70 mobile units (Muller, 2010:53) and 41 CHCs.

2.2.3.5 Disease burden in the North West Province

The sub-districts with their respective health care facilities have to deliver vital comprehensive PHC services to the individual, the family and the community. The populations served are affected by various diseases as are the rest of the South African population. The burden of disease in South Africa according to Bradshaw *et al*. (2004:3) indicated that the HIV/AIDS pandemic “quadrupled” in all the Provinces. In the North West Province non-communicable diseases constituted 39% of the burden of disease, TB and lower respiratory infections caused increased death rates. According to Gaede and Versteeg (2011:100) this Province has the lowest curative rate of 58.3% for tuberculosis compared to Gauteng with a curing rate of 78.7%. Hypertensive cardiovascular conditions and strokes cause the Province to have an increased cardiovascular mortality rate, whereas epilepsy accounts for the nineteenth largest mortality rate in the Province. This Province is also affected by cancer, but this number is lower with reference to prostate, cervical and breast cancer than in the rest of the country. With regard to HIV/AIDS the age groups ranging between 15-44 years, 43.3% of men and 63.6% of women have passed away due to this condition. In the 45-59 range, 20.6% of men and 11.4% of women

passed away due to HIV/AIDS (Bradshaw *et al*., 2004:11-12). In this age group, some of the other leading causes of death include lower respiratory infections, TB and diarrhoea.

Overall, this Province's causes of death for both males and females accumulate to 30% due to HIV/AIDS, 19% due to cardiovascular diseases, 11% due to infectious and parasitic diseases excluding HIV/Aids, 6% due to respiratory infections, 6% due to malignant neoplasm's, 5% due to respiratory diseases and 23% of other causes (Bradshaw *et al.,* 2004:7).

With regard to children between the ages of 5 to 14, HIV/AIDS is the largest cause followed by prenatal and dietary deficiencies, whereas in children under one year of age the largest cause of death is also HIV/AIDS, followed by diarrhoea, lower respiratory infections, lower birth weight, malnutrition, neonatal infection and others (Bradshaw *et al.,* 2004:10).

2.3 POSITIVE PRACTICE ENVIRONMENTS

PPE is defined as a PE that increases the health and well-being of nurses, quality of patient outcomes, organizational performance and community outcomes (RNAO, 2010:2; Vollers *et al.*, 2009:20). According to the same authors the following points are vital for a Healthy Work Environment (in this study a PPE): Collaborative practice is crucial between nurses and physicians, together with the development of sustainable efficient staffing and workload practices, development and sustaining leadership in nursing, acceptance of cultural diversity in health care and improvement of cultural competency, professional conduct in the nursing profession and PE health, safety and well-being of the nurse. Kramer and Schmalenberg (2008:56) add that safe patient care (in this study quality of care) is related to a PPE as well as staff retention and recruitment, because there is a decrease in job stress and burnout among nurses. Therefore the establishment of a PPE in the PHC context of the North West is pivotal since the DoH focuses on addressing PPEs (DoH, 2011a) and the Provinces' health care facilities are faced with different factors which could potentially influence the quality of care given to the individual, family and community.

Healthy work environments originated from magnet hospitals by the ANA during the 1980s. Magnet hospitals had the ability to retain and recruit nurses, diminish burnout and discontent in the PE as well as improve the quality of care. These hospitals with the magnet status demonstrated good management, collegial nurse-physician relations, staffing and resource adequacy (Aiken *et al.,* 2009a:228) and support for nurses (Wade *et al*., 2008:344). Other authors such as Parker *et al*. (2010:354) saw a magnet hospital as a PE where nurses have independence, authority and control in their PE. These foundations, present in magnet hospitals, are considered to be attractive for nurses and able to assist nurses in experiencing a PPE (Parker *et al*., 2010:353).

The following sub-scales are seen as vital determinants for a PPE. These sub-scales include: nurse manager ability, leadership and support; staffing and resource adequacy; collegial nurse-physician relationships; nurse participation in PHC/CHC affairs and nursing foundations for quality of care (Roche & Duffield, 2010:199; Friese, 2005:767, Lake 2002:176; Lake, 2001:109S; Parker *et al.*, 2010:353; Kutney-Lee *et al*., 2009:221). These sub-scales are measured by using the PES-NWI.

In the subsequent sections an in-depth discussion of each of the five above-mentioned sub-scales is provided.

The first sub-scale is nurse manager ability, leadership and support. This sub-scale refers to the manager who is supportive to his/her staff, is a good leader and manager, praises nurses for work well done and backs up staff during decision-making, even if there is conflict with the physician. Management specifically focuses on a manager being efficient in different processes including planning, budgeting, organising and staffing, whereas leadership focuses on effectiveness and enabling persons in and out of the system to face challenges and accomplish results in multifaceted conditions (Gilson & Daire, 2011:70).

Various international organizations, including RNAO, American Association of Critical-care nurses (AACN), Joint Commission for Accreditation of Hospitals, Institute of Medicine, ANCC, American Organization of Nurse Executives, American Association of Colleges of Nursing, and Nursing Organizations Alliance identified certain criteria that are essential in an organisation to ensure a healthy, professional, magnetic, excellent, effective and satisfying PE (Kramer & Schmalenberg, 2008:56).

This criterion included leaders who are supportive, with high standards; visionary and enthusiastic; highly visible and responsive; have open communication channels; provide career development opportunities; have power and status; are active in professional organizations and believe in quality of nursing. This criterion is the focal point in model PEs. This reflects the standpoint and spheres of nurses in leadership roles regarding structures, policies, system and programmes (Kramer & Schmalenberg, 2008:56).

Nurse managers are the leaders in the nursing PE and should make every effort to create a PE which is supportive, with good managerial and leadership characteristics for their nursing staff members. Their main focus should be the promotion of the PE to create positive clinical outcomes – in other words quality of care (patient safety) to individuals, families and communities. However, in order to create a PPE, nurse managers should understand the trades and processes followed within a business (in this study the CHCs in the North West Province). One of the key ways managers can transform the PE into a PPE is through encouragement of fellow nurses in the PE to participate in the decision-making responsibilities (autonomy). The involvement of fellow nurses in decision-making empowers nurses by giving them autonomy, changing the PE into a participatory environment, which supports and motivates excellence (quality of care) in practice. The researchers add that if nurses have support in developing autonomy and are given professional growth opportunities in the PE, there will be a positive effect on not only the nurses but also the managers and patients. This is of utmost importance as managers have the responsibility to recruit and retain nurses (Wade *et al.*, 2008:345 & 346) in a profession where there are great shortages (ICN, 2009:280; Zori *et al.,* 2010:306; Keeton, 2010:803; Kanai-Pak *et al.,* 2008:33324; Wade *et al.,* 2008:345; Aiken *et al.,* 2002:1987; Li *et al.,* 2007:32; Parker *et al.,* 2010:352; Solidarity, 2009:2 & 19; Phaswana-Mafuya *et al.,* 2008:621; Schaay & Sanders, 2008:10; Duvall & Andrews, 2010:109; Robinson, 2001:411; Aiken *et al.,* 2001:255). This statement is supported by Friese (2008:766) who mentioned a study conducted by Lake (1998) that revealed that nurses were more likely to leave their posts if they were exposed to staff shortages and low autonomy in their PE.

In order to ensure a PPE and job satisfaction in nurses a more humane model should be adopted by nurse managers. In a humane model the nurse manager is more visible and approachable (Friese, 2005:765). Various studies conducted on the PE focused on the efficiency of the manager in the PE and not the caring attitude the manager should show towards his/her employees. However, it is important that the focus on the efficiency of the manager in the PE should shift to the individual nurse who does the work. This shift will ensure that the manager will focus on establishing a caring relationship (open positive relationship), which will ensure the nurse engaging in nursing activities will experience job satisfaction in the PE (Wade *et al.*, 2008:351). Through a caring and positive relationship between the nurse manager and the nurse, the nurse will be dedicated, experience self-worth, have the ability to prioritize, be open and grow in terms of self (Wade *et al*., 2008:346). This will on the other hand ensure a higher retention rate of current staff and recruitment of new staff as well as an increase in the quality of care to the individual, the family and the community. In this study the focus is on quality of care delivered to the individual, the family and the community in the North West Province.

The next sub-scale is collegial nurse-physician relationships. This sub-scale refers to a good working relationship between the nurse and physician. Physicians who value the nurses' observations, judgements and contributions to patient care as well as teamwork, collaboration and respect between nurses and physicians add immense value. According to Wade *et al.* (2008:346) positive collegial nurse-physician relationships are essential to ensure a PPE. The same author mentioned that a study done by Laschinger, Almost and Tuer-Hodes (2003) found that there is a link between autonomy and control in the PE where there were positive nurse-physician relationships. This positive relationship not only ensures autonomy and control in the PE but also ensures quality of care delivered to the individual, family and community. Friese (2005:765 & 766) supports this statement by adding that during a study in an oncology PE, a positive collegial nurse-physician relationship is imperative for an optimal PE. Nurses who practise in a particular setting where there is a positive collegial nurse-physician relationship have a greater depth of knowledge, giving them an opportunity to have more professional and collegial interactions with the physicians and deliver quality of care to individuals, families and communities (Wade *et al*., 2008:350).

Kanai-Pak *et al.* (2008:3324) also found that the importance of positive collegial nurse-physician relationships is pivotal in decreasing burnout in nurses. Manojlovich and Laschinger (2007:251) support this statement by mentioning that poor collegial nurse-physician relationships cause nurses to experience job dissatisfaction in the PE leading to poor retention of nurses and poor quality of care given to the individual, family and community.

The next sub-scale identified was staffing and resource adequacy. This sub-scale refers to adequate support for nurses wanting to spend time with patients, enough time to discuss patient care problems, provide quality of care by having staffing and resources. In the paragraphs below the researcher first discusses resources and then staffing adequacy.

- **Resources**

According to Friese (2005:765) various studies conducted have revealed that there is a link between the PE of the nurse and patient outcomes (quality of care). If the PE of the nurse is not conducive to motivation and job satisfaction in the PE of nurses and other staff members, then the attitude is negative and the quality of care that individuals, families and communities receive is affected. Research conducted on motivation levels of health care workers (in this study nurses) found that motivation is affected by the organisational support they receive. This support includes the availability of resources and a PE which is conducive to performance at a physical and social level (Zurn *et al*., 2005:3).

The South African public health care sector's PE is not optimal due to large staff shortages, lack of adequate resources and high workloads, poor wages, no career development opportunities and poor leadership (Coetzee *et al*., 2012:5-6; Klopper *et al.*, 2012:686; Pillay, 2009:1).

A large portion of the South African population is affected by poverty and the large numbers of illegal immigrants entering the borders of the country due to economic strains and political problems in other countries, place more stress on the public health care sector. These countries include Zimbabwe, Mozambique, Ethiopia, Nigeria, Somalia and Bangladesh (Solidarity, 2009:6). These immigrants are not

employed and have no form of income, rendering them unable to pay for services delivered to them in South Africa. This inability to pay for service does not really affect commercial services delivered, because if a person does not have the financial means to pay for services, e.g. at a grocery shop, they cannot receive groceries. However, on the other hand, this is different for the health care sector. If a person has a health problem, the health care sector, especially the public health care sector cannot turn them away due to ethical and moral reasons. Therefore, the closest public hospital, PHC clinic, mobile clinic or CHC to the person in need of health care must serve the person regardless of whether they are South African citizens or not.

The other reasons for the strain on resources in the public health care sector include the fact that all citizens of South Africa visiting a public hospital, PHC clinic, mobile clinic or CHC must be attended to free of charge whether they attend once-off or monthly for follow-up treatments. Therefore, no person can be turned away from health care as it is immoral, unethical and inhumane (Solidarity, 2009:6). This results in high workloads to the already resource-deprived (which includes staff shortages) and infrastructure-hampered public health care sector.

This contributes to nurses working in the public health care sector to have job dissatisfaction in the PE, as the lack of resources, high workloads and staff shortages hamper the achievement of optimal patient outcomes (quality of care) to patients (Friese, 2005:765) and job satisfaction in the PE (Wade *et al.*, 2008:349).

- **Staffing**

There has been a significant change in heath service indicators in Africa for the past two decades. This change is mainly due to the incidence of large numbers of new non-communicable diseases and the HIV pandemic. In addition to this the sub-Saharan African (SSA) is faced with unmatched nursing shortages (Munjanja *et al.,* 2005:8; Zurn *et al.*, 2005:8; Kanai-Pak *et al*., 2008:3324). According to Munjanja *et al*. (2005:8 & 11) the health care workers of the SSA, which includes nurses, is only 1.3% although the SSA content carries 25% of the disease burden of the globe. This shortage is ascribed to the large number of nurses who migrate (58% South African nurses intend to emigrate) and the limited number of young people opting for nursing as a career on this continent. The reasons for the difficulty in retaining nurses in the

SSA are to be found in various factors which include: occupational risk perceptions linked to the profession, e.g. needle prick injuries, high workloads, inefficiencies of the public health sector which include lower salary levels in comparison with other health professionals and limitations in professional development (Munjanja *et al.*, 2005: 22, 23 & 25). These factors lead to frustration in nurses, affecting recruitment, retention and enthusiasm for the nursing profession.

Although the African continent has given precedence to the training of new nurses, the nurse-physician ratio in Africa is 5.5:1 (Munjanja *et al.*, 2005:9). The WHO indicated that the total "ratio of nurses to physicians per 100 000 population in the SSA is 73.4 compared to the 737 per 100 000 in developed countries". This low ratio impacts on the quality of care delivered to the individual, the family and the community they serve (Munjanja *et al.*, 2005:17; Zurn *et al.*, 2005:3 & 12) and also cause the nurse to experience burnout which leads to job dissatisfaction (Zurn *et al.,* 2005:12; Aiken *et al*., 2002:1988, 1990 & 1992).

According to Zurn *et al.* (2005:3 & 10) South Africa had approximately 30 000 vacant posts for nurses in 2005 which represented seventeen per cent of the total nursing posts available in the country. The same authors added that this number could also have been affected by the suppressed vacancies (post is not advertised because management does not have any hope of filling these posts) and hidden vacancies (posts filled with a person who does not have the adequate skills required for the post). Kautzky and Tollman (2008:24) further mentioned in 2008 that there were 32 000 vacant nursing posts in South Africa, whereas Human (2010:33) indicated that there are approximately 38 000 vacant nursing posts in South Africa. Although the number is high and increasing, the picture for vacancies in South Africa seems to be more positive side in relation to other African countries. South Africa has a higher retention level of nurses due to a larger number of training facilities for nurses for not only basic training but also at the masters' and doctoral level (Munjanja *et al.*, 2005:8 &11). Despite this, there is still a gross level of nursing shortages in South Africa, affecting nurses' performance and quality of care delivered to individuals, families and communities.

The South African health care system, especially the public health care sector in the North West, is not only affected by lack of resources but also great shortages of

nurses (see Tables 2.4 – 2.7) which are factors that can cause nurses to experience job dissatisfaction and burnout (Aiken *et al.*, 2002:1987). This inevitably affects the quality of care given to the individual, the family and the community as Aiken *et al*. (2002:1998, 1990 & 1992) mentioned that lower patient-to-nurse ratios are associated with lower burnout levels, increasing job satisfaction and quality of care in individuals, families and communities.

Therefore, the importance of a PPE in the public health care sector is of utmost importance, and thus the researcher's overarching aim in this study is to describe a case study of a model CHC that exemplifies a PPE, as well as developing guidelines to facilitate the establishment of PPE in the North West Province. The researcher sees this case study as a way to help other CHCs in this Province to benchmark in order to potentially improve their PE and quality of care delivered to the individual, the family and the community.

As mentioned previously South Africa and other countries are all struggling with great nursing shortages which negatively affect care of patients (quality of care) (Solidarity, 2009:2). This was considered such an important matter in the American state of California and Australian state of Victoria that adequate nursing to patient ratios were legally enforced. This positively influenced the training of nurses, quality of care and PE of nurses and caused a great many nurses who had left the nursing profession to return, as well as resulting in more students choosing nursing as a career path (Solidarity 2009:2).

Although there is a great shortage of health care personnel (especially nurses) in the South African health care sector, the number of nurses in this country is much higher than in the rest of Africa. According to the WHO the minimum standard for health care workers per patient ratio is 228:100 000, meaning approximately 439 people per health care worker (the term health care workers used by the WHO includes doctors, registered nurses, enrolled and auxiliary nurses and other medical personnel, this number is calculated by dividing 228 by 100 000). The number of health care workers to patients in other African countries is a shocking 185:100 000, but this number looks better in South Africa with a number of 468:100 000. This number appears better on paper but in reality there are still severe shortages because the number gives 214 patients per health care worker (this is calculated by dividing 468

into 100 000). Table 2.4 indicates the geographical distribution of the population of South Africa versus nursing manpower for the North West Province.

Table 2.4 Geographical distribution of the population of South Africa versus nursing manpower

Geographical distribution of the population of South Africa versus nursing manpower in 2010					
North West Province					
Population		Nursing manpower as at 2010/12/31			
2010		Registered nurses	Enrolled nurses	Auxiliary nurses	Total
Females	1 635 500	6 936 (52%)	2 305 (17%)	4 152 (31%)	13 393
Males	1 565 400	839 (50%)	244 (15%)	580 (35%)	1 663
Total	3 200 900	7 775 (52%)	2 549 (17%)	4 732 (31%)	15 056

(Source: The South African Nursing Council, http://www.sanc.co.za/stats/stat2010/Distribution%202010xls.htm)

In Table 2.4 above it is clear that there are 7 775 registered nurses for a population of 3 200 900. This indicates that there is an average of 412 patients for each registered nurse (calculated by dividing 7 775 into 3 200 900). It is, however, important to note that this number is affected by an uncounted number of illegal immigrants in South Africa as well as the fact that many South African nurses are registered at SANC, but are currently practising in other countries, including Europe, America, Oceania and the Middle East. Currently South Africa is one of the top five countries losing nurses due to migration (Solidarity, 2009:4). According to the same authors a study conducted by the Human Sciences Research Council (HSRC) found that 18% of nurses who are currently registered at the SANC are not practising, thus bringing the total number of registered nurses (nurses in this study) to a patient ratio to 502 patients for each nurse (calculated by subtracting 18% from 7 775 which is 6 376 and thereafter, dividing 6 376 by 3 200 900).

The table below indicates the number of nurses registered at the SANC versus the number working in the public health care sector for various years in the North West Province.

Table 2.5 Nurses registered at SANC versus the number of registered nurses working in the public health care sector in the North West Province

Number of registered nurses in the North West Province						
2005		2006		2007		2008
Nurses registered at SANC	Number of registered nurses working in the public health sector of North West Province	Nurses registered at SANC	Number of registered nurses working in the public health sector of North West Province	Nurses registered at SANC	Number of registered nurses working in the public health sector of North West Province	Number of registered nurses working in the public health sector of North West Province
6 495	3 053	6 620	3 029	6 733	2 864	2 862

(Source: Solidarity Research Institute, 2009:5, source Health Systems Trust – http://www.hst.org.za/healthstats/101/data)

In the table above it is clear that the total number of registered nurses working in the public sector of the North West Province was 3 053 in 2005 and in 2008, 2 862. This indicates that the number has dropped by 191 nurses in 3 years, which could be due to the disease burden and migration.

The following table indicates the population served per registered nurse, enrolled nurse, auxiliary nurse as well as the total amount for all nursing categories in the North West Province.

Table 2.6 Population per registered nurse, enrolled nurse, auxiliary nurse in the North West Province

Population per qualified nurse				
North West Province	**Registered nurses**	**Enrolled nurses**	**Auxiliary nurses**	**Total**
North West Province	412:1	1 256:1	676:1	213:1

(Source: SANC – http://www.sanc.co.za/stats/stat2010/Distribution%202010xls.htm)

The North West is in the top five Provinces with the largest patient to registered nurse ratios. Mpumalanga has the greatest shortage with 677:1 and Gauteng Province the best ratio of 371:1 (Solidarity, 2009:7). However, having a better patient to registered nurse ratio does not imply that everything is well in that province, it only means that the conditions related to nurse to patient ratios are better in that province than those with lower nurse to patient ratios (Solidarity, 2009:7).

The ratios above make it clear that the shortage of nurses in South Africa is a reality and that nurses are affected not only by a large population which includes illegal immigrants and refugees from other countries, but also the high burden of disease in South Africa. These diseases include HIV/AIDS, which plays an important role in increasing the demand for nursing care, because South Africa is one of the countries with the highest HIV/AIDS rates in the world (Solidarity, 2009:7 & Phaswana-Mafuya *et al*., 2008:611). Then there are also multi-drug resistant TB and malaria which increase the probability that South Africa will need more assistance in health care. These diseases are so serious that they increase the length of a person's stay in hospital. Solidarity (2009:7) mentioned that the length of time of a person stays in hospital when affected with HIV is almost four times more than for a person who is HIV-negative. With regard to the PHC context an HIV patient must follow up monthly for chronic medication, not even mentioning acute care needed which is caused by lowered immunity. All these factors contribute to some nurses immigrating to other countries, leaving the profession and discouraging young people from studying in the nursing profession (Solidarity, 2009:8).

The following table indicates the number of registered nurses in the public health care sector per 100 000 population in the North West Province.

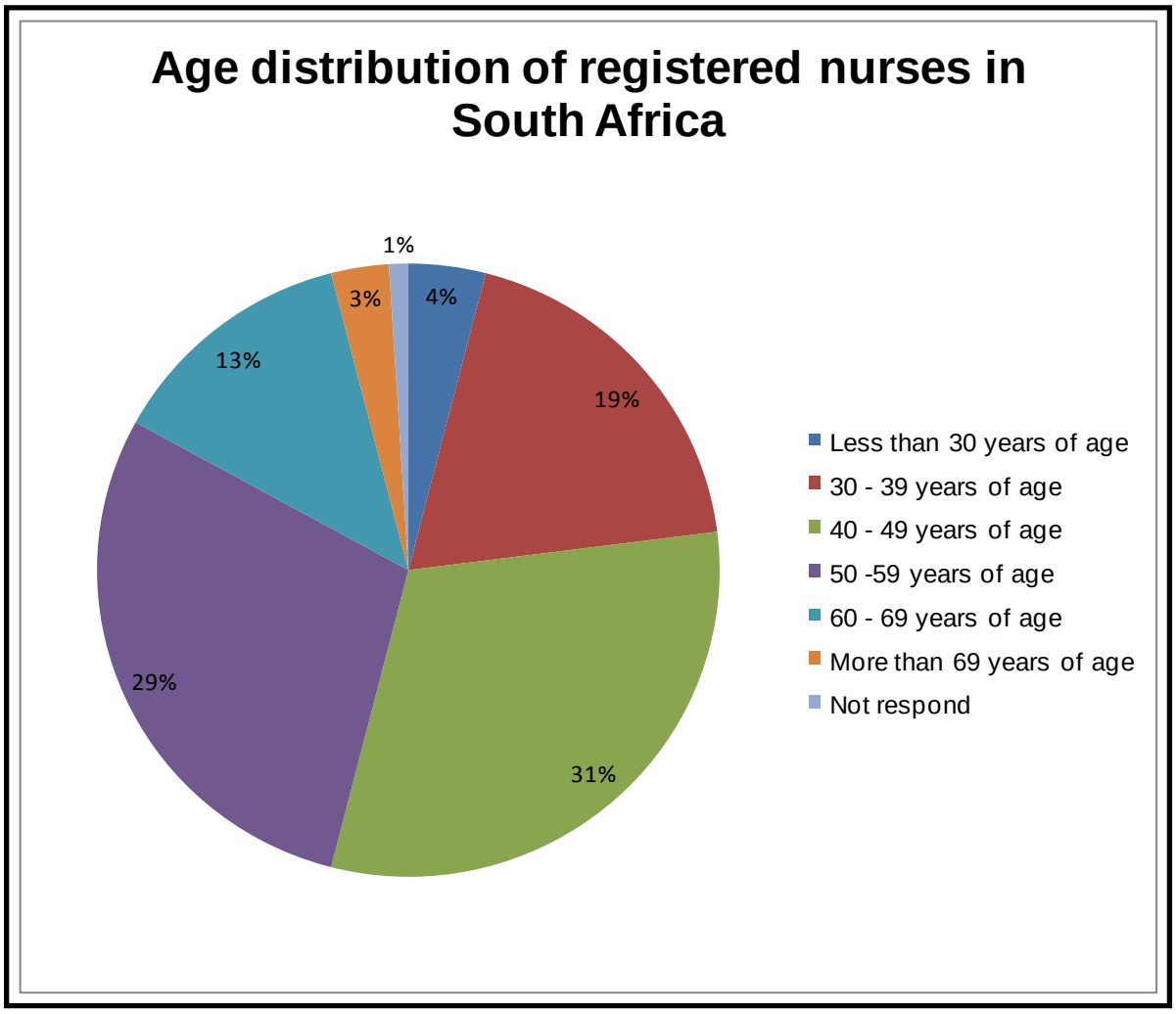
Table 2.7 Registered nurses in the public health care sector per 100 000 population in the North West Province

Registered nurses in the public health care sector per 100 000 population				
	2005	**2006**	**2007**	**2008**
North West Province	90	88.9	81	81.1

(Solidarity Research Institute, 2009:8, source: Health Systems Trust – http://www.hst.org.za/healthstats/72/data)

Table 2.7 above indicates that the ratio of nurses in the North West Province decreased by 8.9 nurses per 100 000 in the past three years, indicating that nurses left the public health care sector of the North West Province to seek other job opportunities. Therefore, investigating the PE of nurses in the public health care sector is of utmost importance.

Figure 2.5 indicates the age distribution of registered nurses.



(Source: SANC statistics 2010, http://www.sanc.co.za/stats/stat2010/age%20stats%202010_files/frame/htm.)

Figure 2.3 Age distribution of registered nurses in South Africa

As indicated in Figure 2.5, it is clear that there are only 4% of nurses younger than 30 years of age currently in this profession; this could be due to the fact that a lot of nurses only start their nursing career at the age of 26 (Solidarity, 2009:11). It is also disturbing to note that there are only 23% of nurses in the age group below 40. Therefore, 77% of South African nurses are above 40 years of age. This supports the impression that the nursing profession is ageing and that fewer young people opt for nursing as a career.

The second last sub-scale is nurse participation in PHC/CHC affairs[5]. According to Lake (2002:181) nurses who were valued in the PE, were involved in the internal governance, policy decisions and committees in the PE; had opportunities for

[5] In this study the domain "Nurse participation in hospital affairs" was changed to "Nurse participation in PHC/CHC affairs" as this study was not conducted in the hospital setting

progression; open communication relationships, responsive nursing administration, and a powerful, visible and accessible nurse manager experience their PE as positive.

A study conducted by Kutney-Lee *et al.* (2009:221) found that if nurses have the opportunity to influence administrative decisions and policies, they are more likely to be effective and successful in their PE. An editorial by Alspach (2009:16 & 17) found that employees who felt that they were included, appreciated and important (cared for) in the organization they were employed at worked much harder than those who felt that they were just another number on the schedule. Some of the suggested approaches mentioned by the same researcher included:

- orientation programmes for newly-appointed staff members to welcome, support and embrace them as colleagues;
- identification of staff needs on an ongoing basis by managers and staff having regular meetings to discuss their needs;
- assurance that there are open communication channels and meetings in place for staff to discuss needs and constraints;
- If staff shortages are present, all must feel valued, not only newly-hired nurses;
- Pairing of new staff with effective preceptors to learn from their accomplishments, goals and challenges for good results;
- Enquiring in an honest and caring manner about a person's progress, interests and preferences;
- Managers must be good listeners; and
- Play on nurses' strengths by emphasizing what they do well.

Therefore the active involvement of employees through encouraging them to participate in PHC/CHC affairs makes the employees feel part of the organization and feel valued because their contributions are valued, and staff members are motivated to deliver quality of care to the individual, the family and the community.

The last sub-scale is nursing foundations for quality of care. This sub-scale on quality of care includes an all-encompassing nursing philosophy; practising of a nursing model rather than a medical model; clinical competence in nurses, cultivation of new staff, continuous education and focus on nursing diagnoses and care plans. All these assist in facilitating a PPE (Lake 2002:181 &182). According to studies conducted in South Africa by Whittaker (2011:60) quality of care not only assists staff in experiencing job satisfaction but also improves the efficiency and effectiveness of the health care system. Schmalenberg *et al.* (2008:55) also found that a PE where nurses are clinically competent also increases satisfaction and productivity in the PE and ensures that quality of care is delivered to the individual, the family and the community.

Competency is defined according to Webster's Dictionary (*in* Schmalenberg *et al.*, 2008:56) as "quality or state of being functionally adequate or having sufficient knowledge, judgment, or skill". Therefore, the importance of support for education (staff development) is crucial in developing competency among staff members (Schmalenberg *et al.*, 2008:55).

Aiken *et al*. (2002:1987) and Zurn *et al*. (2005:3) added that quality of care and productivity of nurses are affected by the number of nurses available to perform the nursing task, because nurses are faced with unworkable workloads. Therefore, a PPE which includes adequate patient to nurse ratios is of the utmost importance, since Friese (2005:766) mentioned that patients were twice more satisfied with the quality of care they received than in environments that are unfavourable to good practice for nurses. Aiken *et al.* (2009a:223) also mentioned that increased quality of care found in a PPE where nurses are well-educated results in lower patient mortality and improved patient outcomes. The study also found that a number of nurses felt that the quality of care delivered was two times poorer where the PE was negative than with nurses working in PPE. The same authors also added that nurses who experience no support from their managers when patient care problems arise develop a lack of confidence and the quality of care decreases.

In South Africa 83% of the population are served by the public health care sector and 17% by the private health care sector (Council for Medical Schemes, 2011). The concern in terms of the large numbers of individuals, families and communities

attending the public health care sector for health care is that the standard (quality) of care given by the public health care sector which includes the PHC services is gradually declining (Keeton, 2010:803). This statement is supported by Human (2010:33) who added that the quality of care given to people who don't belong to a medical aid depends on the area where the health service is located. Health care services located in the rural areas are more affected by resource scarcities and staff shortages whereas urban hospitals which are usually training facilities offer better services but are overwhelmed by the high volume of work. Therefore, the quality of care given by the public health care sector (the health care sector researched in this study) is inferior to the private health care sector (Human, 2010:33). However, the South African DoH has shown a solid commitment to improve the quality of care delivered to the individual, family and community. This commitment was highlighted by a publication in July 2010 which focuses on a 10 Point Plan to improve the public health care sector. The strategic plan of the National DoH 2010/11 – 2012/13 directly linked their strategy to the 10 Point Plan by focusing on and ensuring "an accessible, caring and high quality health system", which aims "to improve health status through the prevention of illnesses and the promotion of healthy lifestyles and to consistently improve health care delivery system by focusing on access, equity, efficiency, quality and sustainability" (Whittaker *et al.,* 2011:60).

2.4 CHAPTER SUMMARY

In this chapter an in-depth literature review was conducted of PHC and PPE from a theoretical point of view. In the following chapters the researcher discusses the research design and method, data analysis, pilot study, rigour and ethical.

CHAPTER 3

RESEARCH DESIGN AND -METHOD

(Phase 1: Objectives 1, 2 and 3; Phase 2: Aim of study and objective 4)

3.1 INTRODUCTION

In Chapter 2 a literature review was done in order to understand PHC and PPE from a theoretical perspective. In this chapter, detailed attention is given to the research design and method, and the data analysis and the pilot study are also highlighted. Table 3.1 indicates the structure of the research project as well as the method for Phase 1, objectives 1, 2 and 3 and Phase 2, as well as the overarching aim of the study and objective 4.

Table 3.1: Structure of study indicating the phases and objectives

Phase 1: Situational analysis in order to compile evidence regarding the PE of nurses in the CHCs in the North West Province
Objectives
Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province.
Objective 2: To explore and describe the status of PE in CHCs in the North West Province.
Objective 3: To explore and describe the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in the North West Province.
Phase 2: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province
Overarching aim
Overarching aim: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province.
Objective
Objective 4: To develop guidelines to facilitate the establishment of PPE in CHCs in the North West Province.

3.2 RESEARCH DESIGN

The research design is explained by various authors through various definitions but all the definitions have the same underpinning. Burns and Grove (2009:263 & 696) define the research design as the blueprint used when executing research. The design maximizes control over factors which could possibly jeopardize the validity of findings. Yin (2009:26) defines a research design as a logical sequence that links the

empirical data to the research questions and conclusions. It is the logical plan that the researcher follows in order to come from *here to there*. The *here* involves the initial questions asked and the *there* is the answer to the questions (conclusions). Polit and Hungler (1997:43), on the other hand, explain the research design as the plan used to answer the research questions asked, as well as the plan used to handle problems encountered during the study, whereas Richards and Morse (2007:74) explain the research design as "moulded" by the method and being responsive to the context and participants.

The design the researcher used is a case study design with quantitative and qualitative approaches and descriptive, explanatory and contextual strategies. In the design mentioned above, approaches and strategies were employed to achieve the overarching aim and objectives 1, 2, 3 and 4 of this study.

3.2.1 Case study design

In the following section the researcher focuses on the history of case study designs and case study as a research design suitable to be used for this study. Thereafter the quantitative and qualitative approaches and the descriptive, explanatory and contextual strategies used in this study are discussed.

3.2.1.1 History of the case study design

The case study design was marked both by times when the design was used regularly and times where this design was abandoned. The first usage of the case study can be traced back to Europe, with specific reference to France. But various sources available in literature also link the case study to the United States of America, especially the University of Chicago, Department (School) of Sociology between the 1900s and 1935 (Yin, 2009:17; Tellis, 1997:2).

In those times there was a lot of prosperity in Chicago because there were a large number of people from different national groups immigrating to America. Therefore, several studies were done and reports were written on that topic. Issues of poverty and unemployment increased and the case study methodology was ideal to use in research to describe these circumstances. When using the case study design,

consideration is given to the totality when observing, reconstructing, and analysing the case under consideration.

During the period from 1935 onwards several problems and concerns were raised on how scientific this design is, especially in terms of the Chicago School of Sociology because they were mostly identified with this methodology. Due to these concerns more quantitative data was incorporated into this research method as it was deemed very important to ensure validity and reliability. But it did not end there, as there was still a dispute which rejected the case study method as a methodology (Tellis, 1997:2-3). This resulted in a public dispute between the Columbia University professors, who were questioning the validity of the case study design and the Chicago School and its followers who did not have a problem with the case study as research methodology. In this dispute Columbia University won and the case study method fell into disuse as a research methodology.

As the quantitative research methods advanced, the rejection of the case study was hastened. However, in the 1960s concerns were raised about the limitations experienced with quantitative research methods, thereby renewing interest in the case study method.

The case study method was frequently criticised by Giddens who stated that a case study only focuses on a single case, which makes it impossible to generalize the findings. Some of the critiques mentioned that the case study methodology was “microscopic” and “lacked a sufficient number” of cases. Yin (1984, 1989a, 1989b, 1993 and 1994) and Hamel (1993, *in* Tellis 1997:1-3) convincingly opposed this statement by postulating that if the size of the sample is 2, 10 or even 100, it does not transform a multiple case into a macroscopic study. The main aim of a case study is to set parameters, which should then be applied in all research, therefore even a single case could be considered as acceptable provided it met the objectives stated.

According to Tellis (1997:1-3), Yin (1989a) mentioned that the generalization of results found in the case study is set by the methodological qualities of the case and the rigour applied. The case study method inquiry relies on different types of evidence sources which must be converged in a triangulating fashion (Yin, 2009:18).

In this study the researcher used multiple methods of data collection which included questionnaires and semi-structured individual interviews.

3.2.1.2 The case study as research design used for this study

The most important point to remember when using a case study as research design is to ensure that the researcher uses a rigorous methodological path while conducting the study. The case study design used in this study aims at familiarizing people reading the case study with the individual, group or organization and phenomena studied (in this study a model CHC that exemplifies a PPE in the North West Province) (Yin, 2009:3-4; Burns & Grove, 2009:244). The case study design is used frequently in different disciplines. These disciplines include sociology, psychology, political science, anthropology, social work, business, education, community planning and nursing. The reason why researchers of these disciplines at times use the case study design is that this design assists the researcher in better describing a complex social (communal) phenomenon in order to enhance understanding. This design allows the researcher to keep hold of the holistic and significant characteristics of the real life experience as it happens (Yin, 2009:3-4).

For the purpose of this study, the researcher used a quantitative research approach to reach objectives 1 and 2 of this study and a qualitative research approach to reach objective 3 of this study. The data obtained from objectives 1 and 2 gave the researcher the relevant information to explore and describe the demographic profile and status of CHCs in the North West Province and to identify the CHC with the most favourable PE. After the CHC with the most favourable PE had been identified (CHC R in this study, see Chapter 4 [Table 4.14]) the semi-structured individual interviews were conducted with the assistant PHC director, operational manager, physician and nurses in the CHC, achieving objective 3 of this study. The data obtained during phase 1, objectives 1, 2 and 3 and the two Frameworks used in this study (see Chapter 1 [1.5.2.3]) as well as inductive and deductive logic assisted the researcher in achieving the overarching aim of this study which was to describe a case study of a model CHC which exemplifies a PPE for CHCs as well as to develop guidelines to facilitate PPE in CHCs in the North West Province (objective 4).

The different data collection methods used in this study are supported by Yin (2009:11) and Gillham (2000:13) who mention that the case study's unique strength is that it has the capacity to use a full variety of evidence, for example questionnaires and interviews. When conducting a case study there are various types of evidence including documents, records, interviews, detached observation, participant observation and physical artefacts (Gillham, 2010:21; Denzin & Lincoln, 2003:5). Although case studies are identified among the array of qualitative research studies, the case study method is not only a form of qualitative research. Some case studies go further than only quantitative or qualitative research by using both quantitative and qualitative evidence to describe the case study (Yin, 2009:19; Gillham, 2000:10).

The use of different data-collection methods is called a triangulated approach (Burns & Grove, 2009:244). This is because case studies have a very important place in evaluation research, since the link between the real-life interventions and the survey/questionnaire is explained and described (Yin 2009:19-20). Case studies could also be used to illustrate definite topics in a descriptive mode and lastly the case study method also has the capacity to illuminate the situations where there is no clear particular set of outcomes. Lastly, case studies can be conducted and written with various motives. These motives can range from a single case to a broad generalized base of case study evidence without presenting the single case studies separately (Yin, 2009:20).

Matthews and Ross (2010:128) mentioned that a "case study includes either a single case or a number of cases"; however, the most important fact with regard to a case study is that the case should be explored in detail and in-depth. In this study the researcher described a single case. A case study could be an individual, situation, institute or state, but the particular feature of the case should be linked to the research questions. In this study the CHC with the most favourable PE in the North-West Province was used. Typically there are specific margins to the case under investigation, in order to ensure there is a clear understanding of what is included in the case studied and what is not. Therefore, a case study is a holistic approach followed as the liaison between parts and the whole in the social context of significance to the researcher. It is therefore also important to note that a case study

is not only a detailed study of the case under investigation, but the case must be relevant to the research topic.

3.2.2 Quantitative and qualitative approaches and strategies

In this case study both quantitative and qualitative approaches were used with descriptive, explanatory and contextual strategies. Firstly the quantitative research approach was applied by using questionnaires for data collection (Creswell, 2003:14) in order to reach objectives 1 and 2. Second, a qualitative research approach was used to reach objective 3 by using semi-structured individual interviews (Kvale & Brinkmann, 2009:130).

3.2.2.1 Quantitative research approach

The quantitative research approach is explained by Burns and Grove (2009:717) as a formal, objective and orderly procedure to describe and examine relationships and look at the cause and effect relationships between variables. Matthews and Ross (2010:478) add that quantitative research is a way to gather and work with data that is ordered, structured, which can be represented in numbers. Another way to explain quantitative research is that this type of research focuses on the expression of data in quantities or amounts that include numbers, graphs and formulas, whereas qualitative research tries to understand human behaviour (Badenhorst, 2010:92). In this study the researcher used a quantitative research approach to reach objectives 1 and 2 of this study.

3.2.2.2 Qualitative research approach

The qualitative research approach is explained by Burns and Grove (2009:717) as a logical, systematic, interactive and subjective approach used to describe and give meaning to the experiences of participants in the phenomenon studied. Matthews and Ross (2010:142) explain qualitative research as research which specifically focuses on obtaining subjective understandings, feelings, opinions and beliefs of the participants. This can be done through semi-structured individual and unstructured

interviews, observation, focus groups, gathering of documents, narrative and participant or non-participant observation. During the qualitative research approach the participant constructs the data the researcher gathers and works with. Only thereafter does the researcher interpret and structure the data through an analytical process. When using a qualitative research method, the research is more naturalistic, interpretive and humanistic and enables the researcher to understand and give meaning to words that individuals shared (Denzin & Lincoln, 2003:13).

3.2.2.3 Descriptive, explanatory and contextual strategies

The strategies used in this study consisted of descriptive, explanatory and contextual strategies. These strategies enabled the researcher to reach the different objectives set for this study. The first strategy used was descriptive. This strategy was used to supply the readers with a truthful description of the characteristics of the population studied. In this strategy there is no manipulation of the variables (Burns & Grove, 2009:45; Brink *et al.,* 2006:10; Downing, 2010:299).

Descriptive strategies are used to examine the characteristics of a sample. The strategy is used to describe a phenomenon of significance and the variables within the phenomenon. This strategy gives the opportunity to interpret the theoretical significance of results and provides understanding and knowledge generated from the studied population (Brink *et al.*, 2006:104; Burns & Grove, 2009:237-238). The descriptive strategy was used to describe or summarize the data obtained from the samples in both the quantitative and qualitative approaches used in this study. This data is the summarization of the data obtained from the sample (Babbie, 2010:G3 & G4). By using a descriptive strategy the researcher is able to understand how prevalent the phenomenon being investigated is and what the features and characteristics of the phenomenon being investigated are, providing the researcher with new information (Polit & Hungler, 1997:19 & 21).

The **explanatory** strategy gives the researcher the opportunity to understand the foundations as well as the logical associations between the phenomena studied. This type of strategy is usually related to theories, which provide the researcher with the method to obtain, arrange and incorporate ideas about the manner in which the phenomena are interconnected. This strategy is also developed to give the

researcher new insight into and understanding of the nature of the phenomena studied in order to clarify the “how” and “why” a certain phenomenon exists (Polit & Hungler, 1997:21). According to Maree *et al.* (2008:264) and Babbie (2010:94) the difference between the descriptive and explanatory strategies is that the descriptive strategy gives a general picture about the phenomenon studied, whereas the explanatory strategy purifies, describes and extends the general picture obtained.

In order to reach objectives 1, 2 and 3 of this research study, a descriptive strategy was followed, which aimed at describing the demographic profile of the CHCs in the North West Province which includes both the CHCs and nurses (objective 1) and to explore and describe the current status of the CHCs of North West Province and identify the CHC with the most favourable PE (objective 2). Thereafter, the researcher explored and described the perceptions of the managers, physicians and nurses in the CHC with the most favourable PE (objective 3).

The researcher also used a **contextual** strategy as this study was only conducted in the CHCs of the public health care sector in the North West Province of South Africa. The context of this study was discussed in depth in Chapter 2 [2.2.3]. In the NW Province there are 4 districts (N = 4) as mentioned previously, which consists of 18 sub-districts (N = 18) and these sub-districts have a total of 41 CHCs (N = 41) (see Chapter 1 [1.6.1] under contextual strategy).

In Figure 3.3 the researcher plotted the towns in blue (Dr. Kenneth Kaunda) and orange (Ngaka Modiri Molema) where the 26 CHCs were located in two districts of the North West Province from whom of which ethical approval was obtained (although the researcher initially planned to include the entire North West Province).

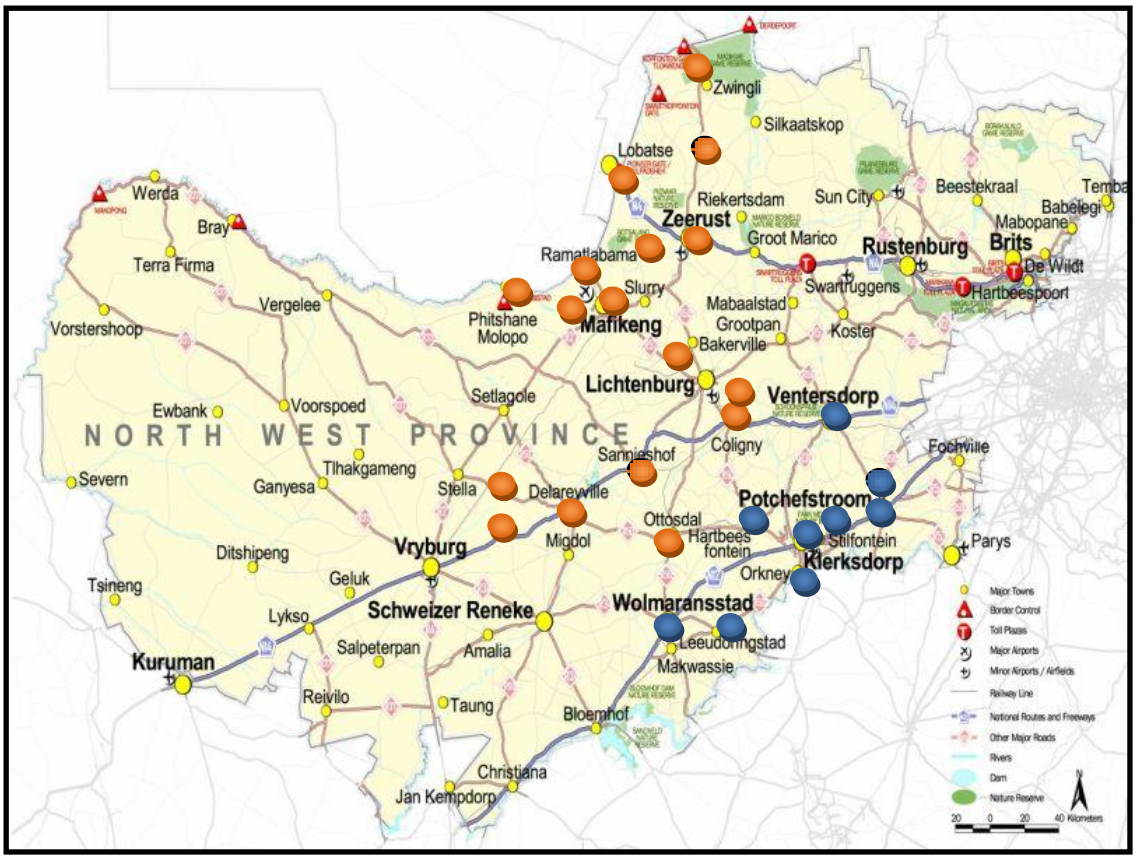


Figure 3.1 Indicates where the CHCs were located in the two districts of the North West Province where data was collected

As seen above the CHCs used in this research study are located at great distances from each other. This is because each town, except two, has only one CHC with their respective satellite clinics located in between the CHCs. CHCs are larger clinics which are only found in the public health care sector. They have a maternity section, delivering not only pre- but also post-natal services, they are open 24 hours a day, deliver ARV treatment (therefore the patients are not referred to a Wellness clinic for ARV treatment as it is done at a PHC clinic) and they perform circumcisions monthly (see Chapter 1 [1.5.2.2] under the conceptual definition of CHC). In CHCs various multi-disciplinary team members work, for example physicians, dieticians, and at some CHCs even dentists.

3.3 RESEARCH METHOD

A description of the research method follows. Attention will be given to the sampling (which consists of the population, sampling method and sample size), data collection, pilot study and data analysis, validity and reliability (Klopper, 2008:69).

3.3.1 Sampling

Sampling consists of the population and sample, sampling method and sample size.

3.3.1.1 Population and sample

Polit and Hungler (1997:43) define the population as the members who match the set criteria for the study. Babbie (2010:G8) on the other hand explains the population as the "theoretically specified aggregation of the elements in a study", whereas Matthews and Ross (2010:154) define a population as the "total number of cases that can be included as research subjects".

Initially during the planning phase of this study, the researcher planned to include the entire North West Province in the study. However, the researcher did not get ethical approval from two district offices, but permission was obtained from the Chief Directors of the district offices of Dr. Kenneth Kaunda and Ngaka Modiri Molema and their PHC directors of the-sub-districts offices. Therefore, in this study, data was collected from two of the four districts (n = 2) which included 9 sub-districts (n = 9) and 26 CHCs (n =26) collectively.

The population for objective 1, which was to explore and describe the demographic profile of the CHCs in the North West Province, included all 26 CHCs and all 291 registered nurses of which 195 responded.

To reach objective 2, which was to explore and describe the status of the PE in CHCs in the North West Province, the population included the registered nurses (n=195) who were willing to complete the NNS survey which included a section containing the PES-NWI questionnaire.

Lastly, the method aimed at achieving objective 3 of this study which was to explore and describe the perceptions of the managers, physician and nurses in the CHC with

the most favourable PE in the North West Province. The N was 10, which included n = 2 managers, n = 1 physician and n = 7 nurses in the CHC.

Table 3.2 below indicates the districts, sub-districts and facilities in the North West Province. The districts, sub-districts and facilities used in this study are highlighted in grey.

Table 3.2: Districts, sub-districts and CHC facilities in the North West Province

District	Sub-district	Facilities
Bojanala Platinum district	Madibeng sub-district	-Bapong CHC -Lethlabile CHC
	Moretele sub-district	Cyferkuil (Kutloanong) CHC
	Moses Kotane sub-district	-Mogwase CHC -Pella CHC
	Rustenburg sub-district	-Bafokeng CHC -Boitekong CHC -Tlhabane CHC

Table 3.2: Districts, sub-districts and CHC facilities in the North West Province (continued)

District	Sub-district	Facilities
Dr. Kenneth Kaunda district	Maquassi Hills sub-district	-Leeudoringstad CHC -Tswelelang 2 CHC
	Matlosana sub-district	-Botshabelo CHC -Grace Mokgomo CHC -Jouberton CHC -Tigane CHC
	Tlokwe sub-district	-Boiki Thlapi CHC -Promosa CHC
	Ventersdorp sub-district	JB Marks CHC
Ngaka Modiri Molema district	Ditsobotla sub-district	-Itsoseng CHC -Coligny CHC -Thlabologang CHC
	Mafikeng sub-district	-Lekoko CHC -Montshioa Stadt CHC -Ramatlabama CHC -Unit 9 CHC
	Ramoatswere Moiloa sub-district	-Moshana CHC -Tswelelopele CHC -Borakalalo CHC -Dinokana CHC
	Ratlou sub-district	-Makgobistadt CHC -Ratlou CHC
	Tswaing sub-district	-Atamelang CHC -Delareyville CHC -Ottosdal CHC -Sannieshof CHC

Table 3.2: Districts, sub-districts and CHC facilities in the North West Province (continued)

District	Sub-district	Facilities
Ruth Segomotsi Mompati district	Greater Taung sub-district	Reivilo CHC
	Kagisano sub-district	-Ganyesa CHC -Morokweng CHC
	Lekwa-Teemane sub-district	Bloemhof CHC
	Molopo sub-district	Bray CHC
	Naledi sub-district	-Huhudi CHC -Stella CHC

3.3.1.2 Sampling method

Sampling is explained by Burns and Grove (2009:723) as the process where individuals are selected who comply with certain criteria making them representative of the population studied. Polit and Hungler (1997:224) on the other hand define sampling as the procedure used to select a part of the population to represent the total population. According to Burns and Grove (2005:341) it is noteworthy that the sample plays an important role in the implication and generalisation of findings.

In this study the researcher used multi-level sampling. Purposive sampling was used to select the North West Province; a very strongly rural one. Purposive sampling is also called “judgemental or theoretical sampling” because the researcher decides which participant would be representative for purposes of answering the particular research questions (Jooste, 2010:306; Babbie, 2010:193; Polit & Hungler, 1997:466). Matthews and Ross (2010:167) explain purposive sampling as a method of sampling used when doing small, in-depth studies which focus on exploring and interpreting experiences and perceptions. Jooste (2010:306) adds to this, stating that purposive sampling ensures that the participants have the necessary insights and knowledge to answer the research question.

Thereafter all-inclusive sampling was used as all the districts, sub-districts, CHCs and nurses were included to explore and describe the demographic profile of the

CHCs (objective 1) as well as the status of the PE of CHCs in the North West Province (objective 2). All-inclusive sampling was also used to achieve objective 3 of this study, because all the managers, the physician and the nurses in the CHC with the most favourable PE were included to participate in the semi-structured individual interviews.

3.3.1.3 Sample size

In order to achieve objective 1 of this study the CHCs were (N = 26) of which all (n = 26) the CHC's demographic profile was obtained. Thereafter the researcher distributed the NNS survey questionnaire (for an in-depth discussion of the NNS survey questionnaire [see 3.3.2.1]) which included a section on the demographic profile of nurses and PES-NWI questionnaire, the sample size was (N = 291) registered nurses of which (n = 195) were received back, thus obtaining a 67% response rate.

To achieve objective 2 the same sample size (n = 195) was used as the researcher analysed the data obtained in the PES-NWI.

To achieve objective 3 the researcher conducted (N = 10) semi-structured individual interviews with two managers, one physician and seven nurses working in the CHC with the most favourable PE.

3.3.2 Data collection

Data collection is explained by Polit and Hungler (1997:455) as the collection of data to address the research problem, whereas Matthews and Ross (2010:43-45) explain data collection as the collection of facts which are analysed to draw conclusions through verbal and non-verbal communication. Data is collected in a specific and logical manner because information is gathered to reach the overarching aim, purpose and objectives of a research study (Polit & Hungler, 1997:455 and Burns & Grove, 2009:695). Data can be collected in various ways, including questionnaires, interviews, observation and scales (Burns & Grove, 2009:44). Denzin and Lincoln (2003:5) add visual, historical and observational texts as well as personal experience, artefacts and life stories.

In order to achieve objective 1 of this research study, which was to explore and describe the demographic profile of the CHCs, data was collected by using two methods.

Firstly, the researcher had a structured telephonic interview with all (n = 26) the CHCs' operational managers and if the operational manager was not available the researcher spoke to the second in charge of the CHC, asking structured questions on the demographic profile of the CHC (see Appendix E). A telephonic interview is explained by Welman *et al.* (2010:164) as an interview that is conducted by the researcher asking questions and recording the answers given by the respondent. This interview could be either structured or unstructured (Matthews & Ross, 2010:188). In this study, structured interviews were used as there were specific questions on the interview schedule to be asked of the respondent.

Secondly, the NNS survey of the RN4CAST project which contained the PES-NWI questionnaire (section A) and an additional section (section D) focusing on the demographic profile of the nurse (see Appendix H) were used for data-collection. This enabled the researcher to obtain the outstanding data necessary to achieve objectives 1 and 2.

In the following section, the researcher provides an in-depth discussion of questionnaires as data-collection method, the NNS survey, PES-NWI questionnaire and semi-structured individual interviews.

3.3.2.1 Questionnaires as data-collection method

Questionnaires contain a set of questions which are answered by the participants in a study. Questionnaires were first used in the United Kingdom (UK) during 1831 for census purposes, where information, e.g. a person's name, age, place of birth and profession, was obtained. Later in the 19th and 20th centuries questionnaires focused on more factual data about people for not only government but also industries, medicine and other organizations (Matthews & Ross, 2010:201). Later, social researchers used questionnaires to obtain data focusing on people's opinions, ideas, attitudes, knowledge, expertise and values. The most famous social researcher who was fascinated by measuring these types of data in human organisations was Rensis

Likert, an American psychologist (1903-1981). He developed the first scale which enabled the participant to decide an idea or attitude statement by using a five-point scale which ranges from strongly agree to strongly disagree (Matthews & Ross, 2010:201 & 204). This scale was called the Likert scale. The questions in the PES-NWI questionnaire are also based on a Likert scale but have only four points which include strongly disagree, somewhat disagree, somewhat agree and strongly agree (see Appendix H).

There are two questionnaire designs – structured and unstructured questionnaires. The PES-NWI questionnaire used to achieve objective 2 of this study was structured, because the participants could only choose between pre-set answers and no personal answers could be written (Matthews & Ross, 2010:201-202).

Brink *et al.* (2006:147); Minnaar (2010:310) and Matthews and Ross (2010:204-205 & 217) mention the following advantages and disadvantages when using questionnaires. The advantages and disadvantages were applied to this study.

Advantages of questionnaires:

- Questionnaires are a quick way to collect data from a large population if the participants are willing to complete the questionnaire. Data collection for objectives 1 and 2 took approximately 1 month, during which N = 291 questionnaires were distributed and n = 195 received back (67% response rate);
- Questionnaires are an inexpensive manner to collect data. This was not, however, the case in this study, as there was only one CHC located in each town and the researcher travelled over 3 800 km to distribute and collect the questionnaires;
- The information obtained by means of questionnaires is easy to tabulate and analyse through numbers and tables. In chapter 4 the data obtained from the questionnaires were presented though numbers in tables and figures;
- Data is already coded, making data analysis relatively effortless. In data analysis of the PES-NWI, developed sub-scales were used during data analysis;

- Participants remain anonymous and cannot be traced to any individual. The researcher coded all the questionnaires, thus only the researcher was able to identify the data bundle collected in order to identify the CHC with the most favourable PE, achieving objective 3 of this study; and
- The distributors of the questionnaire do not have to be experts. In this study the researcher distributed the questionnaires. When the researcher distributed the questionnaire the researcher firstly had an in-depth discussion with the nurse in charge regarding the purpose of the study, voluntary consent and completion of the questionnaires. All questionnaires included an information leaflet of the RN4CAST project (see Appendix F) as well as an information leaflet of this study and informed consent form (see Appendix G).

Disadvantages include:

- Nurses could complete questionnaires without thoroughly reading the questionnaires in order to only complete the questionnaire and not waste time. The researcher guarded against this by informing the manager of the study, introducing the study to staff, allowing sufficient time for the questionnaires to be completed and giving each participant a badge for participation;
- The participant completing the questionnaire could not ask for clarification when necessary, but in this study the researcher guarded against this point by including an information leaflet as mentioned above to each participant which included a telephone number and an e-mail address of the researcher;
- This is an impersonal approach; the researcher does not have to be present when the questionnaire is completed. The researcher, however, gave an information letter to explain the study with relevant contact numbers should there have been any questions;
- Questionnaires are sometimes difficult to interpret, especially when statistics are used. The researcher guarded against any mistakes during statistical analysis by using the statistical consultants of NWU to assist the researcher with the correct analysis of the data;

- Questionnaires cannot be completed by individuals who are not literate; in this study it was not applicable as all the nurses are literate; and
- Questionnaires only allow restricted opportunities for respondents to answer questions in their own way. This was also applicable in this study as the questions were answered on a four-point Likert scale in the PES-NWI.

In the subsequent part the researcher gives an in-depth discussion of the NNS survey used in the RN4CAST project.

- **NNS survey**

The NNS survey distributed to the participants consists of four different sections. In this study the researcher used only Section A (About your job) and Section D (About you) which assisted the researcher to achieve objectives 1 and 2 of this study. As mentioned previously this study is embedded within a collaborative international research project known as RN4CAST (Sermeus *et al.,* 2011). In view of this, the PES-NWI and demographic profile of the nurses formed part of a battery of instruments in the NNS survey. Therefore only the data used in this study was extrapolated from the NNS survey.

In the following section the researcher elaborates on each of the four different sections of the NNS survey.

- **SECTION A: ABOUT YOUR JOB**

  This part of the questionnaire focused on the PE of nurses and included the PES-NWI, questions associated with job satisfaction, intention to leave the PE and the Maslach Burnout Inventory (Maslach & Jackson, 1986; Pretorius 2009:92).

- **SECTION B: QUALITY AND SAFETY**

  In this section the participants were asked to respond to questions that focused on the safety and quality of care delivered, as well as the prevalence of incidents involving individuals (patients).

- **SECTION C: ABOUT YOUR MOST RECENT SHIFT AT WORK IN THIS CHC**

  This part concentrated on questions related to work schedules and nurse-to-patient ratios in the CHC.

- **SECTION D: ABOUT YOU**

  Section D asked questions regarding the demographic profile of the nurse, which included questions related to age, gender, level of education, years of experience among others.

- **PES-NWI**

  The PES-NWI is used to measure the organizational characteristics of an institution by measuring five sub-scales in the PE (Roche & Duffield, 2010:199; Friese, 2005:767, Lake, 2002:176; Lake, 2001:109S; Parker *et al.*, 2010:353 and Kutney-Lee *et al*., 2009:221). These five sub-scales are nurse manager ability, leadership and support; staffing and resource adequacy; collegial nurse-physician relationships; nurse participation in hospital affairs and nursing foundations for quality of care. These sub-scales were found to be fundamental predictors when measuring the PE (Wade *et al.*, 2008:350).

The original Nursing Work Index (NWI) questionnaire was a 65-item questionnaire (Lake, 2002:176; Lake, 2001:109S) originally developed by Kramer and Hafner in 1989 to determine the characteristics of the work environment (organizational attributes to the work environment of the nurse) of magnet and non-magnet hospitals (Roche & Duffield, 2010:199; Friese, 2005:767; Lake, 2002:177). This questionnaire focused on work values and job satisfaction of magnet hospitals – hospitals which are regarded as institutions seen as places where the staff levels are high, there are career development opportunities for nurses and quality of care is delivered to patients (Aiken *et al*., 2009b:S12 and Roche & Duffield, 2010:196).

During the 1990s Aiken and Patrician revised the original NWI and gave it a new name, the Revised Nursing Work Index (NWI-R). These researchers added sub-scales which focused on environments supportive for professional nursing practice, autonomy, control and collegial nurse-physician relationships (Aiken *et al*.,

2009b:S12; Roche & Duffield, 2010:199; Lake, 2002:177). The NWI-R questionnaire consisted of 49 items but needed to be refined into a "more parsimonious, psychometrically sound questionnaire with empirically derived domains" (Roche & Duffield, 2010:199; Lake, 2002:177).

A secondary analysis of data collected using the NWI-R was undertaken through conducting an exploratory factor analysis and detailed psychometric evaluation by Lake during 2002. The result of this secondary analysis was a 31-item questionnaire called the PES-NWI that described the PE of hospital nurses by measuring five different sub-scales namely nurse manager ability, leadership and support (five items); staffing and resource adequacy (four items); collegial nurse-physician relationship (three items); nurse participation in hospital affairs (nine items) and nursing foundations for quality of care (ten items) (Roche & Duffield, 2010:199; Friese, 2005:767; Lake 2002:176; Lake, 2001:109S; Parker *et al*., 2010:353; Kutney-Lee *et al*., 2009:221). Each item on this questionnaire is scored on a four-point scale, with the higher scores indicating the nurse agreement that the features of this item are present in his/her PE and the lower scores indicating that the nurse does not agree that the item is present in their PE. Therefore, if the sub-scale scores are above the borderline of 2.5 it is an indication that the nurses were in agreement with the sub-scale (Lake, 2002, Roche & Duffield, 2010:199).

Even though the PES-NWI originally consisted of 31 items in five sub-scales, the questionnaire was slightly adapted due, among other reasons, to the lower consistency of the fifth sub-scale named collegial nurse-physician relations, during the development of the PES-NWI (Lake, 2002:186). This was ascribed to the small size of the sub-scale, consisting of just three items and suggested that the three items could be improved with added statements derived from the "magnet hospital" results. Therefore, the principal investigators who were primarily responsible for the development of the questionnaire added an additional four items to the above-mentioned sub-scale. The following original items were replaced with items focusing on collegial nurse-physician relationships:

- "Supervisors use mistakes as learning opportunities, not criticism" in the sub-scale nurse manager ability, leadership, and support for nurses, was replaced with 'Physicians value nurses' observations and judgement';

- “Nurse Administrators consult with staff on daily problems and procedures” in the sub-scale called nurse participation in hospital affairs, was replaced with “Physicians hold nurses in high esteem”;
- “Use of nursing diagnosis” in the sub-scale nursing foundations for quality of care, was replaced with “physicians respect nurses as professionals” and lastly
- “Physicians recognise nurses’ contributions to patient care.”

The 32-item PES-NWI questionnaire used in this study also consisted of Likert type questions ranging from “strongly disagree to strongly agree”. This questionnaire also included 5 sub-scales, nurse manager ability, leadership and support (4 items); staffing and resource adequacy (4 items); collegial nurse-physician relationships (7 items); nurse participating in hospital affairs (8 items) (PHC/CHC affairs in this study) and lastly nursing foundations for quality of care (9 items). The Cronbach’s alpha (reliability) of these scales varied between .71 and .84 (Sermeus *et al.,* 2011:4).

Before data could be collected with the NNS survey adaptations were made to fit the PHC context of South Africa. This was done because the original PES-NWI questionnaire focused on the hospital context and the PHC context differs with regard to services delivered and management structures. The researcher with the help of other experts in the PHC field slightly adapted the survey to fit the PHC context (see Appendix H), before conducting a pilot study (see 3.3.3).

In the following section only changes that were applicable to this study are discussed. These include the PES-NWI (Section A) and the demographic profile of the nurse (Section D).

In section A the changes in the PES-NWI included (see Appendix H):

- Item 8 originally stated that “Enough time and opportunity to discuss patient care problems with other nurses”, the “patient care problems” was changed to “consultation uncertainties;
- Item 9 initially stated that “Enough registered nurses on staff to provide quality patient care”, term “care” was changed to “consultations”;

- Item 15 in the beginning stated that “High standards of nursing care are expected by the management”, the term “nursing care” was changed to “patient consultations”;
- Item 16 originally focused on the “chief nursing officer”, but were changed to “operational manager”. This was because the nurse in charge of the PHC clinic/CHC is called the operational manager;
- Item 19 initially focused on “A clear philosophy of nursing that pervades the patient care environment” but the words “patient care environment” were changed to “Batho Pele principles”. This is because Batho Pele is used in the PHC context and means “Putting people first”.
- In item 22 only the word “nurse” manager was changed to the “operational” manager;
- The only change made in item 25 was that the term “hospital” was changed to “clinic/CHC” and the term clinic/CHC was added to the example;
- Item 27 originally stated “A preceptor programme for newly hired nurses” was changed to “An orientation programme for newly-employed nurses”;
- The original item 28 stated: “Nursing care is based on a nursing rather than a medical model”, the term “medical” model was changed to “comprehensive model which includes preventative, promoting and primary care related curative rather than a medical model”;
- In item 29 the “hospital and nursing committees” were changed to “task teams within the sub-district”;
- Item 30 the term “care plans” was changed to “consultation records”; and
- Lastly, in item 32 the example used in the question was originally “the same nurse cares for the patient from one day to the next”, the wording was changed to “the same nurse follows up patients with follow-up visits e.g. chronic diseases, dressing of wounds”.

In section D the changes in the demographic profile of the nurse included:

- Item 8 and 9.b - the term “hospital” was changed to “clinic/CHC”;

- Item 10 was changed to “Do you have an additional qualification in Clinical Nursing Science, Health Assessment, Treatment and Care”; and
- Item 11 was changed to “What type of PHC facility are you currently working in”. It is, however, important to note that although item 11 was asked in Section D, the researcher did not analyse the question as this study was only conducted in the CHCs of the North West Province.

The questionnaires distributed to the different CHCs were coded prior to distribution. This was vital in order to ensure anonymity and confidentiality, as well as for record-keeping purposes. Record-keeping was done to manage the data during data-collection and analysis (Matthews & Ross, 2010:192), as this was necessary in order for the researcher to be able to identify the CHC with the most favourable PE to achieve objective 3 of this study. The researcher distributed the questionnaires by hand and registered post to CHCs that were located in very remote rural areas. The researcher then made an appointment one week later with any of the registered nurses in the CHC who was willing to assist the researcher in collecting the questionnaires in the CHC. All the questionnaires except for two CHCs were then collected by hand from each of the CHCs. The reason why two CHCs posted their questionnaires back via registered post was that they were located very far from the researcher’s home town and on the day that the questionnaires had been prearranged to be collected they had not been completed.

In the following section the researcher discusses the semi-structured individual interviews used in this study in depth.

3.3.2.2 Interviews as data collection method

In this study the researcher conducted semi-structured individual interviews. Semi-structured individual interviews were conducted and not focus groups for the reason that the study was conducted in CHCs which are open 24 hours a day, rendering services to individuals, families and communities and there was not enough time and staff to allow a group nurses to be taken out of the CHC to conduct focus groups.

- **General guidelines for interviewing**

During the course of the interviews the researcher tried to understand the lived world of the studied population. The interview approach followed can differ for populations studied, but there are some general guidelines that can be applied in all interviews. In the following section the research focuses on that.

- **Appearance and demeanour**

The manner in which the interviewer dresses should be similar to the dress code of the participants. For instance, if the researcher dresses too formally for the participants of a poor community, the participants would possibly not cooperate as expected, and vice versa (Babbie, 2010: 275 & 276; Welman *et al*., 2010:168). In conducting the semi-structured individual interviews the researcher dressed professionally as the interviews were conducted with professionals (registered nurses) in uniform.

- **Familiarity with the questions**

The interviewer should be knowledgeable in terms of the questions asked. If the interviewer is not knowledgeable about the questions, it is not fair to the participants and the interview will suffer. It is important that the questions should be asked without stumbling and should appear like a natural conversation (Babbie, 2010:276). In this study the interviewer knew the questions, as they had been discussed in-depth prior to the interviews and there was an interview guide (see Appendix J) available.

- **Following questions and words exactly**

It is necessary that the interviewer should ask the questions of the interview precisely. This is done because all the effort that the developers put into the development of the questions to gain the information they need to should not be wasted (Babbie, 2010:276). The questions in this study were asked in exactly the same way to each participant as the interviewer had an interview guide.

- **Exactly recording responses**

The precise recording of responses is of the utmost importance as the researcher does not know how the interviews will be coded. It is also essential that there should be an extra margin where the researcher can add extra comments where information can be conveyed that was not in the verbal recording, for example anger, embarrassment and uncertainty while answering the questions (Babbie, 2010:277). The researcher adhered to this by writing field notes during and after the interviews.

- **Scheduling of interviews**

The interviewer should schedule the date and time for conducting the interviews to allow for travel time (Welman *et al*., 2010:168). In this study the allowance of travel time was not necessary for the participants, as the researcher first went to the sub-district office to conduct the interview with the assistant PHC director, and then went to the CHC with the most favourable PE and interviewed the participants in their PE.

- **Equipment used in interview**

The digital recorder should be checked before conducting interviews, in order to ensure that it is in working condition (Welman *et al*., 2010:168) to obtain good quality interviews (Kvale & Brinkmann, 2009:89). The researcher ensured that the digital recorder was tested prior to each interview to ensure that it was in working order.

- **Probing for responses**

A probe is a technique used by the interviewer to request a better or more complete answer from the interviewee. It is an additional question asked that is non-directive and is used to ask the interviewee to elaborate on an answer. This is done when the question is asked in an incomplete or inappropriate manner. Probing should be neutral in nature. Some probing words include “Anything else”, “How is that” and “Can you please elaborate on that”. In this study the interviewer used probing to understand certain answers better.

- **Semi-structured individual interviews**

According to Matthews and Ross (2010:479) semi-structured individual interviews are described as a method of data-collection where the questions and words used in the interview schedule can differ in phrasing and length. Welman *et al*. (2010:16) support the previous statement by adding that semi-structured individual interviews are interviews that are conducted when the researcher has a listing of themes and questions to cover. When conducting semi-structured individual interviews the researcher does not use an interview schedule as is done in telephonic interviews (see 3.3.2) but an interview guide. This interview guide includes questions on the topic and aspects related to the topic under investigation which dealt with the perceptions of the managers, physician and nurses in the CHC with the most favourable PE (Kvale & Brinkmann, 2009:130; Welman *et al.*, 2010:16) (see Appendix J). These topics are usually raised during the interview if the participant does not raise them by him/herself. The order in which the questions are asked can also vary between the different interviews. The interviewer can also ask additional questions in order to explore and describe the research question and objectives better. It is, however, important to note that during a semi-structured individual interview the same questions are asked of all the respondents – they can only be slightly adapted and rephrased to fit the educational level and background of the respondent (Welman *et al*., 2010:16). This is supported by Leedy and Ormrod (2010:188) who claimed that when this type of interview is used the researcher follows an interview guide but may ask additional questions to clarify or explore the respondents answer, whereas during the conducting of structured interviews the researcher is not allowed to ask any other questions than the standard ones.

According to Kvale and Brinkmann (2009:3) “An interview is a conversation that has a structure and a purpose, it goes beyond the spontaneous exchange of views in everyday conversations.” It is necessary that the researcher should adhere to the scientific quality of the knowledge that the researcher gives to the world, by producing information that is correct and representative of the study (Kvale & Brinkmann, 2009:74). Therefore, the interviewer should have knowledge of the topics and while conducting the interview the researcher should clarify inaudible answers, pose clear questions, be sensitive to listening carefully to what is said and how it is

said, stretch pauses and have a calm tone in the expression of questions as well as follow up the interview statement with a second question when necessary (Kvale & Brinkmann, 2009:89 & 90).

- **Procedure followed on the day of the interviews**

After identifying the CHC with the most favourable PE (see Chapter 4 [Table 4.14]), semi-structured individual interviews were conducted at the sub-district office and CHC. The researcher firstly contacted the assistant PHC director and the operational manager of the CHC, asking permission and explaining why the researcher wanted to conduct interviews in the specific CHC. After obtaining permission from both parties the researcher scheduled the interview dates and times. This was done in order to ensure that the participants were still aware of what the research study was about (as they participated by completing the questionnaires in the first part of the study) and why their CHC had been chosen in which to conduct the semi-structured individual interviews.

The day before the interview the researcher contacted the assistant PHC director and operational manager of the CHC again and confirmed the appointment. The interview was firstly conducted with the assistant PHC director at the sub-district office, and thereafter with the operational manager, physician and nurses at the CHC. After arrival at the CHC, the researcher firstly prepared the allocated interview room. A sign was placed outside the door stipulating that an interview was in progress. The chairs were arranged in a comfortable manner and the windows were opened to allow adequate ventilation. During each of the participants' interviews, they were briefed verbally beforehand, after which a written letter and informed consent form (see Appendix I) were given to them before the interview was started.

Before the interview was started the researcher ensured that each participant gave informed voluntary consent, after which the data collection procedure and use of the digital recorder were explained (Kvale & Brinkmann, 2009:130). The participants were assured that they could withdraw from the interview at any stage and that their identities would not be revealed.

The researcher ensured that the digital recorder was working before conducting each of the interviews. After conducting each of the interviews, the researcher set aside approximately ten minutes to reflect on what had been learned during the interview, before starting with the next interview (Kvale & Brinkmann, 2009:130).

3.3.3 Pilot study

Various researchers have different explanations of the concept of the pilot study, but all have the same underpinning. In the following part the researcher discusses different explanations of the pilot study as given by different researchers. Burns and Grove (2009:44, 333 & 713) and Downing (2010:300) mention that a pilot study is the minor version of a proposed larger study. This is done to determine the feasibility or practicality of the study the researcher is planning to conduct (Leedy & Ormrod, 2010:110-111, Burns & Grove, 2009:333 & 713).

The pilot study initially takes time, but could without doubt save time by identifying possible problems which could be encountered. This is because a pilot study is a "testing out" done on a limited number of persons who have the same characteristics and geographical location as the proposed larger study (Welman *et al.,* 2010:148, Burns & Grove, 2009:333 & 713). This makes possible the identification of problems which include potential flaws in the measurement process and identification of vaguely formulated items. On the other hand the pilot study also gives the researcher the opportunity to observe any non-verbal behaviour which could signal problems (e.g. confusion) or not with the content of the questionnaire or questions asked.

According to Burns and Grove (2009:333 & 713) the pilot study is not only conducted to ensure the feasibility of the study (as mentioned previously) and making sure the questionnaire is reliable and valid but also improves the research methodology used for the particular study.

The pilot study for this study was conducted in three phases: Firstly with the telephonic interview (questions on the demographic profile of the CHC), secondly with the NNS survey (which included the PES-NWI and demographic profile of the nurse) and thirdly with the conducting of the semi-structured individual interviews.

Firstly the researcher conducted telephonic interviews to obtain data regarding the demographic profile of the CHCs. The researcher phoned a CHC which was not part of the study and asked the questions regarding the demographic profile of CHCs. During the pilot study the researcher identified two problems. Firstly the researcher realized that questions 3 and 4 (see Appendix E) which focused on the number of patients consulted by each nurse in the CHC and number of patients referred to the doctor did not specify a time frame, e.g. daily, weekly or monthly. Therefore, the researcher adapted the two questions by adding the words “per day”. The researcher also adapted questions 10 and 11 which focused on staff turnover rate and staff absenteeism rate which was initially only for the year 2010 to both the years 2010 and 2011, as the nurse had automatically answered for both years.

The conducting of the pilot study for objective 2 involved obtaining data from Section A (PES-NWI) and Section D (demographic profile of the nurse) in the NNS survey for this study. The researcher, who is a PHC lecturer at the NWU (Potchefstroom Campus) with the help of another PHC lecturer (colleague), made the necessary adaptations to the NNS survey to fit in the PHC context of the public health care sector of South Africa. These changes were then sent to the researcher’s promoters who are experts in research. The changes that the promoters proposed were also incorporated into the NNS survey before the researcher continued to do the pilot study.

The researcher then took the NNS survey to expert PHC nurses who have been working for many years in the PHC context of the public health care sectors in the North West Province. The following requirements were set for these participants:

- the nurse should work in the PHC context of the North West Province;
- have a number of years’ experience in PHC; and
- volunteered to participate.

The NNS surveys were then distributed to the identified nurses. During distribution of the questionnaire the researcher requested each nurse to make necessary notes next to the question that appeared unclear. After the survey had been completed and the researcher had had an in-depth discussion with each nurse focusing on what

potential problems they had experienced during completion of the survey. Fortunately, there were no problems with the survey.

The last pilot study involved the semi-structured individual interviews, and before conducting the interviews, the researcher firstly developed the questions to be asked, afterwards submitting the questions to the promoters to critically analyse and confirm whether the interview questions were correct. Thereafter the researcher asked the interview question to a colleague who had had many years' experience in the PHC context (clinics and CHCs). During the asking of the questions small problems were encountered with the phrasing of the interview questions and they were immediately adapted (see Appendix J).

3.3.4 Data analysis

Polit and Hungler (1997:455) describe data analysis as an orderly organization and synthesis of the data obtained during data collection. In the following section the researcher discusses the data analysis procedure followed for the quantitative data of this study.

3.3.4.1 Quantitative data analysis

Firstly, data analysis for objective 1 included descriptive statistics among them percentage distributions through pie charts and tables. For objective 2 descriptive statistics, confirmatory factor analysis and Cronbach's alpha were used. The mean (M) and standard deviation (SD) were also determined for all the statistics. In this study SPSS (2009) and EpiData (version 3.1) were used for data-capturing and analysis (Lauritsen & Bruus, 2003-2004).

3.3.4.1.1 Descriptive statistics

According to Zechmeister and Posavac (2003:3) the term data refers to specific evidence obtained after data-collection in a scientific study. The same authors mentioned that data is statistically analysed, interpreted and represented in the form of statistical numbers in a quantitative research design (see Chapter 4). Babbie

(2010:422) explains quantitative data analysis as a numerical representation as well as the manipulation of observations in order to describe and explain phenomena reflected by these observations. Matthews and Ross (2010:345) explain data analysis as a process followed to work with the data through summarization, description and explanation of the data obtained in order to answer the research questions of the study. The same authors add that analysis of quantitative data is a process of three stages which assisted the researcher to access the research questions of the study. This process enabled the researcher to:

- summarize the data collected and describe the data;
- describe the characteristics of the data in order to identify aspects that are significant and important to the research questions; and
- explore and test relations between diverse sets of data.

Leedy and Ormrod (2010:30) describe descriptive statistics as summaries of the general nature of data meant to assist the researcher in describing the data and later draw inferences from the data. Babbie (2010:467) adds to this by mentioning that descriptive statistics involves the use of statistical computations to either describe the characteristics of a sample or the correlation between variables in a sample. Descriptive statistics is only a summary of the observations of the sample, whereas inferential statistics moves further than description only by making inferences about the population where the sample observations were done. Descriptive statistics is explained by Gillham (2000:9 & 80) as averages (usually called “means”) that describe data in a summary fashion, whereas inferential statistics enables the researcher to draw meaningful and important inferences from data obtained. Welman *et al*. (2010:231) on the other hand describe descriptive statistics as the description or summarizing of data obtained from a group of individual units. Descriptive statistics, including pie charts and tables, was used to achieve objective 1 of this study which was to explore and describe the demographic data of the CHCs in the Province. Descriptive statistics provided the opportunity to arrange data in such a manner as to understand and give meaning to the phenomenon studied (Burns & Grove, 2005:461). The same authors mention that the first step to arrange data for interpretation is through frequency distribution. Polit and Hungler (1997:458) describe frequency distribution as an orderly range of numerical values from the

lowest to the highest, including the calculation of the number of times each value was obtained. Babbie (2010:G4) defines frequency distribution as the number of times a variable occurs in a sample. This view is supported by Matthews and Ross (2010:476) who stated that frequency distribution means the number of times the participants gave the same answer or when a particular result occurs. Frequency distribution is divided into three types including grouped, ungrouped and percentage distribution. In this study the researcher used percentage distribution to describe the percentage of the sample falling in a particular group (Burns & Grove, 2005:462). The results of the data after data analysis were presented in tables and pie graphs.

According to Maree *et al.* (2008:186) row percentages are cell frequencies expressed as a percentage of the particular row, meaning the percentage distribution of a particular answer for each item. When analysing data through row percentages, central tendency and variability should be described. Central tendency is defined by Leedy and Ormrod (2010:265) as the middle-point that data resolves around. Matthews and Ross (2010:353) explain the central tendency as a statistical measure used that summarises the data relating to one variable in one value such as a mean, median or mode. The central tendency refers to the numbers that cluster together in order to explain a typical score which is measured by employing the mean, median and mode measures. The mean is the averages calculated by totalling all the values and then dividing the total by the number of cases. The median is determined by arranging all the values in a sample in statistical order, then noting the middle value of their division. Lastly, the mode is the average determined through calculation in order to note the most ordinary value in the distribution (Matthews & Ross, 2010:353 & 354; Babbie, 2010:G7 & 429, Zechmeister & Posavac, 2003:151; Polit and Hungler, 1997:461 & Maree *et al.*, 2008:187). Zechmeister and Posavac (2003:151), on the other hand, explain the mode as the score value that appears with the greatest frequency.

In this study the researcher reported the data by using percentages, M and SD (Brink *et al.*, 2006:172). The SD is a measure used to determine the spreading of the number of cases around the mean, meaning that when the distribution of data is normal, “two thirds of the data within one standard deviation on each side of the mean, 95% of the values will lie within two standard deviations of the mean”

(Matthews & Ross, 2010:354-356 & Babbie, 2010:431). Welman *et al*. (2010:230) mention that SD is done in order to determine whether scores are evenly distributed by clustering near the mean, whereas cumulative frequency is the arrangement of frequency data in categories that accumulates to 100%.

3.3.4.1.2 Confirmatory factor analysis

Factor analysis is explained by Polit and Hungler (1997:357) as an analysis applied to reduce a set of obtained variables into a manageable set of measures which are smaller in size. The same authors add that factor analysis assists the researcher to identify the interrelationships among variables and to determine the relationships among the identified concepts or factors. When the questions (also called items) are measured by using a Likert scale a factor analysis should be done (Maree *et al.,* 2008:219). During factor analysis, a factor loading matrix is produced. This matrix contains a loading for every item on every factor. These loadings are correlations among the items and factors. The larger values give an indication as to which item belongs to which factor (Maree *et al*., 2008:219). Polit and Hungler (1997:357) add that there are two separate phases for factor analysis. Firstly, the original variables are compressed into smaller numbers of factors. The specific factors are identified based on the intercorrelations among all the variables. Secondly, factor rotation is applied; which means that the factors are manipulated in order to enable the researcher to interpret them. The result is a factor matrix which indicates which items correlate with which factor. The researcher then examines the wording of the different items in order to derive a common theme of what is measured. This is done in order to give each factor a theoretical meaning (Maree *et al.*, 2008:13).

In this study confirmatory factor analysis was conducted (see Chapter 4 [4.2.2]). Confirmatory factor analysis is explained by Field (2005:783) as an analysis which tests a specific hypothesis about structure and relationships among the latent variables that underlie the data. This was done in order to determine whether the items developed for each of the factors by the developers of the original PES-NWI was understood and answered in the same manner by nurses working in CHCs in the North West Province. All the questions of the PES-NWI were specifically developed to fit each of the five factors which were based on one of the five (5) sub-

scales which were seen as foundational predictors when measuring the PE (Wade *et al.*, 2008:350) (see Chapter 2 [2.3]).

The computer software calculates the correlation matrix during data analysis. The same authors add that the eigenvalue rule states that the number of factors extracted must equal the number of eigenvalues larger than one. This rule means that if the eigenvalue is greater than one, there is a higher probability that a factor is present. After factor analysis has been performed and the results indicate that the loading is greater than .30, it means that that particular item belongs to that specific factor. But if the factor loading is below .30 the item belongs to another factor (Burns & Grove, 2005:491). After confirmation of the structure, internal reliability of each factor was determined.

Bartlett's test of sphericity was used in order to determine the strength of the relationships between the variables. Bartlett's test of sphericity is explained by Field (2005:781) as the examination of whether a variance–covariance matrix is comparable to an identity matrix. Therefore, Bartlett's test of sphericity effectively tests whether the diagonal elements of the variance (covariance matrix) are equivalent. The reported value was .001, which indicates that the P-value is below 0.05, therefore supporting the use of a factor analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was also determined. According to Field (2005:788) the KMO value should range between 0 and 1. If the value is close to 1 it means that the patterns of correlations are compact, therefore the factors are reliable. The values mean the following:

- between .5 and .7 is average;
- between .7 and .8 is good;
- between .8 and .9 is great; and
- above .9 excellent

The KMO in this study ranged between .590 and .895. The nurse manager ability, leadership and support, had a good reliability of .717, staffing and resource adequacy the KMO was .590, therefore average reliability, collegial nurse-physician relationships .895 therefore great reliability, .842 for nurse participation in PHC/CHC affairs therefore great reliability and .733 for nursing foundations for quality of care,

therefore good reliability. Thereafter the M of the factors was included which ranged between 2.33 and 3.11 see Chapter 4 [4.2.2].

3.3.4.1.3 Descriptive statistics based on the confirmatory factor analysis to determine the CHC with the most favourable PE

Descriptive statistics was used to determine the CHC with the most favourable PE (see Chapter 4 [4.14]). This was done by using the factors (measures) as had been confirmed by the factor analysis. These factors included nurse manager ability, leadership and support; staffing and resource adequacy; collegial nurse-physician relationships; nurse participation in PHC/CHC affairs and nursing foundations for quality of care.

This was done by:

- Firstly, each nurse's perception of how the CHC was doing on each factor (sub-scale) was determined based on the average of the items included in each measure.
- Secondly, indicators were created for each factor (sub-scale) for each nurse, assigning either 0 or a one 1. A 1 was given if the nurse perceived the CHC to have a PPE on that specific factor (sub-scale), in other words if the nurse gave the CHC a score of equal or above 2.5. A 0 was given if the nurse scored the CHC below 2.5.
- Thirdly, the indicators of each nurse were summed, called the "Total indicator". This indicated the number of factors (measures) on which the nurse perceived the CHC to have a PPE.
- Lastly, the average "Total indicator" per CHC was determined by dividing the "Total Indicator" by the number of nurses who participated per CHC. This value per CHC was called the "Average amount of measures the CHC is perceived to have PPE on".

The CHC with the most favourable PE was identified as CHC "R" (see Chapter 4 [Table 4.14]). This CHC had a mean value of 4.71. Lastly, the researcher obtained

descriptive statistics of each of the items of the CHC with the most favourable PE (CHC R) (see Chapter 4 [Table 4.15]).

3.3.4.2 Qualitative data analysis

Analysis of data obtained in qualitative research approaches (in this study through semi-structured individual interviews) is explained by Babbie (2010:34) as the examining of data without converting the data into statistics. In other words, qualitative data analysis is the examination and interpretation of non-numerical data in order to discover fundamental meaning and patterns and associations.

The semi-structured individual interviews conducted were recorded on a digital recorder and transcribed afterwards into text (De Vos *et al*., 2005:298; Matthews & Ross, 2010:198). The transcription was done immediately (the following day) after the interview was done, as this ensured that when the researcher read the transcriptions and listened to the voice recordings, the interview was still fresh in her memory (Gillham, 2000:71). After the researcher had listened to the digital recorder and read the transcriptions to ensure that they were correct, the researcher and a co-coder started with the coding of the textual materials. According to Polit and Hungler (1997:453) coding is the process followed by the researcher to change raw data into a standardized form for processing and analysing. On the other hand coding is explained by Babbie (2010:400-401) as the process in which data is classified or categorised. The researcher used open coding, a process in which concepts are developed by breaking data down from lengthy descriptions into smaller parts (codes) to examine and compare (Babbie, 2010:400-401). Matthews and Ross (2010:475) define coding as the process followed to mark or identify data used for analysis. As seen, there are various definitions for the term coding, but all have the same theoretical underpinning.

For data analysis the researcher used Tesch's (cited in Creswell, 1994:153-155 and Creswell, 2003:192-193) first steps of content analysis. In the following part the eight steps of the open coding technique of Tesch as applied by the researcher in this study are discussed (cited in Creswell, 1994:154-155, Creswell, 2003:192-193).

- First the researcher got a sense of the whole by reading all the transcriptions carefully and thereafter writing down some ideas that came to mind;
- Thereafter the researcher took a transcript of interest and read through it, afterwards asking herself “What is this about?” It was, however, necessary during the process that the researcher did not think about the substance but the underlying meaning and thereafter writing down thoughts that came to mind in the margin;
- The researcher then read through several of the other transcripts and did the same as previously mentioned. Afterwards the researcher wrote down a list of all the topics that came to mind, organizing them into columns;
- The list of topics was then taken back to the transcripts. The researcher then used abbreviated topics as codes and wrote them next to the appropriate segments in the text, observing whether new categories and codes emerged;
- The most descriptive wording was then found by the researcher for the topics after turning them into categories. The researcher then tried to reduce the list of categories by grouping the categories (by drawing lines to show interrelationships that related to each other);
- Final decisions were then made on the abbreviations for each category, followed by alphabetizing of the codes;
- Thereafter, data was assembled by categorizing the data materials that belonged together by placing them in one place (doing preliminary analysis); and
- Lastly, recoding was done.

The researcher integrated and synthesized data obtained and thereafter used deductive and inductive reasoning (see 3.3.4.3) to analyse the data to reach the overarching aim and objective 4 of this study.

3.3.4.3 Deductive and inductive reasoning

According to Burns and Grove (2005:733 & 739) and Polit and Hungler (1997:455 & 459) deductive reasoning is explained as a process of taking data from general to specific and inductive reasoning as taking data from the specific to the general. This means that specific instances are observed and then combined into a general statement. Deductive reasoning starts with one or more premises from which conclusions are drawn (Mouton, 2012:117). Premises are explained by Leedy and Ormrod (2010:32-33) as the statements or assumptions that the researcher primarily understands as true.

Inductive reasoning on the other hand does not start with pre-established truths or assumptions. Inductive reasoning involves the application of inferences from definite observations to a theoretical population. During inductive reasoning the researcher uses exact instances or events to draw conclusions on the population studied.

Deductive reasoning aided the researcher in reaching the overarching aim of this study and objective 4. Firstly, the researcher explored and described the demographic profile of CHCs (objective 1), thereafter the status of the CHCs in order to identify the CHC with the most favourable PE (objective 2) (see Chapter 4). Thereafter the researcher conducted semi-structured individual interviews to explore and describe the perceptions of the managers; physician and nurses within the CHC with the most favourable PE (objective 3) (see Chapter 5). Analysis of the data and the theoretical frameworks of this study which included the WHO Strengthening of Health Systems and the Fourteen Forces of Magnetism Frameworks (see Chapter 1 [1.5.2.3]) enabled the researcher to describe a case study of a model CHC that exemplifies a PPE as well as developing guidelines to facilitate a PPE in CHCs in the North West Province by using inductive and deductive reasoning, reaching firstly the overarching aim and secondly objective 4 of this study (see Chapter 6).

3.3.5 Rigour

Rigour refers to the veracity of the research conducted. In other words the term rigour means that data obtained and reported is true and correct. This is ensured by the use of control, conscientious adherence to detail, as well as accurate and precise

documenting of findings (Burns & Grove, 2009:720). The researcher acknowledges the importance of rigorous research and therefore different techniques were applied in order to ensure the results obtained in this study were rigorous. In the following section the researcher describes the reliability and validity.

- **Reliability and validity**

Reliability means that the questionnaire measures what it has been developed to measure (Polit & Hungler, 1997:467). Leedy and Ormrod (2010:29), Brockopp and Hastings-Tolsma (2003:215), Burns and Grove (2009:377), Babbie (2010:150) and Maree *et al.* (2008:146) describe reliability as the consistency of a questionnaire when the same population is measured again without any changes in the population. On the other hand validity means that the instrument measures what it is supposed to measure (Babbie, 2010:G12; Burns & Grove, 2009:727; Brink *et al.*, 2006:159; Polit and Hungler, 1997:471; Leedy & Omrod, 2010:28; Maree *et al*., 2008:147). In this study the questionnaire used to measure the status of the PE of CHCs of two districts in the North West Province, was the PES-NWI. This questionnaire has been used for a number of years in different countries.

The PES-NWI questionnaire developed by Eileen Lake has been used in a number of studies since its development and has a high validity and reliability (Roche & Duffield, 2010:199, Aiken *et al.*, 2009a:223:224, Friese, 2005:767; Manojlovich & Laschinger, 2007:259, Lake, 2001:109S &117S; Calarco, 2010:6; Parker *et al*., 2010:352; Lake 2002:176; Lake, 2001:109S and Kutney-Lee *et al*. 2009:221; Klopper *et al.*, 2012:6901; Coetzee *et al*., 2013:8) supported by “theoretical and empirical foundations, conceptual integrity, psychometric strength and generalizability” (Lake, 2002:176). The PES-NWI questionnaire is considered to give a very good reflection of the organisational characteristics of the PE that are attractive for nurses (Parker *et al*., 2010:2) by measuring five sub-scales which contain questions (items) that are formulated in such a way they measure a specific construct which reflects PE of the nurse (see 3.3.2.1 under PES-NWI). The United States of America adopted this instrument as a measure (Roche & Duffield, 2010:199). The internal consistency of this questionnaire was determined by Manoljlovich and Laschinger (2007:259); Roche and Duffield (2010:199); Li *et al*.

(2007:33) and various other studies and had a very high Cronbach's alpha ranging between .71 and .98. Parker *et al*. (2010:352) add that the PES-NWI has a high validity and reliability in not only the United States of America but also other countries because they conducted a study in Australia to determine the PE of nurses in the aged care, private and public health care sectors. The reason for conducting that study rested on the same motive as for other countries in the world, which included nursing shortages, poor retention of nurses in the nursing profession and investigations of the PE of nurses.

In South Africa the Cronbach's alpha of the 5 sub-scales of the questionnaire used in this study which was adapted to the PHC context ranged between .68 and .86. The sub-scale nurse manager ability, leadership and support .75; staffing and resource adequacy .68; collegial nurse-physician relationships .86; nurse participation in PHC/CHC affairs .82 and nursing foundations for quality of care .71.

Therefore, PES-NWI is a valid and reliable instrument (Lake, 2002). In this study the researcher obtained Cronbach's alpha coefficients based on inter-item correlations to determine internal reliability of this questionnaire, because the questionnaire was used in the South African and PHC context. When the items of the questionnaire strongly correlate with each other their internal consistency is high and the alpha coefficient will be close to 1. But if the internal consistency was low, the alpha coefficient would be nearer to 0, meaning that the answers do not strongly correlate with each other.

The following rules are followed to understand the Cronbach's alpha coefficient:

- .90 high reliability;
- .80 moderate reliability; and
- .70 acceptable reliability.

The same authors mention that if the reliability estimates are .80 and above the level of reliability are acceptable, whereas if the reliability estimates are below .60, the reliability is unacceptable. Field (2005:668) on the other hand differs from this by mentioning that when psychological constructs are measured, values below .70 are acceptable due to the variability (unpredictability) of constructs measured. The same author also adds that Cronbach's alpha is affected by the number of items

(questions) in the questionnaire. If the questionnaire has a lot of items the Cronbach's alpha is higher, the lower number of items, the lower the Cronbach's alpha coefficient. In this study the Cronbach's alpha coefficient ranged between .68 and .86. Nurse manager, ability, leadership and support had a moderately high Cronbach's Alpha of .75; Staffing and resource adequacy had an acceptable Cronbach's alpha of .68; Collegial nurse-physician relationships had a very high Cronbach's alpha of .86; Nurse participation in PHC/CHC affairs had a very high Cronbach's alpha of .82, and Nursing foundations for quality of care had a moderately high Cronbach's alpha of .71.

In the following table (see Table 3.3) the researcher discusses the rigour applied in this study.

Table 3.3 Rigour criteria, techniques and application in this study

Criterion	Description	Techniques applied in this study	Application to this study
Truth value	Credibility is achieved by conducting a research in such a way that the findings obtained are authentic (Klopper & Knobloch, 2010:319).	**Credibility:** -Prolonged engagement	Prolonged engagement means that adequate time was spent during data collection (Klopper & Knobloch, 2010:319; Creswell, 2003:196). The researcher is a PHC nurse and lecturer who actively practices in the field and spent a lot of time reading on the research topic. The researcher also spent a lot of time collecting the data through semi-structured individual interviews and analysis of this data.
		-Persistent observation (prolonged time)	Persistent observation is defined by Klopper and Knobloch (2010:319) and Creswell (2003:196) as the process in which the researcher constantly pursues interpretations in different ways. The researcher observed the participants while conducting the semi-structured individual interviews and wrote field notes and set aside a few minutes to reflect on what was learned after each interview conducted.

Table 3.3. Rigour criteria, techniques and application in this study (continued)

Criterion	Description	Techniques applied in this study	Application to this study
Truth value (continued)		-Triangulation	Triangulation is the use of different data-collection methods to obtain data on the phenomenon studied, thus ensuring that the findings presented are accurate and truthful (Burns & Grove, 2009:695; Creswell, 2003:196). The researcher conducted a literature review to understand PHC and PPE from a theoretical point of view and theoretical frameworks. The researcher used two approaches to collect data. Firstly, quantitative data by means of the demographic checklist for the CHCs, PES-NWI, demographic profile of the nurse and secondly qualitative data by conducting semi-structured individual interviews in the CHC with the most favourable PE. Thereafter, inductive and deductive reasoning was used (see 3.3.4.3) to integrate all the data obtained as well as the theoretical frameworks used in this study (see Chapter 6 [Table 6.2]) to reach the overarching aim and develop guidelines to facilitate a PPE in CHCs of the North West Province. This study was conducted under the supervision of promoters who are specialists on the topic studied.

Table 3.3. Rigour criteria, techniques and application in this study (continued)

Criterion	Description	Techniques applied in this study	Application to this study
Truth value (continued)		-Peer debriefing	Peer debriefing is when experts in the research field or phenomenon studied, scrutinized the research process followed (Klopper and Knobloch, 2010:319). Creswell (2003:196) also explains peer debriefing as the process where another person is located to review and ask questions about the study to other persons not the researcher. The researcher is a student of promoters who are experts in PPE research. The study also went through panel review of the proposal for the study and appeared in front of a doctoral committee where the researcher had to defend her doctoral study in front of a panel of research experts. The researcher also used a statistician during data analysis of the quantitative data and used a co-coder during analysis of the semi-structured individual interviews in the qualitative data.

Table 3.3 Rigour criteria, techniques and application in this study (continued)

Criterion	Description	Techniques applied in this study	Application to this study
Applicability	Applicability relates to what degree the findings of a particular study can be transferred and generalised to other contexts and larger populations (Klopper & Knobloch, 2010:320-321). This study was conducted using a case study design, for this type of design findings are not to be generalized to different contexts (Maree *et al*., 2008:130).	**Transferability:** -Thick description	Thick description can be explained as a detailed description of the context where the research study takes place. This is done to give the reader a sufficient picture of the context of the study (Klopper & Knobloch, 2010:321). In this study an in-depth literature review was conducted and a detailed description was given in both the quantitative and qualitative data obtained (see Chapters 4 and 5) and the context of the study.

Table 3.3 Rigour criteria, techniques and application in this study (continued)

Criterion	Description	Techniques applied in this study	Application to this study
Applicability (continue)		-Multi-level sampling	Purposive sampling is explained by Burns and Grove (2009:716) as a selective sampling method to include certain subjects into a study. In this study the researcher used purposive sampling by including the North West Province as this province is very rural in nature. Thereafter the researcher used all-inclusive sampling, as all the districts, sub-districts, CHCs and nurses that work in the CHCs of the North West Province where included in the quantitative data. Lastly, the researcher also used all-inclusive sampling, by including all the managers, physician and nurses who were willing to participate in the semi-structured individual interviews that worked in the CHC with the most favourable PE in the qualitative data.
Neutrality	Neutrality is the collection, analysis and interpretation of data obtained without bias from the researcher (Klopper & Knobloch, 2010:323).	Confirmability: Triangulation	As discussed above.

Table 3.3 Rigour criteria, techniques and application in this study (continued)

Criterion	Description	Techniques applied in this study	Application to this study
Consistency	Consistency is explained as the ability to replicate the study with a similar population in a comparable context and obtain comparable results (Klopper & Knobloch, 2010:322).	Dependability: Inquiry audit	The use of an external assessor to evaluate raw data, products of analysis, process notes, information regarding the questionnaire used and data reconstruction products (Klopper & Knobloch, 2010:321). Firstly, the doctoral committee and promoters scrutinized this study which included the methods used for data collection, analysis and interpretation of the results before commencement. Thereafter, the researcher was also assisted by a statistician to analyse the data obtained by of the demographic profile of the CHC and nurses and the PES-NWI questionnaire (objectives 1 and 2). Thereafter, a co-coder assisted the researcher with the analysis of data semi-structured individual interviews (objective 3).

3.4 CHAPTER SUMMARY

In this chapter the researcher focused on the research design and method. The researcher used a case study design with quantitative and qualitative approaches with descriptive, explanatory and contextual strategies. This chapter also focused on the research method which included the population, sampling method, sample size, data collection, data analysis, pilot study, rigour and ethical considerations.

CHAPTER 4

RESEARCH RESULTS

(Phase 1: Objectives 1 and 2)

4.1 INTRODUCTION

Chapter 3 focused on a detailed discussion of the research design and method, approaches and strategies, including the population, sampling method and size, data collection, analysis, rigour and ethics, used in this research study. In this Chapter the researcher focuses on the quantitative research results obtained to achieve objectives 1 and 2. Table 4.1 indicates the structure of the research project indicating the method for Phase 1, objectives 1, 2 and 3 and Phase 2, the overarching aim of study and objective 4.

Table 4.1: Structure of research study indicating the phases and objectives

Phase 1: Situational analysis in order to compile evidence regarding the PE of nurses in the CHCs in the North West Province
Objectives
Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province.
Objective 2: To explore and describe the status of PE in CHCs in the North West Province.
Objective 3: To explore and describe the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in the North West Province.
Phase 2: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province
Overarching aim
Overarching aim: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province.
Objective
Objective 4: To develop guidelines to facilitate the establishment of PPE in CHCs in the North West Province.

4.2 RESULTS AND DISCUSSION

In the section below the researcher discusses the interpretation of the results of the quantitative data obtained. Firstly, the researcher focuses on the demographic profile of the CHCs and then on that of the nurses. Thereafter the status of the PE of CHCs in the North West Province is discussed and the CHC with the most favourable PE in the studied population is identified.

4.2.1 Descriptive statistics

In the following section the researcher presents the demographic data of the CHCs, and then that of the nurses by using pie charts or tables.

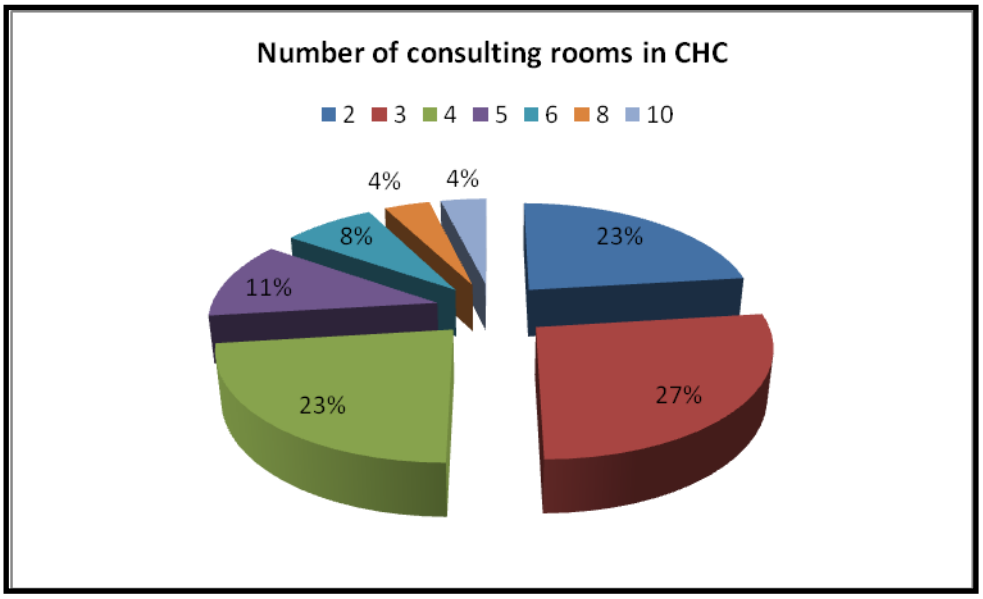


Figure 4.1 Number of consultation rooms in the CHC

The average number of consultation rooms in each of the CHCs was calculated as 3.92 (SD 1.94) ranging between two and ten consulting rooms. According to Dennill *et al*. (1999:49) a CHC should consist of four or more consulting rooms, but in reality this is not the norm at all CHCs. Fifty per cent had fewer than four consulting rooms, 23% had four consulting rooms and 27% had more than four consulting rooms. The sizes of the CHCs in the different districts differ due to the size of the population they serve, the infrastructure they have available and whether they are situated in an urban or rural area.

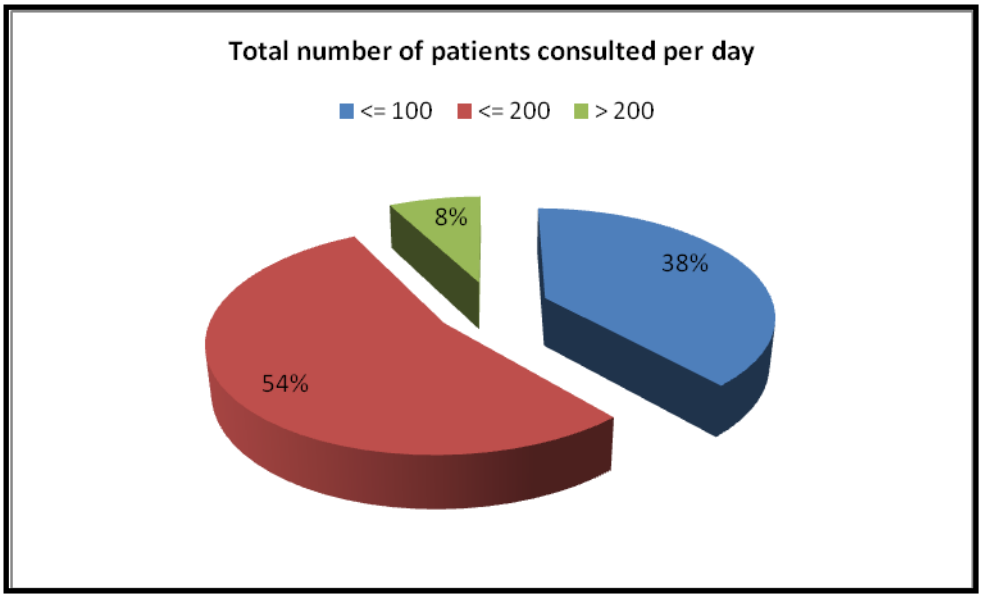


Figure 4.2 Total number of patients consulted per day

The average number of patients consulted per day at a CHC differs; this number depends on the size and disease profile of the community. In Chapter 2 (2.2.3.5), the researcher provided an in-depth discussion of the disease burden in the North West Province. Some of the main health conditions this community seeks health care for were TB, HIV and cardiovascular conditions. In Figure 4.2 above the average number of patients consulted per day in the CHCs ranged from 60 – 220 patients with a mean of 146.65 (SD 123.94). Altogether 38% of CHCs consulted fewer than 100 patients per day, 54% who consulted fewer than 200 patients per day and 8% who consulted more than 200 patients per day.

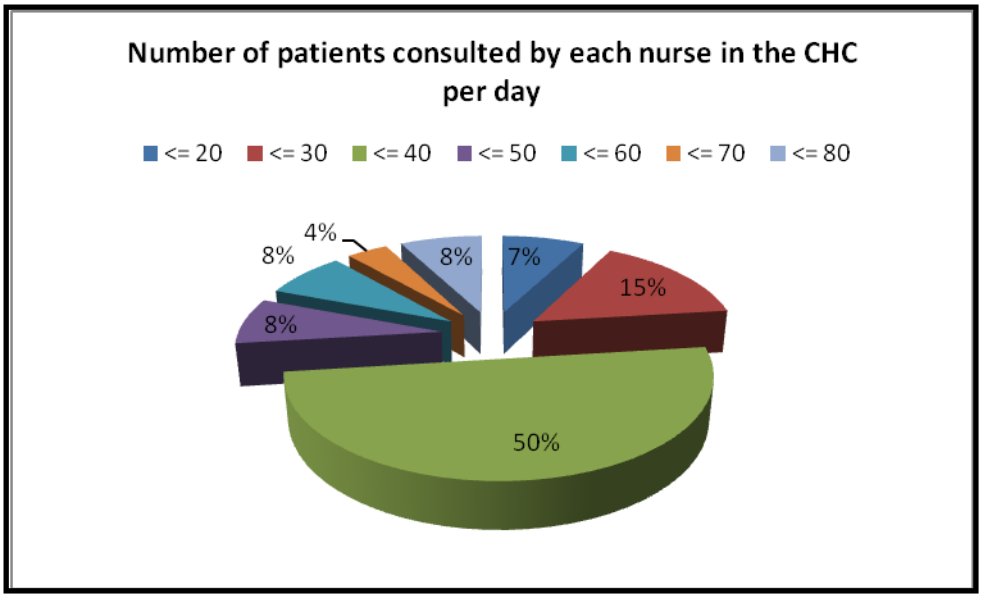


Figure 4.3 Number of patients consulted by each nurse in the CHC per day

Approximately 40 (SD 15.43) patients were consulted by each nurse in the CHC per day (range 18 – 75). The largest single proportion (50%) of nurses consulted an average of fewer than 40 patients (range 0 – 40 patients) per day. Also, in 8% of CHCs nurses consulted more than 70 patients per day.

A study conducted in 1998 in the North West Province revealed that the average number of patients seen per month was 543, therefore eighteen patients per day for each nurse in a 30-day monthly cycle (Buthelezi *et al.,* 1998:7). When comparing the findings of the study conducted fourteen years previously it is shocking to note that the number of patients consulted by each nurse more than doubled to an average of 40 patients per day. This could be partially due to the high unemployment rates and illegal immigrants in South Africa causing 83% of the population to be served by the public health care sector (Council of Medical Schemes, 2011).

When taking the average number of 40 patients per day that each nurse has to consult, each nurse has approximately sixteen minutes to do history-taking, physical examination, diagnosis, prescription of medication and giving health education to each patient. This is determined on the basis of a twelve-hour shift, after subtracting one-and-a-half hours for lunch and tea. When considering the amount of administrative and other nursing tasks to perform, it is clear that to spend approximately sixteen minutes with each patient is impossible which can lead to a

decrease in the quality of care given to patients, families and communities. This statement is supported by a recent study conducted by Coetzee *et al.* (2013:15) in the South African context which revealed that patient-to-nurse ratios had a significant relationship to nurse-reported quality of care. But interestingly in this study nurses perceive that their PE is delivering quality of care as the sub-scale nursing foundations of quality of care of the PES-NWI was above 2.5 (M 3.11) (see Table 4.13).

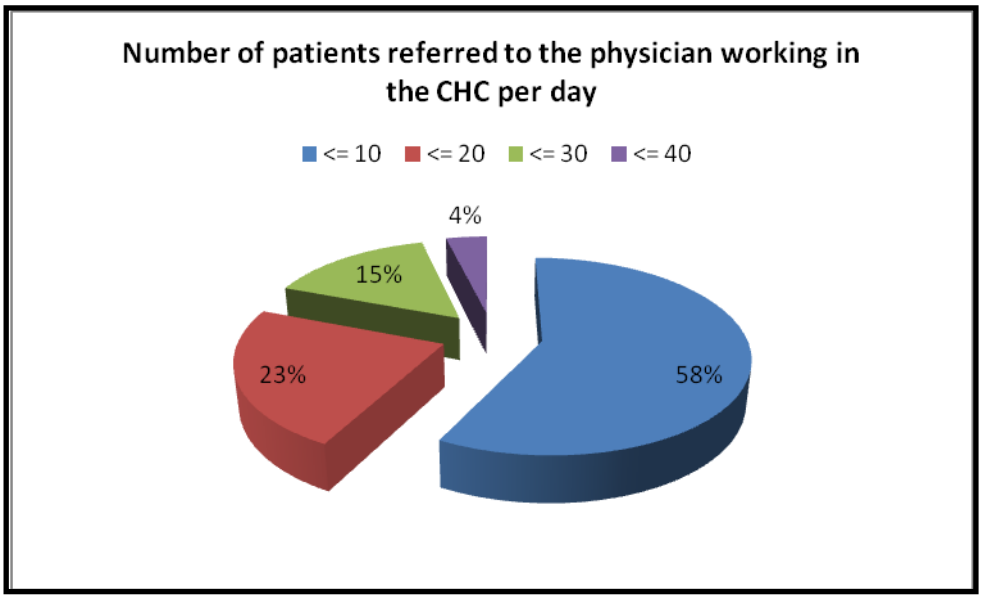


Figure 4.4 Number of patients referred to the physician working in the CHC per day

The average number of patients referred to the physician working in the CHC per day was calculated as 14.67 (SD 8.64) ranging between 1.5 and 40 patients. In the largest proportion (58%) of the CHCs fewer than ten patients were referred to the physician and in 23% fewer than 20 patients. This does not appear to be a large number, but a study conducted in 1998 revealed that only approximately 53% of clinics in the North West Province were visited by a physician on a monthly basis. Therefore, the availability of physicians at clinic level increased substantially (Buthelezi *et al*., 1998:8).

According to Van Rensburg (2004:432) the ideal for CHCs is to have a full-time/resident physician available. But in reality staff shortages, the size of the population served as well as for the reason that some of the CHCs are located in

very rural and distant areas physicians are only able to visit the CHC on a weekly basis (Dennill *et al*., 1999:49). According to Cooke *et al.* (2011:108) there is a lack of physicians in especially rural CHCs because physicians fear isolation and are therefore unwilling to be placed in rural CHCs. Other reasons, according to Buthelezi *et al.* (1998:19), included the fact that physicians are based at referral hospitals and the distance between the referral hospitals and the clinics (CHCs in this study) is problematic. However, in view of this the PHC re-engineering plan of South Africa will focus on addressing this problem. This is good news for the North West Province as half of the number of physicians are available per 100 000 persons in relation to other provinces of South Africa, for example the Western Cape (Cooke *et al.,* 2011:110).

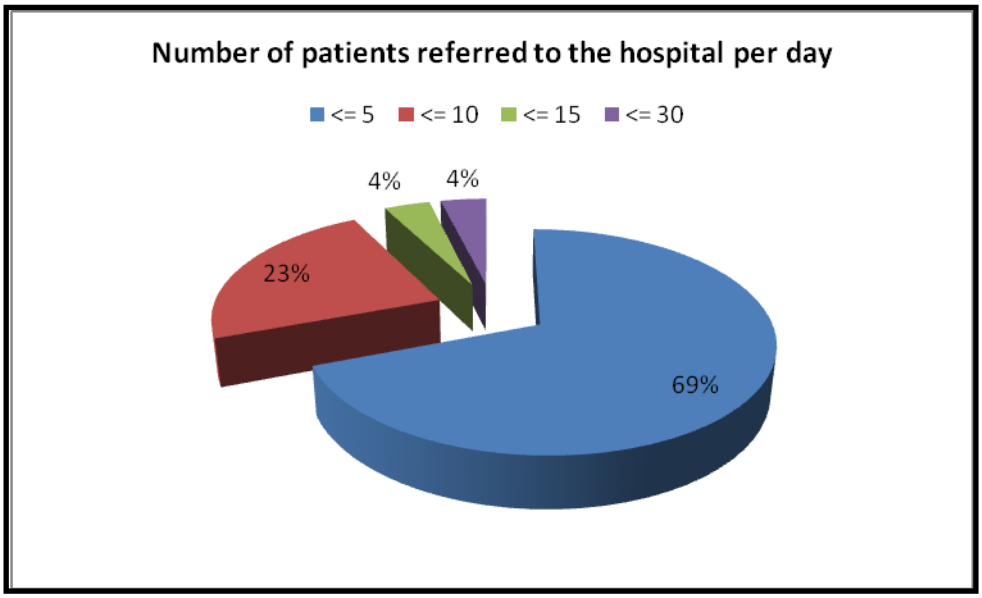


Figure 4.5 Number of patients referred to the hospital per day.

The smaller and more remotely situated CHCs refer fewer patients to the referral hospital. In CHCs of the North West Province approximately 5.18 (SD 6.21) patients are referred to the hospital per day (range 1 – 30). The largest single proportion (69%) referred fewer than 5 patients per day and 23% fewer than 10. This could be due to the fact that many of the CHCs of North West Province is located an average of 36 km (see Figure 4.17) from the nearest referral hospital. Therefore, the referral hospitals are not so easily accessible for the patients of these CHCs due to distance and problems with transport. Transport problems include medical emergencies and

public transport. According to Gaede and Versteeg (2011:101) communities located in rural areas are more disadvantaged with regard to emergency transport. This is because there are a limited number of ambulances available, long distances need to be travelled between clinics, CHCs and referral hospitals. Therefore, health care access for communities located in rural areas is poorer than for communities located in urban areas. The members of these communities are mostly reliant on public transport, but in rural areas there is less public transport available (Gaede & Versteeg, 2011:101). Therefore, it is understandable that only an average of five patients is referred to hospital per day in relation to 147 patients (see Table 4.2) consulted per day.

It was also interesting to note that 4% could refer fewer than 15 patients and another 4% fewer than 30 patients which is a large number when the average is only five patients per day. This could be due to those CHCs that serve a larger population of patients and the CHCs that are possibly located nearer to the referral hospital; therefore referral is easier and quicker.

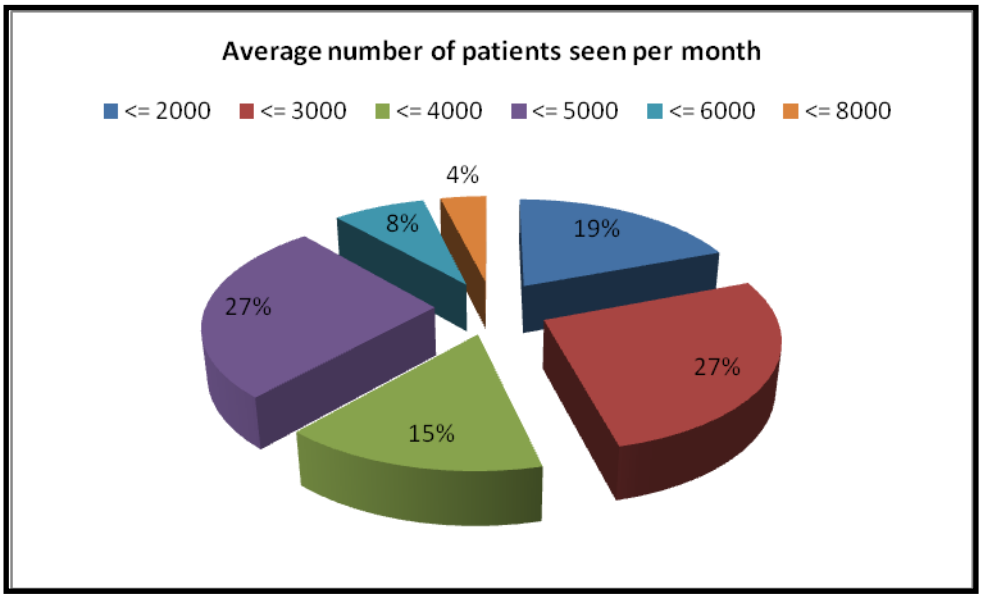


Figure 4.6 Average numbers of patients seen per month

The average numbers of patients seen per month by the CHCs was 3 545.31 (SD 1 574.50) (range 1 200 - 7 500). This largely depends on the size of the CHC and the community served. Twenty-seven per cent of nurses consulted fewer than 3 000 patients and another 27% fewer than 5 000 patients per month, 19% consulted fewer than 2 000 and 15% fewer than 4 000 patients per month.

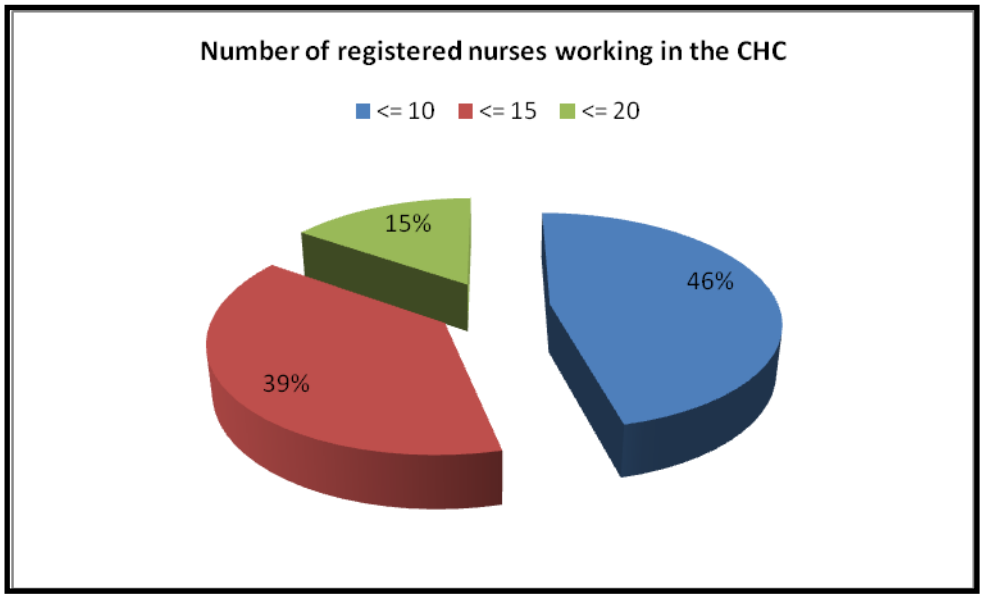


Figure 4.7 Number of registered nurses working in the CHC

The analysis of the number of registered nurses working in the CHC indicated a (M 11.35) (SD 3.261). As seen in the statistics above the largest single proportion (46%) have fewer than 10 registered nurses, 39% have fewer than 15 registered nurses and 15% have fewer than 20 registered nurses working in the CHC. As seen above the number of registered nurses working in the CHCs is relatively low, when taking into consideration the number of 3 545 patients to consult per month (see Figure 4.6), administrative and other nursing tasks the nurses have to perform. This low number of nurses may be due to the fact that many CHCs are located in rural areas of the North West Province, where registered nurses and other health professionals may be less likely to seek employment (Lehman, 2008:169).

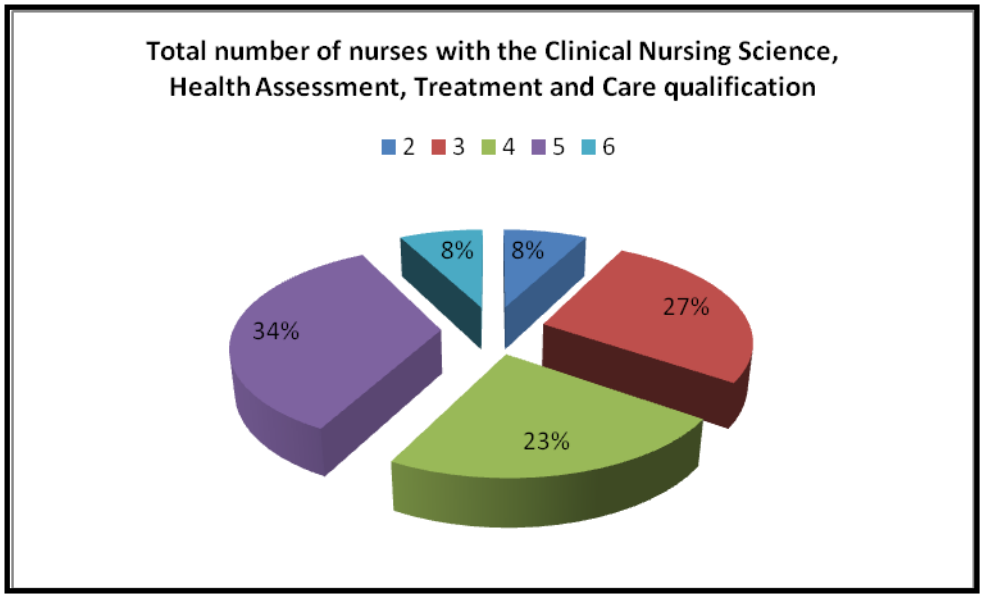


Figure 4.8 Total numbers of nurses with the Clinical Nursing Science, Health Assessment, Treatment and Care qualification

Note: Only registered nurses (nurses in this study) can be registered at the SANC with the Clinical Nursing Science, Health Assessment, Treatment and Care qualification (R.48).

The average number of nurses with the Clinical Nursing Science, Health Assessment, Treatment and Care qualification was calculated as 4.08 (SD 1.13) ranging between 2 to 6 nurses (see Chapter 1 [1.5.2.2] for a discussion on this qualification). The largest single proportion (34%) of CHCs had an average of five nurses, in 27% there were three nurses and in 23% there were four nurses with this qualification. Therefore, if the average number of nurses working in the CHCs is 11 (see Figure 4.7) approximately 4 of the 11 or 36% of nurses have the qualification. The number of nurses with this qualification is not, however, so high when taking into consideration that South Africa's health care focus has been on PHC since the election of the new government in 1994 – this is 18 years (Lehmann, 2008:164; Kautzky & Tollman, 2009:25) and when considering that government implemented the Skills Development Act that was passed in 2000, which made the development of staff compulsory (Skills Development Act, 1998).

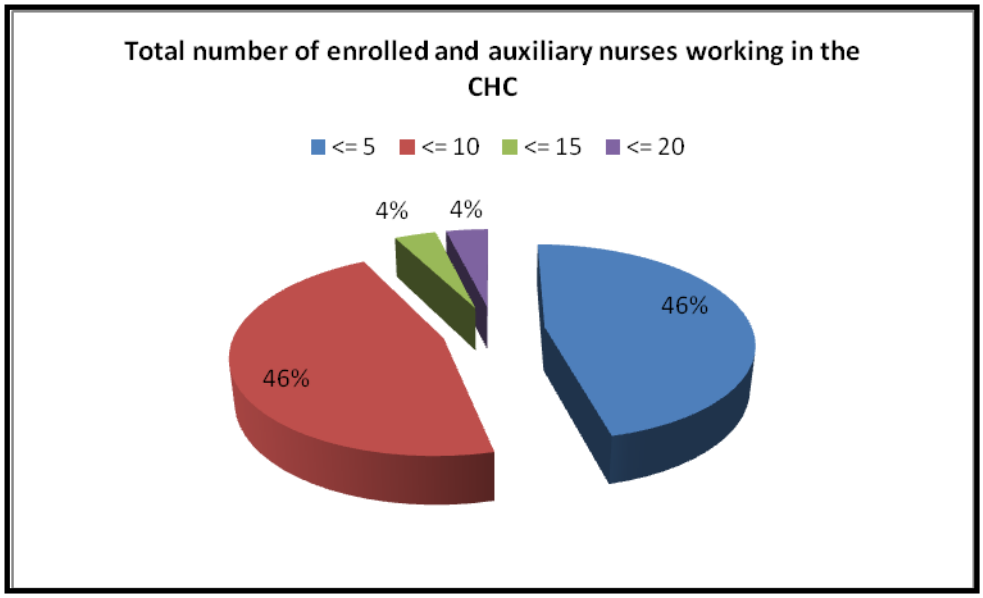


Figure 4.9 Total number of enrolled and auxiliary nurses working in the CHC

The average number of auxiliary and enrolled nurses was 6.27 (SD 3.33) which ranged between 3 and 17. Forty-six per cent of CHCs had fewer than 5, and so also 46% had fewer than 10 enrolled and auxiliary nurses. Only 4% had between 10 and 14 and 4% had between 15 and 19 enrolled and auxiliary nurses collectively working in the CHC. When taking the average number of patients into consideration who visit the CHC on a monthly basis (see Table 4.6) it is clear that there is not a lot of support in the form of auxiliary and enrolled nurses for registered nurses who take most of the responsibility in the PHC/CHC context.

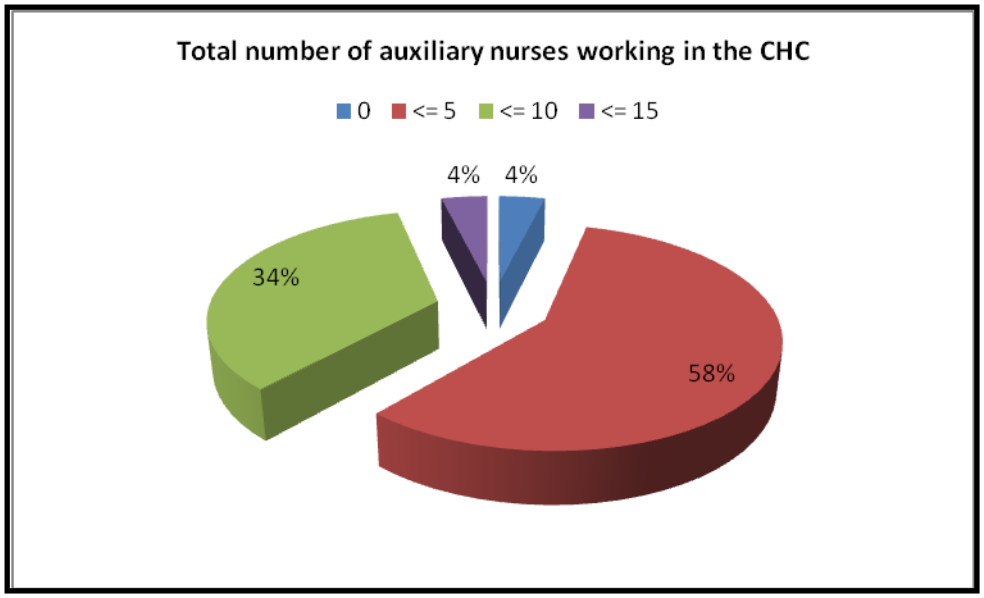


Figure 4.10 Total number of auxiliary nurses working in the CHC

The total number of auxiliary nurses working in the CHC was an average of 4.96 (SD 2.82) ranging between 0 and 14. Some 58% of CHCs had fewer than five auxiliary nurses, in 34% there were fewer than 10 auxiliary nurses. An auxiliary nurse (also known as an assistant nurse) is a person who is trained to only provide elementary nursing care to the level prescribed in the Nursing Act No. 33 of 2005 (SANC, 2005). This nurse only trains for one year at Nursing College and works under the supervision of the registered nurse and/or enrolled nurse. They are only allowed to perform basic nursing tasks, for example, vital signs and urine testing.

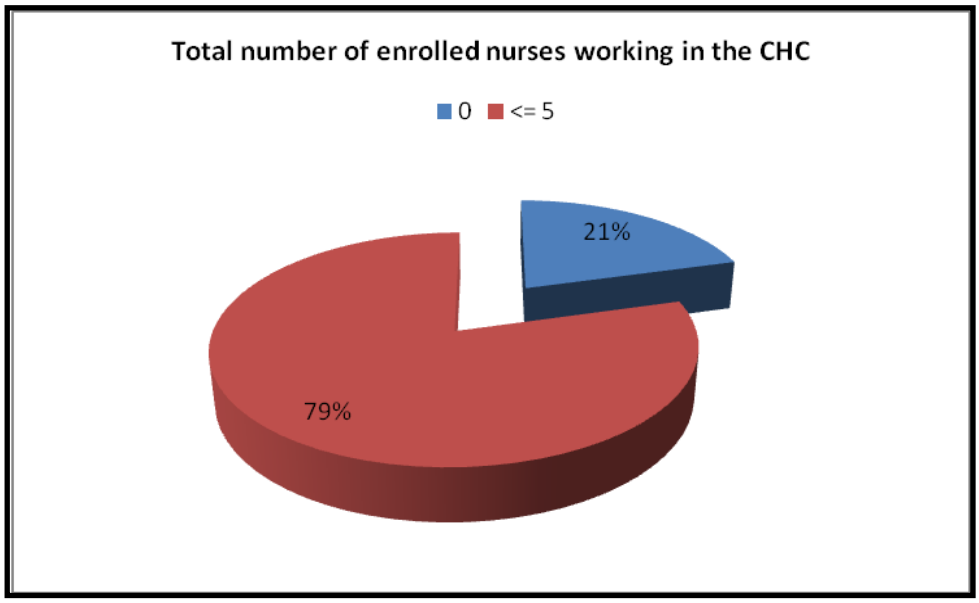


Figure 4.11 Total number of enrolled nurses working in the CHC

Approximately 1.31 (SD 1.490) enrolled nurses worked in the CHCs, ranging between 0 and 5. According to the above statistics in 79% of CHCs there are fewer than five enrolled nurses and in 21% of CHCs there were no enrolled nurses appointed. The enrolled nurse (also known as a staff nurse) is a person who is trained to practise basic nursing to the level prescribed by the Nursing Act No. 33 of 2005 (SANC, 2005). This nurse completed a two-year diploma at a nursing college and must practise under the supervision of a registered nurse. These nurses are able to perform their own and the auxiliary nurses' tasks. They have more advanced skills such as wound care and therefore play a more supportive role in support of the registered nurse.

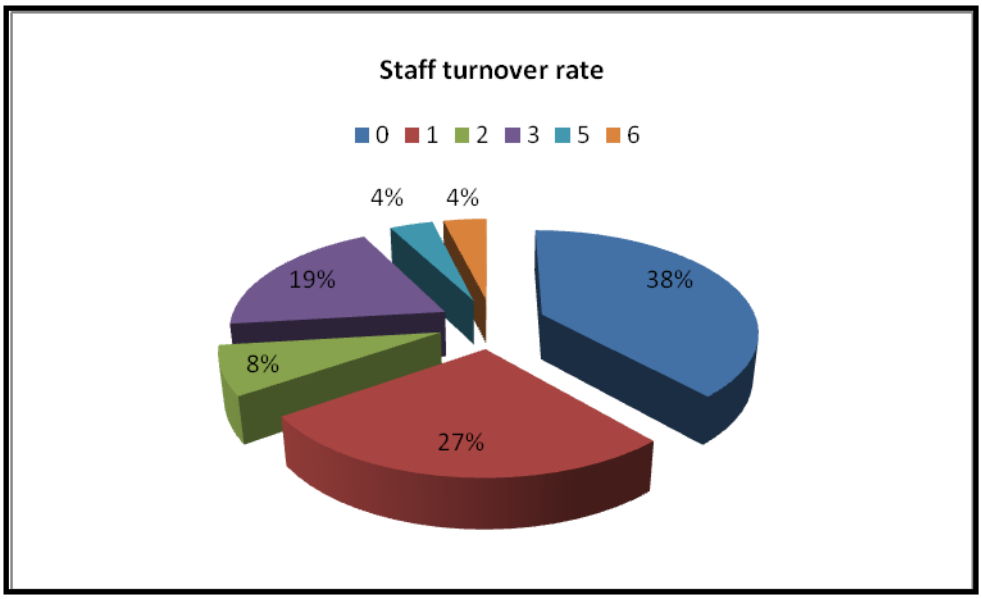


Figure 4.12 Staff turnover rate (transferred, resigned and appointed) during 2010 - 2011

Note: Staff turnover rate for tables 4.12, 4.13, 4.14 and 4.15 includes registered nurses (nurses in this study), enrolled and auxiliary nurses collectively during the period 2010 and 2011.

The staff turnover rate was approximately 1.42 (SD 1.65) ranging between 0 and 6 nurses during 2010 and 2011. The analysis of the staff turnover rate indicated that 38% of the CHC had no staff turnover rate. Some 27% only had one staff member and 19% had three and the small percentage of 4% had five and six members transferring, resigning or being appointed in the CHCs.

The findings of the staff turnover rate are also significant in this study, as the staff turnover rate of nurses in the CHCs of North West Province was relatively low when compared to the staff turnover rate of nurses working in the Critical Care Units (CCUs) of South Africa, which is also a specialized field (Klopper *et al*., 2012:686)

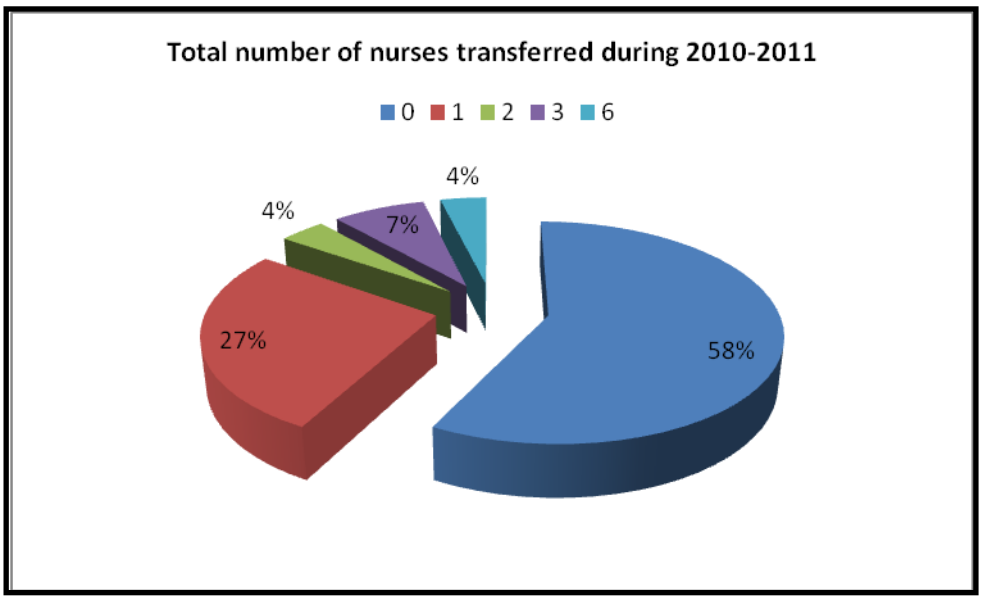


Figure 4.13 Total number of nurses transferred between 2010 - 2011

The rate of transfers seems to be very low as the largest proportion (58%) of CHCs had no transfers. The average number of nurses who transferred between 2010 and 2011 ranged between 0 and 6, with a mean of .81 (SD 1.39). The percentage of 27% had one nurse, 7% had three nurses, 4% had two nurses and 4% CHCs had six nurse transfers. The low number of transfers may be due to the fact that the average age of nurses in the CHC is 40 (see Table 4.19), which may imply that they are settled in their work and family life.

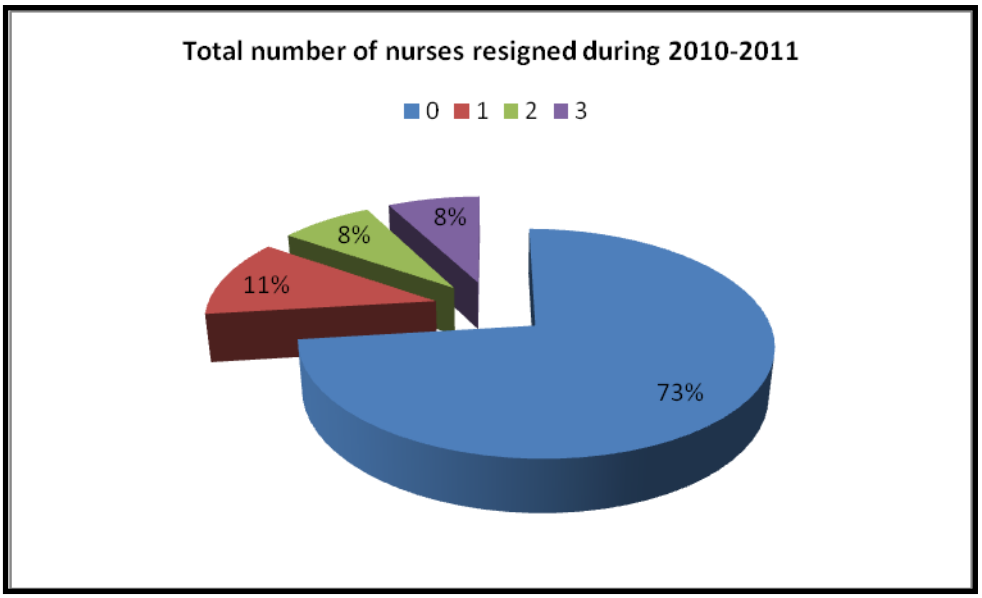


Figure 4.14 Total number of nurses resigned between 2010 - 2011

The average number of nurses who resigned between 2010 and 2011 was calculated as .50 (SD .95) ranging between 0 and 3. The figure above indicates that in 73% there were no resignations of nurses and in 11% there was only 1 nurse and within 16% there were between 2 and 3 nurses transferred. When keeping the single largest proportion (73%) of zero resignations in mind it seems that nurses working in the CHCs of North West Province perceive their PE as being relatively favourable, as a study conducted by Aiken *et al.* (2012:3-4) and Coetzee *et al*. (2013:3) revealed that more favourable PEs decrease the intent of nurses to leave their PE.

Findings regarding the low resignation rate of nurses working in the PHC context of North West Province were also significant, as 54.4% of nurses working in the hospitals of the public health care sector of South Africa indicated that they want to leave their PE in the next year due to job dissatisfaction (Coetzee *et al*., 2013:1).

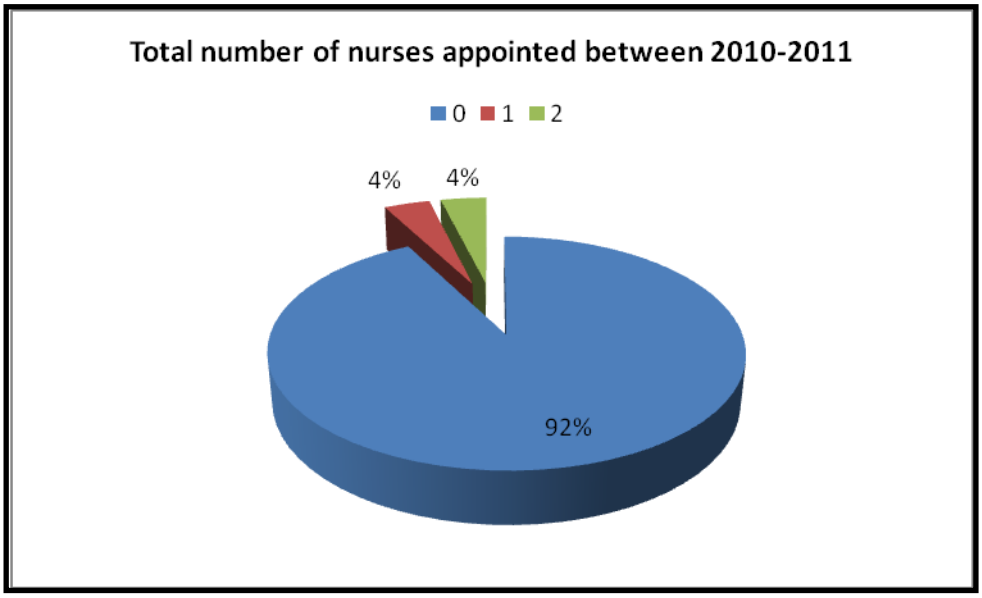


Figure 4.15 Total number of nurses appointed between 2010 - 2011

The total number of nurses appointed between 2010 and 2011 was .12 (SD .43) ranging between 0 and 2. In the same period as the transfers and resignations 92% of CHCs had no appointments of new nurses and some 4% had two appointments and 4% had one appointment. This low number of appointments could be due to the fact that due to overspending in the public health care setting, the government tried to reduce expenditure by freezing health care posts (Cooke *et al.,* 2011:112). This affects the CHCs of North West Province, as from the statistics obtained in Table 4.14, 27% of nurses resigned and only 8% of new nurses were employed. Therefore, only approximately one-quarter of nurses who resigned were replaced. Another contributing factor for a low appointment rate according to the DoH (2011b:8) is that there are unfunded posts, inefficient management and recruitment processes in the public health care sector and according to Naledi *et al*. (2011:21) elevated attrition rates and inability of government to retain nurses doing community services.

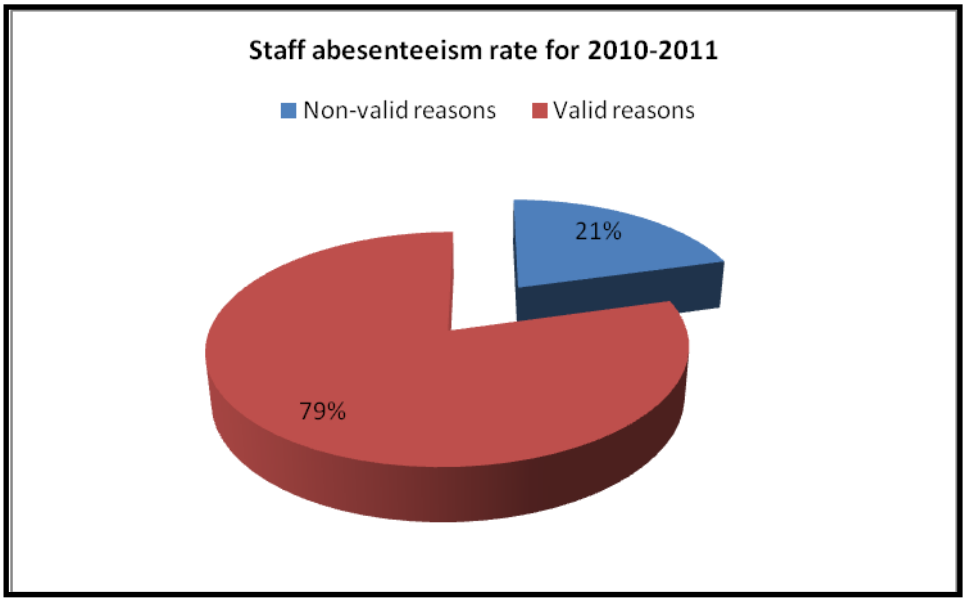


Figure 4.16 Staff absenteeism rate for 2010 - 2011

The analysis of the staff absenteeism indicated a mean of 1.26 (SD 1.15). Seventy-nine per cent of nurses in CHCs had valid reasons for absenteeism from work, whereas in 21% of nurses in the CHCs, the operational manager in charge of CHCs felt that nurses had valid and non-valid reasons for staff absenteeism. Valid reasons for absenteeism from work include sickness, family responsibility, annual and maternity leave. From the figure above it is clear that the majority of operational managers in the CHCs did not experience their staff absenteeism from work as invalid.

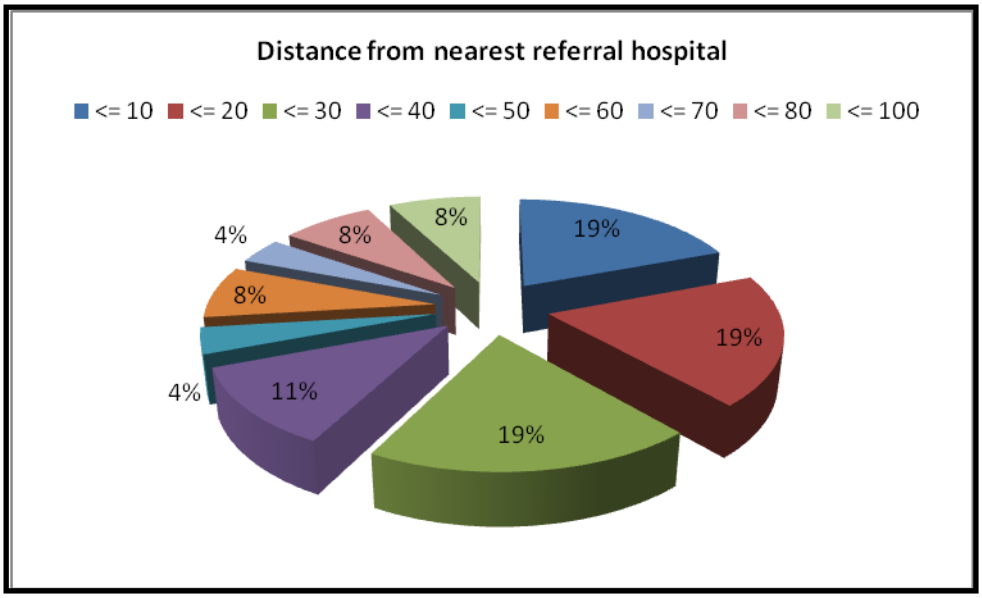


Figure 4.17 Distance (in kilometres) from the nearest referral hospital

The average distance from the nearest referral hospital for the CHCs was 36.08 km (SD 28.82) ranging between 3 and 100km. Fifty-seven per cent of CHCs were less than 30km from the nearest referral hospital. Some 23% CHCs were between 30 and 60 km and 20% were between 70 and 100 km from the nearest referral hospital. One of the challenges the South African health care system has is that there are considerable barriers to accessing health care by communities due to inadequate transport and distances of facilities (Gaede & Versteeg, 2011:99). This is also true for the North West Province, where the average distance of a CHC to the nearest referral hospital is 36km. This does not sound too far, but when considering that the population served is affected by severe poverty; to travel a distance of 36km is quite a challenge.

Table 4.2 The open hours of the CHCs

Hours of the clinic:	Frequency (#)	Percentage (%)
12 hour clinic, 7 days a week	1	3.8
24 hour clinic	25	96.2
Total	26	100.0

According to Dennill *et al*. (1999:49) CHCs are open 24 hours a day for 7 days a week. But during data analysis the researcher found that one CHC (3.8%) was open only 12 hours, 7 days a week, whereas 96.2% were open 24 hours a day. From the above it seems that most CHCs of the North West Province service delivery hours are managed according to CHC standards (Dennill *et al*., 1999:49).

Table 4.3 Services offered at the CHCs

The following services are offered at the CHCs:	Frequency (#) Yes	Percentage (%) Yes	Frequency (#) No	Percentage (%) No	Frequency (#) Missing values	Percentage (%) Missing values
Integrated management of childhood illnesses (IMCI)	26	100	0	0	0	0
Antenatal and post-natal services	25	96.2	0	0	1	3.8
Reproductive health	26	100	0	0	0	0
Immuniza-tions	26	100	0	0	0	0
Sexually transmitted illnesses (STIs)	26	100	0	0	0	0
Common conditions (minor ailments)	26	100	0	0	0	0

Table 4.3 Services offered at the CHCs (continued)

The following services are offered at the CHCs:	Frequency (#) Yes	Percentage (%) Yes	Frequency (#) No	Percentage (%) No	Frequency (#) Missing values	Percentage (%) Missing values
Chronic diseases (e.g. hypertension, diabetes, epilepsy and asthma)	26	100	0	0	0	0
Mental health	26	100	0	0	0	0
ARV treatment	26	100	0	0	0	0
TB treatment	26	100	0	0	0	0
Rehabilitation home visits	12	46.2	14	53.8	0	0
Counselling	26	100	0	0	0	0
Health education	26	100	0	0	0	0
Trauma	15	57.7	11	42.3	0	0
Mobile clinics	15	57.7	11	42.3	0	0
Home visits	14	53.8	12	46.2	0	0

In the above-mentioned table, all the CHCs delivered most of the essential services listed. Rehabilitation home visits were not done in 53.8% of the CHCs and 42.3% of the CHCs had no mobile clinics. It is, however, important to note that mobile clinics do not fall under CHCs, as they are only an extension of the stationary PHC delivery system (Van Rensburg, 2004:432), and therefore this percentage could be much

lower. In 46.2% of the CHCs home visits are not done. This could be due not only to staff shortages, but also because the performance of health care facilities is commonly assessed by the cost per patient day equivalent, and to do a home visit the cost per patient will be much higher. However, in some cases the concern of cost and workload should not dictate the availability of essential services such as services delivered by mobile clinics that must travel long distances to see a small number of patients (Gaede & Versteeg, 2011:103-104).

According to Van Rensburg (2004:429) government initially planned to have 24-hour casualty care at CHCs, but according to the findings of this study this service is not delivered in 42.3% of CHCs. The findings above are in line with findings of Gaede and Versteeg (2011:102) who found that although there are many new clinics (including CHCs) built since 1994, the facilities cannot be adequately utilized and deliver all services as there are great staff shortages that inhibit performance of all the tasks.

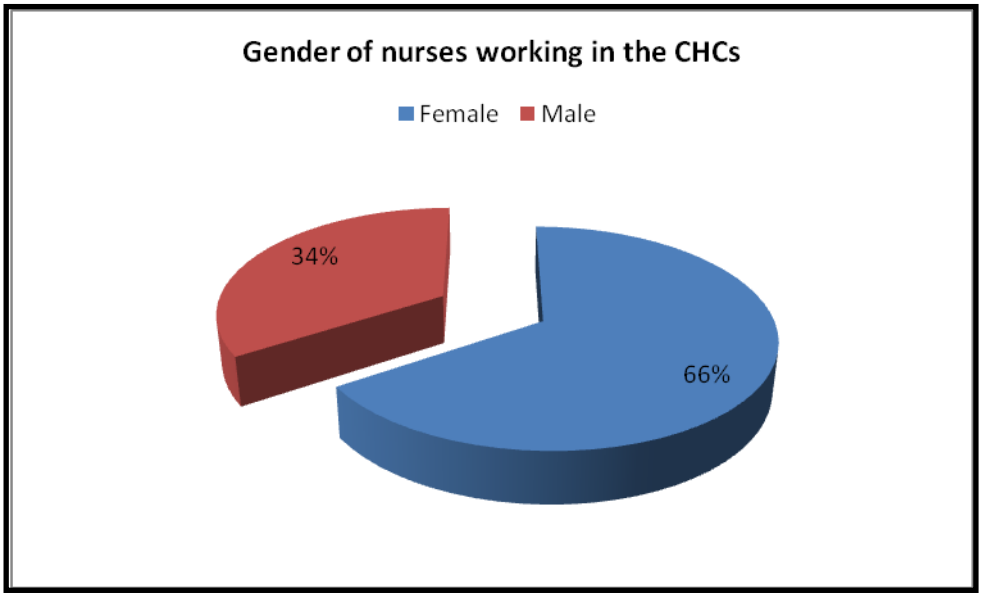


Figure 4.18 Gender of nurses working in the CHCs

Figure 4.18 above indicates that 66% of nurses working in the CHCs were female and 34% were male. This is in relation with findings of the SANC (2010) on the geographical distribution of the population of South Africa versus nursing man power, which revealed that the number of female nurses is more than the number of male nurses (see Chapter 2 [Table 2.4]).

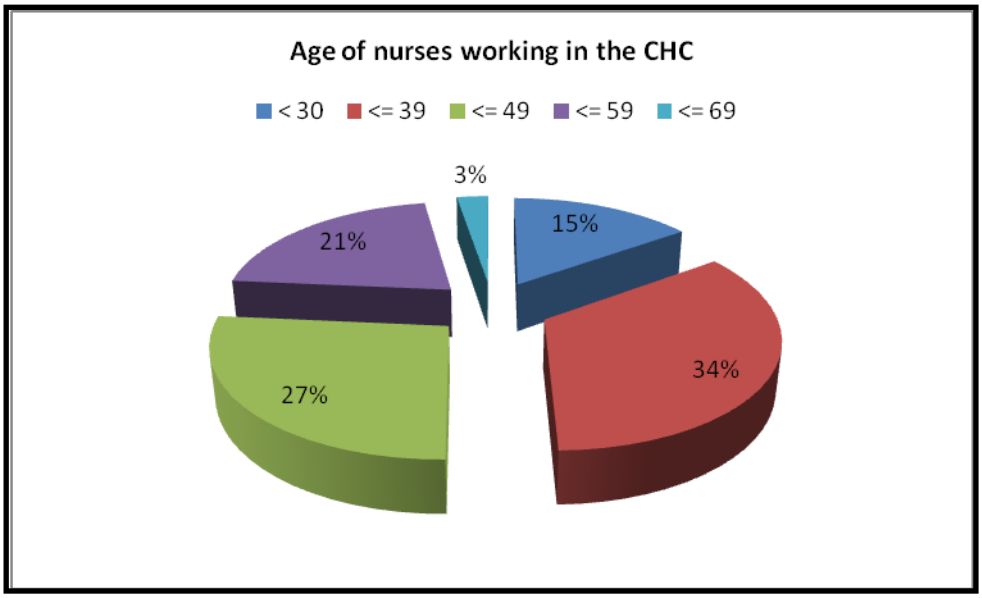


Figure 4.19 Age of nurses working in the CHCs

The mean age of nurses was 40.47 years (SD 9.99) ranging between 20 years and 63 years of age. The largest single proportion of nurses (34%) in the CHCs were between 30 and 39 years of age, 27% were between 40 and 49 years of age, 21% were between 50 and 59 years, whereas 15 % were younger than 30-years old.

From the above it is clear that 51% of the nursing population employed in the CHCs were older than 40 years. According to Sawaengdee *et al*. (2012:2); Cooke *et al.* (2011:110) and Lehmann (2008:163) the nursing population is aging and this can place nursing in a very critical position in the next few years. This fact is also true for the CHCs in North West Province as 51% of nurses in the CHCs would be very near or past retirement age in 10 years' time. Another reason for the average age of nurses being above 40 is the fact that the average nurse started his/her career as registered nurse when already 31 years old (see Figure 4.20).

In the following table (Table 4.4) the researcher added the age distribution of nurses in South Africa according to (SANC, 2010) next to the results of nurses working in CHCs of North West Province

Table 4.4 Age of nurses working in CHCs of North West Province versus age distribution of nurses registered at SANC in South Africa

Age of nurses	Age distribution of nurses working in CHCs of North West Province (%)	Age distribution of nurses in SA (%)
< 30	15.2	4
<= 30 – 39	34.6	19
<= 40 – 49	26.7	31
<= 50 – 59	20.9	29
<= 60 – 69	2.6	13
> 69	0	3
Total	100.0	100.0

Overall, nurses in CHC of North West Province were younger than the national nurse population with 15.2% under the age of 30 years compared to 4% nationally. Forty-five per cent of nurses were above the age of 50 nationally compared to 23.5% of nurses who were above 50 in CHCs in the North West Province.

Table 4.5 Country of basic nursing education

Country of basic nursing education	Frequency (#)	Percentage (%)
South Africa is a country for basic nursing education	188/189	99.5
South Africa is not the country for basic nursing education	1/189	.5
Missing	n = 6	0
Total	195	100.0

In the table above it is clear that almost all nurses (99.5%) did their basic nursing education training in South Africa. Only one nurse (0.5%) did not do her basic

training in nursing training in South Africa and six persons did not answer the question.

Table 4.6 Countries where nurses received basic nursing education and years worked in South Africa

Countries where received basic nursing education and years worked in South Africa	Frequency (#)	Percentage (%)
SA	194	99.5
Ireland - 3 years	1	.5
Total	195	100.00

Only one nurse did not receive her basic nursing education in South Africa. This nurse did her basic training in Ireland and has been working South Africa for three years. This number is very low, as many nurses from African countries migrate to South Africa in order to find better work conditions and opportunities (Coetzee *et al*., 2013:3).

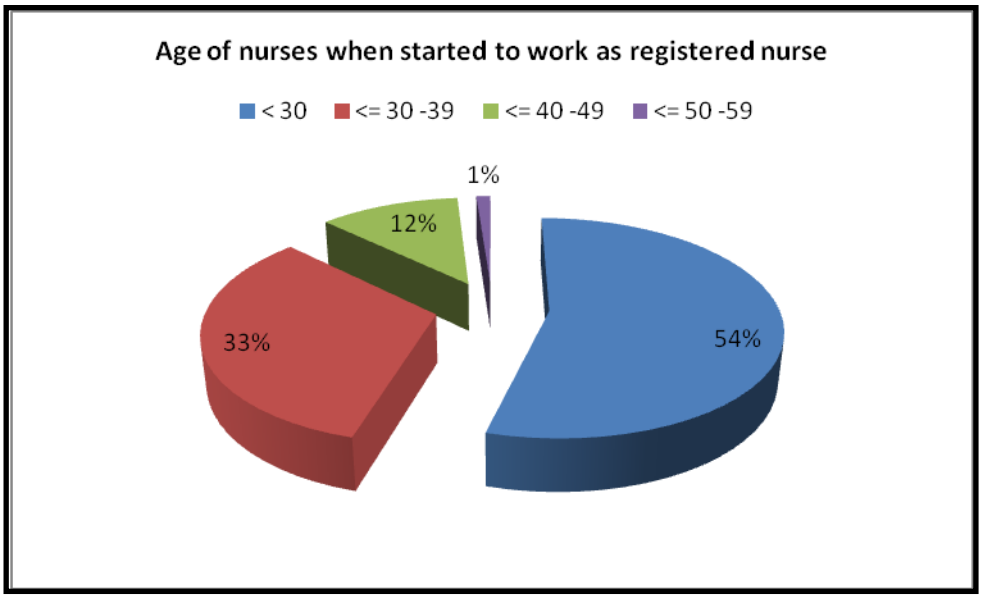


Figure 4.20 Age of nurses when they started to work as registered nurse

The average age of nurses who started to work as nurses was 30.53 (SD 7.04), ranging between 21 and 58. It is important to remember that some of these nurses might have worked as enrolled nurses for many years before enrolling to study to

become a registered nurse. The largest single proportion (54%) started their career at less than 30 years of age. Thirty-three per cent of nurses started their nursing career when they were between 30 and 39 years old. Some 13% started their careers as registered nurses between the ages of 40 and 59. With the average age of nurses only starting their profession at the age of 31 in the CHCs of the North West Province, nurses only start their nursing career at an older age. Therefore, this supports the fact that the population of nurses is ageing quickly (Lehmann, 2008:163 & Sawaengdee *et al.*, 2012:12) as nurses only start their career twelve years after matriculation at the age of 31 years.

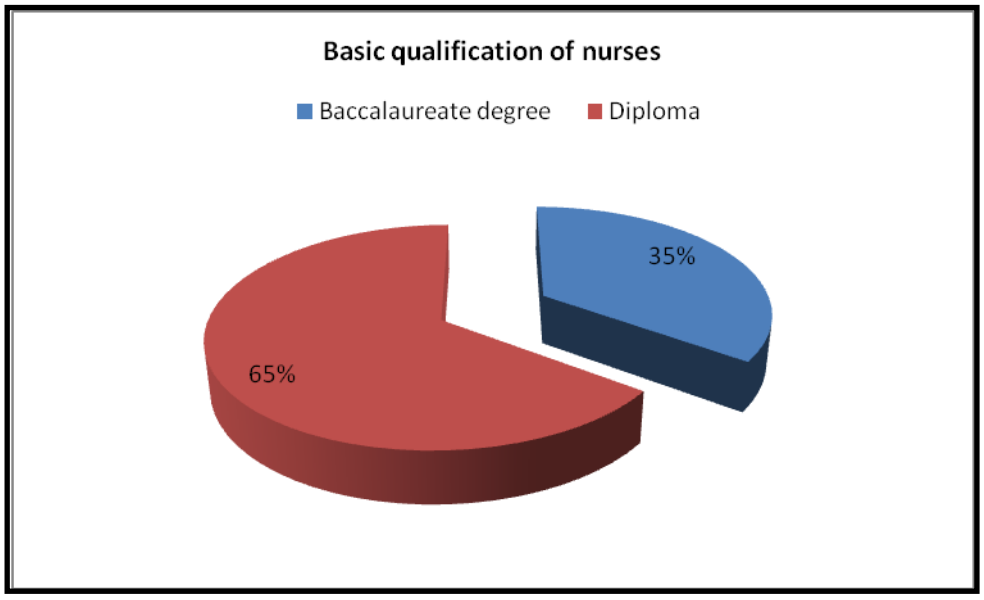


Figure 4.21 Basic qualification of nurses

Approximately 65% of nurses working in the CHCs had a diploma in nursing, whereas 35% had a baccalaureate degree. These percentages correlate with the SANC output of the four-year programme statistics (SANC, 2011) which indicates that approximately 48 (25%) students receive a baccalaureate degree at the end of their studies and approximately 190 (75%) received a diploma in the North West Province during 2011.

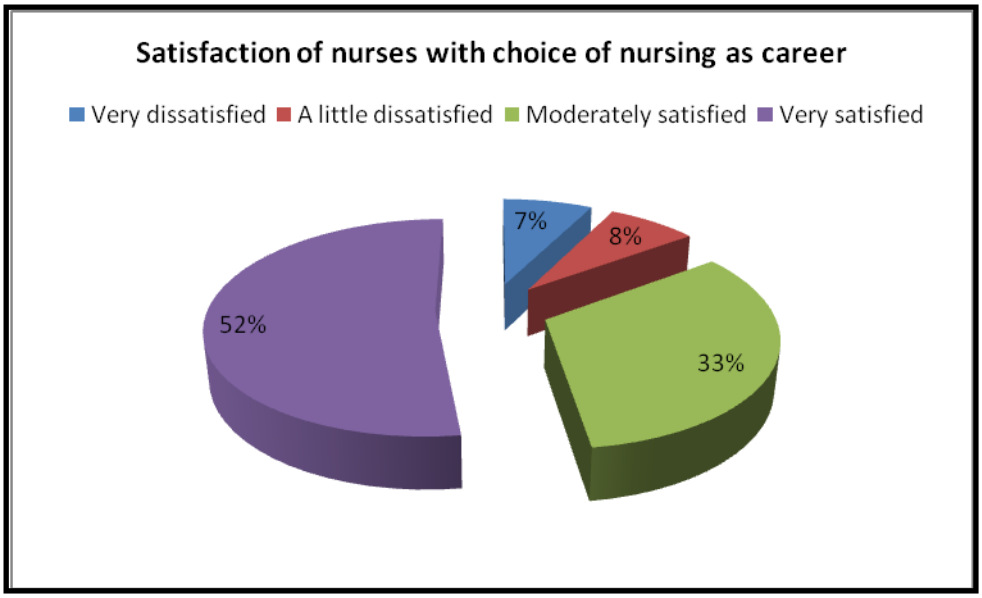


Figure 4.22 Satisfaction of nurses with choice of nursing as career

Figure 4.22 above indicates that the single largest proportion (52%) of nurses were very satisfied with nursing as a career, 33% were moderately satisfied and 15% were a little dissatisfied or very dissatisfied. Therefore, 85% overall of nurses were moderately or very satisfied with nursing as a career path. This finding is significant and very positive as the staff satisfaction level of nurses in international research reports indicates that the number of dissatisfied nurses is growing (Aiken *et al*., 2002). This is also true for nurses working in the South African public and private hospitals who indicated that they were generally dissatisfied in their PE with regard to career development opportunities, remuneration and other factors (Klopper *et al.*, 2012:686).

A possible reason that nurses working in the CHCs are more satisfied with their career in nursing is that government implemented an Occupation Specific Dispensation (OSD) by which nurses are provided with better benefits and allowances with their salaries. This OSD is also given to nurses with the Clinical Health Assessment, Treatment and Care qualification (South African Government Information, 2007; Naledi *et al.,* 2011:21). Therefore, since governments focus on health care as PHC, nurses could possibly feel they have better career advancement opportunities and remuneration in the PHC context than nurses working in the hospital context.

Table 4.7 Full-time employees of the CHC

Full-time employee of the CHC	Frequency (#)	Percentage (%)
Yes	182	96.8
No	6	3.2
Total	188	100.0

Approximately 96.8% of nurses were full-time employees in the CHC, whereas 3.2% were not full-time employees.

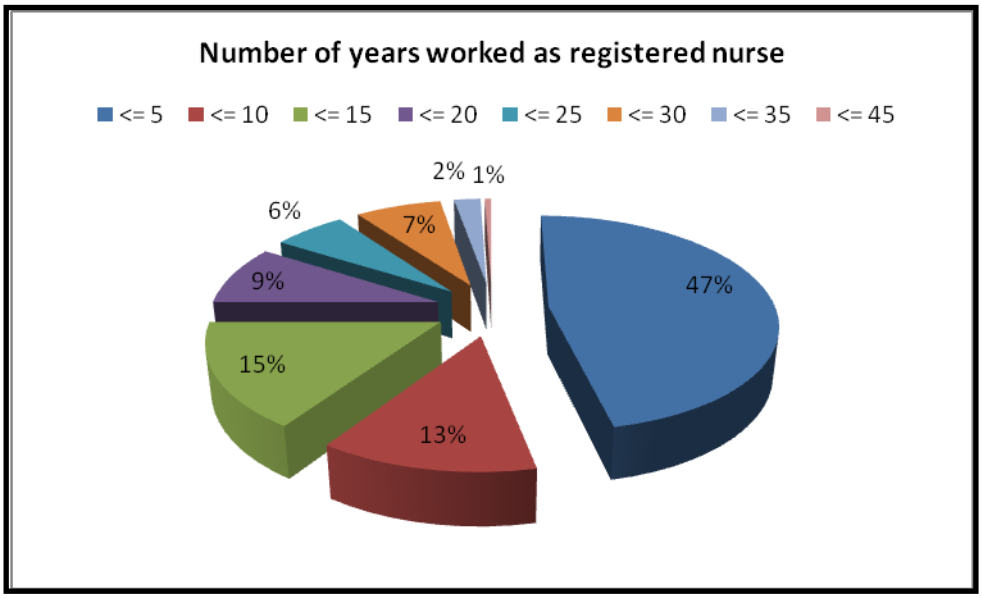


Figure 4.23 Number of years worked as registered nurse

The average period that nurses worked as registered nurses is 10.15 years (SD 9.31) ranging between 1 and 45 years. Approximately 47% of nurses worked fewer than 5 years, 13% fewer than 10 years and 15% fewer than 15 years. Therefore, the larger population (47%) of nurses working in the CHC do not have many years of experience as registered nurses. This is very interesting as most of these nurses are working in CHCs located in very remote areas, where there is only an average of 15 patients consulted by a physician daily (see Figure 4.4) and only 36% of the nurses are Clinical Health Assessment, Treatment and Care qualified.

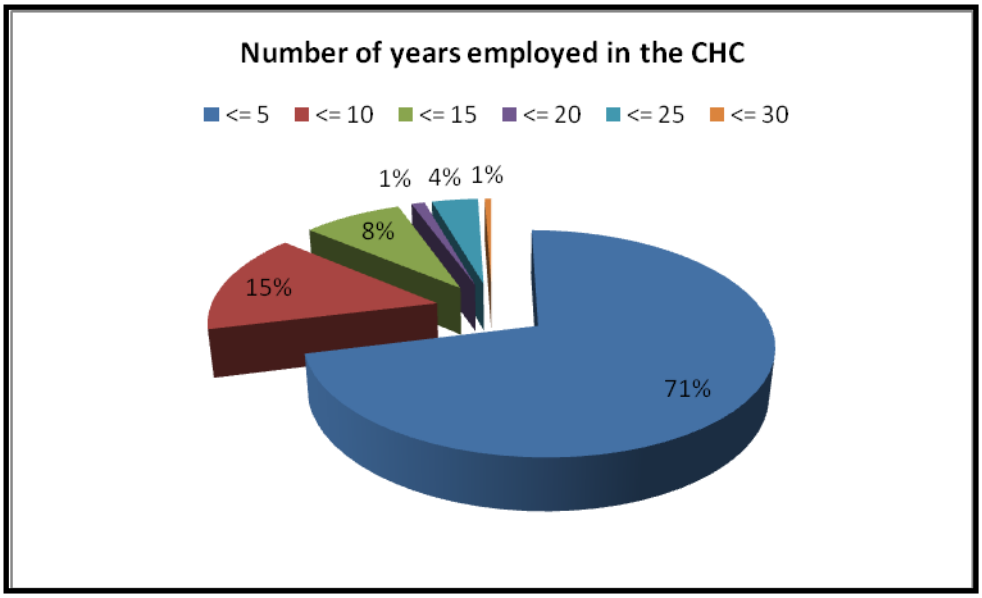


Figure 4.24 Number of years employed in the CHC

The average number of years nurses are employed in the CHC was 5.23 years (SD 5.34) ranging from 1 to 43 years. The larger proportion of (71%) nurses had been employed for fewer than five years in the CHC.

In the following section the researcher discusses the confirmatory factor analysis employed to help determine the status of the CHCs in achieving objective 2 of this study.

4.2.2 Confirmatory factor analysis

Confirmatory factor analysis is explained by Field (2005:783) as a "version of factor analysis in which specific hypotheses about structure and relations between the latent variables that underlie the data are tested". Thus, the items were clustered into the original five sub-scales of the PES-NWI known internationally. Furthermore, the confirmatory factor analysis allowed the researcher to determine whether South African nurses in the public health care (PHC) context clustered items under the same sub-scale by understanding the questions (items) in the questionnaire the same as nurses in other international countries. The reason confirmatory factor analysis was chosen above factor analysis is that even though the loadings of specific items might be distributed differently in another country; the analyses do not improve the predictive validity of the instrument over the original.

The items were split according to the original sub-scales, numbers 1, 8, 9 and 12 under the sub-scale 1 called staffing and resource adequacy. Items 2, 7, 13, 17, 21, 26 and 30 under sub-scale 2 called collegial nurse-physician relationships. Items 3, 10, 14 and 22 clustered as nurse manager ability, leadership and support (sub-scale 3). Items 4, 15, 19, 20, 24, 27, 28, 31 and 32 were under clustered under nursing foundations for quality of care (sub-scale 4) and lastly items 5, 6, 11, 16, 18, 23, 25 and 29 were in sub-scale 5 called nurse participation in PHC/CHC affairs.

In two sub-scales (factors) namely staffing and resource adequacy (see Table 4.8) and nursing foundations for quality of care (see Table 4.11) the sub-scales split into more sub-scales during analysis.

The factor staffing and resource adequacy split into two sub-scales which were named staff and resources respectively (see Table 4.8) and the sub-scale called nursing foundations for quality of care (see Table 4.11) split into three sub-scales (factors) which were named quality of care, continuity of patient care and standard of care respectively.

The Cronbach's alpha for the sub-scales (factors) used had a high Cronbach's Alpha; staffing and resource adequacy had a Cronbach's alpha of .68; collegial nurse-physician relationships had a Cronbach's alpha of .86; nurse manager ability, leadership and support had a Cronbach's alpha of .75. This was very good as CCUs Cronbach's alpha for the same sub-scale was .69 (Klopper *et al.,* 2012:689), nursing foundations for quality of care had a Cronbach's alpha of .71 and nurse participation in PHC/CHC affairs had a Cronbach's alpha of .82.

In the following section the researcher discusses the different sub-scales.

Table 4.8 Sub-scale 1: Staffing and resource adequacy

International sub-scale	Staffing and resource adequacy	
South African sub-scale	**Staffing**	**Resources**
1 Adequate support services allow me to spend time with my patients.		.55
8 Enough time and opportunity to discuss consultation uncertainties with other nurses.		.71
9 Enough registered nurses on staff to provide quality patient consultations.	.75	
12 Enough staff to get the work done.	.87	

During loading of the items (items 1, 8, 9 and 12) on the specific sub-scale called staffing and resource adequacy the items split and loaded differently, items 1 and 8 clustered together under the sub-scale named resources and items 9 and 12 clustered together under the factor named staffing. Items 1 and 8 focused more on the resources available for nurses e.g. support services, time and opportunities whereas, items 9 and 12 clustered together because they focused more on staffing. The KMO value of this sub-scale was .590, the cumulative percentage 76.44% and the Bartlett value was < 0.001, which indicates that the p-value was significant. The mean was 2.33 (SD .71). These items had an acceptable Cronbach's alpha of .68 (Field, 2005:668).

Table 4.9 Sub-scale 2: Collegial nurse-physician relationships

International and South African sub-scale	Collegial nurse-physician relationship
2 Physicians and nurses have good working relationships.	.58
7 Physicians value nurses' observations and judgements.	.66
13 Physicians recognize nurses' contributions to patient consultations.	.72
17 A lot of teamwork between nurses and physicians.	.69
21 Physicians respect nurses as professionals.	.74
26 Collaboration between nurses and physicians.	.67
30 Physicians hold nurses in high esteem.	.71

Sub-scale two was labelled collegial nurse-physician relationships and the items loaded on this sub-scale (items 2, 7, 13, 17, 21, 26 and 30) all focused on the relationship of the nurse and the physician. The KMO value of this sub-scale was .895, the cumulative percentage 54.27% and the Bartlett value was < 0.001, which indicates that the p-value was significant. The mean was 2.70 (SD .64). This sub-scale had a high Cronbach's alpha of .86 (Maree *et al.,* 2008:215-216).

Table 4.10 Sub-scale 3: Nurse manager ability, leadership and support

International and South African sub-scale	Nurse manager ability, leadership and support
3 A supervisory staff that is supportive of nurses.	.59
10 A nurse manager who is a good manager and leader.	.87
14 Praise and recognition for a job well done.	.49
22 An operational manager who backs up the nursing staff in decision-making, even if the conflict is with a physician.	.68

The third sub-scale was named nurse manager ability, leadership and support. The items that loaded on this sub-scale were items 3, 10, 14 and 22. These items which are in line with international findings focused on how the manager interacts with his/her employees. The KMO value of this sub-scale was .717, the cumulative percentage 57.35% and the Bartlett value was < 0.001, which indicates that the p-value was significant. The mean was 2.64 (SD .78). This sub-scale had a moderate Cronbach's alpha of .75 (Maree *et al.,* 2008:215-216).

Table: 4.11 Sub-scale 4: Nursing foundations for quality of care

International sub-scale	Nursing foundations for quality of care		
South African sub-scales	**Quality of care**	**Continuity of patient care**	**Standard of care**
4 Active staff development or continuing education programmes for nurses.	.43		.35
15 High standards of patient consultations are expected by the management.			.63
19 A clear philosophy of nursing that pervades the Batho Pele principles	.75		
20 Working with nurses who are clinically competent in the PHC context.	.36		

Table: 4.11 Sub-scale 4: Nursing foundations for quality of care (continued)

International sub-scale	Nursing foundations for quality of care		
South African sub-scales	**Quality of care**	**Continuity of patient care**	**Standard of care**
24 An active quality assurance programme.	.36		
27 An orientation programme for newly-employed nurses.	.43		
28 Nursing care is currently based on a comprehensive model which includes preventative, promoting and primary care-related curative rather than a medical model.			.37
31 Written, up-to-date consultation records for all patients.		-.43	.41
32 Patient care assignments that foster continuity of care (i.e. the same nurse follow-up patients with follow-up visits e.g. chronic diseases, dressing of wounds).		-.86	

During confirmatory factor analysis of items 4, 15, 19, 20, 24, 27, 28, 31 and 32 according to the international sub-scale nursing foundations for quality of care the researcher obtained 3 sub-scales as the items loaded differently, the sub-scales were named quality of care (items 4, 19, 20, 24, 27), continuity of care (items 31 and 32) and standard of care (items 15 and 28). The KMO value of this sub-scale was .733, the cumulative percentage 56.32% and the Bartlett value was < 0.001, which indicates that the p-value was significant. The mean was 3.11 (SD .47), and these items had a moderate Cronbach's alpha of .71 (Maree *et al.,* 2008:215-216).

Table: 4.12 Sub-scale 5: Nurse participation in PHC/CHC affairs

International and South African sub-scale	Nurse participation in PHC/CHC affairs
5 Career development/clinical ladder opportunity.	.59
6 Opportunity for registered nurses to participate in policy decisions.	.65
11 A chief nursing officer who is highly visible and accessible to staff.	.67
16 An operational manager is equal in power and authority to other top level districts health programme managers.	.49
18 Opportunities for advancement.	.70
23 Management that listens and responds to employee concerns.	.62
25 Registered nurses are involved in the international governance of the clinic/CHC (e.g. clinic/CHC do have practice and policy committees).	.52
29 Registered nurses have the opportunity to serve in task teams within the sub-district.	.54

In this study the sub-scale nurse participation in hospital affairs was changed to nurse participation in PHC/CHC affairs to fit in with the context of this study. During loading of items 5, 6, 11, 16, 18, 23, 25 and 29 the items all clustered together under the same sub-scale as expected. These items focused on the nurses' involvement and interaction in the PHC/CHC affairs. The KMO value of this sub-scale was .842, the cumulative percentage 43.77% and the Bartlett value was < 0.001, which indicates that the p-value is significant. The mean were 2.43 (SD .65). This sub-scale had a high Cronbach's alpha of .82 (Maree *et al.,* 2008:215-216).

4.2.3 Descriptive statistics of CHCs in North West Province

In order to explore and describe the overall status of CHCs in the North West Province the researcher used descriptive statistics based on all the CHCs (n = 23) in the North West Province (see Table 4.13 below).

Table 4.13 Descriptive statistics of CHCs in North West Province

CHCs in North West Province	Five sub-scales	Mean	Std. Deviation
	Staffing and resource adequacy	2.33	.71
	Collegial nurse-physician relationships	2.70	.64
	Nurse manager ability, leadership and support	2.64	.78
	Nursing foundations for quality of care	3.11	.46
	Nurse participation in PHC/CHC affairs	2.43	.65

From table 4.13 above it is apparent that the staffing and resource adequacy (M 2.33) and nurse participation in PHC/CHC affairs (M 2.43) sub-scale values are below 2.5, indicating that the nurses did not agree that the characteristics measured by the PES-NWI was present in their current PE (Lake, 2002). When interpreting sub-scales that scored above 2.5 of this sub-scales, as nursing foundations for quality of care was perceived as the most positive (M 3.11), secondly collegial nurse-physician relationships (M 2.70) and lastly nurse manager ability, leadership and support (M 2.64), this indicates that nurses were in agreement that the characteristics of these were present in their current PE.

When looking at nursing foundations for quality of care (M 3.11) it was interesting to note that in a study conducted by Klopper *et al.* (2012:689) on nurses in CCUs in South Africa the nurses also gave the sub-scale nursing foundations for quality of care (M 2.93) the highest score of all the other sub-scales, possibly indicating that

nurses in specialized fields of nursing in South Africa feel they provide quality care to patients.

4.2.4 Descriptive statistics to indicate the CHC with the most favourable PE

The procedure followed to determine the CHC with the favourable PE was discussed in Chapter 3 (refer to Chapter 3 [3.3.4.1.3). After data analysis CHC R was identified as the CHC with the most favourable PE (M 4.71) (this CHC was highlighted in grey), whereas CHC V was the least favourable (1.83). In Table 4.14, the researcher highlighted all the M scores that were below 2.5, which indicates sub-scales that nurses deemed were unfavourable in their current PE, in order to determine whether there was a link between the different sub-scales in the different CHCs.

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC A (n = 6)	Staffing and resource adequacy	2.75	.35
	Collegial nurse-physician relationships	3.02	.51
	Nurse manager ability, leadership and support	2.72	.67
	Nursing foundations for quality of care	3.17	.37
	Nurse participation in PHC/CHC affairs	2.55	.53
	Average of the total number of factors higher than 2.5 per CHC	**4.17**	**.98**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC B (n = 7)	Staffing and resource adequacy	2.00	.56
	Collegial nurse-physician relationships	2.69	.67
	Nurse manager ability, leadership and support	2.39	.75
	Nursing foundations for quality of care	2.83	.72
	Nurse participation in PHC/CHC affairs	1.98	.82
	Average of the total number of factors higher than 2.5 per CHC	**1.86**	**1.95**
CHC C (n = 5)	Staffing and resource adequacy	2.45	.45
	Collegial nurse-physician relationships	2.89	.19
	Nurse manager ability, leadership and support	2.50	.47
	Nursing foundations for quality of care	3.11	.38
	Nurse participation in PHC/CHC affairs	2.60	.24
	Average of the total number of factors higher than 2.5 per CHC	**3.80**	**.45**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC D (n = 3)	Staffing and resource adequacy	3.25	.87
	Collegial nurse-physician relationships	3.52	.60
	Nurse manager ability, leadership and support	3.33	.95
	Nursing foundations for quality of care	3.56	.68
	Nurse participation in PHC/CHC affairs	2.96	.81
	Average of the total number of factors higher than 2.5 per CHC	**4.00**	**1.73**
CHC E (n = 8)	Staffing and resource adequacy	2.56	.77
	Collegial nurse-physician relationships	2.29	.75
	Nurse manager ability, leadership and support	2.72	.84
	Nursing foundations for quality of care	3.13	.49
	Nurse participation in PHC/CHC affairs	2.60	.71
	Average of the total number of factors higher than 2.5 per CHC	**2.50**	**1.51**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC F (n = 7)	Staffing and resource adequacy	2.18	.67
	Collegial nurse-physician relationships	2.65	.91
	Nurse manager ability, leadership and support	2.61	.93
	Nursing foundations for quality of care	3.40	.43
	Nurse participation in PHC/CHC affairs	2.64	.81
	Average of the total number of factors higher than 2.5 per CHC	**2.71**	**1.89**
CHC G (n = 7)	Staffing and resource adequacy	2.53	.68
	Collegial nurse-physician relationships	3.10	.41
	Nurse manager ability, leadership and support	2.86	.75
	Nursing foundations for quality of care	3.25	.44
	Nurse participation in PHC/CHC affairs	2.54	.64
	Average of the total number of factors higher than 2.5 per CHC	**3.86**	**1.07**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC H (n = 16)	Staffing and resource adequacy	2.72	.84
	Collegial nurse-physician relationships	3.08	.56
	Nurse manager ability, leadership and support	3.02	.65
	Nursing foundations for quality of care	3.27	.35
	Nurse participation in PHC/CHC affairs	2.89	.58
	Average of the total number of factors higher than 2.5 per CHC	**4.31**	**1.40**
CHC I (n = 5)	Staffing and resource adequacy	1.90	.45
	Collegial nurse-physician relationships	2.91	.50
	Nurse manager ability, leadership and support	2.20	.99
	Nursing foundations for quality of care	2.80	.49
	Nurse participation in PHC/CHC affairs	2.25	.13
	Average of the total number of factors higher than 2.5 per CHC	**2.20**	**.84**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC J (n = 8)	Staffing and resource adequacy	2.06	.89
	Collegial nurse-physician relationships	2.59	.75
	Nurse manager ability, leadership and support	2.43	.71
	Nursing foundations for quality of care	3.11	.41
	Nurse participation in PHC/CHC affairs	2.37	.70
	Average of the total number of factors higher than 2.5 per CHC	**2.50**	**2.14**
CHC K (n = 12)	Staffing and resource adequacy	1.90	.79
	Collegial nurse-physician relationships	2.00	.72
	Nurse manager ability, leadership and support	2.29	.90
	Nursing foundations for quality of care	2.92	.59
	Nurse participation in PHC/CHC affairs	1.98	.69
	Average of the total number of factors higher than 2.5 per CHC	**2.25**	**1.86**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC L (n = 5)	Staffing and resource adequacy	2.45	.65
	Collegial nurse-physician relationships	3.01	.49
	Nurse manager ability, leadership and support	3.23	.37
	Nursing foundations for quality of care	3.12	.25
	Nurse participation in PHC/CHC affairs	2.85	.67
	Average of the total number of factors higher than 2.5 per CHC	**4.00**	**1.22**
CHC M (n = 4)	Staffing and resource adequacy	2.06	.43
	Collegial nurse-physician relationships	3.07	.71
	Nurse manager ability, leadership and support	2.15	.44
	Nursing foundations for quality of care	3.61	.11
	Nurse participation in PHC/CHC affairs	2.53	.25
	Average of the total number of factors higher than 2.5 per CHC	**2.75**	**1.50**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC N (n = 7)	Staffing and resource adequacy	2.07	.37
	Collegial nurse-physician relationships	2.68	.47
	Nurse manager ability, leadership and support	2.64	.93
	Nursing foundations for quality of care	3.05	.56
	Nurse participation in PHC/CHC affairs	2.36	.63
	Average of the total number of factors higher than 2.5 per CHC	**2.86**	**1.95**
CHC O (n = 6)	Staffing and resource adequacy	2.33	.20
	Collegial nurse-physician relationships	2.93	.34
	Nurse manager ability, leadership and support	2.71	.37
	Nursing foundations for quality of care	3.07	.48
	Nurse participation in PHC/CHC affairs	2.54	.28
	Average of the total number of factors higher than 2.5 per CHC	**3.67**	**1.21**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC P (n = 8)	Staffing and resource adequacy	2.91	.42
	Collegial nurse-physician relationships	2.88	.39
	Nurse manager ability, leadership and support	2.69	.90
	Nursing foundations for quality of care	3.21	.40
	Nurse participation in PHC/CHC affairs	2.52	.46
	Average of the total number of factors higher than 2.5 per CHC	**3.88**	**1.36**
CHC Q (n = 8)	Staffing and rresource adequacy	2.25	.57
	Collegial nurse-physician relationships	2.77	.45
	Nurse manager ability, leadership and support	2.89	.71
	Nursing foundations for quality of care	3.28	.42
	Nurse participation in PHC/CHC affairs	2.67	.51
	Average of the total number of factors higher than 2.5 per CHC	**3.38**	**1.41**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC R (n = 7)	Staffing and resource adequacy	2.82	.62
	Collegial nurse-physician relationships	3.41	.42
	Nurse manager ability, leadership and support	3.32	.55
	Nursing foundations for quality of care	3.60	.43
	Nurse participation in PHC/CHC affairs	3.12	.54
	Average of the total number of factors higher than 2.5 per CHC	**4.71**	**.76**
CHC S (n = 6)	Staffing and resource adequacy	2.11	.69
	Collegial nurse-physician relationships	2.76	.33
	Nurse manager ability, leadership and support	2.67	.61
	Nursing foundations for quality of care	2.81	.40
	Nurse participation in PHC/CHC affairs	1.90	.56
	Average of the total number of factors higher than 2.5 per CHC	**2.83**	**1.72**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC T (n = 6)	Staffing and resource adequacy	2.32	.73
	Collegial nurse-physician relationships	2.57	.28
	Nurse manager ability, leadership and support	2.43	.91
	Nursing foundations for quality of care	3.04	.38
	Nurse participation in PHC/CHC affairs	2.48	.62
	Average of the total number of factors higher than 2.5 per CHC	**3.67**	**1.51**
CHC U (n = 11)	Staffing and resource adequacy	2.27	.81
	Collegial nurse-physician relationships	2.31	.64
	Nurse manager ability, leadership and support	2.43	.87
	Nursing foundations for quality of care	2.83	.54
	Nurse participation in PHC/CHC affairs	2.22	.70
	Average of the total number of factors higher than 2.5 per CHC	**2.73**	**1.85**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC V (n = 6)	Staffing and resource adequacy	2.54	.91
	Collegial nurse-physician relationships	2.05	.77
	Nurse manager ability, leadership and support	2.00	1.04
	Nursing foundations for quality of care	2.79	.14
	Nurse participation in PHC/CHC affairs	1.73	.38
	Average of the total number of factors higher than 2.5 per CHC	**1.83**	**1.117**
CHC W (n = 7)	Staffing and resource adequacy	2.07	.66
	Collegial nurse-physician relationships	2.90	.49
	Nurse manager ability, leadership and support	2.75	.75
	Nursing foundations for quality of care	3.27	.20
	Nurse participation in PHC/CHC affairs	2.78	.54
	Average of the total number of factors higher than 2.5 per CHC	**3.29**	**.95**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC X (n = 5)	Staffing and resource adequacy	2.25	.47
	Collegial nurse-physician relationships	2.49	.58
	Nurse manager ability, leadership and support	3.05	.27
	Nursing foundations for quality of care	3.27	.48
	Nurse participation in PHC/CHC affairs	2.24	.41
	Average of the total number of factors higher than 2.5 per CHC	**3.40**	**.89**
CHC Y (n = 11)	Staffing and resource adequacy	1.89	.60
	Collegial nurse-physician relationships	2.62	.33
	Nurse manager ability, leadership and support	2.55	.57
	Nursing foundations for quality of care	2.98	.33
	Nurse participation in PHC/CHC affairs	2.19	.61
	Average of the total number of factors higher than 2.5 per CHC	**2.64**	**1.43**

Table 4.14 Descriptive statistics to determine the CHC with the most favourable PE (continued)

CHC NAME	Five sub-scales	Mean (M)	Standard deviation (SD)
CHC Z (n = 14)	Staffing and resource adequacy	2.32	.79
	Collegial nurse-physician relationships	2.32	.49
	Nurse manager ability, leadership and support	2.36	.83
	Nursing foundations for quality of care	2.98	.43
	Nurse participation in PHC/CHC affairs	2.21	.64
	Average of the total number of factors higher than 2.5 per CHC	**2.43**	**1.87**

The CHC with the most favourable PE is CHC R and the CHC with the least favourable PE is CHC V. When looking at the mean of all the sub-scales measured simultaneously, there is a great difference between CHC R with the most favourable PE (M 4.71) and CHC V with the least favourable PE (M 1.83). The sub-scales namely collegial nurse-physician relationships (M 2.05), nurse manager ability, leadership and support (M 2.00) and nurse participation in PHC/CHC affairs (M 1.73) of CHC V were below 2.5, indicating that there was general disagreement that the characteristics of these sub-scales were present in the current PE (Lake, 2002). When comparing the sub-scales measured in CHC R the mean was very high, and all the sub-scales scored with a mean above 2.5. CHC R in reality excelled among all other institutions in the public health care sector of South Africa, because a study conducted by Coetzee *et al.* (2013:14) in the public hospitals of South Africa, revealed that there were no public hospitals that had a favourable PE. Although their

findings were applied to the hospital context, both the hospitals and CHCs form part of the public health care institution.

The researcher thereafter compared the M of CCUs in South Africa with the CHC with the most favourable PE in the North West Province. The sub-scale staffing and resources (M 2.33) in CCUs and (M 2.82) in CHC R; sub-scale manager ability, leadership and support (M 2.64) in CCUs and (M 3.32) in CHC R; sub-scale collegial nurse-physician relationships (M 2.70) in CCUs and (M 3.41) in CHC R; sub-scale Nursing foundations for quality of care (M 3.11) in CCUs and (M 3.60) in CHC R; and sub-scale participation in hospital affairs (M 2.43) and participation in PHC/CHC affairs (M 3.12). From the mean above it is clear that the nurses in CHC R were more in agreement with the characteristics measured by the PES-NWI than nurses in CCUs.

During interpretation of the data obtained the researcher also noticed certain trends in all the different CHCs. It appears as if the Staffing and resource adequacy sub-scale most frequently scored below 2.5 followed by nurse participation in PHC/CHC affairs; nurse manager ability, leadership and support and lastly, collegial nurse-physician relationships. None of the CHC scored nursing foundations for quality of care below 2.5. Therefore, this sub-scale was perceived as very positive by the nurses working in the CHCs of North West Province.

Table 4.15 Descriptive statistics of each of the items of the CHC with the most favourable PE

Sub-scale	Items	Mean (M)	Standard Deviation (SD)
Staffing and resource adequacy	1. Adequate support services allow me time to spend with my patients.	3.00	.82
	8. Enough time and opportunity to discuss consultation uncertainties with other nurses	3.57	.54
	9. Enough registered nurses on staff to provide quality patient consultations	2.29	1.25
	12. Enough staff to get the work done	2.43	.98
Collegial nurse-physician relationships	2. Physicians and nurses have good working relationships	3.57	.54
	7. Physicians value nurses' observations and judgements	3.14	.38
	13. Physicians recognize nurses' contributions to patient consultations	3.29	.76
	17. A lot of team works between nurses and physicians.	3.57	.54
	21. Physicians respect nurses as professionals	3.71	.49
	26. Collaboration between nurses and physicians	3.29	.49
	30.Physicians hold nurses in high esteem	3.29	.49
Nurse manager, ability, leadership and support	3. A supervisory staff that is supportive of nurses	3.29	.76
	10. A nurse manager who is a good manager and leader	3.43	.79
	14. Praise and recognition for a job well done	3.00	1.0
	22. An operational manager who backs up the nursing staff in decision-making, even if the conflict is with a physician	3.57	.54

Table 4.15 Descriptive statistics of each of the items of the CHC with the most favourable PE (continued)

Sub-scale	Items	Mean (M)	Standard Deviation (SD)
Nursing foundations for quality of care	4. Active staff development or continuing education programmes for nurses	3.71	.49
	15. High standards of patient consultations are expected by the management	3.86	.38
	19. A clear philosophy of nursing that pervades the Batho Pele principles	3.43	.54
	20. Working with nurses who are clinically competent in the PHC context	3.57	.54
	24. An active quality assurance programme	3.29	.76
	27. An orientation programme for newly employed nurses	3.29	1.11
	28. Nursing care is currently based on a comprehensive model which includes preventative, promoting and primary care-related curative rather than a medical model	4.00	0.00
	31. Written, up-to-date consultation records for all patients	3.71	.49
	32. Patient care assignments that foster continuity of care (e.g. the same nurse follow-up patients with follow-up visits e.g. chronic diseases, dressing of wounds)	3.57	.79

Table 4.15 Descriptive statistics of each of the items of the CHC with the most favourable PE (continued)

Sub-scale	Items	Mean (M)	Standard Deviation (SD)
Nurse participation in PHC/CHC affairs	5. Career development/clinical ladder opportunity	3.29	.49
	6. Opportunity for registered nurses to participate in policy decisions	2.86	.90
	11. A chief nursing officer who is highly visible and accessible to staff	3.43	.54
	16. An operational manager is equal in power and authority to other top level districts health programme managers.	3.00	1.10
	18. Opportunities for advancement	3.14	.38
	23. Management that listens and responds to employee concerns	3.29	.49
	25. Registered nurses are involved in the internal governance of the clinic/CHC (e.g. clinic/CHC do have practice and policy committees)	2.86	1.07
	29. Registered nurses have the opportunity to serve on task teams within the sub-district	3.14	.69

After analysis of the items (n = 7) in CHC R, the CHC with the most favourable PE in the North West Province, it was interesting to notice that all of the 32 items except 2 found in the sub-scales staffing and resource adequacy scored above 2.5.

The items under the sub-scale nurse manager, ability, leadership and support also reflected that the nurses were in agreement with the items and sub-scale, as the mean scores ranged between (M 3.00 and 3.57). The highest mean score (M 3.57) was for item 22, and the lowest score was for item 14 (M 3.00).

Under the sub-scale staffing and resource adequacy, item 9 had a mean value of (M 2.29) and item 12 had a mean value of (M 2.43). These two mean scores indicated that the nurses of CHC R felt that these items were not evident in their current PE

(Lake, 2002). These findings correlated with other studies conducted in the public health care sector of South Africa which also found that the public health care sector is affected by inadequate staffing and resources (Coetzee *et al.,* 2013:5-6; Klopper *et al.,* 2012:686; DoH, 2011:9 and Pillay, 2009:1).

The items under the sub-scale collegial nurse-physician relationships indicated that the lowest score was item 7 (M 3.14) and the highest score was item 21 (M 3.71).

In the sub-scale nurse participation in PHC/CHC affairs, item 6 (M 2.86) and item 25 (M 2.86) had the lowest mean scores whereas items 5 and 23 both (M 3.29) had a high score, indicating that these items was evident in their PE (Lake, 2002).

The items in the sub-scale nursing foundations for quality of care item 28 had high mean score (M 4.00; SD 0.00) and the lowest score was item 24 (M 3.29) and item 27 (M 3.29). This high mean score of item 28 (M 4.00; SD 0.00) was significant as all nurses agreed on that item.

4.3 INTEGRATED DISCUSSION

From analysis of the demographic profile of the CHCs and nurses working in the CHCs of North West Province and PES-NWI which measure the characteristics of the PE through five sub-scales which include nurse manager ability, leadership and support, staffing and resource adequacy; collegial nurse-physician relationships; nurse participation in PHC/CHC affairs and nursing foundations for quality of care. In view of this, an integrated discussion follows.

The demographic profile of CHCs in the North West Province indicated that the average distance a CHC was located from the nearest referral hospital was 36 km. Most of the CHCs are open 24 hours a day and offer services such as IMCI, ante-and-post-natal services, reproductive health, immunizations, STIs, common conditions, chronic diseases, mental health, ARV treatment, counselling, and health education with rehabilitation home visits, trauma, mobile clinics and home visits only at selected CHCs. There was an average of four consulting rooms in each CHC; this is number of consulting rooms that government intended for CHCs, but was not the norm in all the CHCs. The CHCs are confronted with the fact that 83% of the South African population is depending on the public health care sector for health care

services because in the PHC approach CHCs and clinics is the first line of health care for all patients, before referred to the hospital. The average number of patients consulted per month in CHCs of the North West Province is 3 545, with an average of 40 patients consulted by each nurse per day.

In the CHCs there is an average of eleven registered nurses with an average age of 40 years. Sixty-six per cent (66%) of nurses in CHCs are females and 34% are males. The average age nurses started their career as a registered nurse is 31 years. The average years that a nurse was registered for was ten years. Ninety-seven per cent of nurses were full-time employees and had worked on average 5 years in a CHC. Seventy-four per cent had a diploma in nursing, and 36% a baccalaureate degree. These findings correspond with the SANC statistics, which indicates that more nurses have a diploma than a degree in the North West Province. Only one nurse completed his/her studies in another country than South Africa, which was low as research studies reveal that many nurses of African countries migrate to South Africa in order to find better work conditions and opportunities.

An average of five auxiliary and one enrolled nurse are employed in the CHCs. This indicates that there is less support available for the registered nurse in the CHC because enrolled nurses have a bigger Scope of Practice than an auxiliary nurse, therefore, the enrolled nurse can assist the registered nurse in more tasks in the CHC than the auxiliary nurse. As mentioned previously there is an average of eleven registered nurses working in the CHCs of which an average of four (36%) nurses with the Clinical Nursing Science, Health Assessment, Treatment and Care qualification, which is relatively low when keeping in mind that for the elected government of 1994 the focus has been on PHC for the past eighteen years and the Skills Development Act that was passed in 2000, which is already twelve years ago. Overall, the staff turnover rate of nurses which included transfers, resignations and appointments was very low. This could be related to the high percentage of 85% of nurses who are satisfied with nursing as a career. Another reason could be that government implemented an Occupation Specific Dispensation (OSD). This provides nurses with benefits and allowances in addition to their salaries, and nurses with the Clinical Health Assessment, Treatment and Care qualification also receives this allowance. Another contributing factor could be that governments' main health care

focus is PHC, so that the nurses in CHCs of North West Province possible feel they have better career advancement opportunities and remuneration in the PHC context than nurses working in the hospital context.

Currently the average number of patients referred to the physicians is fifteen patients per day, which is very positive as fourteen years ago only 53% of clinics (CHCs in this study) were visited only once a month by a physician. An average of five patients is referred to the nearest referral hospital per day, which is relatively low when keeping in mind that an average 147 patients are consulted in the CHCs per day. But due to various factors that include the population served is of low socio-economic status, CHCs that are located an average distance of 36km from the nearest referral hospital; reduced availability of public transport in rural areas and ambulance services that has to serve many clinics and CHCs it is understandable that only 5 patients can be referred.

The descriptive statistics of all CHCs in the North West Province indicated that there were two sub-scales namely staffing and resource adequacy (M 2.33) and nurse participation in PHC/CHC affairs (M 2.43) which had a score lower than 2.5, therefore the nurses felt the items in these two sub-scales was not evident in their PE. However, nursing foundations for quality of care was perceived as the most positive (M 3.11), secondly collegial nurse-physician relationships (M 2.70) and lastly nurse manager ability, leadership and support (M 2.64). The highest means score (M 3.11) nursing foundations for quality of care was also found in other South Africa studies conducted in CCUs of South Africa, the sub-scale nursing foundations for quality of care (M 2.93) with the highest score (Klopper *et al.,* 2012:689) possibly indicating that nurses in specialized fields of nursing in South Africa feel they provide quality care to patients.

The descriptive statistics of CHC R revealed that all the sub-scales were above 2.5, indicating that all these sub-scales were evident in their PE (see Table 4.14). However, descriptive statistics of each of the individual items of the CHC with the most favourable PE indicated that all the items but two items (item 9 (M 2.29) and item 12 (M 2.43)) had a score above 2.5. Both these items were under the sub-scale staffing and resource adequacy. Item 28, however, had a significant score (M 4.00) under the sub-scale nursing foundations for quality of care.

4.4 CHAPTER SUMMARY

In this chapter the researcher discussed the findings of the quantitative data in-depth, reaching objectives 1 and 2 of this research study. These findings together with the findings of the qualitative data of Chapter 5 and the WHO Strengthening of Health Systems and Fourteen Forces of Magnetism Frameworks (see Chapter 1 [1.5.2.3]) assisted the researcher in reaching the overarching aim of this study as well as objective 4 (see Chapter 6 [Table 6.2 and Table 6.9]).

In the following Chapter (see Chapter 5) the researcher discusses the qualitative data findings in-depth.

CHAPTER 5

RESEARCH RESULTS

(Phase 1: Objective 3)

5.1 INTRODUCTION

In Chapter 4 a detailed discussion of the research results of phase 1 objective 1 and 2 were undertaken. In this chapter a detailed description is given of the research results of phase 1, objective 3. Table 5.1 indicates the structure of the research project indicating the method for Phase 1, objective 1, 2 and 3 and Phase 2, aim of study and objective 4.

Table 5.1: Structure of research study indicating the phases and objectives

Phase 1: Situational analysis in order to compile evidence regarding the PE of nurses in the CHCs in the North West Province
Objectives
Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province.
Objective 2: To explore and describe the status of PE in CHCs in the North West Province.
Objective 3: To explore and describe the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in the North West Province.
Phase 2: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province
Overarching aim
Overarching aim: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province.
Objective
Objective 4: To develop guidelines to facilitate PPE in CHCs in the North West Province.

5.2 REALIZATION OF DATA

5.2.1 Realization of data collection

In order to reach objective 3 of this study, which was to explore and describe the perceptions of the managers, physician and nurses (n=10) in the CHC with the most favourable PE in the North West Province, the researcher conducted semi-structured individual interviews.

A few days before conducting the interviews, the researcher briefed the operational manager on the process to be followed on the day of the interviews. On the day of the interviews, the researcher was welcomed by the operational manager. The researcher was then taken to the office which the operational manager identified as the office where the interviews could take place during the day. The researcher arranged the chairs in a comfortable manner, opened the widows for fresh air, placed a notice on the door saying that there are interviews in progress, and then took the telephone out of the office to ensure that there were no interruptions while conducting the interviews.

Since the researcher had briefed the operational manager on the study in a previous meeting and discussed the process to be followed on the day, the operational manager pre-arranged and informed the participants willing to participate in the study in advance (see Chapter 3 [3.3.2.2]). Due to the assistance received from the operational manager, the procedure followed during the conducting of the interviews went very smoothly.

Before conducting the interviews, the participants received an information letter and informed consent form (see Appendix I) to read and complete. If the participant signed the informed consent, the participants were again verbally briefed on the purpose and objectives of the study. The participants were informed that they could stop or withdraw from the interview at any time without penalty. The use of the digital recorder was then explained to the participants and thereafter tested to ensure that it was in working order. This process was followed with each of the participants prior to the interview. Thereafter the semi-structured individual interviews were conducted. Each interview lasted between 20 and 40 minutes.

After conducting the interviews the participants were thanked and asked whether they had any other questions or uncertainties regarding the interview. No problems were encountered after any of the interviews. Thereafter, the researcher wrote field notes, which are notes of verbal and non-verbal observations made during the interviews (Welman *et al*., 2010:199) in order to ensure that the researcher remembered all the contributing factors during the interviews. Lastly, after conducting the interviews, the researcher was taken on a tour through the CHC.

5.2.2 Realization of data analysis

As mentioned earlier the interviews were recorded with a digital recorder. The ten interviews consisted of staff of the CHC and involved:

- Assistant PHC director (n = 1)
- Physician (n = 1)
- Operational manager (n = 1)
- Nurses (n = 7)

The ten semi-structured individual interviews were transcribed verbatim and numbered. After the interviews had been transcribed the researcher and co-coder started data analysis. The data analysis procedure followed was Tesch's eight steps for open coding (cited in Creswell, 1994:153-155 and Creswell, 2003:192-193) (see Chapter 3 [3.3.4.2]). Coding is done to reduce the enormous amount of data obtained into more manageable and comprehensible texts in order to make sense of the data collected (Welman *et al.*, 2010:213 & 214). This is done by placing codes (tags) next to text in order to add meaning to the raw data obtained. These codes (tags) enable the researcher to categorise the data according to particular themes, sub-themes (Welman *et al*., 2010:214) and sub-codes. Themes identified are the "umbrella constructs which are usually identified by the researcher before, after and during data collection" (Welman *et al.*, 2010:211).

Table 5.2 indicates the four (4) themes namely support; leadership and governance; collegial nurse-physician relationships and factors influencing quality of care with their respective sub-themes found during data analysis.

Table 5.2: Themes and sub-themes identified during the semi-structured individual interviews with the assistant PHC director, physician, operational manager and nurses regarding their perceptions of the CHC with the most favourable PE in the North West Province

Main-themes	Sub-themes
1. Support	1. Reciprocal community involvement ▪Acknowledging the importance of intermediates as stakeholders ▪Acknowledging the importance of communication and support between the CHC and stakeholders ▪Problem-solving and management of stakeholders' problems within the CHC
	2. Group cohesion ▪Strong group cohesion through positive interpersonal support ▪Strong group cohesion through positive organizational support
2. Leadership and governance	1. Leadership ▪Leadership characteristics ▪Teamwork ▪Ownership
	2. Official managerial structure ▪Meetings ▪Allocations
	3. Participative decision-making culture

Table 5.2: Themes and sub-themes identified during the semi-structured individual interviews with the assistant PHC director, physician, operational manager and nurses regarding their perceptions of the CHC with the most favourable PE in the North West Province (continued)

Themes	Sub-themes
3. Collegial nurse-physician relationships	1. Healthy professional relationships
	2. Professional competence and an informal nurse-physician teaching/learning culture
4. Factors Influencing quality of care	1. Factors that increase quality of care ▪Clinical audits, policies and guidelines ▪Nursing skills ▪Nurse attitude and dedication
	2. Factors that decrease quality of care ▪Lack of resources ▪Limited infra-structure ▪Limited support from pharmacy ▪Staff shortages

5.3 DISCUSSION OF RESULTS AND EMBEDDING OF RESULTS IN LITERATURE

During the discussion of the results of the qualitative data, the main themes and sub-themes are described (see Table 5.2). The coding that appears at the end of the excerpts such as: (1/7/1:77), refers to theme 1, interview number 7, page number 1, line 77 from which the excerpt is drawn. The discussion of the results follows.

- **Theme 1: Support**

In the following paragraphs the researcher discusses the sub-themes that emerged from the data analysis under the theme: Support

Table 5.3 Theme: Support

Theme	Sub-themes
Support	1. Reciprocal community involvement ▪Acknowledging the importance of intermediates as stakeholders ▪Acknowledging the importance of communication and support between the CHC and stakeholders ▪Problem-solving and management of stakeholders' issues within the CHC
	2. Group cohesion ▪Strong group cohesion through positive interpersonal support ▪Strong group cohesion through positive organizational support

During data analysis the researcher found that one of the themes that emerged was **support** with sub-themes ***reciprocal community involvement*** and ***group cohesion***.

Under the sub-theme ***reciprocal community involvement***, the researcher established that acknowledging the importance of intermediates as stakeholders, acknowledging the importance of communication and support between the CHC and stakeholders, and lastly problem solving and management of stakeholders' problems within the CHC are positive contributing factors in creating a favourable PE.

Reciprocal community involvement is central to PHC, as this is important to ensure not only health literacy[6] in the community (Naledi *et al.*, 2011:25) but also engagement of different stakeholders. Consequently, involvement of the community is one of the core leadership dimensions of managers in the public health sector (Gilson & Daire, 2011:71).

According to Gaede and Versteeg (2011:104) nurses and physicians form strong relationships with the community in some rural health care facilities as this is crucial to strengthening health systems. CHC R involve the community by utilizing intermediates[7] consisting out of chiefs, councillors and NGO caregivers. These intermediates are a great form of support for the nurses in CHC in order to be able to identify issues regarding the access and non-access of services, enhancement of health literacy as well as strengthen health systems at the district level (HST, 2003:2 & 3; Naledi *et al.,* 2011:25).

In this study the researcher uses the term intermediate[7] to refer to the chief, councillors and NGO caregivers, who are the leaders in the community. They assist CHC R in the identification of health issues or communication of new health policies and guidelines in health care to the community and vice versa. However, the stakeholders in the CHC are not only the intermediates, but also the community members.

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[6] In this study health literacy means that an individual is able to read, comprehend and make health decisions after health care information was given.

[7] In this study the term intermediates refers to the chief, councillors and NGO caregivers.

…involve the tribal office, the chief, if there is anything we go to the tribal office and we work hand in hand, we also involve the councillor for this ward... (1/7/1:22-23)

and

…if the staff also feel that the community also owns the, the health centre they will know how to interact with the, the community you know, if they (CHC) make sure they (community members) know their guidelines, their protocols so they follow what is expected of them, I think that will enhance quality of care… (4/1/7:221-224).

Therefore, acknowledging the importance of intermediates as stakeholders plays a very important role in the successful operation of a CHC.

Acknowledging the importance of communication and support between the CHC and stakeholders on the other hand ensures a partnership

…Firstly we (CHC) arrange a meeting with the tribal office for the community to give them information if there are certain developments or changes in certain programmes we need to give the community the information, so most of the time we go through the tribal office they will call the community to address it. The other issue if there is a general meeting for the community, the chief knows that he will call us to say something if we've got anything for the community to say… (1/7/2:33-38).

This partnership ensures that the operations with regard to health management and quality of care within the CHCs are handled smoothly as concerns are resolved and health promotion information is communicated rapidly within the community

…we've (CHC) got eh clinic forums where we have meetings with the clinic forums, whatever is happening in the clinic they (intermediates) will be informed, whatever is a concern from the community they will bring that and then we (CHC) will be able to answer the concerns, so they will take that back to the community, that is how involve the community also at times we asked for a slot during a community meeting whereby if there is anything that we feel must be known by the community, it will be addressed at their, their

community meetings, that is how we involve the community… (1/1/8:230-236).

Communication is done continuously and ensures that all health concerns in the community are addressed quickly, as the intermediates are the extended arms of the nurses in working in the CHC

> *…they (stakeholders) are our extended arms if there is anything, any client, anything we need to trace in the community… (1/7/2:59-60)*.

Therefore, communication and support between the CHC and the community ensure that there is involvement of both parties in the CHCs planning and operation, which instils a feeling of partnership and ownership between both parties

> *…community involvement also plays a vital role you know, because you know the community should also feel that, they, own it, is you know the centre is also theirs, they must feel part of the health centre… (1/1/10:216-218)*.

Therefore, the success and sustainability of any organization (as in CHC R) is assured by the involvement of stakeholders (in this study the intermediates and community) (Rodger *et al.,* 2011:56).

Another very important factor that contributed to a favourable PE for CHC R was problem-solving and management of stakeholders' problems within the CHC. The importance of keeping the community pleased was assured by an open line of communication to promptly resolve problems of the stakeholder through discussions, quality improved questionnaires, complaints and compliments, register and suggestion boxes

> *…we've (CHC) got a suggestion box, we've got complaints and compliments register where they write, and we also do allow them (stakeholders) to come to me (operational manager) if there is anything, the office is open there are phone numbers to contact if there is any queries and we've got the questionnaire, quality improvement questionnaire, we give to them… (1/7/10:309-312)*.

The second sub-theme ***group cohesion*** strongly linked with *strong group cohesion through positive interpersonal support* and *organizational support*. *Strong group cohesion through interpersonal support* could be further divided into social support,

staff development and collegial support. According to Eng *et al.* (2010:106) social support that staff members receive from their managers positively influences the well-being of staff. The managers of CHC R have been shown to have a positive effect on staff members as they do not only give social support for problems

> *…Support for her (operational manager) staff, she is doing her best even if maybe for example I'll (nurse) come up with having some family problems, what, what she is there for advice, she is there for counselling, she is there for support and that is all I can say she is always there… (1/3/4:102-106)*

but also celebrations,

> *…on monthly basis we need to come together not just focus on work issues. Even, even if our self on our birthdays we need to come together, have a cake and then we go back to work…" (1/7/7:210-212)*

and

> *…sometimes we are having this social clubs, maybe someone is having a birthday then we do this… (1/9/6:151-152)*.

This cultivates a feeling of belonging and group cohesion between staff members and their managers.

The support, encouragement and opportunities the managers of CHC R give to their staff for staff development are evident

> *…I (operational manager) encourage them to develop themselves, they must apply for study leave the government is there to provide and then we (operational manager and nurses) share information. We do the duty schedule on education how can we help each other and then when coming to patient management if they experience anything because they (nurses) the one most of the time on the side of the patient they need to come with the issues we discuss that is the way of sharing of improving our knowledge… (1/7/6:184-189)*

and

> *…giving staff support is motivating them (nurses) to go and do training that is the support you should give…" (1/2/6/182-183).*

Staff development focuses not only on formal training (which must be scheduled and organized in advance), but also in-service training between nurses; and nurses and physicians. This manner of staff development is very positive as Ouweneel *et al.* (2009:28) state that various research studies have revealed that managers gain most from informal and on-the-job learning. This is because of the great challenges experienced in organizations; it is inevitable that knowledge, skills and competence of staff should be developed. Narayanasamy and Narayanasamy (2007:384) confirm that the development of staff is of the utmost importance to maintain the exclusive contribution that nurses make in health care with specific reference to practice, education and research. Therefore, staff development is an important factor which assisted CHC R in creating a favourable PE, as progressive and flourishing organizations have shown to have clear strategies on staff development (Narayanasamy & Narayanasamy, 2007:384).

Collegial support also plays an important role in CHC R. The nurses of CHC R are colleagues who consult each other when they have concerns. This collegial support includes consultations of the patient or any other matters that could potentially affect the smooth running and quality of care delivered at CHC R. This collegial support is not only between the nurses

> *…if you have a problem you just call your colleague come and look, let's look together am I doing the right thing… (1/10/8:247-248)*

but also between nurses and physicians

> *…me (nurse) and the doctors we are working together as a team more or less because if I'm having a problem we come and discuss it, you see, and they like that I must also learn something from them, I must do the right thing. That is why I say we are colleagues… (3/8/5:152-155)*

and the nurses and management

> *…we (managers and nurses) always come together and solve the problem if there is a problem… (2/5/4/124).*

As a result the maintenance of open communication is a very important component for professional collegiality (Faris *et al.*, 2010:43).

In CHC R sub-theme *strong group cohesion through positive organizational support* was seen by the managerial support within CHC and from sub-district office. In CHC R the support from the operational manager in the CHC, proved to be very positive.

…we (nurses) just go to the operational manager and give her our concern and in most instances whereby she will listen to us and, and give when we give us her advices about the challenges that we get in the clinic or some other things that need to be changed she listens to us… (1/9/5:130-133).

The operational manager of CHC R is not only supportive but also approachable, has a consultative relationship with her staff, is a good listener and is considerate. She supports her staff not only on a personal level by acknowledging nurses' input in when they are off duty, but also in the PE where the nursing staff are free to discuss any concerns regarding matters in CHC R.

> *…she (operational manager) always does consult us (nurses) with leave and when she does off duties, she always communicates with us… (1/4/4:118-119)*

and

> *…she (operational manager) calls you (nurse) and tries to find out what are your constraints in connection with your duties… (1/8/4:116-117)*.

Duffield *et al.* (2010:26) and Cohen *et al.* (2009:309) mention that managerial support includes a manager that has a consultative leadership, is flexible and allows staff to be actively involved in the development of their duty roster, all of which has a positive effect on staff members.

During analysis of the interviews the researcher found that there was not only support for the staff from the operational manager in CHC R, but also from the assistant PHC director at the sub-district office. The assistant PHC director not only discusses new policies and handling thereof with the staff in CHC R

> *…if there are policies, new policies, we (nurses and managers) we sit together and they (managers) show us new policy and they say we (nurses) must do this and this and this. They (managers) always discuss the policies or the guidelines… (1/5/8:228-230)*

but also visits the CHC on a regular basis

> *…I (assistant PHC manager) visit the health centre many, like six times a month or more, whenever there is a problem I visit there and I attend to whatever problems that crop up… (1/1/1:29-31)*.

This ensures that the assistant PHC director and operational manager are not divided as support is available when needed. The HST (2003:10 & 17) supports this type of management as they mentioned that the efficiency of an institution could be compromised if there is not efficient support at district and provincial level. Another author, Nelson (2011:55), confirms the positive effect of organizational support by mentioning that mitigating factors that are viewed as helpful for staff in the PE is support from the assistant director. In CHC R the managers are very visible and available, and this type of leadership is supported by Duffield *et al.* (2010:30) who stated that nurses want support from senior management in the form of accessibility, advisability, availability and visibility, which is evident in CHC R.

- **Theme 2: Leadership and governance**

In the following paragraphs the researcher discusses the different sub-themes that emerged from the data analysis under the theme: leadership and governance.

Table 5.4 Theme: Leadership and governance

Theme	Sub-themes
Leadership and governance	1. Leadership ▪Leadership characteristics ▪Teamwork ▪Ownership
	2. Official managerial structure ▪Meetings ▪Allocations
	3. Participative decision-making culture

During data analysis, another theme that emerged was **leadership and governance** and the sub-themes ***leadership***, ***official managerial structure*** and ***participative decision-making culture***.

According to Gilson and Daire (2011:69) leadership is a very important component to strengthen health systems. Naledi *et al.* (2011:25) concurred stating that leadership and governance and the involvement of the community (see theme 1, sub-theme 1) in the DHS is important for the overall success of PHC. As mentioned, leadership and governance are of utmost importance in strengthening health systems, as leadership and governance is one of the strategic priorities for Human Resources in the DoH for 2030 (DoH, 2011:11). Leadership is also seen internationally as critical in health system development, which is not a luxury, but a vital aspect of strengthening health systems, as mentioned by Julio Frenk, the previous Minister of Health in Mexico. As a result leadership should focus on establishing and creating a vision and strategic direction (goals) which is communicated to the staff members of an institution in order to motivate and align staff to achieve the overall vision and strategic goals of the institution (Gilson & Daire, 2011:70). In view of the above-mentioned leadership and governance were among the main themes that emerged during data analysis of CHC R, the CHC with the most favourable PE in the North West Province.

Under the sub-theme ***leadership***, the researcher established that *leadership characteristics* of the management of the CHC play an important role in the creation of a PPE. This is supported by Duffield *et al.* (2010:25); Cohen *et al.* (2009:313) and Upenieks (2003:140) who mentioned that the role that the nursing manager plays in the PE is of utmost importance for creation of a PPE and improving quality of care. The managers of CHC R have a democratic leadership style

> *…somebody (operational manager) who is very open you know I am somebody that is democratic. I practice democratic leadership, where it is applicable I apply authority, where it is applicable you know I am not just, I cannot say, I am straight forward democratic leader or authoritative leader you know I apply what is relevant to the situation at the time… (2/1/4:124-128)*

and

> *…democratic type of a leader, I don't prefer mothering type of a leader. To baby-sit no, I like to develop them, they must be free. And then they must not be afraid of me they must take me like anybody else, as long as there is respect between us… (2/7/7:194-196)*.

This leadership style makes sure that all staff participates in the decision-making regarding matters of the CHC. This is supported by Robbins *et al.* (2009:360) who stated that a democratic leader gives staff the opportunity to give them advice during decision-making. The operational manager of CHC R also has an authoritative role, but on the other hand makes sure that staff feel comfortable about approaching her when necessary

> *…the leadership is good. Ja, she is so approachable. If she doesn't like something, she always confronts us and tells us I don't like this and this and this and we try to make things right… (2/4/5:132-134)*.

Another important characteristic that the operational manager of CHC R reveals is that she is fair

> *…she is fair and firm at the same time… (2/8/4:118);*
>
> *…she is treating everyone equally and where disciplinary measures are needed, she always applies them, she doesn't have a favourite she is doing her best… (2/3/3:89-91)*

and makes sure that staff have the freedom to participate in and communicate important matters regarding the management of the CHC

> *…communication, active involvement of staff, openness, transparency… (2/7/7:205-206)*.

As seen above, a democratic leadership style supports a participative decision-making culture in the CHC.

Another important leadership characteristic the managers of CHC R have is the ability to instil *teamwork*

> *…we are working as a team and we also relieve each other then whether there's a shortage… (2/3/1:10-11);*
>
> *…because it is one of the team members, yes we are working together, if she cannot pull that fight one side is going to collapse… (2/8/9:282-283);*
>
> *…what makes me to be supported is the very teamwork … (2/1/4:110-111)*

and

> *…I think that makes this one maybe stand out is that I know that there is teamwork at that CHC… (2/1/2:61-62)*.

Teamwork is a key factor to ensure a PPE, motivate staff, ensure that the goals of the CHC are achieved and quality of care is delivered to the individual, family and community which prevent a negative attitude in nurses. This is supported by Upenieks (2003:147) who stated that collaborative nurse teamwork assures high performance in the organization and ensures that organizational goals are achieved. As a result teamwork can prevent feelings of burnout, exhaustion and staff having a negative attitude towards patients (Bowers *et al*., 2011:147).

The management of CHC R also creates a feeling of *ownership* and accountability among its staff

> *…have instilled into them the fact that everybody must feel responsible for what she/he is doing. Everybody must own the management of the health centre, by so doing every category was allocated a responsibility so that even the cleaner should feel that not only the manager of the health centre is responsible for everything. If something that is allocated to her, she must own*

that and be responsible, and be able to you know have an authority, she can even call to order a manager to say not this way but that way because she feels responsible also owning the management of the health centre… (2/1/3:69-75).

All the categories of staff in CHC R feel they have a purpose and that they are part of the same team, working towards the same goals. Duffield *et al*. (2010:26) support this by mentioning that good leadership promote strong relationships of staff and encouragement of a strong sense of purpose (ownership) and pride in the PE.

Under the sub-theme ***official managerial structure*** the researcher noticed that meetings and allocations contribute to the creation of a favourable PE. The *meetings* included meetings held within the CHC and meetings held with the sub-district office. The operational manager of CHC R ensures that there is a meeting held every morning in CHC R where staff has the opportunity to express their problems in order for the group to brainstorm and resolve the problems, before the day starts

…there is a little meeting in the morning where we (nurses and operational manager) express our problems or solve our problems … they are fixed because every morning, it is an every morning thing… (2/5/7:192-196)

and

…we (nurses and operational manager) always have the meetings. The professional nurse meeting sometimes it's all the workers, the cleaners, the councillors, we all have the meetings and we discuss whatever we struggle with concerning our patients…" (2/4/6:176-178).

These gives the operational manager and staff the opportunity to interact with each other regarding matters in the CHC, ensuring satisfaction and collegiality among staff members

...holding meetings with the staff you become part of them you are not only the manager there on top ... (2/1/4/111-112).

This type of official managerial structure is supported by Duffield *et al.* (2010:26) and Erenstein and McCaffrey (2007:304 & 306) who stated that staff are satisfied when the manager consults with their staff frequently to obtain staff input on problems experienced on a daily basis. Faris *et al.* (2010:43) also added that regular staff

meetings establish “a sense of collegiality and serve as a forum to discuss problems, define roles and duties, resolve misunderstandings, as well as foster a collaborative environment for creative problem solving”. This enables managers to identify staff needs on an ongoing basis (Alspach, 2009:16-17).

This CHC also prides itself on good communication between themselves and the sub-district office

> *…there is a meeting that we (sub-district manager with operational managers) hold on a monthly basis, the local area meeting; there is a local area manager and other operational managers where we discuss different issues… (2/7/13:390-392)*

and

> *…and there is an extended management meeting, isn’t it that it is their (sub-district managers) meeting extended to us the operational managers of different facilities to get the feedback and to discuss our issues… (2/7/13:397-399)*.

As mentioned previously Faris *et al*. (2010:43) claimed that regular communication through staff meetings with supervisors contributes to a good collegial relationship and also gives staff the opportunity to discuss matters that need attention. In CHC R it is clear that there are various meetings held with different members to ensure that there is an open line of communication between the different parties. These parties include the assistant PHC director with other sub-district managers, assistant PHC director with operational managers and the operational manager with the nurses working in CHC R. Therefore, meetings ensure that all members of the CHC feel involved and know what is going on in the governance of the CHC, and encourages staff to work towards the same goals.

In CHC R the operational manager also creates an official managerial structure through allocations

> *…I think what the matron (operational manager) is been able to do quite well is allocation of, of, of chores, even when meetings are there in the morning, even when I come I already know who’s doing what, I can identify who’s doing ARV in the clinic, I can identify who is doing midwifery, who’s doing, so it’s*

easier, now if there is no allocation of work that is done properly, sisters will just stand around… (2/2/4:101-105)

and

…someone (operational manager) who allocates things quite well… (2/2/3:78).

According to Erenstein and McCaffrey (2007:304) nurses need an environment that provides the nurse with a structure that enhances their practice and is done through allocation of work in CHC R.

In CHC R there is a ***participative decision-making culture***. This makes the nurses in CHC feel part of the CHC, because they are consulted in every problem where everyone (even the lower categories, when necessary) brainstorms and is given the opportunity to give their input before a final decision is made, except when is it not possible to involve everyone.

…active participation of staff involving them in management of the facility everything we (nurses and operational manager) just put things on the table, brainstorm and come with the way forward (2/7/1:12-14);

…I (operational manager) like open discussion, staff involvement all categories. I must not take unilateral decisions most of the time I must listen to them, to them, I must be a good listener and sometimes what they are saying I must try to implement so that it must not be me always in charge, the in charge. Even those lower categories, their decision must be respected, yes and then the communication, I encourage two-way communication… (2/7/6/163-168);

and

…we (nurses) are being called and sit down to discuss the things. She (operational manager) does not take decisions on her own, she makes a point that everybody brainstorms on that particular matter and then we can take decision. You know everybody should understand about informed decision… (2/8/6:168-170).

This ensures that every person working at CHC R has a sense of responsibility and pride which promotes strong relationships among all staff members, enabling staff to experience job satisfaction in their PE. Participative decision-making cultures are supported by Duffield *et al.* (2010:26) who stated that participative management is characteristic of a manager that seeks staff ideas, incorporates decision-making and communication, ensuring lower staff turnover rates as staff experience job satisfaction.

- **Theme 3: Collegial nurse-physician relationships**

In the following paragraphs the researcher discusses the different sub-themes that emerged in data analysis under the theme: collegial nurse-physician relationships.

Table 5.5 Theme: Collegial nurse-physician relationships

Theme	**Sub-themes**
3. Collegial nurse-physician relationships	1. Healthy professional relationships
	2. Professional competence and an informal nurse-physician teaching/learning culture

Under the theme **collegial nurse-physician relationships** there were two sub-themes identified which include ***healthy professional relationships*** and ***professional competence and an informal nurse-physician teaching/learning culture***.

In CHC R there are a ***healthy professional relationship*** between nurses and physicians. The nurses feel very comfortable with the physicians as they work together as colleagues in a team

…the level of relationship is of a team is of a colleague… (3/1/5:152)

and

> *…the gap (physicians treating nurses as sub-ordinates) is closed now, why I am saying that is, is that even the doctor consult the professional nurses, he will ask something from the nurses… (3/1/5:147-148)*.

It is evident that the nurse-physician relationships in CHC R are based on trust and respect for each other's professions, which ensures better management of patients

> *…they (physicians) include us in the decision-making especially when coming to the management of the patient… (3/9/7:193-194)*.

This relationship of trust, respect and being part of a team is supported by Schmalenberg and Kramer (2009:77) who concurred that collegial relationship are based on a relationship of trust, power and respect for each other. Therefore, this "good" relationship amongst nurses and physicians not only increases job satisfaction among them, but also most importantly ensures quality of care for the individual, family and community (Schmalenberg & Kramer, 2009:74 & 76).

During analysis of the interviews it was also clear that there is a ***strong professional competence and teaching/learning culture*** adopted in CHC R. The relationship between the nurse and the physician in CHC R could be based on a student-teacher relationship where either the physician or the nurse plays the role as teacher

> *...they (nurses) undergo thorough teaching through me (physician) they know me as the teaching doctor… (3/2/7:210)*

and

> *…I (physician) am here to teach and obviously even from them (nurses) I am learning. All right, I will be learning because some of them have been in, in you know in the health industry for many years, so I will learn some stuff from them, but basically as a doctor here there are some cases will need me and I will teach. And you know health industries, you know learning is continuous, its, its till we die…" (3/2/7:218-223).*

According to Ouweneel *et al.* (2009:29) learning in the PE can be defined as "the motivation to develop new patterns of behaviour and competence". This type of learning occurs during the normal working life, where the staff (nurses and physician;

nurse colleagues and nurses and manager) makes sense of learning experiences that they encounter. Informal learning in the PE is therefore more conducive, due to the fact that managers and colleagues (physicians and nurses; nurse colleagues) give more support and advice to each other in the same context, which enables staff to learn and apply new ideas than formal learning activities.

- **Theme 4: Factors influencing quality of care**

In the following paragraphs the researcher discusses the different sub-themes that emerged with data analysis under the theme: factors influencing on quality of care.

Table 5.6 Factors influencing quality of care

Theme	Sub-themes
4. Factors Influencing quality of care	1. Factors that increase quality of care ▪Clinical audits, policies and guidelines ▪Nursing skills ▪Staff attitude and dedication
	2. Factors that decrease quality of care ▪Lack of resources ▪Limited infra-structure ▪Limited support from pharmacy ▪Staff shortages

Under the theme **factors influencing quality of care**, the researcher identified ***factors that increase quality of care*** and ***factors that decrease quality of care***.

Under the sub-theme ***factors that increase quality of care*** the researcher identified the following: *clinical audits, policies and guidelines; nursing skills;* and *staff attitude and dedication*. These factors are within the control of the CHC. The *clinical audits* were done by the managers, especially the assistant PHC director

...I (assistant PHC director) usually conduct supervision visits to the health centre, I conduct clinical audit that will guide me whether they (nurses in CHC) are following the protocols, they are following the guidelines, they are following the policies… (4/1/1:20-22)

and

…I (assistant PHC director) conduct I do clinical audits monthly and I visit, I visit the health centre many be like six times a month or more whenever there is a problem I visit there and I attend to whatever problems that crop up but the formal clinical audit I do it monthly basis… (4/1/1:29-31).

Clinical audits are seen as a safe grip in quality improvement methods (Niroshan Siriwardena, 2010:357). It is the responsibility of directors of nursing to ensure high standards in quality of care (Duffield *et al.*, 2010:30), but according to Buthelezi *et al.* (1998:8) during the years around 1998 nurse supervisors did not visit the clinics (CHC in this study) routinely, only for administrative purposes. Naledi *et al.* (2011:22) added that during 2009 there was a large multi-sectoral health information system assessment done with the support from the WHO, and the findings revealed that there was a lack of sharing, monitoring and evaluating of health systems at various levels. Therefore, it is very positive that in CHC R the assistant PHC director takes the responsibility of clinical audits very seriously, as these audits are conducted on a monthly basis. She also takes the responsibility that if she finds any problems or has any uncertainties during the audits, the specific nurse is contacted immediately and the problem is resolved.

In the public health care sector of South Africa, there are different policies, protocols and guidelines to follow when consulting patients. During the analysis of the interviews the researcher noticed that communication, implementation of policies and guidelines are of utmost importance to the assistant PHC director, operational manager and nurses working in CHC R

…we (nurses) follow the policies that guide us, we follow the guidelines, we follow the protocols that guide use how to carry our practices toward delivering the health care that is needed by the users… (4/1/1:14-15);

and

…we (nurses) are using the protocols we are given, the national guidelines, the EDL (Essential Drug List)… (4/9/8:231).

Nursing skills were highlighted a few times in the interviews which assisted in the delivery of quality of care to the individual, family and community. According to Schmalenberg *et al.* (2008:55) a satisfying and productive PE is where nurses' personal desires are met and where nurses are clinically competent to deliver quality of care. Nurses in CHC R have good nursing skills and are supported to develop themselves more to increase nursing skills

…sisters (nurses) that are actually well informed, that are going through training, their showing interest in their work… (4/2/1:10-11)

and

…most of the staff (nurses and physicians) at CHC R (name of CHC) is well skilled yes… (4/6/3:46-47).

Thus, it is very important to not only establish a PPE and increase productivity but also ensure personnel are skilled to provide quality care to the rural communities who do not have access to secondary levels of health care. According to Oikonomidou *et al.* (2010:335) it is critical for nurses to be well-skilled when working in rural areas, to be able to deliver quality services to individual, families and community located in those areas. Therefore, the delivery of quality care to the consumer (individual, family and community in this study) ensures that there will be a reduction in the number of visits to the clinic, which has a positive effect on the workload of the CHC and the cost to patient, as these patients are very poor and transport is a problem (Faris *et al*., 2008:35).

According to Gilson and Daire (2011:74) one of the challenges that South Africa faces in the health sector is that the providers of health have abusive attitudes, which have developed into an organizational culture. This has become a great obstacle in the delivery of equitable and respectful health care services (quality of care in this study). Therefore, "values and attitudes" of nurses is one of the six most important areas identified in the Fast Tracked to Quality Programme of the DoH to address, in order to ensure quality of care. As "values and attitudes" of nurses should be more courteous and respectful (Whittaker *et al.,* 2011:63). In view of this, the attitude and

dedication that staff of CHC R elicited to their patients was already very positive, as staff attitude and dedication was identified as one of the factors that increase quality of care and assisted in the creation of a PPE in CHC R

> *…the attitude of the staff towards the, the user of the services also plays a vital role towards a positive practice environment, because your attitude will determine how the community is going to use the facility… (5/1/8/241-244).*

The staff walks an extra mile for patients

> *…We (nurses) make it a point that we must be sure that at least we do, we've taken extra mile to help the client, so that at least he can visit the clinic lesser because he was here and we gave everything which was necessary to be given to him/her… (4/8/1:23-25)*

and

> *… is hardworking if you go an extra mile every time you make a, you (nurse) make a point that you rather go an extra mile more than you working lesser… (4/8/8:234-235)*.

This extra mile is also seen when coming to nursing personnel's personal needs to rest, where they are willing to sacrifice their lunch and tea-times for the sake of the patient

> *…by sacrifices I (nurse) just mean sometimes you'll omit your tea or otherwise sometimes you cut your lunch when you are supposed to 45 minutes lunch hour, you find that you only take 30 minutes then you go to eat and from there you go back to the client… (5/9/3:58-60)*

and

> *…we (nurses) our tea times and our lunch. We don't go for teatime in time, lunch in time… (5/4/2:49).*

Therefore, s*taff attitude and dedication* are a very important factor identified in CHC R, because one of the Human Resource Strategies for the health sector 2012/13 – 2016/17 adopted by the DoH is not only to develop nurses knowledge and skills but also their attitude to the individual, family and community to improve health services (DoH, 2011:6).

Under the sub-theme, ***factors that decrease quality of care***, the researcher identified *lack of resources; limited infra-structure; limited support from the pharmacy*; and *staff shortages*. These factors were not in control of the CHC. *Lack of resources* in CHC R was caused by a lack of equipment and poor maintenance of equipment. According to Barragán (2011:51) a health care facility is defined by the equipment that is available. However, according to the World Bank, 67% of the world's nations are low – and middle income groups, therefore equipment to quality health care is seen as a luxury due to high poverty rates. The same author adds that when public health care facilities are visited in areas where there are high levels of poverty, the poor conditions in which patients have to receive health care is immediately noticeable. This lack of resources is also obvious (as in CHC R) in rural communities, due to historical inequalities in resource distribution, the environmental challenges and high levels of scarcities (Cooke *et al.,* 2011:109). These scarcities are also true for CHC R as basic medical equipment, for example oxygen tanks; manual BP (blood pressure) machines, thermometers, oxygen cylinders, incubators and delivery beds are not available

> *…we (CHC) don't have the, the manual BP machines; we do have the Dinamap and the Dinamap they went off at any time. Yes, we need to repair to service them, we need recharge them sometimes the electricity around the village here is on and off, it is troublesome… (4/7/4:112-115);*
>
> *…really we (CHC) had a problem with the use of oxygen cylinder, because we got many emergency cases to use the oxygen cylinder and another issue the suction machines, we do need more suction machines… (4/7/5/133-135);*
>
> *…the BP machines for example the thermometers and then medications we (CHC) do not have enough… (4/3/8:226-227);*
>
> *…working incubators, enough delivery beds, these ones they are old and then they are so strenuous you have to bend down and do everything… (4/3/8:231-232);*
>
> *…oxygen cylinders, sometimes its open, sometimes there is no oxygen cylinders, sometimes they (oxygen cylinders) are not there at all… (4/4/3:79-80);*

and

> *…the maternity, our incubator they are not in working order… (4/3/2/46-47).*

This affects not only the quality of care delivered to the patient, but also the PE of the nurse, as the nurse is not able to deliver basic care to the patient. Severe lack of equipment can also cause nurses to possibly feel negative, because their PE is not conducive and restrict therefore, the quality of care delivered to the patient. This statement is supported by Nelson (2011:55) and Okonomidou *et al.* (2010:336) who concurred that the lack of physical resources, which include equipment and supplies, affects quality of care as well as job satisfaction in the PE of not only nurses, but also physicians as there are restrictions in the delivery of health care. Cohen *et al.* (2009:309) add that the efficiency and effectiveness of nursing personnel are affected by lack of equipment, supplies and resources. CHC R is also affected by poor maintenance of equipment even though it is reported by the nurses and managers

> *…we (CHC) are having resources but the most important problem is that, that a burning issue they (equipment) are not being serviced... (4/8/1:30-31);*
>
> *…they (technicians) don't come and make rounds and to make sure if it (equipment) is really in the good working order (4/8/2:37-38)*.

Barragán (2011:54) mentioned that the only way in which to address this issue is by donations of medical equipment, training of technical staff and providing maintenance support from outside sources.

Another factor that decreases quality of care is limited infrastructure. According to Buthelezi *et al*. (1998:20) limited infrastructure has been a problem for many years and is still true today as Gaede and Versteeg (2011:102) mentioned that these days infrastructure still has a negative impact on the quality of care delivered. Naledi *et al*. (2011:21), however, mention that there have been great investments in improving physical infra-structure in the PHC context the past few years, but despite this, there are still various facilities that still have great deficiencies. This is because there is a lot of attention paid to guidelines and medical audits for quality of care, but little on the structural condition of care centres for the performance of the medical personnel and the delivery of quality of care to the individual, family and community

(Oikonomidou *et al,.* 2010:333). However, despite this, the new re-engineering of PHC in South Africa will focus on prompt improvement of the infrastructure of health care facilities as a quality improvement measure (Whittaker *et al.,* 2011:60).

As mentioned CHC R is also affected by limited infra-structure at this stage with a lack of basic space which includes the waiting room, the consulting rooms, observation room, kitchen and delivery rooms

> *…and also the clinic it is too small. The structure is too big but the rooms are not enough, to accommodate each and every nurse to work there. Because we are having one maternity room and then our puerperium room sometimes we use it as the rest room for the patients so our structure is not well built, because it is an old structure… (4/3/2/53-56);*
>
> *…if they could try to make it conducive, if they could see this clinic it's long, it's not big there is congestion of patients. I we could at least have enough consulting rooms and enough space for the patients… (4/3/7:199-200);*
>
> *…I think because the space is too small because we (nurses) use that room only… (4/5/2:63);*
>
> *…firstly the structures if they can be improved. So that there can be enough space to decrease the waiting period of clients… (4/7/11:325-326);*

and

> *…ours (the CHC) it is very long, it is very small, whereby we don't have enough rooms, we don't have enough space we don't have a rest room for nurses and also our kitchen is very small… (4/9/5:121-123).*

Another factor that decreases quality of care in CHC R is limited support from the pharmacy. According to Cooke *et al.* (2011:108) there is a great shortage of pharmacy personnel in South Africa. This could explain the limited support from the pharmacy to CHC R, as CHC R is located in a rural area and the ability of the pharmacy to deliver adequate medication to patients is a challenge due to distance and transport. This result in patients not receiving adequate medication in time, which ultimately affects the quality of care delivered to the individual, families and communities (Gaede & Versteeg, 2011:103). This is of concern as a study conducted in 1998, by Buthelezi *et al.* (1998:18) indicated fourteen years ago that

North West Province had the necessary drugs available to patients. However, other factors according to Naledi *et al.* (2011:22) indicated that pharmaceuticals are one of the essential supplies to ensure quality of care delivered to the individual, family and community, but due to management system forecasting, procurement, warehousing and poor distribution, pharmacies are frequently out of stock, affecting CHCs. However, in view of this, one of the main strategies in the re-engineering of PHC in South Africa is to develop a Fast Track to Quality programme by the National DoH to ensure the availability of medicines, supplies and equipment to patients (Whittaker *et al.,* 2011:63). This is very positive for CHC R as lack of support from the pharmacy was also true for this CHC. During the interviews the staff of CHC R repeatedly mentioned that there was a lack of support from their pharmacy with regard to the delivery of medication. Some of these reasons include that medication is not delivered on time

> *…but the pharmacy they don't give our (CHC) orders in time, so sometimes there is lack of medication for the patient… (4/4/4:97-98);*
>
> *…we (CHC) struggle with the drugs that are not supplied, not supplied in time at our clinic, so but now the patients come in, and, only to find that their treatment is nowhere to found… (4/6/3:56-58);*
>
> *…if you order your materials things and we get them in time, so if to use them, if they are not there, they should tell us straight away that the articles we want are not there. That is positive attitude between us, interpersonal relationship between us health workers… (1/8/8:227-230);*
>
> *…we order in time, but the pharmacy they don't give our orders in time… (1/4/4:97);*

and

> *…didn't pack our, our stuff in time. The others (pharmacy staff) are gone for leave, the others so there is always a problem… (1/4/4:108-109).*

These pharmacy-related obstacles cause nurses to waste a lot of time and develop unnecessary frustrations which negatively impact the quality of care given to the patient, so also the nurses have to work harder and devote more energy and time to compensate for shortcomings of other departments that are supposed to support the

nurse. Therefore, more emphasis should be placed on addressing issues in different departments to ensure constant support for nurses and delivery of quality of care (Nelson, 2011:57).

The last factor identified that causes a decrease in the quality of care was staff shortages

> *…because of the ratio of the patients that are coming to our clinic, they come in large numbers and sometimes you may find that nurses are scarce, you will find that there is only one sister but she's been able to tackle all the problems that the clients are coming with… (5/6/1:20-23)*

and

> *…we (nurses) are not that much staff but the only thing that we are doing, we are trying to do our level best. Because we are so short staff we are doing twenty-four hours, we are only a number of about less than ten professional nurses, others do night duty, others do day duty and we are in during weekends and during holidays we are in… (5/9/2:48-52)*.

It is well known that the great shortage of nurses is a worldwide problem. This is also true for South Africa, and in this study the public health care sector of North West Province which includes CHC R. The DoH (2011:7 & 13) addresses this issue by making staff shortages one of the main factors to be addressed in the Human Resource Strategy for the Health Sector 2012/13-2016/17, as these shortages place the PE in a predicament, as it affects both the nurse that must give and the patients that must receive quality care. This statement is supported by Nelson (2011:52 & 55) who asserted that sufficient staff is associated with quality of care to the individual, family and community. However, the re-engineering of PHC plan for South Africa will focus on how to retain, recruit and support health professionals which includes nurses in especially the rural areas (Cooke *et al.,* 2011:109).

5.4 INTEGRATED DISCUSSION

From the analysis of interviews done to determine the perceptions of the managers, physician and nurses in the CHC with the most favourable PE in North West Province the researcher came to a few remarkable conclusions.

Support in the CHC with the most favourable PE was revealed through reciprocal community involvement and group cohesion. Reciprocal community involvement in CHC R ensures that the nurses are able to identify issues regarding the access and non-access of services, enhance “health literacy” in the community and strengthen the health system at district level. The engagement of different stakeholders and especially the community is identified as one of the core dimensions of leadership of public managers in the health sector.

Acknowledgement of communication and support between the CHC and the different stakeholders ensures that there is a sense of partnership and ownership instilled between stakeholders and the CHC. This open line of communication ensures that the operations regarding health management, problem solving and management of stakeholders’ problems within the CHC is addressed promptly and optimally.

In CHC R there is strong group cohesion which is evident through interpersonal and organizational support. Strong group cohesion through interpersonal support was revealed through social support, staff development and collegial support. Managers in CHC R give staff social support which is proven to positively influence the well-being of staff. Staff development of CHC R also plays a very important role, whether it is formal or informal in nature. This ensures that personnel gain knowledge and skills developing the competence of staff. The nurses of CHC R also revealed that there is collegial support; this ensures that colleagues feel comfortable enough with each other to discuss any matters which include consultations of patients so as to ensure quality of care is delivered to the patient. Strong group cohesion through organizational support was revealed by the managers within the CHC and from the sub-district office. The operational manager has a consultative relationship with staff, which gives staff the opportunity to discuss any concerns in the CHC which includes duty rosters. The assistant PHC director also supports staff by being visible and frequently visiting CHC R to ensure that new policies are shared.

Leadership and governance were identified through leadership, official managerial structure and participative decision-making culture in CHC R leadership is very important to strengthen health systems and is one of the strategic priorities for Human Resources in the DoH for 2030 in order to improve quality of care. The leadership style of CHC R is democratic. This leadership style gives staff the

opportunity to participate in decision-making regarding CHC matters. The other leadership characteristics included visibility and fairness. The management of CHC R also instils teamwork and high performance of staff in the CHC in order to achieve organizational goals and create a sense of ownership between all categories of staff. In CHC R the official managerial structure was created through meetings within the CHC and sub-district office and allocations. The meetings ensure that all categories of managers (assistant PHC director and operational mangers) have an open line of communication in order to interact with staff to identify and resolve problems and share new policy developments. Allocations in CHC R not only give structure in the CHC, but also enhance nurses' practice, as every staff member knows what is expected of him/her. CHC R also adopted a participative decision-making culture which allows nurses to brainstorm together to solve problems which creates a sense of responsibility in all staff members, creating job satisfaction and decreasing staff turnover rates.

Collegial nurse-physician relationships were revealed in CHC R through healthy professional relationships and an informal nurse-physician teaching/learning culture. Nurses and physicians work together as colleagues in a team with trust and respect between them, which not only ensures job satisfaction but also quality of care delivered to the patient. In CHC R there is also an informal nurse-physician teaching/learning culture which is based on a student-teacher relationship where either the nurse or the physician plays a teaching role. Therefore, teaching and learning take place on a continuous basis for both parties, increasing the quality of care.

Factors influencing quality of care were factors that both increase and decrease quality of care. Factors that increased quality of care included clinical audits, policies and guidelines, nursing skills, and staff attitude and dedication. These factors were in the control of the CHC. Clinical audits are a safe grip to ensure quality in the CHC and are done monthly by the assistant PHC director. Clinical competency is also revealed through good nursing skills of nurses in CHC R. Nursing skills are not only important to ensure quality of care in rural communities, but also decrease the number of times a patient has to visit the clinic. Another positive factor in CHC R was the staff attitude and dedication. This is very positive as one of the important areas

that were identified to be addressed in the Fast Tracked to Quality Programme by the National DoH was nurses' attitudes to ensure quality of care.

Factors that decreased quality of care included lack of resources, limited infra-structure, and limited support from the pharmacy and staff shortages. These factors are not in control of the CHC. Lack of resources is due to historical inequalities in resource distribution, environmental challenges and high levels of scarcities. Although there have been improvements in the infra-structure of clinical facilities in the PHC context, a lot of facilities still have great deficiencies. However, the re-engineering of PHC in South Africa will focus on prompt improvement of the infra-structure of facilities, which is very positive for CHC R. The public health care sector of South Africa has shortages of pharmacy personnel, and due to the remote areas CHCs are located in, poor management system forecasting, procurement, warehousing and poor distribution, pharmacies are frequently out of stock. This causes patients to not receive medication on time. One of the National DoH strategies which will receive attention promptly is the availability of medicines, supplies and equipment. Lastly, staff shortages, as in all sectors, are also a factor that decreases quality of care in CHC R, but the re-engineering of PHC plan will also focus on retaining, recruiting and supporting health professionals, which includes nurse in especially rural areas.

5.5 CHAPTER SUMMARY

In this chapter the researcher presented an in-depth discussion of the analysed data obtained from the semi-structured individual interviews. Four themes, namely support; leadership and governance; collegial nurse-physician relationships and factors influencing quality of care with their respective sub-themes and sub-codes were identified as essentials in assisting CHC R in the creation of the most favourable PE in the North West Province. Although this CHC was affected by factors that decease quality of care, these factors were not in the control of the CHC. Despite these shortcomings, CHC R managed to create a favourable PE by implementing factors that were in the control of the CHC. In the following chapter the researcher describes a case study of a model CHC that exemplifies CHCs of the North West Province and thereafter develops guidelines to facilitate the establishment of a PPE

in CHCs in the North West Province. The case study and guidelines were based on the WHO Strengthening of Health Systems and the Fourteen Forces of Magnetism Frameworks (see Chapter 1 [1.5.2.3.1 and 1.5.2.3.2]).

CHAPTER 6

CASE STUDY OF A MODEL CHC THAT EXEMPLIFIES A PPE IN THE NORTH WEST PROVINCE AND GUIDELINES TO FACILITATE THE ESTABLISHMENT OF PPE IN CHCs OF THE NORTH WEST PROVINCE (Phase 2: overarching aim and objective 4)

6.1 INTRODUCTION

In Chapter 5 the research results of phase 1 objective 3 were discussed in detail. In this chapter, the researcher reaches the overarching aim of this study by using the constructivist view point. In this viewpoint knowledge is generated into constructs from interaction between the researcher and the participants. These different constructs consist of precise experiences that are shared through a case study, as well as the empirical data obtained from Chapter 4 and Chapter 5, and the frameworks used in this study, namely the WHO Strengthening of Health Systems and Fourteen Forces of Magnetism (see Chapter 1 [1.5.2.3]).

Table 6.1 indicates the structure of the research project indicating the method for Phase 1, objectives 1, 2 and 3 and Phase 2, overarching aim of study and objective 4.

Table 6.1: Structure of research study indicating the phases and objectives

Phase 1: Situational analysis in order to compile evidence regarding the PE of nurses in the CHCs in the North West Province
Objectives
Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province.
Objective 2: To explore and describe the status of PE in CHCs in the North West Province.
Objective 3: To explore and describe the perceptions of physician and nurses in the CHC with the most favourable PE in the North West Province
Phase 2: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province
Overarching aim
Overarching aim: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province.
Objective
Objective 4: To develop guidelines to facilitate the establishment of PPE in CHCs in the North West Province.

Table 6.2 below presents a layout of the empirical data of Chapter 4 and Chapter 5 which was integrated with the WHO Strengthening of Health Systems and Fourteen Forces of Magnetism Frameworks.

The researcher firstly explored and described the demographic profile (objective 1) and status of CHCs in the North West Province (objective 2), thereafter identified the CHC with the most favourable PE. The researcher then explored and described the

perceptions of the managers, physicians and nurses in that CHC (objective 3). Thereafter, the empirical data based on the WHO Strengthening of Health Systems and Fourteen Forces of Magnetism Frameworks was used as grounding for the case study by applying deductive logic. This assisted the researcher to achieve the overarching aim which was to develop a model case of a CHC that exemplifies a PPE in CHCs of the North West Province and objective 4 of this study.

Table 6.2 Headings developed from integrating data of the WHO of Strengthening Health Systems and Fourteen Forces of Magnetism Frameworks and empirical data obtained in Chapter 4 and Chapter 5

WHO Strengthening of Health Systems (refer to Chapter 1 [1.5.2.3.1])	Forces of Magnetism (refer to Chapter 1 [1.5.2.3.2])	Results of Chapter 4	Results of Chapter 5	Overarching headings
Leadership and governance (Building block 1)	Quality of nursing leadership (Force 1)	Sub-scale: Nurse manager ability, leadership and support Items: 3, 10, 14, 22	●Leadership (theme 2, sub-theme1) ▪Leadership characteristics ▪Teamwork ▪Ownership	**1. Manager ability, leadership and support**
▪Leadership and governance (Building block 1) ▪Health workforce (Building block 2)	Organizational structure (Force 2)	Sub-scale: Nurse manager ability, leadership and support Items: 10, 22	●Official managerial structure (theme 2, sub-theme 2)	
Leadership and governance (Building block 1)	Management style (Force 3)	Sub-scale: Nurse manager, ability, leadership and support Items: 10, 11, 22	●Leadership; (theme 2, sub-theme 1) ▪Leadership characteristics ▪Teamwork ▪Ownership ●Participative decision-making culture (theme 2, sub-theme 3)	
Leadership and governance (Building block 1)	Personnel policies and programs (Force 4)	Sub-scale: Nurse participation in PHC/CHC affairs Items: 5, 6, 18, 23	●Participative decision-making culture (theme 2, sub-theme 3); and ●Group cohesion (theme 1, sub-them 2) ▪Strong group cohesion through positive organizational support ●Factors that increase quality of care (theme 4, sub-theme 1) ▪Clinical audits, policies and guidelines	**2. Autonomy, policies and programmes and professional development**
Health workforce (Building block 2)	Autonomy (Force 9)	Sub-scale: Nurse participation in PHC/CHC affairs Items: 6, 16, 25, 29	●Participative decision-making culture (theme 2, sub-theme 3) ●Healthy professional relationships (theme 3, sub-theme 1)	
▪Leadership and governance (Building block 1) ▪Health workforce (Building block 2)	Professional development (Force 14)	Sub-scale: Nurse participation in PHC/CHC affairs Items: 5, 18, 27, 29	●Sub-theme: Group cohesion (theme 1, sub-theme 2 ▪Strong group cohesion through positive interpersonal support (theme 1, sub-theme 2) ●Professional competence and an informal nurse-physician teaching/learning culture (theme 3, sub-theme 2)	

Table 6.2 Headings developed from integrating data of the WHO Strengthening of Health Systems and Fourteen forces of Magnetism Frameworks and empirical data obtained in Chapter 4 and Chapter 5 (continued)

WHO Strengthening of Health Systems (refer to Chapter 1 [1.5.2.3.1])	Forces of Magnetism (refer to Chapter 1 [1.5.2.3.2])	Results of Chapter 4	Results of Chapter 5	Overarching headings
Health workforce (Building block 2)	Nurse as teacher (Force 11)	Sub-scale: Collegial nurse-physician relationships Items: 7, 13	●Professional competence and an informal nurse-physician teaching/learning culture (theme 3, sub-theme 2)	**3. Professional teaching/learning culture**
Health workforce (Building block 2)	Image of nursing (Force 12)	Sub-scale: Collegial nurse-physician relationships Items: 7, 13, 21, 30	●Factors that increase quality of care (theme4, sub-theme 1) ▪Nursing skills	
Health workforce (Building block 2)	Interdisciplinary relationships (Force 13)	Sub-scale: Collegial nurse-physician relationships Items: 2, 21, 26	●Healthy professional relationships (theme 3, sub-theme 1)	
▪Health finances (Building block 6) ▪Health workforce (Building block 2) ▪Medical products, vaccines and technologies (Building block 5)	Consultation and resources (Force 8)	Sub-scale: Staffing and resource adequacy Items: 1, 8	●Official managerial structure (theme 2, sub-theme 2) ●Participative decision-making culture (theme 2, sub-theme 3) ●Factors that decrease quality of care (theme 4, sub-theme 2) ▪Lack of resources ▪Limited infra-structure ▪Limited support from pharmacy ▪Staff shortages	**4. Staffing and resources**
▪Heath information system (Building block 3) ▪Health services (Building block 4)	Community and the hospital (CHC in this study) (Force 10)		●Reciprocal community involvement (theme 1, sub-theme 1)	**5. Reciprocal community involvement**
▪Health services (Building block 4) ▪Medical products, vaccines and technologies (Building block 5)	Professional models of care (Force 5)	Sub-scale: Nursing foundations for quality of care Items: 15, 28, 31	●Factors that increase quality of care (theme 4, sub-theme 2) ▪Clinical audits, policies and guidelines	**6. Quality of care**
Health services (Building block 4)	Quality of care (Force 6)	Sub-scale: Nursing foundations for quality of care Items: 19, 20, 32	●Factors that increase quality of care (theme 4, sub-theme 2) ▪Nurse attitude and dedication	
Health services (Building block 4)	Quality improvement (Force 7)	Sub-scale: Nursing foundations for quality of care Item: 4, 19, 20, 24	●Group cohesion (theme 1, sub-theme 2) ▪Strong group cohesion through positive interpersonal support ●Factors that increase quality of care (theme 4, sub-theme 2) ▪Nursing skills	

6.2 DESCRIPTION OF A CASE STUDY OF A MODEL CHC THAT EXEMPLIFIES A PPE FOR CHCs IN THE NORTH WEST PROVINCE

The point of departure for the case study was a constructivist viewpoint, where knowledge and truth gained are the result of a perspective that is constructed by the participants and the researcher. The constructivist creates concepts, models and makes sense and modifies experiences (Schwandt, 1994:125-126). In the following paragraphs the researcher describes a case study of a model CHC that exemplifies a PPE for CHCs in the North West Province. Walker and Avant (2005:69) state that a model case is a description and presentation of the concept under investigation, in its most honest manner. In the following paragraphs the researcher produced a model case of a CHC that exemplifies a PPE for CHCs in the North West Province.

6.2.1 Context of the case study

CHC R is located in a deep rural area. It is approximately a 25 minute drive to the CHC from the nearest town. The CHC is in the middle of the township surrounded by small houses built of clay, and is situated between gravel roads. Chickens run around in places, and old people with young children are sitting in front of their houses located next to the gravel road looking curiously at the surroundings for any new events to lighten up the day. The children run around playing with whatever is available, and some adults are sitting and standing around alone or talking with friends waiting for a job opportunity or for the day to pass. CHC R is surrounded by a fence with one large gate at the entrance, and a small gate for people to walk through at the one side. From the entrance of the gate to the entrance of the CHC is a gravel road with muddy pools of water from the previous night's rain. A large tree is at one side of the gravel road, providing shade on the roof and entrance of the CHC.

On the one side there is a water tank for the days that there is no water available at the CHC as well as for watering the vegetable garden situated at the back of the CHC. This garden has been established for the community members, it is the community members' responsibility to maintain the garden, and in return they are allowed to take some of the vegetables when it is ready to harvest. The CHC is a long "train" building with a large porch stretching from one side to the other side of the building. The building was built many years ago. At the entrance of the building,

the waiting area is situated. In the waiting room there are a few health promotion posters on the yellowish painted walls, and there are wooden benches which patients sit on while waiting to be consulted. In the CHC there are four consulting rooms, a treatment room, a medication room (similar to a small pharmacy room), a puerperium and labour room, sluice room where the linen of the beds is washed and two offices, one of which belongs to the secretary at the front and one for the operational manager and a bathroom.

There are 12 registered nurses employed in CHC R, of which one are on maternity leave and one on study leave. Therefore only 10 working nurses, of which eight nurses (which include the operational manager) must cover the day duties and two nurses the night duties. This is because one nurse is off duty for seven nights and one nurse is on duty for seven nights. The CHC also has three visiting physicians who rotate on a daily basis.

In the sections above the researcher described the physical structure of CHC R for the case study.

6.2.2 Case study

In the following section the researcher describes a case study of a model CHC that exemplifies a PPE in the North West Province. The case study was divided into six headings which were developed after inductive and deductive reasoning of the quantitative and qualitative data collected as well as the WHO Strengthening of Health Systems and the Fourteen Forces of Magnetism Frameworks as basis (see Table 6.2). Throughout the case study the researcher italicized the headings representative of a PPE.

6.2.2.1 Manager ability, leadership and support

This heading and discussion is underpinned by the aforementioned two frameworks and empirical findings of the study (refer to Table 6.2).

Table 6.3 Support for manager ability, leadership and support

WHO Strengthening of Health Systems	●Leadership and governance (Building block 1) ●Health workforce (Building block 2)
Forces of Magnetism	●Quality of nursing leadership (Force 1) ●Organizational structure (Force 2) ●Management style (Force 3)
Results of Chapter 4	Sub-scale: Nurse manager ability, leadership and support Items: 3, 10, 11, 14, 22
Results of Chapter 5	●Leadership (theme 2, sub-theme1) ▪Leadership characteristics ▪Teamwork ▪Ownership ●Official managerial structure (theme 2, sub-theme 2) ●Participative decision-making culture (theme 2, sub-theme 3)

CHC Rs *nurse manager ability, leadership and support excelled* among all the other CHCs in the North West Province, which included the overall guidance and overseeing of the health care facility. The *leadership style followed by both the operational managers and assistant PHC director of the CHC is democratic*. They not only encourage staff to *actively participate in decision-making* regarding problems in the CHC, but also *advocate support which includes support to staff in their decision-making even when there is conflict with the physician*. Other leadership characteristics that both managers reveal include *visibility, accessibility, open communication, fairness and firmness, kindness to staff, approachability and openness and transparency*. Another noteworthy leadership characteristic of CHC R

is that the management are able to instil *teamwork* in the CHC, which contributes to the success of the CHC. *Teamwork* assisted in establishing *ownership, accountability and responsibility* among staff in the CHC; because every staff member knows they play an important part in the team, to *reach organizational goals*. The sense of responsibility not only ensures *smooth running of the CHC*, but also ensures that all categories even the cleaner, has taken *ownership of the duties* that he/she is responsible for. This *teamwork*, *ownership and fair treatment* established by the managers create *good relationships and support between staff members* because all staff feels they are *treated equally* and therefore staff members do *not feel threatened* by each other and staff *enjoy their work*.

The organizational structure of CHC R is a *flat decentralized structure*, therefore managers in CHC R not only creates a *feeling of responsibility and pride* in all staff members, but also gives *support through praise and recognition for work well done*. As mentioned previously the managers of CHC R believe in *participative management and open communication*. They grant their staff the *opportunity to actively participate in the decision-making* of the CHC, which ensures that *staff members feel their contributions are also valued*. Therefore, all *staff members feel part of a team working together to reach the same organizational goals*.

The operational manager of CHC R also *ensures organizational structure and support by being a consultative leader who is flexible and allows staff to be actively involved in allocations*, whether it is during the development of the duty roster or attendance of training programmes. This ensures that there are fewer staff shortages, and *staff is pleased with the off-duties and time given to go for training*, *increasing productivity* and *nursing skills* in the PE. *Organizational support in CHC R was not only within the CHC, but also from the sub-district office*. The assistant PHC director regularly visits the CHC, ensuring that staff feels that their *top management is accessible, available and visible.*

The official managerial structure of CHC R ensures that structure is created through *allocations and meetings*. The *meetings are conducted within the CHC and with the sub-district office*. During the meetings with the sub-district office, matters are discussed between the operational managers of different CHCs, satellite PHC clinics and the assistant PHC director. This is where *new developments in health care of the*

public health care sector are discussed and matters of concern that need management of higher ranks are resolved. *Staff involvement* at CHC level is also ensured by the operational manager that *guides staff in policies by communicating new policies and guidelines in the DoH to the staff members* at meetings held within the CHC. *Open communication and participative decision-making* in CHC R give staff members within the CHC the opportunity to sit around the table and *express their problems every morning*. This is done through an *informal meeting every morning as well as an official monthly meeting.* These meetings ensure there is *always open communication between all staff members* and is very positive for *quick identification of problems* and *prompt resolution of problems by all staff members to prevent any repetition of these problems and division amongst staff members.*

6.2.2.2 Autonomy, policies and programmes and professional development

This heading and discussion is underpinned by the two frameworks and empirical findings of the study (refer to Table 6.2).

Table 6.4 Support for autonomy, policies and programmes and professional development

WHO Strengthening of Health Systems	●Leadership and governance (Building block 1) ●Health workforce (Building block 2)
Forces of Magnetism	●Personnel policies and programmes (Force 4) ●Autonomy (Force 9) ●Professional development (Force 14)
Results of Chapter 4	Sub-scale: Nurse participation in PHC/CHC affairs Items: 5, 6, 16, 18, 23, 25, 27, 29
Results of Chapter 5	●Sub-theme: Group cohesion (theme 1, sub-theme 2 ▪Strong group cohesion through positive interpersonal support ▪Strong group cohesion through positive organizational support ●Collegial nurse-physician relationships (theme 3) ▪Healthy professional relationships ▪Professional competence and an informal nurse-physician teaching/learning culture ●Participative decision-making culture (theme 2, sub-theme 3); and ●Factors that increase quality of care (theme 4, sub-theme 1).

The management of CHC R ensures that the *best interest of the staff and the individual, family and community are taken into consideration*. *Group cohesion is ensured through positive interpersonal support and organizational support*. The managers of CHC R *place great emphasis on good relationships, and support amongst staff members*, whether in good or bad circumstances. If there is a birthday celebration, all staff celebrates, but should any staff member feel that he/she needs to speak to someone regarding a family problem, the staff have such a good *supportive relationship with the operational manager that they feel free to discuss their personal and work-related problems*. This is because the *operational manager of CHC R listens and responds to any concerns of staff*, which includes for example duty rosters. CHC R also supports staff by making sure *new staff members are taken through an orientation programme*. This also ensures that *new staff feels that there is organizational support and they are part of a team*.

In CHC R the *managers are advocates for continuous staff (career) development, in order to ensure that all nurses get opportunities for advancement*. This is done not only through *formal, but also informal training*. *Staff is encouraged to take the study leave* that government supplies them with, as long as it is *well-organized and every person gets a fair chance.*

The nurses in CHC R also have a very *good relationship with the physicians in the CHC; they are not only colleagues, but also have a teacher/learner relationship*, where either the physician or nurse has a teaching role, depending on the problem encountered. The *healthy professional relationship between the nurse and the physician, and the focus on continuous staff development assists nursing staff to improve nursing skills*. Furthermore, this gives nurses more *self-confidence to resolve any patient orientated problems, increasing autonomy and accountability*. Autonomy is also developed through the *participative decision-making culture* the managers of CHC R instilled, as staff has more *self-confidence* in their daily PE.

Quality of care is also increased in CHC R through the implementation of policies and guidelines, and by the opportunities granted to staff to participate in policy decisions. It is of utmost importance for the assistant PHC director that *all staff input is valued* at the CHC and sub-district office, and that they are *involved in the internal*

governance of the CHC, as this ensures quality of care delivered to the individual, family and community. The assistant PHC *director also takes it upon herself to perform monthly clinical audits. The clinical* audit is done by evaluating nursing records written in patient files by nurses, and when there are any problems the assistant PHC director contacts that particular nurse and resolves the problem.

6.2.2.3 Professional teaching/learning culture

This heading and discussion is underpinned by the two frameworks and empirical findings of the study (refer to Table 6.2).

Table 6.5 Support for professional teaching/learning culture

WHO Strengthening of Health Systems	Health workforce (Building block 2)
Forces of Magnetism	●Nurse as teacher (Force 11) ●Image of nursing (Force 12) ●Interdisciplinary relationships (Force 13)
Results of Chapter 4	Sub-scale: Collegial nurse-physician relationships Items: 2, 7, 13, 17, 21, 26, 30
Results of Chapter 5	●Professional competence and an informal nurse-physician teaching/learning culture (theme 3, sub-theme 2). ●Healthy professional relationships (theme 3, sub-theme 1) ●Factors that increase quality of care (theme 4, sub-theme 1) ▪Nursing skills

Nurses and physicians of CHC R have a *very healthy professional relationship as nursing is seen as vital and critical to patient care, thus nurses are held in high*

esteem. Physicians do not see themselves as superior to nurses; *they treat nurses as team members, collaborators, colleagues and with the necessary respect*. Nurses verbalized that the *gap that had existed between nurses and physicians for many years, where the physician was seen as superior and the nurse as inferior, had been closed*. Physicians in CHC R also see themselves as *"teaching doctors"*, because they want to teach nurses whatever they are able to teach them in patient management. This is also true for nurses who have many years' of experience in the CHC and who *feel comfortable to teach the physicians'* things related to the CHC, and patient management that the physicians did not know or is uncertain in managing. Therefore, *physicians not only value nurses' observations and values, but are also aware of nurses' contributions to patient consultations*.

Through this *informal nurse-physician teaching/learning culture both physicians and especially nurses are professionally developed. The teaching/learning culture increases nurses' skills and autonomy, resulting in increased delivery of quality care* to the individual, family and community, as physicians are not always allocated full-time in the CHC, and nurses are responsible for all patient care in the physicians' absence.

6.2.2.4 Staffing and resources

This heading and discussion is underpinned by the two frameworks and empirical findings of the study (refer to Table 6.2).

Table 6.6 Support for staffing and resources

WHO Strengthening of Health Systems	●Health workforce (Building block 2) ●Health services (Building block 4) ●Medical products, vaccines and technologies (Building block 5) ●Health finances (Building block 6)
Forces of Magnetism	Consultation and resources (Force 8)
Results of Chapter 4	Sub-scale: Staffing and resource adequacy Items: 1, 8
Results of Chapter 5	●Official managerial structure (theme 2, sub-theme 2) ●Participative decision-making culture (theme 2, sub-theme 3); and ●Factors that decrease quality of care (theme 4, sub-theme 1) ▪Lack of resources ▪Limited infra-structure ▪Limited support from pharmacy ▪Staff shortages

CHC R is open 24 hours a day, as well as on weekends and holidays. This CHC, the same as all other CHCs, follows a supermarket approach, meaning that clients can come on any day, at any time, for any service, which must be provided. Services of this CHC include minor ailments, chronic diseases, TB treatment, ARV treatment, ante- and post-natal services, family planning, women's health (for example Pap smears); child health (which includes integrated management of childhood illnesses and immunizations), mental health, sexually transmitted infections treatment, circumcisions, ophthalmic services, home visits, counselling, health education, and referrals to dental services, psychology services, social work and hospital.

CHC R consults an average of 3 000 patients per month, which is approximately 115 patients per day of which each nurse consults approximately 35 patients per day. Therefore, only ten working registered nurses, including the operational manager, deliver health care services 24 hours a day, (inclusive of the weekends and public holidays) to the community. Eight nurses (which include the operational manager) cover the day duties and two nurses the night duty, because one nurse is off duty for seven nights and one nurse is on duty for seven nights. At this stage, there is only one nurse with an assistant nurse covering the night duty shifts per week. CHC R also has seven assistant nurses and no enrolled nurses. The nurses of CHC R *address the staff shortage problem through participative decision-making in the allocation of duties*.

The CHC has three visiting physicians who rotate on a daily basis; the physicians only consult approximately ten patients who are referred to them by the nurses. Patients are referred when the nurse is not able to or not sure how to manage the patient or when the management of the patient, is out of the scope of practice of the nurse (for example, medication higher than Schedule 4). CHC R has administrative staff to manage patient files and other administrative duties, as well as one cleaner.

Another factor that affects CHC R is a lack of resources which includes basic medical equipment which includes manual BP machines, thermometers, oxygen meters, incubators and modern delivery beds, and electrical cleaning equipment. This equipment is not always available or needs maintenance. The maintenance of equipment, for example oxygen cylinders, is reported by the nursing staff but the refilling and/or maintenance thereof is not done immediately. CHC R has working electric Dinamap blood pressure meters but no manual ones as they are broken; unfortunately electricity supply is a problem in the CHC, as the electricity goes on and off at any time, affecting all equipment that is electrical.

In the treatment room there are two autoclaves for sterilization of for instance delivery packs. In the treatment room, there is a fridge, physical examination couch and a cupboard where medical supplies are placed. The puerperium room is a large room with three beds, and there is one drip stand. The labour room appears very neat, with two delivery beds, one incubator, one baby crib, a trolley with supplies and an overhead heater for the newborn babies.

The consulting rooms each have a consulting desk, chairs for the nurse/physician and the patients, a medication cupboard and an examination couch for physical examinations. Some of the consulting rooms also have a large weight and height scale, medication trolley and steps for the patient to get on to the examination couch.

CHC R is also affected by limited infrastructure. On certain days of the week, the CHC is so congested with patients that the waiting area becomes overcrowded, the nurses of CHC R try to address this problem by allowing patients to sit in the puerperium or labour rooms if there are no patients using these rooms. There is also no consulting room which is specifically allocated for vital signs, but the nurses of CHC R attend to this by locating the vital signs station in the waiting area.

This CHC is also affected by limited support from the pharmacy which causes a shortage of medication. Medication is ordered from the pharmacy in time by the nurses but it is not supplied to the CHC in time. Various reasons are proffered why medication is not delivered on time, for example pharmaceutical staff is on leave, transport problems or lack of stock. However, the nurses of CHC R try to *resolve this problem by taking their own personal transport to collect the CHC's medication from the pharmacy, without any compensatio*n. The nurses of CHC R also *support rational use of medication and reduce the wastage of medication*. Staff of CHC R also *takes control over medication through proper storage and distribution thereof to the patient. In this manner they try to promote accountability in the health finance system.*

From the above-mentioned discussion it is clear that there are many factors out of the control of the nurses at CHC R that affect the quality of care given to the individuals, family and community. However, other factors which include the *manager ability, leadership and support; professional development, policies and programmes and autonomy; collegial nurse-physician relationships; reciprocal community involvement, and quality of care (see Table 6.2) are in the control of CHC R and well established by the management, which causes CHC R to excel and create a favourable PE*. The management of CHC R tries to *address their shortcomings by continuously supporting and giving opportunity to staff to spend time with patients, discuss consultation uncertainties and develop their nursing skills, although there is a shortage of personnel*. *The support for development is not only done in a formal manner but also through in-service training programmes*, *and this ensures that all*

staff have an opportunity to develop and improve nursing skills although it is not done formally.

The CHC also tries to ensure quality of care delivered to the patient by *implementing national policies, guidelines and regulations, and by including staff in the formulation of strategies and policies in order to achieve the overall organizational goals* of the CHC. From the discussion above it is clear that although the CHC is affected by various factors that is out of their control, by *adapting, changing and creating positive factors which are in their control, so that a PPE can be established*.

6.2.2.5 Reciprocal community involvement

This heading and discussion is underpinned by the two frameworks and empirical findings of the study (refer to Table 6.2).

Table 6.7 Support for reciprocal community involvement

WHO Strengthening of Health Systems	●Health information system (Building block 3) ●Health services (Building block 4)
Forces of Magnetism	Community and the hospital (CHC in this study) (Force 10)
Results of Chapter 4	
Results of Chapter 5	Reciprocal community involvement (theme 1, sub-theme 1)

CHC R and the community have a very good relationship with each other. It is important for CHC R that the *community must feel part of the CHC* and that the *CHC must feel part of the community*. CHC R makes an *effort to identify and reach out to the intermediates and community members (stakeholders) in the community*. The intermediates include the chief of the tribal office, the ward councillors, lay councillors

and non-governmental organizations (NGOs) caregivers. They are the representatives of the community members in the community and through them *important developments, protocols, guidelines and programmes within CHC R are communicated to the community*. This relationship is of such a nature that both the CHC and the intermediates *exchange phone numbers and feel free to contact each other at any time to discuss concerns related to the community*.

CHC R sees the *NGO caregivers as their extended arms in the community*, who assist in continuous outreach programmes and the "health literacy" of the community. *The caregivers (community health care workers) undergo training before they help with the delivery of health care in the community*. Some of their responsibilities in the community include geriatric patients, follow-up of TB default patients and psychiatric patients. These *caregivers have monthly meetings with the CHC* in order for the CHC and the caregivers to be up to date with each other's work in progress. These monthly meetings assist the CHC and the caregivers in communicating newly-identified developments like health campaigns of the DoH or problems within the community and CHC that need attention. Examples of these include access and continuity of health care to older people that are not able to attend the CHC due to illness, physical inability, transport problems and specific needs with regard to medication and medical supplies that the CHC must have available to the community. *The acknowledgement of stakeholders and involvement of the stakeholders in the CHC foster a feeling of ownership in the CHC*. This, according to the managers, ensures that the community members do not abuse the health care providers or the services delivered to them.

The good communication and support between the CHC and the stakeholders also *ensures that issues of the patients (stakeholders) with the CHC are addressed effectively and efficiently.* These problems are addressed in many ways which include the *operational manager having an open door policy in the CHC, placement of a suggestion box in the CHC* where the patients are free to place any suggestions whether negative or positive in the box. There is also a *complaints and complements register* that patients are welcome to write in, a *quality improvement questionnaire* that is distributed monthly and lastly there are *phone numbers available* should the patient want to phone the operational manager. The *prompt addressing of these*

problems is of utmost importance for the operational manager and nurses in the CHC to *maintain a positive relationship between themselves and the community*.

2.2.6 Quality of care

This heading and discussion is underpinned by the frameworks and empirical findings of the study (refer to Table 6.2).

Table 6.8 Support for quality of care

WHO Strengthening of Health Systems	▪Health services (Building block 4) ▪Medical products, vaccines and technologies (Building block 5)
Forces of Magnetism	●Professional models of care (Force 5) ●Quality of care (Force 6) ●Quality improvement (Force 7)
Results of Chapter 4	Sub-scale: Nursing foundations for quality of care Items:4, 15, 19, 20, 24, 28, 31, 32
Results of Chapter 5	●Factors that increase quality of care (theme 4, sub-theme 2) ▪Clinical audits, policies and guidelines ▪Nursing skills ▪Nurse attitude and dedication ●Group cohesion (Theme 1, sub-theme 2) ▪Strong group cohesion through positive interpersonal support

CHC R implemented factors that are in control of the CHC to *increase quality of care (clinical audits, policies and guidelines, nursing skills and nurse attitude and dedication)* delivered to the individual, family and community.

Services delivered to the individual, family and community should be effective, safe and accessible. This is done in CHC R by the *sub-district office and CHC performing quality assurance programme which not only includes engagement of the stakeholders (see 6.2.2.5) but also by the implementation of policies, guidelines and regulations* which is evaluated during *clinical audits*. These clinical audits provide a safe grip on quality improvement programmes and ensure that these policies and guidelines are implemented because the assistant PHC director evaluates the consultation records of patients. *These clinical audits also ensure that staff acknowledges that management expects high standards in patient consultations, no wastage of medicines and supplies, staff are accountable for their practice and quality of care is an organizational priority.*

As mentioned previously the *nurses in CHC R continuously develop themselves through on-going education programmes whether formal or informal, ensuring exceptional clinical competency and nursing skills*. This is recognized by the physicians in CHC R. This is because *management of CHC R ensures group cohesion by supporting staff to develop self formally and informally* in the CHC. *Continuous in-service training is very important to the managers of CHC R* and this is accepted by both the nurses and physicians who come together during scheduled in-service training sessions or when there are concerns regarding the management of a patient. This ensures that there is *continuity of care to the patients* and that a *comprehensive model is followed.*

The *nurses attitude and dedication in CHC R are also exceptional*; nurses of the CHC walk the extra mile for patients. This is seen through nurses sacrificing their own lunch and tea times to assist patients, nurses collecting medication with their private motor vehicles from the pharmacy at the hospital without any compensation and nurses giving up their off days, if the operational manager contacts them and says they have staff shortages on a particular day. The nursing staff also ensures quality of care by implementing the eight Batho Pele principles which focus on placing

“people first” and these principles include consultation, service standards, access, courtesy, information, openness and transparency, redress complaints and ensure value for money in the services delivered (Van Rensburg, 2004:119).

6.3 GUIDELINES TO FACILITATE THE ESTABLISHMENT OF PPE IN CHCs OF THE NORTH WEST PROVINCE

In the following section the researcher presents the guidelines that facilitate the establishment of a PPE in CHCs in the North West Province. The implementation of these guidelines specifically focus on the management of the CHCs The two Frameworks, findings of Chapter 4 and Chapter 5 and inductive and deductive reasoning (see Chapter 3 [3.3.4.3]) assisted the researcher in developing guidelines to facilitate the establishment of a PPE in the North West Province.

Table 6.9 indicates the evidence which support the guidelines.

Table 6.9 Support for guidelines developed from integrating data of the WHO Strengthening of Health Systems and Fourteen Forces of Magnetism Frameworks and empirical data obtained in Chapter 4 and Chapter 5

WHO Strengthening of Health Systems (refer to Chapter 1 [1.5.2.3.1])	Fourteen Forces of Magnetism (refer to Chapter 1 [1.5.2.3.2])	Results of Chapter 4	Results of Chapter 5	Headings used in this study	Guidelines
Leadership and governance (Building block 1)	Quality of nursing leadership (Force 1)	Sub-scale: Nurse manager ability, leadership and support Items: 3, 10, 14, 22	●Leadership (theme 2, sub-theme1) ▪Leadership characteristics ▪Teamwork ▪Ownership	**1. Manager ability, leadership and support**	Guidelines 1, 2, 3, 4 and 5
Leadership and governance (Building block 1)	Organizational structure (Force 2)	Sub-scale: Nurse manager ability, leadership and support Items: 10, 22	●Official managerial structure (theme 2, sub-theme 2)		
Leadership and governance (Building block 1)	Management style (Force 3)	Sub-scale: Nurse manager, ability, leadership and support Items: 10, 11, 22	●Leadership; (theme 2, sub-theme 1) ▪Leadership characteristics ▪Teamwork ▪Ownership ●Participative decision-making culture (theme 2, sub-theme 3)		

Table 6.9 Support for guidelines developed from integrating data of the WHO Strengthening of Health Systems and Fourteen Forces of Magnetism Frameworks and empirical data obtained in Chapter 4 and Chapter 5

WHO Strengthening of Health Systems (refer to Chapter 1 [1.5.2.3.1])	Fourteen Forces of Magnetism (refer to Chapter 1 [1.5.2.3.2])	Results of Chapter 4	Results of Chapter 5	Headings used in this study	Guidelines
Leadership and governance (Building block 1)	Personnel policies and programmes (Force 4)	Sub-scale: Nurse participation in PHC/CHC affairs Items: 5, 6, 17, 18, 23	●Participative decision-making culture (theme 2, sub-theme 3); and ●Group cohesion (theme 1, sub-them 2) ▪Strong group cohesion through positive organizational support ●Factors that increase quality of care (theme 4, sub-theme 1) ▪Clinical audits, policies and guidelines	**2. Autonomy, policies and programmes and professional development**	Guidelines 6, 7, 8, 9, 10 and 19
Health workforce (Building block 2)	Autonomy (Force 9)	Sub-scale: Nurse participation in PHC/CHC affairs Items: 6, 16, 25, 29	●Participative decision-making culture (theme 2, sub-theme 3) ●Healthy professional relationships (theme 3, sub-theme 1)		
▪Leadership and governance (Building block 1) ▪Health workforce Building block 2)	Professional development (Force 14)	Sub-scale: Nurse participation in PHC/CHC affairs Items: 5, 18, 29	●Sub-theme: Group cohesion (theme 1, sub-theme 2 ▪Strong group cohesion through positive interpersonal support (theme 1, sub-theme 2) ●Professional competence and an informal nurse-physician teaching/learning culture (theme 3, sub-theme 2)		

Table 6.9 Support for guidelines developed from integrating data of the WHO Strengthening of Health Systems and Fourteen Forces of Magnetism Frameworks and empirical data obtained in Chapter 4 and Chapter 5 (continued)

WHO Strengthening of Health Systems (refer to Chapter 1 [1.5.2.3.1])	Fourteen Forces of Magnetism (refer to Chapter 1 [1.5.2.3.2])	Results of Chapter 4	Results of Chapter 5	Headings used in this study	Guidelines
Health workforce (Building block 2)	Nurse as teacher (Force 11)	Sub-scale: Collegial nurse-physician relationships Items: 7, 13	●Professional competence and an informal nurse-physician teaching/learning culture (theme 3, sub-theme 2)	**3. Professional teaching/learning culture**	Guidelines 9, 10, 20 and 21
Health workforce (Building block 2)	Image of nursing (Force 12)	Sub-scale: Collegial nurse-physician relationships Items: 7, 13, 21, 30	●Factors that increase quality of care (theme 4, sub-theme 1) ▪Nursing skills ▪Nurse attitude and dedication		
Health workforce (Building block 2)	Interdisciplinary relationships (Force 13)	Sub-scale: Collegial nurse-physician relationships Items: 2, 21, 17, 26	●Healthy professional relationships (theme 3, sub-theme 1)		
▪Health finances (Building block 6) ▪Health workforce (Building block 2) ▪Medical products, vaccines and technologies (Building block 5)	Consultation and resources (Force 8)	Sub-scale: Staffing and resource adequacy Items: 1, 8	●Factors that decrease quality of care (theme 4, sub-theme 2) ▪Lack of resources ▪Limited infra-structure ▪Limited support from pharmacy ▪Staff shortages	**4. Staffing and resources**	Guidelines 2, 6, 7, 11, 12, 13, 14, 15 and 20

Table 6.9 Support for guidelines developed from integrating data of the WHO Strengthening of Health Systems and Fourteen Forces of Magnetism Frameworks and empirical data obtained in Chapter 4 and Chapter 5 (continued)

WHO Strengthening of Health Systems (refer to Chapter 1 [1.5.2.3.1])	Fourteen Forces of Magnetism (refer to Chapter 1 [1.5.2.3.2])	Results of Chapter 4	Results of Chapter 5	Headings used in this study	Guidelines
▪Heath information system (Building block 3) ▪Health services (Building block 4)	Community and the hospital (CHC in this study) (Force 10)		●Reciprocal community involvement (theme 1, sub-theme 1)	**5. Reciprocal community involvement**	Guidelines 16, 17 and 18
Health services (Building block 4)	Professional models of care (Force 5)	Sub-scale: Nursing foundations for quality of care Items: 15, 28, 31	●Factors that increase quality of care (theme 4, sub-theme 2) ▪Clinical audits, policies and guidelines	**6. Quality of care**	Guidelines 6, 7, 10, 16, 17, 19, 20 and 21
Health services (Building block 4)	Quality of care (Force 6)	Sub-scale: Nursing foundations for quality of care Items: 19, 20, 27, 32	●Factors that increase quality of care (theme 4, sub-theme 2) ▪Nurse attitude and dedication		
Health services (Building block 4)	Quality improvement (Force 7)	Sub-scale: Nursing foundations for quality of care Item: 4, 19, 20, 24	●Group cohesion (theme 1, sub-theme 2) ▪Strong group cohesion through positive interpersonal support ●Professional competence and an informal nurse-physician teaching/learning culture (theme 3, sub-theme 2) ●Factors that increase quality of care (theme 4, sub-theme 2) ▪Nursing skills		

6.3.1 Manager ability, leadership and support

GUIDELINE 1

Managers should embrace a democratic leadership style

Implementation of recommendations

- Managers should do introspection and establish whether their management and leadership characteristics are democratic to ensure effective running of the CHC;
- Management and staff can organize in-service training sessions and attend courses focusing on topics of leadership;
- Managers should read articles and books to understand democratic leadership styles and thereafter develop a blueprint focusing on manager ability, leadership and support in that particular CHC;
- Managers should adopt leadership characteristics which include professional relationships and respect towards all staff members, visibility, fairness, open communication, participatory decision-making, approachability, knowledge, ability, support and caring attitude towards staff;
- Encouraging transparency and accountability of all staff members; and
- Managers supporting staff during policy and regulation formulation to ensure that all staff receive fair and competitive salaries.

GUIDELINE 2

Establish teamwork, ownership and accountability in all categories of staff in the CHC to ensure organizational goals are reached

Implementation of recommendations

- Encourage teamwork by ensuring that there is managerial and collegial support for staff members;

- Instil a participatory decision-making culture in the CHC;
- Management should read articles and books on establishment of teamwork in the PE;
- Organize team-building exercises with industrial psychologists who are experts in organizational matters to assist in the establishment of teamwork in the CHC;
- Encourage team-work and collaboration between physicians, nurses and any other public, private and voluntary role players who can assist in reaching organizational goals;
- No task in the CHC should be stigmatized as inferior to another, as all tasks collectively ensure the smooth running and overall success of the CHC;
- Management should cultivate a feeling of ownership and accountability among all staff members in the CHC, by motivating staff and making staff feel proud in the execution of the tasks that are allocated to them;
- Staff should be given the responsibility to ensure high-quality outcomes and excellence in the performance of certain tasks allocated to them;
- Managers should involve staff in the management and decision-making of the duties to be executed in the CHC; and
- Management should give praise to staff and give recognition after successful completion of work.

GUIDELINE 3

Establish an official managerial structure which supports formal and informal meetings between staff and managers within the CHC and with sub-district office

Implementation of recommendations

- **Meetings within the CHC**

- Managers should consult staff regularly to discuss and address any problems encountered during execution of daily duties;
- Management should engage in regular meetings with staff to establish the effectiveness or problems encountered with the implementation of new policies in the CHC;
- Managers should facilitate partnership and teamwork between all staff members during meetings within the CHC, to ensure that staff feel their managers are not only on “top” of the hierarchy, only allocating tasks to staff “below” not being part (team member) of the staff group; and
- Create time for an informal meeting every morning where staff has the opportunity to express their problems and the group is then given the opportunity to brainstorm and resolve any problems before the day starts.

- **Meetings with sub-district office**

- Create an open line of communication between the CHC operational manager and assistant PHC manager at the sub-district office to ensure a feeling of partnership in the management of the CHC;
- Establish regular meetings with the assistant PHC director at sub-district office for staff members in the CHC. This is done to ensure visible leadership and provide opportunities for staff members to discuss any matters or concerns of the CHC that needs attention; and
- Encourage bench-marking with other CHCs operational managers to discuss manners to establish a PPE.

GUIDELINE 4

Allocate staff to specific tasks in the CHC, on a rotational basis

Implementation of recommendations

- Managers should create and maintain structure in the CHC by allocating staff in a formal allocation book and ensure staff know what duties is allocated to them by signing in the allocation book;
- Before allocating duties managers should consult with staff members to make sure they are comfortable and content with the allocation;
- After allocation of staff members, the managers should praise and recognize successful completion of the allocated work; and
- Management should ensure staff have the necessary capabilities to perform allocated tasks and if staff members are uncertain or uncomfortable in the performance of these tasks, a “buddy system” should be established where a senior staff members are allocated to a junior staff members for in-service training.

GUIDELINE 5

Establish and encourage a flat decentralized organizational structure, supporting and valuing participative decision-making and communication

Implementation of recommendations

- Place important matters of the CHC on the table in order to make staff aware and allow participative decision-making when necessary;
- Establish teamwork and partnership through participative decision-making in the resolving of matters that the CHC encounters;
- Give all staff the opportunity to solve problems through brainstorming and thereafter ensure that all staff members come to consensus on the conclusions of how to handle the problem;

- Ensure that all staff members' input in the resolving of problems in the CHCs is considered in order for all staff members to feel their contribution is valued;
- Managers should encourage staff to be actively involved in the formulation of strategies and policies in the PHC context;
- Staff should collaborate with external role players to meet organizational goals; and
- Managers should guard against making decisions on their own without consulting staff members if it is not an emergency situation that needs urgent decision-making.

6.3.2 Autonomy, policies and programmes and professional development

GUIDELINE 6

Encourage nursing personnel to participate in personnel policies and programmes and be a role model of autonomy within the multidisciplinary team

Implementation of recommendations

- Nurses should be guided on formulation of policies, strategies and regulations;
- Nurses should participate in personnel policies which focus on staffing, shifts, competitive salaries and advancement opportunities;
- Nurses should be supported and encouraged to be independent within the multidisciplinary team according to professional principles; and
- Newly-appointed nurses should be introduced through an orientation programme to improve autonomy in the PE.

GUIDELINE 7

Management should create group cohesion in the CHC by establishing positive interpersonal support through social support, staff development and collegial support

Implementation of recommendations

- **Social support**

- Provide time for social occasions e.g. birthdays and achievements;
- Management should be approachable, listen, support and respond when a staff member experiences social problems e.g. funerals or children who are not well; and
- Management should keep personal matters of staff members confidential and encourage staff members to discuss any personal problems they experience, which could potentially affect the delivery of quality care to the individual, family and community in that time.

- **Staff development**

- Encourage, motivate and support staff (career) development;
- Management should have clear strategies on the continuous development of staff to ensure clinical competence;
- Establish a fair roster for staff members to engage in formal studies and apply for study leave, in order to ensure that all staff members have opportunities for advancement;
- Establish an effective in-service training programme (informal), which is followed on a continuous basis in the CHC; and
- Identify staff members who need assistance in patient management due to, for example, lack of experience and resolve these matters in positive and supportive manner.

- **Collegial support**

- Encourage an open line of communication between staff members to ensure professional collegiality;
- Establish a “buddy system” where a senior staff member is allocated to a junior staff member to assist the junior staff members in any matters where the junior staff member needs help or support;
- Encourage openness between staff to feel free to consult each other when there are any uncertainties regarding patient management or any other matters related to the CHC; and
- Staff should practise autonomy by being self-regulating within professional standards in the multi-disciplinary team.

GUIDELINE 8

Management must establish group cohesion through managerial support within the CHC and from sub-district office

Implementation of recommendations

- **Managerial support within the CHC**

- Staff should be granted the opportunity to participate in internal governance of the CHC;
- Consult staff regularly to find out what their constraints are in performing and accomplishing of tasks in order to ensure productiveness;
- Management should be open and flexible with regard to the duty roster. It is important that the manager should allow staff members to participate in working out the duty roster;
- Managers should have an open door policy where staff members feel free to go to when any support from management within the CHC is needed;
- Encourage and motivate staff to establish supportive relationships within the CHC where any matters in the CHC can be openly discussed and resolved; and

- Ensure there is continuous monitoring of the availability, allocation and performance of each staff member in order to address needs promptly.

- **Managerial support from sub-district office**

- The operational manager should encourage and establish visibility and open working relationships with the assistant PHC manager from the sub-district office, by requesting frequent visits to the CHC;
- Ensure that CHC staff and managers from the sub-district office get opportunities once or twice a month to sit together to discuss any matters related to the CHC, for example, the implementation of new policies, guidelines and protocols received from government;
- Staff should be given the opportunity to serve in task teams within the sub-district office;
- Ensure that CHC staff members and managers from the sub-district office sit together once or twice a month to discuss issues regarding effective implementation and development of internal and personnel policies to ensure smooth running of the CHC and that organizational goals are achieved; and
- Collaborate and identify role players outside government to ensure that organizational goals are reached and quality of care is delivered to the individual, the family and the community.

6.3.3 Professional teaching/learning culture

GUIDELINE 9

Encourage healthy professional relationships between nurses and physicians

Implementation of recommendations

- Encourage teamwork between nurses and physicians in the CHC, to hold nurses in high esteem;

- Ensure that there are regular meetings between nurses and physicians where matters of the CHC and patient management as well as expectations from each other are discussed;
- Encourage and maintain open channels of communication and collaboration between nurses and physicians by encouraging nurses and physicians to consult each other in decision-making regarding the management of a patient when applicable;
- Ensure that physicians understand that nursing is a fundamental and vital part of patient care;
- Physicians should not treat nurses as inferior to them; but respect nurses' observations, judgements and contributions to the consultation of the patient and vice versa; and
- Nurses and physicians should respect each other as professionals.

GUIDELINE 10

Establish and encourage professional competence and an informal nurse-physician teaching/learning culture

Implementation of recommendations

Nurses and physicians should:

- Adopt a collaborative student-teaching relationship and culture in which either the nurse or physician plays the role of a teacher;
- Continuously be on the lookout for informal learning situations during consultations of patients to develop each other's knowledge and skills;
- Continuously monitor the performance of staff to address any shortcomings through education and training;
- Discuss the management of patients in an informal and confidential manner in order for staff to learn and apply new manners according to policy and regulations in the management of patients;
- Engage in and support regular in-service training sessions; and

- Present case studies monthly to all staff members in order to discuss difficult and unique cases.

6.3.4 Staffing and resources

GUIDELINE 11

Address lack of equipment

Implementation of recommendations

- Address the issue of lack of equipment with the necessary managers;
- Encourage nurses to take care of equipment in the CHC;
- Train nurses in the correct usage of equipment;
- Ensure there is an instructional manual for usage of all the equipment in the CHC;
- Store and clean equipment in the correct manner according to the manufacturer's guidelines;
- Engage in fund-raising campaigns with role players outside government to buy new equipment;
- Approach companies and negotiate for donations of new equipment; and
- Educate staff members and community members to report any abuse, misconduct or neglect of CHC equipment.

GUIDELINE 12

Encourage the maintenance of equipment

Implementation of recommendations

- Encourage staff members to report any faulty equipment immediately to the relevant persons (management);

- Discuss with management the importance of adequately trained technical staff who must maintain equipment;
- Establish a work procedure between government supplied maintenance personnel and the CHC to ensure optimal and frequent evaluation, repair and maintenance of equipment;
- Obtain permission and organize non-governmental maintenance personnel to maintain equipment; and
- Approach private organizations and ask for donations to maintain equipment.

GUIDELINE 13

Address limited infra-structure

Implementation of recommendations

- Write motivations for new buildings to the relevant managers at the sub-district office;
- Approach private institutions in the community e.g. mining industries and negotiate for financial support to build extra rooms next to the existing building; and
- Management should organize fund-raising campaigns for financial support.

GUIDELINE 14

Collaborate with pharmacy to address shortage of medication which affects quality of care delivered to the individual, family and community

Implementation of recommendations

- Engage in monthly meetings with the pharmacy and discuss how the CHC and the pharmacy can support each other to ensure that quality of care is delivered to the individual, family and community;

- Arrange meetings and engage in discussions on how to prevent the CHC from having a lack of medication;
- Discuss alternative ways for medication to reach the CHC in time, to alleviate continuous lack of medication due to transport;
- Establish a work procedure to ensure smooth running and effective supply of medication to the CHC, in order to maintain good relationships between the CHC and pharmacy and not to affect the quality of care given to the individual, family and community; and
- Support the sensible usage of medication and decrease wastage.

GUIDELINE 15

Deal with staff shortages by collaborating with the intermediates, NGO caregivers and community members to help with the delivering of care

Implementation of recommendations

- Write motivations for additional staff to the relevant managers at the sub-district office;
- Collaborate with intermediates (chiefs, ward councillors and NGO caregivers) for support from their side by being the extended arms of the CHC to deal with community health problems;
- Collaborate with family members of patients and discuss ways how they can assist the nurses in the CHC with the care of the family members;
- Deliver health campaigns on general health issues highlighted by the Department of Health in order to ensure that community members have the necessary knowledge to care for themselves;
- Research the indicators and statistics of the community served and thereafter develop and implement health campaigns addressing some of the health issues determined; and
- Teach the community about self-care.

6.3.5 Reciprocal community involvement

GUIDELINE 16

Involve the community and acknowledge the intermediates as important stakeholders

Implementation of recommendations

- Determine where the tribal office is located in the community and identify the main intermediates, including the chiefs and ward councillors;
- Identify the NGOs in the community and establish partnerships between NGO caregivers and the CHC;
- Establish open channels of communication through regular meetings and telephone calls between the CHC and intermediates to ensure health security; and
- Synthesise the information obtained and ensure access, by applying the knowledge gained.

GUIDELINE 17

Establish, acknowledge and maintain communication and support between the CHC and the stakeholders

Implementation of recommendations

- Establish a supportive relationship between the intermediates and CHC in order for the CHC to update the community on for example health campaigns and outreach programmes. And on the other hand intermediates update the CHC on developments and needs identified in the community that must be addressed;
- Engage in monthly meetings with the intermediates, including the chief, ward councillors and NGO caregivers; and

- Set up a work procedure between intermediates to guarantee optimal work relationships that increase the delivery quality of care to the individuals, family and community.

GUIDELINE 18

Promptly manage and solve problems that community members encounter with the CHC

Implementation of recommendations

- Establish a work procedure for the prompt management and resolving of problems between the community and CHC:
  - Ensure an open door policy between the community and the management of the CHC;
  - Place a suggestion box for complaints and compliments in the waiting area;
  - Supply community members with contact numbers for prompt resolving of problems;
  - Distribute quality improvement questionnaires monthly; and
  - Establish a referral system so that, if problems can't be resolved at current management level, the community member can contact someone at a higher level in the managerial hierarchy.

6.3.6 Quality of care

GUIDELINE 19

Establishment of quality assurance programmes to evaluate the adherence of policies and guidelines in patient care which should be shared and evaluated by managers through regular clinical audits to ensure quality of care

Implementation of recommendations:

- A quality assurance programme which includes clinical audits should be conducted by the managers (within the CHC and sub-district) on a continuous basis to ensure quality of care to the individual, the family and the community;
- Ensure that nursing staff acknowledge the importance of high standard patient consultations as well as complete consultation records;
- Encourage nurses to adhere to the Batho Pele principles;
- Frequent meetings should be held between management and staff members to ensure implementation of policies and guidelines from government are discussed and uncertainties are addressed;
- Nurses should be encouraged to have a file in their consulting room with all the necessary policies, protocols and guidelines, which should be used for the management of patients, especially when there are uncertainties;
- Ensure that nurses understand the comprehensive model of care which focuses on prevention, promotion and primary based curing;
- Ensure continuity of care between facilities by implementing policies and guidelines supplied by government; and
- Changes in policies, protocols and guidelines should be immediately discussed with nurses and physicians and where applicable discussed with patients.

GUIDELINE 20

Encourage nurses to engage in continuous educational activities to improve nursing skills

Implementation of recommendations

- Nurses who do not have the necessary PHC qualification (R. 48) should be sent to a training institution as soon as possible to obtain the qualification;
- Nurses who are employed in the PHC/CHC context should be adequately trained and updated with the necessary qualifications as these nurses work in very deep rural communities where the necessary qualifications are of paramount importance;
- Ensure nurses are well-informed and updated on history-taking, physical examination techniques (assessment), treatment (drug and non-drug treatment), care and continuous follow-up of patients through in-service training;
- Nurses should be granted the necessary support to spend time with patients and discuss consultation uncertainties with other nurses to ensure that nurses implement necessary skills to ensure improved procedures, for example proper physical examinations; and
- Ensure that there are continuous meetings and in-service training sessions to inform nurses on policies, protocols and guidelines from the DoH that must be implemented.

GUIDELINE 21

Foster dedication and a positive attitude among staff in the CHC

Implementation of recommendations

- Encourage staff to have a positive attitude towards strategies to improve quality of care by, for example, participating in educational activities which improve nursing skills;
- Managers should give nurses praise and recognition after successful completion of work;
- Establishment of a reward system, where nurses could be nominated as “employee of the month” and for example get an extra afternoon off;
- Ensure positive leadership in the CHC through democratic leadership characteristics, teamwork, and establishment of ownership (see also guidelines 1, 2, 3);
- Ensure group cohesion through positive interpersonal and organizational support among staff (see also guidelines 7 and 8);
- Ensure official managerial structures through meetings within the CHC and sub-district office and allocation of staff members (see also guidelines 4 and 5);
- Foster a participative decision-making culture (see also guideline 6); and
- Encourage collegial nurse-physician relationships through healthy professional relationships and professional competence in an informal nurse-physician teaching/learning culture (see also guideline 9 and 10).

6.4 CHAPTER SUMMARY

In this chapter the researcher described a case study of a model CHC that exemplifies a PPE for CHCs in the North West Province as well as developed 21 guidelines to facilitate the establishment of a PPE in CHCs in the North West Province. The case study and guidelines were developed from the basis of the WHO Strengthening Health Systems, the Fourteen Forces of Magnetism Frameworks as

well as results obtained in Chapter 4 and 5 (see Table 6.2). In this chapter the researcher achieved the overarching aim and objective 4 of this study.

CHAPTER 7

EVALUATION OF THE STUDY, REFLECTION ON THE STUDY LIMITATIONS AND RECOMMENDATIONS FOR PRACTICE, EDUCATION, RESEARCH AND POLICY

7.1 INTRODUCTION

In Chapter 6 the researcher described a case study of a model CHC that exemplifies a PPE for the North West Province (overarching aim), and achieved objective 4. In this chapter the researcher evaluates the study, reflects on the study, and suggests limitations and recommendations for practice, education, research and policy.

Table 7.1: Structure of study indicating the phases and objectives

Phase 1: Situational analysis in order to compile evidence regarding the PE of nurses in the CHCs in the North West Province
Objectives
Objective 1: To explore and describe the demographic profile of the CHCs in the North West Province.
Objective 2: To explore and describe the status of PE in CHCs in the North West Province.
Objective 3: To explore and describe the perceptions of nurses in the CHC with the most favourable PE in the North West Province
Phase 2: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province
Overarching aim
Overarching aim: Describe a case study of a model CHC which exemplifies a PPE for CHCs in the North West Province.
Objective
Objective 4: To develop guidelines to facilitate the establishment of PPE in CHCs in the North West Province.

7.2 EVALUATION OF THE STUDY

The objectives of the study were reviewed in order to determine whether the overarching aim of this study has been reached. Before conducting this study, the researcher firstly ensured that ethical approval was obtained from NWU for the RN4CAST programme and the public health care sector (the Directorate Policy, Planning and Research (see Appendix B)). The reason was that this study was

embedded in the public PHC context of the North West Province in South Africa and was an extension of the international collaborative research programme RN4CAST which aims at developing human resource forecast models in South Africa (see Appendices A and B). However, important to note is that RN4CAST was conducted in hospital environments inclusive of medical-surgical and critical care units. This study is the first to branch out and investigate PEs in CHCs. The researcher obtained permission from all four the Chief Directors of the four districts North West Province is divided into namely Dr. Kenneth Kaunda Distinct, Ngaka Modiri Molema District, Bojanala District and Dr. Ruth Segomotsi Mompati District (see Appendix C). The researcher initially aimed to conduct this study in the entire North West Province, but only obtained permission from all the relevant parties in two districts in the North West Province. These districts are Dr Kenneth Kaunda and Ngaka Modiri Molema (see Appendix D). The researcher then contacted all the PHC directors of the different sub-districts (see Chapter 3 [Table 3.2]) to ask permission to conduct the study in CHCs of the sub-districts.

After the researcher had obtained permission from all the PHC directors, the researcher firstly explored and described the demographic profile of the CHCs in the North West Province (which included the demographic profile of the CHCs and the nurses working in the CHCs) by obtaining descriptive statistics, enabling the researcher to reach objective 1 of this study. The data was collected for objective 1 by firstly having a telephonic interview with the operational manager in charge of all the CHCs in the two districts (N = 26), or when the operational manager was not available, the second in charge, to obtain the demographic data of the CHC (see Appendix E). Thereafter the researcher obtained the demographic data of the nurses with the NNS survey which included the PES-NWI and an additional section on the demographic profile of the nurse which was distributed to the participants (see Appendix E and H). The questionnaires were distributed to all the nurses in the two districts, which consisted of 26 CHCs collectively. Of the 291 questionnaires distributed, 195 were received back, resulting in a 67% response rate.

To reach objective 2 of this study which was to explore and describe the status of PE in CHCs of the North West Province and to determine the CHC with the most favourable PE, descriptive statistics, confirmatory factor analyses and Cronbach's

alphas were obtained. CHC R was identified as the CHC with the most favourable PE with an average mean of 4.71, determined from the total number of factors higher than 2.5 per CHC.

Thereafter, the researcher reached objective 3 by conducting semi-structured individual interviews with the managers (which included the assistant PHC director and the operational manager of the CHC), physician and nurses of CHC R.

The quantitative and qualitative data obtained in Chapter 4 and Chapter 5, WHO Strengthening of Health Systems and the Fourteen Forces of Magnetism Frameworks and inductive and deductive reasoning (see Chapter 6, Table 6.2) assisted the researcher in achieving the overarching aim of the study which was to describe the case of a model CHC that exemplifies a PPE as well as to develop guidelines to facilitate the establishment of a PPE in CHCs in the North West Province (objective 4) (see Chapter 6, Table 6.9), as a result, accomplishing the central theoretical statement of this study (see Chapter 1 [1.5.2.1]).

Consequently, in this study the South African PE of CHCs was investigated for the first time. This investigation enabled the researcher to not only understand their PE but also describe a model CHC that exemplifies a PPE as well as develop guidelines to promote the PE of CHCs.

7.3 REFLECTION ON THE STUDY

The public health sector of South Africa is affected by a negative PE which potentially affects the quality of care delivered to the individual, family and community, recruitment and retention and of nurses. Various studies conducted on the PE of nurses determined that five sub-scales (nurse manager, ability, leadership and support; nurse participation in PHC/CHC affairs, collegial nurse physician relationships; staffing and resources; and foundations for quality of care) are foundational predictors when measuring the PE (measured by the PES-NWI).

Various studies which focused on PPE in the hospital environment, especially surgical, medical and critical care units, but none that focused on the PE of the PHC context of the public health care sector of South Africa. Therefore, this is a unique and significant research study. The reason why this study was conducted in CHCs is

that CHCs are only found in the public health care sector, are 24-hour clinics, have maternity services, deliver ARV medication and do circumcisions (see Chapter 1 [1.5.2.2 under conceptual definition of CHC). The physical structure of a CHC is also larger; therefore more patients can be consulted and cared for in the community.

The location of the CHCs was a challenged I was faced with, as the CHCs were located in rural areas. The roads that lead to these CHCs were full of potholes and sometimes the CHCs could only be reached by driving many kilometres on gravel roads. In order to collect the data for this study I drove more than 3 600km.

The studied CHCs serve mostly individuals, families and communities with very low socio-economic status, who do not have a large enough income to afford a medical aid, not to even to mention proper housing facilities and sanitation.

For that reason I believe that through this study a difference will be made in the health care delivery to the individual, the family and the community as well as for all the nurses working in the CHCs of North West Province.

Also important to point out is that to collect data in the PHC context of the public health care sector is not easy, because these CHCs, as mentioned previously, are situated very far from each other and there are only between seven and nineteen nurses employed at these CHCs in comparison to the hospital context where many nurses are employed in one area. When arriving at the CHC there were nurses who were on leave, maternity leave or study leave, making the number of nurses to participate even fewer. Therefore, I experienced a lot of frustration and stress during data-collection, but this was a time that I personally and professionally grew. It is therefore difficult for someone who did not do collection of data in such rural areas and does not know the context to understand the circumstance and attitudes of people I were faced with. Therefore, the researcher really felt very proud to have received a response rate of 67%.

This study was also a journey for me in my development at both the personal and professional levels. I developed personally due to demands to balance education, work, personal and social life. I have a husband and a 2-year-old girl and to establish a balance between personal life with family and studies was quite a challenge. Therefore, I give all praise to God for with His grace bestowed upon me. I decided to start this study with a very positive attitude from the beginning and although faced

with many frustrations and obstacles tried with the help of God to keep her spirits high. This study was a good example that if you stay calm (some days it was very difficult), focused and keep a positive attitude, the rewards will be great.

At a professional level, I developed immensely in the field of research. At the beginning of the study I thought that although I had done a masters' degree, I lacked confidence to undertake doctoral study. But as the days passed I worked hard, read a lot of books and articles and later enjoyed the study as new ideas and understandings of the field of research developed. This professional development assisted and motivated me to develop in the field of research and to really try and make a difference in the health care context of South Africa.

7.4 LIMITATIONS

A few shortcomings that were identified during this study are discussed below.

- The study was only conducted in CHCs located in the public health care sector in North West Province of South Africa, limiting the findings to the public health care sector in North West Province;
- The data obtained about the demographic profile of the CHCs came from the operational manager in charge or the second in charge, not according to sub-district office data, which could influence the findings of the demographic profile of the CHCs in North West Province;
- Nurses could have interpreted the question on service delivered at CHC with specific reference to the mobile clinic in Chapter 4 [Table 4.3] wrongly. The researcher asked whether mobile clinics were part of services delivered at the CHC and the larger percentage of 42.3% of CHCs said no. This could be because mobile clinics are an extension of the stationary PHC delivery system, therefore not falling directly under the CHC, but the sub-district office. Therefore, this percentage could be much lower; and
- Reliance on cross-sectional data is a limitation, as the data obtained is collected in different CHCs with different locations and workloads, therefore the data should be interpreted as data only obtained in a single point of time.

7.5 RECOMMENDATIONS

Recommendations are provided for nursing practice, education, research and policy.

7.5.1 Recommendations for practice

- By the DoH introducing and sharing these guidelines with all CHCs, CHCs can be assisted in establishing a PPE;
- Through managers buying into, implementing and supporting these guidelines, PPEs can be established in all CHCs, although the CHCs are affected by various factors such as a lack of resources, limited infrastructure; limited support from pharmacies and staff shortages;
- Awareness-raising for nurses on PPE should be conducted in order to make other CHCs in North West and possibly other provinces aware of the benefits of a PPE;
- Establishment and implementation of a programme such as the “magnet” recognition programme and Best Practice Guidelines for a PPE can facilitate a PPE;
- Collaborate with other international partners for assistance in establishing PPE in CHCs in North West and possibly other provinces, through financial donations to extend infrastructure, address lack of resources, and medication and staff shortages;
- Arranging meetings with PHC managers and registered nurses in the North West and other provinces to discuss PPE and the establishment thereof; and
- The guidelines of this study could only be used as possible guidelines for other provinces to establish a PPE in CHCs;

7.5.2 Recommendations for education

- Nurses’ qualifications, which involve undergraduate nurses and especially nurses studying towards the Clinical Nursing Science, Health Assessment, Treatment and Care diploma (R. 48) should include material on the

importance of establishing a PPE. This can be done through theoretical exposure to PPEs;

- Include articles on the global investigation of PPE in the existing curricula;
- Develop a short course on PPE and how it could be implemented effectively in the PHC context;
- Supporting nurses in the PHC context to obtain the Clinical Health Assessment, Treatment and Care diploma as soon as possible, especially nurses working in very remote CHCs/PHC clinics.
- Encourage students to involve themselves in the RN4CAST research programme of the School of Nursing Science, Potchefstroom Campus; and
- Support lecturers to guide and give students the opportunity to do research assignments on the topic of PPEs.

7.5.3 Recommendations for research

- Rolling out of the developed guidelines in CHCs and/or PHC clinics of NW and possibly other provinces and thereafter engaging in further research to establish whether the developed guidelines assisted in the creation of PPE in the CHCs;
- Rolling out of the developed guidelines in CHC and/or PHC clinics and other provinces and drawing comparisons in terms of the successful implementation of these guidelines;
- Conducting further research in PHC clinics and other provinces in order to learn what is known about PPE and how it can be established there;
- Investigating CHCs where the guidelines were implemented in order to determine whether a PPE increased the quality of care delivered to the individual, the family and the community;
- More research can be conducted to establish what staffing and resource adequacy in CHCs mean; and

- Research could be conducted to determine why the sub-scale nursing foundations for quality of care of nurses in the PHC context and nurses working in CCUs, which are both specialized fields in nursing, had a very high mean score in relation to the other sub-scales.

7.5.4 Recommendations for policy

- Policy research on the implementation of PPE in the hospital and PHC level of the public health care sector of South Africa;
- Engage with stakeholders to gain information regarding access to health care and thereafter synthesize the information in order to apply in practice;
- Attention should be given to the addressing of staffing and resource adequacy in rural communities, where referral hospitals are not easily reached;
- Awareness should be created about the importance of attitude and dedication of nurses towards their PE and patients in order to ensure the delivery of quality of care;
- Urgent attention should be given to the continuous proper maintenance of equipment in CHCs that are located in very remote areas, where referral hospitals are not easily accessible; and
- Development and implementation of a magnet recognition programme in the South African public health care sector.

7.6 CHAPTER SUMMARY

The intention was to achieve objectives 1, 2, 3 and the overarching aim of this study which was to describe a model CHC that exemplifies a PPE in the North West Province as well as objective 4, which involved developing guidelines to facilitate the establishment of a PPE in the North West Province which was reached by means of a case study design with quantitative and qualitative approaches and descriptive, explanatory and contextual strategies. This chapter was concluded with an evaluation of the study followed by a reflection on the study, limitations and recommendations for practice, education, research and policy.

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APPENDIX A

ETHICAL APPROVAL CERTIFICATE: NORTH-WEST UNIVERSITY

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: (018) 299-4900
Faks: (018) 299-4910
Web: http://www.nwu.ac.za

Ethics Committee
Tel +27 18 299 4850
Fax +27 18 293 5329
Email Ethics@nwu.ac.za

Prof H Klopper

11 July 2008

Dear Prof Klopper

ETHICS APPROVAL OF PROJECT

The North-West University Ethics Committee (NWU-EC) hereby approves your project as indicated below. This implies that the NWU-EC grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the project may be initiated, using the ethics number below.

Project title: Leadership and policy development improving the quality of nursing in South Africa through nursing staffing and patient safety

Ethics number: NWU-01015-08-S1
(Institution – Project Number – Year – Status)
Status: S = Submission, R = Re-Submission, P = Provisional Authorisation, A = Authorisation

Approval date: 11 July 2008 **Expiry date**: 10 July 2013

Special conditions of the approval (if any): None

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- *The project leader (principle investigator) must report in the prescribed format to the NWU-EC:*
  - *annually (or as otherwise requested) on the progress of the project,*
  - *without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.*
- *The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the NWU-EC. Would there be deviated from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.*
- *The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-EC and new approval received before or on the expiry date.*
- *In the interest of ethical responsibility the NWU-EC retains the right to:*
  - *request access to any information or data at any time during the course or after completion of the project;*
  - *withdraw or postpone approval if:*
    - *any unethical principles or practices of the project are revealed or suspected,*
    - *it becomes apparent that any relevant information was withheld from the NWU-EC or that information has been false or misrepresented,*
    - *the required annual report and reporting of adverse events was not done timely and accurately,*
    - *new institutional rules, national legislation or international conventions deem it necessary.*

The Ethics Committee would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the Ethics Committee for any further enquiries or requests for assistance.

Yours sincerely

Prof MMJ Lowes
(chair NWU Ethics Committee)

APPENDIX B

ETHICAL APPROVAL CERTIFICATE: DEPARTMENT OF HEALTH

Health & Soc Dev

Department:
Health & Social Development
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

2ND Floor Tirelo Building
Dr. Albert Luthuli Drive
Mafikeng, 2745
Private Bag X2068
MMABATHO, 2735

DIRECTORATE POLICY, PLANNING AND RESEARCH

Tel: (018) 387 5757
Fax: 086 631 8540
smalakane@nwpg.gov.za

FAX COVER SHEET

TO		DR PEDRA BESTER
INSTITUTION	:	NORTH WEST UNIVERSITY- POTCHEFSTROOM CAMPUS
DATE	:	05 AUGUST 2010
FAX NUMBER	:	018-299 1827
FROM	:	S.M MALAKANE DIRECTORATE POLICY, PLANNING AND RESEARCH NORTH WEST DEPARTMENT OF HEALTH AND SOCIAL DEVELOPMENT (HEALTH BRANCH)
TEL NUMBER		018-387 5757(w)

Message

PLEASE CONFIRM RECEIPT

NUMBER OF PAGES INCLUDING THIS COVER:... 02....

Health & Soc Dev
Department:
Health & Social Development
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

DIRECTOR: POLICY & PLANNING
JUL 2010
DEPARTMENT OF HEALTH
PRIVATE BAG X2068 MMABATHO 2735

2nd Floor Tirelo Building
Dr. Albert Luthuli Drive
Mafikeng, 2745
Private Bag X2068
MMABATHO

DIRECTORATE: POLICY, PLANNING AND RESEARCH

Enq -Tel: (018) 387 5167
Fax: 086 734 0956
smalakane@nwpg.gov.za

To : Dr Pedra Bester
Co –investigator for South Africa's Team
North West University

RECEIVED

From : Director: Policy, Planning & Research Directorate
Mr K.Rabanye

Date : 03 July 2010

Subject: Request for approval **Improving the quality of nursing in South Africa through nurse staffing and patient safety (RNA4 CAST)**

The above stated subject matter has the following reference

This communiqué serves to inform your good office that permission to undertake the above mentioned study has been granted by the North West Department of Health and Social Development.

Arrangements with managers at District level shall be facilitated by the researcher. We shall be delighted to receive a final report in this regard.

Yours truly

Mr K.Rabanye
Chairperson: PHRC –Health Branch
North West Department of Health and Social Development

APPENDIX C

LETTERS REQUESTING APPROVAL TO CONDUCT STUDY IN THE FOUR DISTRICTS OF NORTH WEST PROVINCE

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOMKAMPUS

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

Mr. G. Henning
Chief Director: Ngaka Modiri Molema
Department of Health

School of Nursing Science
Tel: 018 2991719
Fax: 018 2991827
Email: Tinda.Rabie@nwu.ac.za

14 June 2011

Dear Mr. Henning

DOCTORAL DEGREE: RESEARCH PROJECT

The School of Nursing Science at the North West University (NWU) (Potchefstroom Campus) collaborates in an international research project. The project titled RN4CAST aims at improving the quality of nursing in South Africa through nurse staffing and patient safety.

South Africa is part of the RN4CAST consortium with 11 European countries, United States of America, China and Botswana. The identified population who is researched is registered nurses in the public and private health care sector.

I am currently in the process of studying for my doctoral degree at NWU under the RN4CAST project. My doctoral degree aims to investigate the current practice environment of nurses in the Primary Health Care (PHC) context of the North West province's public health care sector. For this study I must collect data by using questionnaires and focus groups. Ethical clearance has been granted by the Research Ethics Committee of North West University (Clearance number NWU-0015-08-S1) as well as the North West Department of Health (see Appendix A and B).

Outcomes of the data collected from the health care institutions will kept confidential in order to protect the identity of the health care institution as well as the employees.

Therefore I kindly request permission and support to conduct this research study in the PHC context of the Ngaka Modiri Molema district of North West province.

For any other queries, please contact Mrs. T. Rabie (018 – 299 1719) or Prof. H.C. Klopper (018 – 299 1717).

Could you kindly provide me with written permission to further my studies, my post address is P.O. Box 6066, Baillie Park, 2526 or fax number (018) – 299 1827 for attention Mrs. T. Rabie.

Thank you in advance for your support.

Yours sincerely

Mrs. T. Rabie
Ph.D candidate

Prof. H.C. Klopper
Promoter

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOMKAMPUS

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
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Dr. U. Nagpal
Chief Director: Dr. Kenneth Kaunda district
Department of Health

School of Nursing Science
Tel: 018 2991719
Fax: 018 2991827
Email: Tinda.Rabie@nwu.ac.za

14 June 2011

Dear Dr. Nagpal

DOCTORAL DEGREE: RESEARCH PROJECT

The School of Nursing Science at the North West University (NWU) (Potchefstroom Campus) collaborates in an international research project. The project titled RN4CAST aims at improving the quality of nursing in South Africa through nurse staffing and patient safety.

South Africa is part of the RN4CAST consortium with 11 European countries, United States of America, China and Botswana. The identified population who is researched is registered nurses in the public and private health care sector.

I am currently in the process of studying for my doctoral degree at NWU under the RN4CAST project. My doctoral degree aims to investigate the current practice environment of nurses in the Primary Health Care (PHC) context of the North West province's public health care sector. For this study I must collect data by using questionnaires and focus groups. Ethical clearance has been granted by the Research Ethics Committee of North West University (Clearance number NWU-0015-08-S1) as well as the North West Department of Health (see Appendix A and B).

Outcomes of the data collected from the health care institutions will kept confidential in order to protect the identity of the health care institution as well as the employees.

Therefore I kindly request permission and support to conduct this research study in the PHC context of the Dr. Kenneth Kaunda district of North West province.

For any other queries, please contact Mrs. T. Rabie (018 – 299 1719) or Prof. H.C. Klopper (018 – 299 1717).

Could you kindly provide me with written permission to further my studies, my post address is P.O. Box 6066, Baillie Park, 2526 or fax number (018) – 299 1827 for attention Mrs. T. Rabie.

Thank you in advance for your support.

Yours sincerely

Mrs. T. Rabie
Ph.D candidate

Prof. H.C. Klopper
Promoter

NORTH-WEST UNIVERSITY
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Ms. M. Rakau
Chief Director: Bojanala district
Department of Health

School of Nursing Science
Tel: 018 2991719
Fax: 018 2991827
Email: Tinda.Rabie@nwu.ac.za

14 June 2011

Dear Ms. Rakau

DOCTORAL DEGREE: RESEARCH PROJECT

The School of Nursing Science at the North West University (NWU) (Potchefstroom Campus) collaborates in an international research project. The project titled RN4CAST aims at improving the quality of nursing in South Africa through nurse staffing and patient safety.

South Africa is part of the RN4CAST consortium with 11 European countries, United States of America, China and Botswana. The identified population who is researched is registered nurses in the public and private health care sector.

I am currently in the process of studying for my doctoral degree at NWU under the RN4CAST project. My doctoral degree aims to investigate the current practice environment of nurses in the Primary Health Care (PHC) context of the North West province's public health care sector. For this study I must collect data by using questionnaires and focus groups. Ethical clearance has been granted by the Research Ethics Committee of North West University (Clearance number NWU-0015-08-S1) as well as the North West Department of Health (see Appendix A and B).

Outcomes of the data collected from the health care institutions will kept confidential in order to protect the identity of the health care institution as well as the employees.

Therefore I kindly request permission and support to conduct this research study in the PHC context of the Bojanala district of North West province.

For any other queries, please contact Mrs. T. Rabie (018 – 299 1719) or Prof. H.C. Klopper (018 – 299 1717).

Could you kindly provide me with written permission to further my studies, my post address is P.O. Box 6066, Baillie Park, 2526 or fax number (018) – 299 1827 for attention Mrs. T. Rabie.

Thank you in advance for your support.

Yours sincerely

Mrs. T. Rabie
Ph.D candidate

Prof. H.C. Klopper
Promoter

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
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Mr. K. Motlhabane
Chief Director: Dr. Ruth Segomotsi Mompati district
Department of Health

School of Nursing Science
Tel: 018 2991719
Fax: 018 2991827
Email: Tinda.Rabie@nwu.ac.za

14 June 2011

Dear Mr. Motlhabane

DOCTORAL DEGREE: RESEARCH PROJECT

The School of Nursing Science at the North West University (NWU) (Potchefstroom Campus) collaborates in an international research project. The project titled RN4CAST aims at improving the quality of nursing in South Africa through nurse staffing and patient safety.

South Africa is part of the RN4CAST consortium with 11 European countries, United States of America, China and Botswana. The identified population who is researched is registered nurses in the public and private health care sector.

I am currently in the process of studying for my doctoral degree at NWU under the RN4CAST project. My doctoral degree aims to investigate the current practice environment of nurses in the Primary Health Care (PHC) context of the North West province's public health care sector. For this study I must collect data by using questionnaires and focus groups. Ethical clearance has been granted by the Research Ethics Committee of North West University (Clearance number NWU-0015-08-S1) as well as the North West Department of Health (see Appendix A and B).

Outcomes of the data collected from the health care institutions will kept confidential in order to protect the identity of the health care institution as well as the employees.

Therefore I kindly request permission and support to conduct this research study in the PHC context of the Dr. Ruth Segomotsi Mompati district of North West province.

For any other queries, please contact Mrs. T. Rabie (018 – 299 1719) or Prof. H.C. Klopper (018 – 299 1717).

Could you kindly provide me with written permission to further my studies, my post address is P.O. Box 6066, Baillie Park, 2526 or fax number (018) – 299 1827 for attention Mrs. T. Rabie.

Thank you in advance for your support.

Yours sincerely

Mrs. T. Rabie
Ph.D candidate

Prof. H.C. Klopper
Promoter

APPENDIX D

APPROVAL TO CONDUCT STUDY IN TWO OF THE FOUR DISTRICTS OF NORTH WEST PROVINCE

>>> "Tinda Rabie" <Tinda.Rabie@nwu.ac.za> 6/27/2011 10:23 AM >>>

Dear Mr. Henning,

I am currently enrolled as my Doctoral degree at North-West University (Potchefstroom Campus) North West Province, South Africa.

My study is about the current practice environment of the nurse in the PHC context of North West province.

This study forms part of the RN4CAST study conducted at the School of Nursing Science which aims at improving quality of nursing in South Africa through nurse staffing and patient safety.

Ethical approval was given by the North West Department of Health as well as North-West University for this project. Attached is the formal letter (which includes the ethical approvals) in which I ask for your approval.

Could you kindly grant me written permission to further my studies in the Ngaka Modiri Molema district.

Your positive consideration will be highly appreciated.

Kind regards,

Mrs. Tinda Rabie

Tel: (018) - 299 1719

Fax: (018) - 299 1827 (For Attention: Tinda Rabie)

Kindly Note: I posted the original letter to your office.

Ms Tinda Rabie (M.Cur; RN; RM)

Lecturer: Clinical Nursing Science, Health Assessmer Treatment & Care and Community Nursing Scienc

School of Nursing Science

Potchefstroom Campus

Tel: +27 (0) 18 299 1719

Fax: +27 (0) 18 299 1827

Email: Tinda.Rabie@nwu.ac.za

Website: www.nwu.ac.za

Disclaimer : www.nwu.ac.za/it/govman/disclaimer

Me Tinda Rabie (M.Cur; GV; GVV)

Lektor: Gesondheidsorg, Diagnosering & Behandeling en Gemeenskapsverpleegkunde

Skool vir Verpleegkunde

Potchefstroomkampus

Tel: +27 (0) 18 299 1719

Faks: +27 (0) 18 299 1827

Epos: Tinda.Rabie@nwu.ac.za

Webwerf: www.nwu.ac.za

Vrywaring: www.nwu.ac.za/it/govman/disclaimer

Hi Ms Rabie,

Your request to conduct this research study is approved. You will receive a formal confirmation in due course.

Please note the additions to the CHC's.

Regards

GH

Gerhard Henning

Chief Director: District Health Services

Ngaka Modiri Molema District

Tel: (018) 384 0239/40

Fax: (018) 384 4103

Fax to E-mail: 0866216237

>>> "Tinda Rabie" <Tinda.Rabie@nwu.ac.za>
2011/07/25 09:35 AM >>>
Dear Dr. Nagpal,

I would like to enquire if you received my e-mail dated 27/6/2011 and the letter I send with registered post to your office, regarding approval to conduct my doctoral research study in the Dr. Kenneth Kaunda district.

Kind regards,
Mrs. T. Rabie

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT

Ms Tinda Rabie (M.Cur; RN; RM)

Lecturer: Clinical Nursing Science, Health Assessment, Treatment & Care and Community Nursing Science

Me Tinda Rabie (M.Cur; GV; GVV)

Lektor:
Gesondheidsorg, Diagnosering &

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Disclaimer :

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Behandeling en Gemeenskapsverpleegkunde

Skool vir Verpleegkunde

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Epos: Tinda.Rabie@nwu.ac.za

Webwerf: www.nwu.ac.za

Vrywaring:

www.nwu.ac.za/it/govman/disclaimer

Dear Tinda

My apologies for the late respond.

Approval is granted to conduct the above research in facilities in Dr Kenneth Kaunda District. Please liaise with me if during your research you come across issues that have a bearing on service delivery we would to correct them immediately.

The result of your research may please be presented to the District office for improvement of services.

Regards

Dr Uma Nagpal

APPENDIX E

DEMOGRAPHIC CHECKLIST

DEMOGRAPHIC CHECKLIST FOR COMMUNITY HEALTH CENTRES OF THE NORTH WEST PROVINCE

COMMUNITY HEALTH CENTRE NAME: _____

DISTRICT: _____

(Please write the number in the blank space)

Number of consultation rooms in your CHC.	
Total number of patients consulted per day.	
Number of patients consulted by each nurse in the CHC per day	
Number of patients referred to the physician working in the CHC per day	
Number of patients referred to the hospital per day.	
Average number of patients seen per month.	
Number of registered nurses working in the CHC	
Total number of nurses working in the CHC (auxiliary and staff nurses)	
Total number of nurses with the Clinical Health Assessment, treatment and Care qualification	
Staff turnover rate for 2010 – 2011	
Staff absenteeism rate or 2010 – 2011	
Distance (in kilometres) from the nearest referral hospital	

The hours of the clinic is as follows (Only tick the correct box):	8 hour clinic, 5 days a week.	
	12 hour clinic, 7 days a week.	
	24 hour clinic.	

The following services are offered at the CHC:		
Integrated management of childhood illnesses (IMCI)	yes	no
Antenatal and post-natal services	yes	no
Reproductive health	yes	no
Immunizations	yes	no
Sexually transmitted illnesses	yes	no
Common conditions (minor ailments)	yes	no
Chronic diseases e.g. (hypertension, diabetes, epilepsy, asthma)	yes	no
Mental health	yes	no
Anti-retroviral treatment	yes	no
Tuberculosis treatment	yes	no
Rehabilitation home visits	Yes	no
Counselling	Yes	no
Health education	Yes	no
Trauma	Yes	no
Mobile clinics	Yes	no
Home visits	Yes	no

APPENDIX F

INFORMATION LEAFLET OF THE RN4CAST PROJECT

EXECUTIVE SUMMARY

INTRODUCTION

The focus of this research programme is on 'Leadership and policy development and how it relates to the quality and efficiency of health care systems including transitional health systems'. Within this programme the School of Nursing Science at the North-West University (Potchefstroom Campus) joins 15 partners in 11 European countries, China and Botswana in a programme where the overall purpose will be to provide scientifically validated tools that will focus on the organizational, financial and regulatory aspects of health systems, with special attention to staffing outcomes and patient outcomes. The aim is to advance the current state of health systems research (especially from a nursing perspective) and to promote integration and excellence of South African research in the field. There is currently only baseline data available on the private health care sector of Gauteng hospitals and public health care sector hospitals in South Africa with regard to the present state of nursing human resources and how it impacts on patient safety, but none in the PHC context. This research programme sets out to establish and validate a methodology to forecast in a quantitative way the demand and supply of human resources for private and public health care in nursing at a national level over the next 10 to 30 years.

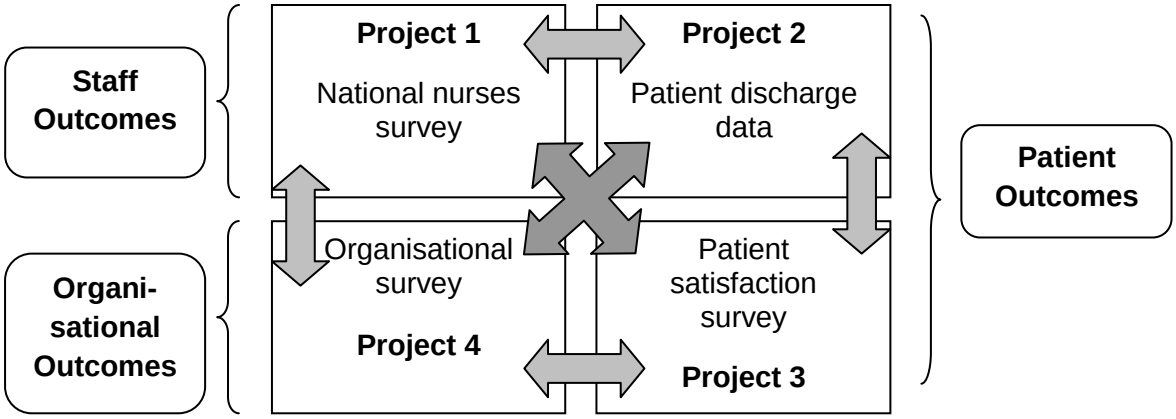
The programme is coordinated by Professor Walter Semeus from the Centre for Health Services & Nursing Research at the Catholic University Leuven. Professor Linda Aiken from the University of Pennsylvania in the USA will contribute specialised research expertise derived from previous international research. The principal investigator for South Africa is Professor Hester Klopper from the North-West University in Potchefstroom.

NATURE OF THIS RESEARCH PROGRAMME

The programme employs a quantitative approach in data collection. This programme is not a trial and does not involve any clinical intervention or contact with any patient at any stage. The programme will refine conventional forecasting models and will quantify the impacts of nurse retention, productivity, patient outcomes and organisational outcomes of important

factors such as work environments and nurse qualifications that are generally not considered in nurse labour forecasts. These new quantitative findings will be integrated with existing forecasting models to broaden discussions of policy options for improving the management of nurse workforces.

During this programme the following surveys will be conducted:



The initial focus of this programme is the first two projects which could be done simultaneously. Generated knowledge should allow policy and decision-makers to better manage and reform healthcare systems in view of common challenges within the framework of Southern African Development Countries (SADC).

AIMS AND OBJECTIVES

The **aim** of this programme is to conduct a national nurse survey; patient discharge data, patient satisfaction survey and organisational survey in the private and public healthcare sectors (hospitals, primary healthcare clinics, psychiatric hospitals) in South Africa to develop base line data on staff outcomes, patient outcomes and organisational outcomes. The objectives are:

1. to describe nurses involvement in direct patient care relating to their work conditions, work-related experiences and perceptions of quality of care,
2. to explore and describe patient outcomes and patient satisfaction;
3. to explore and explain the relationship between nurse staffing, nurse practice environments and outcomes,

4. to use the data of this project together with macro-economic data, to develop a model in determining the demand for nurses in SA to meet defined levels of patient care safety and quality,
5. to provide measures of key independent and dependent variables that can be analysed at the hospital level and linked to other data sources; and
6. to compare data between the African and European countries and determine if this can be used in influencing human resource national policy.

CONCLUSIONS

This programme will provide scientifically validated tools that will allow South Africa to learn from the experiences of other healthcare systems and their sustainability. The programme will advance the current state of health systems research and will provide baseline data that supports South Africa to better organise their health systems according to the principles of equity, solidarity and universality.

APPENDIX G

INFORMATION LEAFLET AND INFORMED CONSENT: QUESTIONNAIRE

RN4CAST & POSITIVE PRACTICE ENVIRONMENT QUESTIONNAIRE:

INFORMATION LEAFLET AND INFORMED CONSENT

Dear Nurse Colleague,

Please complete this survey ONLY if you are a registered nurse consulting patients in a Community health centre of the North-West province.

The School of Nursing Science at the North-West University (Potchefstroom Campus) is currently involved in an international project aiming to develop forecasting models for human resources in nursing in South Africa. As part of the process we will be conducting a National Nurses Survey in order to collect baseline data on the status of nursing in South Africa. You have an opportunity to influence national and international policy about nursing and health care by participating in a multi-country study to obtain information to help improve the conditions of nursing practice, make health care safer for patients, and inform public policy decisions about the nurse workforce. This study is supported by the European Union and includes nurses in 14 countries. Please show your support for improving health care by completing this questionnaire. The person distributing the questionnaires assists the researcher in obtaining the data and will provide you with the dates for the return of the questionnaire.

Please read through the following information section carefully in order to decide if you want to participate in the research project. Should you agree to participate you will be requested to complete the following questionnaire. Mrs Tinda Rabie is the researcher in the Primary Health Care (PHC) context of the public health care sector of North-West province and any questions regarding the study or the instrument can be directed to her.

1. BACKGROUND INFORMATION ON PROJECT

There is currently only baseline data available on the private health care sector of Gauteng hospitals and public health care sector hospitals in South Africa with regard to the present state of nursing human resources and how it impacts on patient safety, but none in the PHC context. To that end the focus of this research project will be to conduct a National Nurses Survey to establish baseline data for South Africa that will support the better organisation of health systems in South Africa.

2. EXPLANANTION OF PROCEDURE

You will be requested to complete a questionnaire developed by an international team of experts. The completion of the questionnaire should not take more than 20 minutes of your time.

3. RISKS AND DISCOMFORT INVOLVED

There are no risks or discomforts involved.

4. POSSIBLE BENEFITS OF THE RESEARCH STUDY

Although you might not benefit directly from the study, the findings of the study will prove beneficial to nursing practice in future in South Africa.

5. YOUR RIGHTS AS PARTICIPANT

Your participation in the research study is entirely voluntary. You can refuse to participate or stop at any time during the study without giving any reason. Your decision to participate or not will not affect your employment status in any way. The questionnaire is anonymous; your name is not requested. **PLEASE DO NOT WRITE YOUR NAME ON THE QUESTIONNAIRE.**

6. ETHICAL APPROVAL

The research study has received written approval from the Research Ethics Committee of the North-West University (Potchefstroom Campus) and from your hospitals' Ethics Committee. Copies of the approval letters are available at Mrs Tinda Rabie as well as the PHC district and sub district directors of North-West province.

7. INFORMATION AND CONTACT PERSON

The contact person for the study is Mrs Tinda Rabie. If you have any questions about the study, please contact her at 018 299 1719. Alternatively you can contact Prof Hester Klopper at 018 299 1717.

8. COMPENSATION

Your participation in the research study is voluntary. No compensation will be given for your participation in the study.

9. CONFIDENTIALITY

All the information that you give will be kept strictly confidential. Once the data have been analysed no one will be able to identify you. Research reports and articles in scientific journals will not include any information that may identify you or your company of employment.

Please note: By completing and submitting the survey, you are giving your consent to participate. Due to the anonymity of the questionnaire we will not be able to trace your questionnaire once you have submitted it.

CONTACT DETAILS: INVESTIGATORS

Professor Hester Klopper

E-Mail: Hester.Klopper@nwu.ac.za

Tel: 018 299 1717

Mrs Tinda Rabie (PhD candidate)

E-Mail: Tinda.Rabie@nwu.ac.za

Tel: 018 299 1719

Dr Petra Bester

E-Mail: Petra.Bester@nwu.ac.za

Tel: 018 299 1876

APPENDIX H

PRACTICE ENVIRONMENT SCALE OF THE NURSING WORK INDEX AND QUESTIONS REGARDING THE DEMOGRAPHIC PROFILE OF THE NURSE

1. Please indicate the extent to which you agree that each of the following features is present in your current job.

*** Note: Abbreviations:**

CHC - Community Health Centre

PHC - Primary Health Care

	Strongly Disagree	**Somewhat Disagree**	**Somewhat Agree**	**Strongly Agree**
1. Adequate support services allow me to spend time with my patients.	[1]☐	[2]☐	[3]☐	[4]☐
2. Physicians and nurses have good working relationships.	[1]☐	[2]☐	[3]☐	[4]☐
3. A supervisory staff that is supportive of nurses.	[1]☐	[2]☐	[3]☐	[4]☐
4. Active staff development or continuing education programmes for nurses.	[1]☐	[2]☐	[3]☐	[4]☐
5. Career development/clinical ladder opportunity.	[1]☐	[2]☐	[3]☐	[4]☐
6. Opportunity for registered nurses to participate in policy decisions.	[1]☐	[2]☐	[3]☐	[4]☐
7. Physicians value nurses' observations and judgments.	[1]☐	[2]☐	[3]☐	[4]☐
8. Enough time and opportunity to discuss consultation uncertainties with other nurses.	[1]☐	[2]☐	[3]☐	[4]☐
9. Enough registered nurses on staff to provide quality patient consultations.	[1]☐	[2]☐	[3]☐	[4]☐
10. A nurse manager who is a good manager and leader.	[1]☐	[2]☐	[3]☐	[4]☐
11. A chief nursing officer who is highly visible and accessible to staff.	[1]☐	[2]☐	[3]☐	[4]☐
12. Enough staff to get the work done.	[1]☐	[2]☐	[3]☐	[4]☐
13. Physicians recognize nurses' contributions to patient consultations.	[1]☐	[2]☐	[3]☐	[4]☐
14. Praise and recognition for a job well done.	[1]☐	[2]☐	[3]☐	[4]☐

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
15. High standards of patient consultations are expected by the management.	[1]☐	[2]☐	[3]☐	[4]☐
16. An operational manager is equal in power and authority to other top level district health programme managers.	[1]☐	[2]☐	[3]☐	[4]☐
17. A lot of team work between nurses and physicians.	[1]☐	[2]☐	[3]☐	[4]☐
18. Opportunities for advancement.	[1]☐	[2]☐	[3]☐	[4]☐
19. A clear philosophy of nursing that pervades the Batho Pele principles.	[1]☐	[2]☐	[3]☐	[4]☐
20. Working with nurses who are clinically competent in the PHC context..	[1]☐	[2]☐	[3]☐	[4]☐
21. Physicians respect nurses as professionals.	[1]☐	[2]☐	[3]☐	[4]☐
22. An operational manager who backs up the nursing staff in decision-making, even if the conflict is with a physician.	[1]☐	[2]☐	[3]☐	[4]☐
23. Management that listens and responds to employee concerns.	[1]☐	[2]☐	[3]☐	[4]☐
24. An active quality assurance programme.	[1]☐	[2]☐	[3]☐	[4]☐
25. Registered nurses are involved in the internal governance of the clinic/CHC (e.g. clinic/CHC do have practice and policy committees).	[1]☐	[2]☐	[3]☐	[4]☐
26. Collaboration between nurses and physicians.	[1]☐	[2]☐	[3]☐	[4]☐
27. An orientation programme for newly employed nurses.	[1]☐	[2]☐	[3]☐	[4]☐
28. Nursing care is currently based on a comprehensive model which includes preventative, promoting and primary care-related curative rather than a medical model.	[1]☐	[2]☐	[3]☐	[4]☐
29. Registered nurses have the opportunity to serve in task teams within the sub-district.	[1]☐	[2]☐	[3]☐	[4]☐
30. Physicians hold nurses in high esteem.	[1]☐	[2]☐	[3]☐	[4]☐

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
31. Written, up-to-date consultation records for all patients.	[1]☐	[2]☐	[3]☐	[4]☐
32. Patient care assignments that foster continuity of care (i.e., the same nurse follow-up patients with follow-up visits e.g. chronic diseases, dressing of wounds).	[1]☐	[2]☐	[3]☐	[4]☐

D. ABOUT YOU

1. What is your gender?

[1]☐ Female [2]☐ Male

2. What is your age? Years: ☐☐

3a. Did you receive your basic nursing education in the country where you currently work as a professional nurse?

[1]☐ Yes [2]☐ No

b. **If no, in what country did you receive your basic nursing education? Country:** ☐

4. Not including the country where you currently work, list the last three countries, if any, (and years) where you have worked as a professional nurse.

Country | Years: ☐ **Country | Years:** ☐ **Country / Years:** ☐

5. What was your age when you first became a professional nurse (completed your training)? Years: ☐☐

6. Do you have a baccalaureate degree in nursing?

[1]☐ Yes [2]☐ No

8. Are you working in this clinic/CHC full time? [1]☐ Yes [2]☐ No

7. How satisfied are you with your choice of nursing as a career?

[1]☐ Very dissatisfied [2]☐ A little dissatisfied [3]☐ Moderately satisfied [4]☐ Very satisfied

If No please specify: ☐

9. How many years have you worked as a <u>registered</u> nurse …

a. in your career **Years:** ☐☐

b. in this clinic/CHC **Years:** ☐☐

10. Do you have an additional qualification in Clinical Health Assessment, Treatment and Care? If <u>yes</u>, please indicate the type.

[1]☐ Masters degree [2]☐ Diploma

11. What type of PHC facility are you currently working?

[1]☐ Primary health care clinic [2]☐ Community Health Centre

Thank you for taking the time to complete and return this survey.

APPENDIX I

INFORMATION LETTER AND INFORMED CONSENT: INTERVIEWS

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

Privaat sak X6001, Potchefstroom
Suid-Afrika, 2520

Nursing Science
Tel: 018 2991719
Fax: 018 2991827
E-mail: Tinda.Rabie@nwu.ac.za

February 2011

PRACTICE ENVIRONMENTS IN COMMUNITY HEALTH CENTRES IN THE NORTH WEST PROVINCE: A CASE STUDY

1. INTRODUCTION

You are kindly invited to participate in this research study. The information in this letter will assist you to understand this study, before deciding if you want to participate or not. If you have any queries, please feel free to ask me - Tinda Rabie.

2. THE NATURE AND PURPOSE OF THIS STUDY

Up to date there have been no research studies done in the South African context that focus on the practice environment (PE) of the nurses in especially the Primary Health Care (PHC) context. The overarching aim of this study is to describe a case study of a model Community Health Centre (CHC) which exemplifies a positive practice environment (PPE) and thereafter develop guidelines to facilitate the establishment of a PPE in the North West (NW) province. As you are a registered nurse/physician/manager working in or closely together with the CHC that is

identified in two districts of NW province as the CHC with the most PPE, you are a very important source of information to assist me understanding PPE better.

3. EXPLANATION OF PROCEDURES

One of the objectives of this study has been to explore and describe the perceptions of nurses in the CHC that demonstrated the highest level of PPE. You participation in a semi-structured interview on the concept of PPE is therefore requested. The interview will be conducted with the assistance of a colleague of the researcher who is an experienced interviewer.

4. RISKS AND DISCOMFORT INVOLVED

There are no risks in participating in this interview. However, should any of the questions asked during the interview make you uncomfortable you do not need to answer them. The interview will take approximately 60 – 90 minutes or shorter per participant. The researcher will schedule the time with you and your CHC operational manager.

5. POSSIBLE BENEFITS OF THE RESEARCH STUDY

You will not benefit directly from this study, but the findings of this study may prove beneficial to the future PE of CHCs. The results of this study feed into our need to understand nursing work environments in the country.

6. YOUR RIGHTS AS PARTICIPANT

Participation in this interview is entirely voluntary. You can refuse to participate at any stage without any reason, without any penalty against you.

7. ETHICAL APPROVAL

The researcher received written approval from the Research Ethics Committee of North-West University and Department of Health. Copies of the approval are available at your request.

8. INFORAMTION AND CONTACT PERSON

The contact person is Mrs. Tinda Rabie (018 299 1719) or Tinda.Rabie@nwu.ac.za

9. COMPENSATION

There is no compensation for participation in this study, because it is not ethical. Your participation is voluntary.

10. CONFIDENTIALITY

All the information obtained during this interview will be kept confidential and anonymous. Once the data is analysed there will be no identity to you.

Please complete the voluntary consent.

Kind regards,

Mrs. Tinda Rabie

PhD Student

CONSENT FORM

PRACTICE ENVIRONMENTS OF COMMUNITY HEALTH CENTRES IN THE NORTH WEST PROVINCE: A CASE STUDY

I confirm that the interviewer who I give consent to explain to me the:

- nature of this study;
- the risks and discomforts; and
- benefits of this study.

I have also received, read and understood the written information regarding the study. I am aware that all information will be treated and processed anonymously. I agree that I am participating willingly. I have no objection to participate in the study and know that I can discontinue with the interview at any time without any penalties to be held against me.

Please complete the following section

Participant's name and surname: _____

Participant's signature: _____

Date: _____

Researcher's name and surname: _____

Researcher's signature: _____

Date: _____

APPENDIX J

INTERVIEW GUIDES

PRACTICE ENVIRONMENTS OF COMMUNITY HEALTH CENTRES IN THE NORTH WEST PROVINCE: A CASE STUDY

Background:

This CHC was identified as the CHC that demonstrated the highest level of PPE in 2 district of the North West Province. The purpose of this interview is to find out more about your success story.

A PPE is an environment where there is productivity, satisfied employees, better retaining of employees, lowered burnout levels and quality of care given to the individual, family and community.

A PPE is determined by looking at 5 domains which include:

- Staffing and resources;
- Nurse manager ability, leadership and support;
- Collegial nurse-physician relationships; and
- Nurse participation in PHC/CHC affairs;
- Foundations for quality of care.

Short explanation of domains:

- Staffing and resources:

  Availability of staff and resources.

- Nurse manager ability, leadership and support:

  Leaders who are supportive with high standards, visionary and enthusiastic, highly visible and responsive, have open communication, provides career development, have power and status, are active in professional organizations and belief in quality of care

- Collegial nurse-physician relationships:

  Professional collegial interactions between the nurse and physician which ensure quality of care to the individual, family and community.

- Nurse participation in PHC/CHC affairs:

  Opportunity of the nurse to influence administrative decisions and policies.

- Foundations for quality of care:

  Quality of care given to the individual, family and community, based on productive and motivated nurses

NURSES WORKING IN THE CHC

INTERVIEW SCHEDULE

1. Introduce and welcome, thank the participant.
2. Explain the research (purpose and objectives) to participant.
3. Explain how the findings will be used. .
4. Explain the interview procedure
    a. Tape recorder; and
    b. Time (approximately 60 – 90 minutes)
5. Role of participant
    a. Expert in the interview, want to describe your view, tell your story, help the researcher to interpret and understand it.

Questions:

1. Why do you think your CHC has been identified as the CHC with the highest level of PPE.
2. Can you tell me more about staffing and resources in your CHC.
3. Can you tell me about your operational manager
    a. his/her abilities;
    b. his/her support; and
    c. his/her leadership skills.
4. Can you tell me about the nurse-physician relationships in this your CHC.
5. How are you as nurse given the opportunity to participate in decision-making in your CHC.
6. How do you ensure quality of care given in your CHC.
7. What do you consider to be the facilitating factors for a PPE.
8. What do you consider as the stumbling blocks in the creation of a PPE.

PHYSICIAN WORKING IN THE CHC

INTERVIEW SCHEDULE

1. Introduce and welcome, thank the participant.
2. Explain the research (purpose and objectives) to participant.
3. Explain how the findings will be used. .
4. Explain the interview procedure
    a. Tape recorder; and
    b. Time (approximately 60 – 90 minutes)
5. Role of participant
    a. Expert in the interview, want to describe your view, tell your story, help the researcher to interpret and understand it.

Questions:

1. Doctor you work in more CHCs in the sub-district, why do you think this CHC has been identified as the CHC with the highest level of PPE.
2. Can you tell me more about staffing and resources in this CHC.
3. Can you tell me about the operational manager
    a. his/her abilities;
    b. his/her support; and
    c. his/her leadership skills.
4. Tell me about your experiences of your relationship with the:
    a. nurse colleagues in the CHC,
    b. manager of the CHC; and
    c. other physicians in the CHC
5. How are you as physician given the opportunity to participate in decision-making in this CHC.
6. How do you ensure quality of care given in this CHC.
7. What do you consider to be the facilitating factors for a PPE.
8. What do you consider as the stumbling blocks in the creation of a PPE.

OPERATIONAL MANAGER OF THE CHC

INTERVIEW SCHEDULE

1. Introduce and welcome, thank the participant.
2. Explain the research (purpose and objectives) to participant.
3. Explain how the findings will be used. .
4. Explain the interview procedure
    a. Tape recorder; and
    b. Time (approximately 60 – 90 minutes)
5. Role of participant
    a. Expert in the interview, want to describe your view, tell your story, help the researcher to interpret and understand it.

Questions:

1. Why do you think your CHC has been identified as the CHC with the highest level of PPE.
2. Can you tell me more about staffing and resources in your CHC.
3. Can you tell me about your management of this CHC with regard to your:
    a. abilities;
    b. support for colleagues; and
    c. leadership skills.
4. Can you tell me about the nurse-physician relationships in this your CHC.
5. How are you as nurse given the opportunity to participate in decision-making in sub-district issues regarding CHC issues.
6. How do you ensure quality of care given in your CHC.
7. What do you consider to be the facilitating factors for a PPE.
8. What do you consider as the stumbling blocks in creating a PPE.
9. Is there anything else you can add which you do to ensure a PPE in this CHC.

ASSISTANT PHC DIRECTOR

INTERVIEW SCHEDULE

1. Introduce and welcome, thank the participant.
2. Explain the research (purpose and objectives) to participant.
3. Explain how the findings will be used. .
4. Explain the interview procedure
    a. Tape recorder; and
    b. Time (approximately 60 – 90 minutes)
5. Role of participant
    a. Expert in the interview, want to describe your view, tell your story, help the researcher to interpret and understand it.

Questions:

1. You are in charge of a few CHCs, why do you think this specific CHC has been identified as the CHC with the highest level of PPE.
2. How do you think your management of this CHC differs from other CHCs?
2. Can you tell me more about staffing and resources in the CHC.
3. Can you tell me about your management of this CHC with regard to your:
    a. abilities;
    b. support for colleagues; and
    c. leadership skills.
4. Can you tell me about the nurse-physician relationships in this the CHC.
5. How do you give nurses the opportunity to participate in decision-making regarding their CHC.
6. How do you ensure quality of care given in the CHC.
7. What do you consider to be the facilitating factors for a PPE.
8. What do you consider as the stumbling blocks in creating a PPE.
9. Is there anything else you can add which you do to ensure a PPE in this CHC.

APPENDIX K

EXCERPT: INTERVIEW

Participant code:	01
Interview:	#1
Date:	10 February 2012

Note: Interview lines changed when the document was attached in the appendix format

Interviewer Thank you mam for giving us the opportunity to interview you regarding practice environments of Community Health Centres in the North West Province. Uhm your, you are in charge of a few Community Health Care centres and uhm the clinic which stands out as the centre with the most positive practice environment characteristics is situated in your area. So, uhm why do you think this Community Health Care eh centre has been identify as the Community Health Care with the best positive practice environments.

Respondent Eh thank you mam eh I think eh I think the CHC has been chosen because as the person who is supervising that health centre I know that eh it offers quality health care services to the clients and users of that eh health care services in that facility and I know that eh the practices are positive because we follow the policies that guide us, we follow the guidelines, we follow the protocols that guides us on how to carry our practices toward delivering the health care that is needed by the users.

Interviewer You say to me uhm you know they provide eh good quality care. How, can I ask you how do you know they provide the care.

Respondent Eh. As the manager of that eh health care, Community Health Centre. I usually conduct supervision visits to the health centre, I conduct clinical audit that will guide me whether they are following the protocols, they are following the guidelines, they are following the policies, that is why I say I know they are doing that, because I conduct clinical audits, I conduct supervision.

Interviewer And eh how often do you do these visits to the clinic as it is a you know distance from your office.

Respondent Eh. I conduct I do clinical audits monthly and I visit, I visit the health centre eh many be like six times a month or more whenever there is a problem I visit there and I attend to whatever problems that crops up but the formal clinical audit I do it on monthly basis.

Interviewer If you talking about clinical audit, what do you mean be doing a clinical audit shortly.

Respondent There is a manual that is called clinic supervision manual that guides us on which area to audit, so that is what I mean by clinical audit. I will conduct a clinical audit on records, clinical, clinical records that is what I will conduct audits on I will conduct audits on the, the medical equipment, the pharmacy, the medication that they were giving to the patients, that is where I conduct, eh that is why I am talking about clinical audits, because that is the clinical part that is being rendered to the patient.

Interviewer Thank you mam. I would like to ask you how do you think your management of this Community Health Care Centre differ from other Community Health Care Centres now you are a manager of a few Community Health Care Centre but and this clinic stands now or Community Health Care Centre stands out remarkably uhm but if you do not differ between your manage or how do you think do you, do your management differ.

Respondent Eh I am responsible for eh six satellite clinics and one Community Health Centre so I supervise among the health centres this is the only health centre that I supervise the rest of other clinics are satellite clinics they are clinics they are not health centres ne, ya so you want to know how my management style maybe differ.

Interviewer Yes, ok let me rephrase this question then because you are only the supervisor of this one Community Health Care Centre it doesn't mean that your management style differ from different Community Health Care Centres, ne. OK. But say if, you if you measure you against your peer eh area managers because you are a few how will you say does your management differ.

Respondent Eh thank you eh I, I wouldn't know pick up whether my management differs from them because I, I haven't picked that up the reason that I haven't had maybe a tool that compare my Community Health Care Centre to theirs but eh I think what makes this one maybe stand out is that I know that there is

teamwork at that Community Health Care Centre that I have established through meetings with the staff so maybe there is that a teamwork that makes us to do one thing to agree on doing one thing, maybe that is why.

Interviewer And how, eh if you refer to teamwork can you elaborate a bit on that.

Respondent Ya. Eh teamwork what I have done eh for me to talk about teamwork is that I during the meetings ne I have instilled into them the fact that everybody must feel responsible for what she/he is doing and everybody must own the management of the health centre by so doing every category was allocated a responsibility so that even a cleaner should feel that only the manager of the health centre is responsible for everything if she does or something that is allocated to her she must own that and be responsible and be able to you know have a authority where she is working she can even eh call to order a manger to say not this way but that way because she will feel responsible also owning the management of the health centre.

Interviewer Thank you mam, can you tell me more about staffing and resources in the CHC centre.

Respondent Eh you know eh with staffing though one will not always say that no I think I am, I am satisfied that the staffing is enough. Eh but with staffing we try and you know eh make off duties such as that we do not experience shortage, all the services are being run smoothly on daily basis we try and balance off duties, that is why at times one will not even realize that we are short staffed, you know, we try and balance the off duties such that one will not feel overworked. You know if eh you know people feel overworked we sometimes not come on duty, they will sometimes play sick.

Interviewer Uhmmm.

Respondent Ya, so they are being balance such that you know that their work is being evenly distributed amongst staff most especially the professional nurses.

Interviewer Thank you mam and resources, you uhm supply and all those things how will you say you manage that.

Respondent Eh firstly, it will be to identify the resources that are being needed by the health centre for the services to run smoothly, ne and then after that a request if being made through procurement section in the sub-district to procure whatever resources that is needed to be used at the health centre. The other thing is to instil in the staff to take care of the resources that they have, so that eh you know it can be used properly, maintained properly and that if it is a medical equipment it will take eh longer so that is why one maybe realize that we, we have enough resources it is only that we take good care of whatever resources is allocated to us.

Interviewer Thank you mam, can you tell me more about you management of this CHC centre with regard to your abilities, your own abilities.

Respondent Eh you know mam without support I cannot be able to manage because I get support from the staff from the Community Health Care Centre and what makes me to be supported is the very teamwork that I talked about initially. That there is teamwork, you know holding meetings with the staff you become part of them you are not only the manger there on top, so that is how I manage to you know to, to, to lead, that is my leadership style, you know I involve everybody so they feel part of me, I feel part of them. Because you know I, I, I, hold meetings with them, I become part of them, whatever they do I am there even apart from the, the, the, the work something like strictly looking at the work, you know if there is bereavement, if there is you know I am part of them ya we are a team. That is my leadership style.

Interviewer Thank you and uhm you have already mentioned you support the colleagues. What specific leadership skills do think do you have which are strong.

Respondent You know, I, I, I, know well maybe somebody looking at me may better explain my leadership something that is strong but what I know about myself is that eh I am somebody who is very open you know I am somebody that is eh democratic. I practice democratic leadership where it is applicable and I apply authority where it is applicable you know I, I am not just, I cannot just say I am straight forward democratic leader or authoritative leader you know I, I, I apply what is relevant to the situation at the time, so that is what makes me strong I assess the situation and apply what is relevant by them so that

is why I manage to lead the people and I always consult and you know come to a consensus with everybody you know I, I do just only instruct, instruct, instruct.

Interviewer Thank you. Can you tell me about the nurse-physician relationship in this specific Community Health Care Centre.

Respondent OK, eh we have eh physicians that visit the facility eh twice a week, you know that the patients we identify patients who will need the doctors attention and then we have never experienced a problem whereby the doctors will complain that maybe we refer the cases that we would have handled. So with them we have a very good working relationship we, we, we, book relevant patients that need their attention and there have never complained. Ya, our relationship with them is very good.

Interviewer Uhm, I will how will you explain your relationship will you be say it is a superior inferior relationship that the doctor is in eh you know in the older days they were in charge you know or will you say it is more that they are I don't know how to say more of a team approach to manage the patient or do you still think there's this gap between you know in the, in the as we experienced in the past.

Respondent Eh, you know that gap is closed now, why I am saying that is, is that even the doctor consult the professional nurses, he will ask something from the nurses. You know like eh the, the, the doctor will prescribe maybe the investigations that need to be taken, that would be done and even the, the, the reason why the patient is being referred to the doctor, the doctor will also ask the professional nurse opinion in other instances where the doctor may not be understanding. So eh the level of relationship is of a team is of a colleague you know we are a colleagues to them that is how we refer to them and that is how they refer to us. So there have never been any one feeling that the other one know more that I do. Because with patient you can not predict you know, you need to interact with each other for the sake of the patient.

Interviewer Thank you, thank you uhm how are you involving sorry I just want to rephrase this question how do you, how do you involve your professional nurses to participate in decision-making regarding their Community Health Care Centre.

Respondent Ya, eh, most of the time regarding the running of their CHC, ne.

Interviewer I actually mean everything, say from Policy eh, you know the whole concept of how do you get them involved or how do you involve them.

Respondent Sorry, as I have indicated to that, you know we have meetings, staff meetings, if there is any Policy that is being eh out for their running of maybe the health care in general we sit down discuss that and come up with our internal policies to say how is his going to be applicable for the running of our centre. Ya, this is how the other professional nurses are being involved, the other thing is that they are the people on the ground, who are first hand identifier of the problems of the running of the centre, so I don't you know tell them how, we sit down and discuss together on the running of the health centre because they are the one who are there on a daily basis, they are the one who experiences, you know, all, experience and identify all the problems and what can be done, so we sit down and discuss that is why it is easy for me and them to run the, the, this centre because we decides together on the running of the centre, they are be, they are involved you know like I cannot you know supervise the manager of the health centre, the professional nurses the enrolled nursing assistants, the clerks, the cleaners, so the professional nurses are responsible for supervising the lower categories, so that is their responsibility even if the Manager of the Health Centre is not there the professional nurse will be responsible to be in charge for the Health Centre, so they are also involved in the running of the Health Centre.

Interviewer Ok. If I, I just want to clarify if I understand correctly you say if they, if you go there and there is problems, they say to you the problems, but you want them to come up with the solutions as well as they see this and this can be a solution, did I understand correctly.

Respondent That is very correct.

Interviewer Thank you Mam. How do you ensure quality of care given in Community Health Care. Even in the Community Health Care Centres, sorry, how do you ensure quality in the Community Health Care Centre.

Respondent Eh, Ya, I have indicated previously about the clinical audits ne, eh something during the audit ne, if there is deviation from the protocols from the guidelines, then I will identify that, I even go to an extend

of, eh, picking up randomly the patient's file then it will indicate to me if maybe there is, is like eh prescribing polypharmacy, not eh, ya, polypharmacy or maybe the, the diagnoses that was not in line, maybe the investigation that is was not in line more especially with TB I am an expert there so I will immediately you know, pick up and call the nurse through, to, to, to rectify that, so I think that is ensuring quality care that is been given to the, the clients. You know just going through the, the clinical records auditing, because I cannot be there when the Professional Nurse is consulting the Patient so I cannot be, be there and you know audit that, but the clinical records will show to me whether the, that has been followed, the protocol has been followed if there is deviation immediately it need to be corrected.

Interviewer I understand, thank you. Eh what to you consider to be the facilitating factors for a positive practice environment in the Community Health Care Centres.

Respondent Sorry.

Interviewer What do you consider to be, to be the facilitating factors, in other words what enhance positive practice environments in Community Health Care Centres.

Respondent Ya, eh, the eh I think eh community involvement also plays a vital role you know, because you know the, the, the community should also eh feel that, they, they, they own it, is you know the centre is also theirs, theirs they must feel part of the health centre so that they don't abuse the resources that is been given to them, so that they don't abuse the, the human resources also resource they don't abuse the, the, the provider of the services to them so if they feel part of the community health centre, they will use it correctly if, if the staff also feel that the community also owns the, the health centre they will know how to interact with the, the community you know, if they make sure that they know their guidelines, their protocols so they follow what is expected of them, I think that will enhance quality of care.

Interviewer I just want to bring you back to the eh community involvement in the sense that it is a big community there, the catchment area of the Community Health Care Centre is very big, how, how do you get eh practical implementation of community involvement.

Respondent You know, the, the, we, we've got eh clinic forums where we have meetings with the, the, the, the clinic forums, whatever is happening in the clinic they will be informed eh, whatever is a concern from the

community they will bring that and then we will be able to answer the concerns, so they will take that back to the community, that is how involve the community also at times we, we asked for a slot during a community meeting whereby if there is anything that we feel must be known by the community it will be addressed at their, their community meetings, that is how we involve the community.

Interviewer Thank you. Except for community involvement what other factors do you think need to be there to have a positive practice environment.

Respondent Eh, apart from community involvement eh, I think the, the, the, the staff also, the attitude of the staff towards the, the user of the services also plays a vital role towards a positive eh practice environment, ne, because your attitude will determine how the community is going to use the facility, because if the staff attitude is not correct eh, I don't think the community would enjoy to come to the facility and use it and also eh, the way your facility is been displayed to the community if you don't treat the environment that the community is using in your facility eh, conducive to them, conducive in a sense of the environment been clean you know, the environment being having that at eh positive attitude towards the community. I think the community cannot feel free to use your facility eh but a positive attitude and conducive environment to the community will make them eh, use your facility.

Interviewer Can you think of any other con, eh factors that can contribute towards a positive practice environment.

Respondent Eh, if, you know, you have that, a, a, I talked about attitude, attitude a good eh eh a positive attitude ne, will make Staff eh to, to, to feel happy to help the community so there will be reduction in the waiting time, waiting period. If the, the, the client come to the facility and you, you, you, you help them timeously they, they will enjoy you know, using you facility because**,** you will not keep them here for the whole day, eh what we do in the health centre ne, there is this what you call fast queue I mean if a person just comes to drink his tablets why should you let this person eh wait go a long day queue, you know, ya we have created that fast line, or fast queue for, for the patient so the, the community enjoy using the, the, the, the, the facility, so I think that is the other positive environment that we have created reduction of the waiting period, ya, I think so.

Interviewer Thank you. What do you think, of, what do you consider as stumbling blocks in creating positive practice environments, what could hampers a positive practice environment.

Respondent Eh, what could be hamper a positive practice eh you know, eh shortage of staff, ya, if, if eh you don't have enough staff to run the services of the facility and the, that will lead eh to a low morale in the staff, eh that will lead to exhaustion and one will not be having that energy not to work, I know it will also lead to absenteeism, ya. One will just decide to play sick .Ya. Shortage of staff you know, have a very negative impact in the smooth running of the facility.

Interviewer Any other things which you can think broadly uhm, which can be stumbling blocks in positive practice environment.

Respondent If you don't have enough resources that you need to use, you know like medical equipment, if you don't have that to use for the patient, it will affect the morale or the positive practice and the other thing it will be if there is shortage of eh pharmaceutical if there is shortage of medication you know, that will also affect the positive practice in the facility. Ya

Interviewer Thank you. Is there anything else you can add which you do to ensure positive practice environment in this community health centre. Anything else which you can think of, which can contribute to, eh which you can think of.

Respondent The other thing that I can think of is the involvement of the eh Community Health Care workers, you know as a health centre we cannot be able to reach each and everybody in the community, but then the use of this Community Health Care Workers eh also contribute to the positive practice because if there is this person who is not able to come to the clinic and nobody knows about it, that will be identified by the Community Health Care worker, this also contribute to the good practice of this Community Health Care worker, I mean of this eh Community Health Centre, we make use of our Community Health Care worker, they really contribute positively to our eh delivery of eh delivery of good quality health care to our community.

Interviewer Can you elaborate a bit more on the community health care worker, is this a person in service eh, get eh in or are employed by the Sub-District Office, or is this eh, eh Volunteer or involved in a NGO, can you just elaborate on that.

Respondent Those are volunteers involved in NGOs, so we have eh NGOs who are eh involved in our clinics so those community health care workers are attached to the NGOs and they help eh with the health care, delivering of health care to the community. They have undergone trainings, home based care trainings, different eh, eh trainings, so even their what the, the, the, the direct observed treatment they give treatment to the, the, the psychiatric patients, to the TB patients at home, so they have been trained. They are attached to the NGO'S.

Interviewer And how would you describe your collaboration with the NGOs'S.

Respondent Eh, we have monthly meetings w, w, with them, so that we know what is they are doing, they know what we are doing eh if there is a, a, a, patient that needs to be tended to we refer to them, so they get the clients or patients from us we refer to them and then they give feedback to us, if there are treatment interrupters we give that list to them, they trace them for us, so that they come to the clinic for their treatment.

Interviewer So, just for clarity purposes you say that, uhm collaboration with NGOs and other groups uhm, are also important for the positive practice environment.

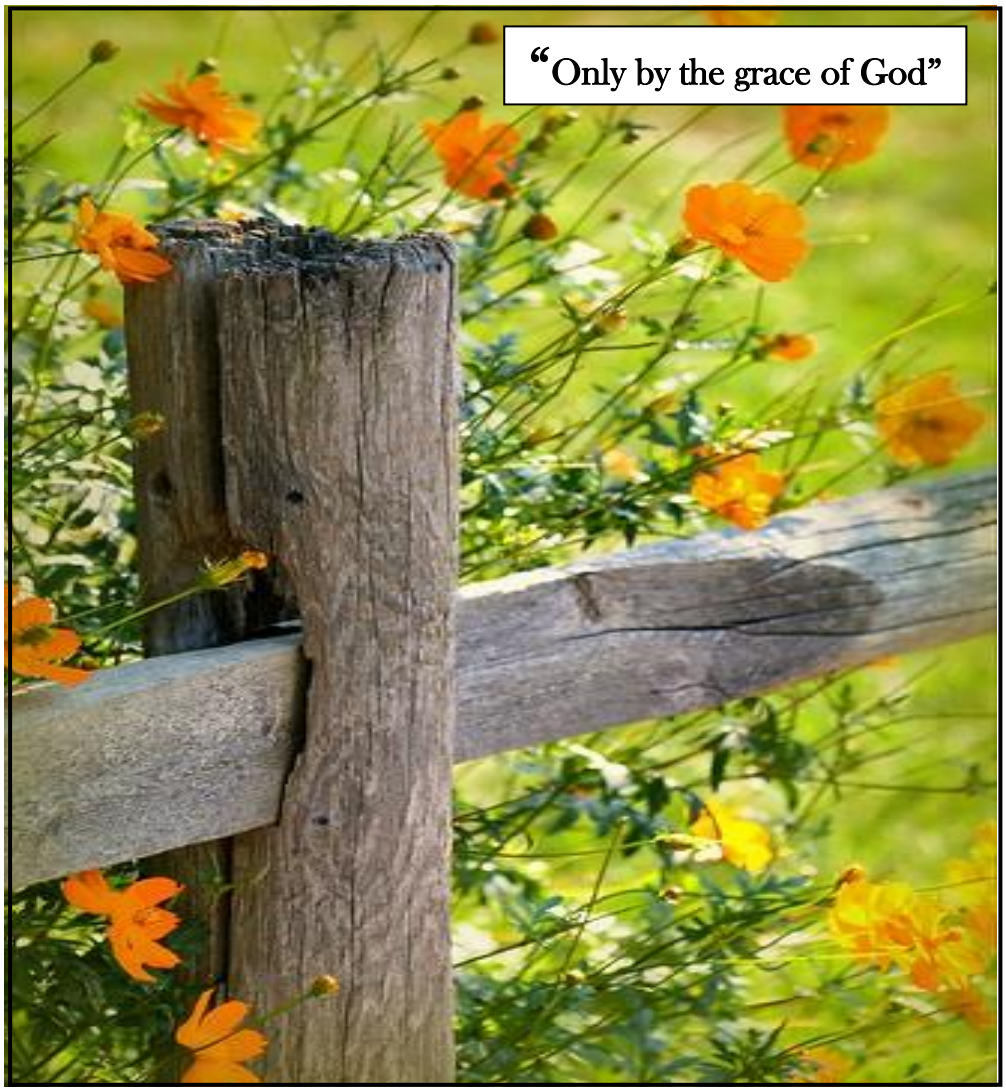
Respondent It, it, is so. It is very important the collaboration between other stake holders, also.

Interviewer Can you identify a few stake holders for me.

Respondent We, we've got the, the, the Red Cross, ya eh you know, those people, the Red Cross and the, the, the other NGO'S for, you know, they, they, they others deal with different aspects in the community, ne, and then they refer to the clinic if they identify anything that will need the clinic attention, ya. So, we've got those who will identify the malnourished children. You know the parents will at times not bring their child to the clinic, so they will identify those who need, to be the, the malnourished children, even adults, because at the clinic who got the food supplements for the under weights. They will also identify maybe the eh, eh pregnant woman who has not yet gone to the clinic to book. They will refer, they will identify vulnerable you know, elderly and those who default treatment, so they, they help a lot. Ya. Those are the other stake holders who help us in, eh positive environment, or positive practice in the delivery of health care.

Interviewer Thank you Mam, and thank you so much for your time.

Respondent OK, thank you.


“Only by the grace of God”