ANALYSING THE NATURE AND DYNAMICS OF NURSING MANAGEMENT AT PRIMARY HEALTH CARE CLINICS IN TWO SOUTH AFRICAN PROVINCES

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DECLARATION

This thesis is submitted in the integrating narrative format, approved by the Faculty of Health Sciences, of published work.

I, Pascalia O Munyewende, declare that this thesis is my original work. It is being submitted for the degree of Doctor of Philosophy in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University. I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong. I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.

I have read the sections on referencing and plagiarism in the Wits Plagiarism Policy and I have followed the required conventions in referencing the thoughts and ideas of others. I understand that the University of the Witwatersrand may take disciplinary action including suspension or permanent expulsion against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

Signature:

Pascalia O Munyewende
25 November 2016

DEDICATION

For my mother, Apollonia Ruth Munyewende

5 October 1941 - 30 October 2016

Rest In Peace

PRESENTATIONS ARISING FROM THIS THESIS

1. **Munyewende P,** Musenge E and Rispel L, Do primary health care clinics in South Africa comply with the vital category of the national core standards? Oral presentation at the PHASA student symposium, 7 October 2015, Durban, South Africa.
2. **Munyewende P,** Rispel L, Chirwa T, Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces. Oral presentation at the Wits School of Public Health Research Day conference, 25 August 2015, Johannesburg, South Africa.
3. **Munyewende P** and Rispel L, Using diaries to explore the lived experiences of primary health care clinic nursing managers in two South African provinces. Oral presentation at the Sigma Theta Tau Lambda at-Large – Africa conference, 13 August 2015, Johannesburg, South Africa.
4. **Munyewende P** for Armstrong SJ, Rispel L and Penn-Kekana L in the nature and dynamics of nursing management:-the activities of hospital unit nursing managers and quality of patient care in South African hospitals: a paradox and Munyewende P and Rispel L, Using diaries to explore the lived experiences of primary health care clinic nursing managers in two South African provinces. Oral presentation at the Global Health Action journal special edition on Nursing, 12 May 2015, Johannesburg, South Africa.
5. **Munyewende P** and Rispel L, Using diaries to explore the lived experiences of primary health care clinic nursing managers in two South African provinces. Oral presentation at the Sigma Theta Tau International Society of Nursing conference, 28 July 2014, Hong Kong.
6. **Munyewende P,** Analysing the nature and dynamics of nursing management at primary health care clinics in two South African provinces. Oral presentation at the Wits SPH academic meeting for the PhD Interim Seminar, 22 November 2013, Johannesburg, South Africa.
7. **Munyewende P**, Rispel L. *et al*. Factors influencing job satisfaction of primary health care nursing managers in two South African provinces. Oral presentation at the Public Health Association of South Africa (PHASA) Conference, 27 September 2013, Cape Town, South Africa.
8. **Munyewende P** and Rispel L. An analysis of nursing leadership and management in primary health care settings in two South African provinces. Poster presentation at the School of Health Sciences Faculty Post Graduate Expo Research Day, 22 September 2010, Johannesburg South Africa.

Other presentations complementary to the PhD

9. Rispel L. *et al*. **Munyewende P,** Research on the State of Nursing (RESON): Progress and Challenges. Oral presentation at the Atlantic Philanthropies-Annual Nursing Education (AP-ANEC) Conference,3 September 2013, Birchwood Conference Centre, Gauteng, South Africa.

10. **Munyewende P**, Rispel L. *et al.* Factors influencing job satisfaction of hospital unit nursing managers in two South African provinces. Oral presentation at the Ekurhuleni Research Conference, 7 November 2012, Johannesburg, South Africa.

11. Rispel L. *et al*. **Munyewende P,** (Best 1st time presentation at PHASA). The nature and health system consequences of casualisation, agency nursing and moonlighting in South Africa. Oral presentation at the Public Health Association of South Africa (PHASA) conference, 29- 30 November 2011, Johannesburg South Africa.

PUBLICATIONS ARISING FROM THIS THESIS

This thesis consists of four academic papers, listed below:

1. **Munyewende P**, Rispel LC, Chirwa T: Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces. *Human Resources for Health* 2014, 12(1):27.

2. **Munyewende PO**, Rispel LC: Using diaries to explore the work experiences of primary health care nursing managers in two South African provinces. *Global Health Action* 2014, 7:10.3402/gha.v3407.25323.

3. **Munyewende PO,** Musenge E and Rispel LC: Do primary health care clinics in two South African provinces comply with the national core standards? *Submitted to PLOS ONE on 18 July 2016.*

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Other publications complementary to the PhD

5. Rispel LC, Moorman J, **Munyewende P**: Primary health care as the foundation of the South African health system: myth or reality? In *State of the Nation South Africa 2014: South Africa 1994–2014: a twenty-year review.* Edited by Meyiwa T, Nkondo M, Chitiga-Mabugu M, Sithole M, Nyamnjoh F. Cape Town: HSRC Press; 2014: 378–394.

6. Eyles J, Harris B, Fried J, Govender V, **Munyewende P**: Endurance, resistance and resilience in the South African health care system: case studies to demonstrate mechanisms of coping within a constrained system. *BMC Health Services Research* 2015, 15:432.

POLICY BRIEF

What influences job satisfaction of PHC Clinic Nursing Managers? Findings from two South African provinces.

This policy brief can be found at:

http://www.chp.ac.za/PolicyBriefs/Documents/Pascalia%20policy%20brief%20FINAL%20120814.pdf

It was based on the article: “Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces,” Pascalia Ozida Munyewende, Laetitia Charmaine Rispel and Tobias Chirwa. Human Resources for Health, 2014, 12:27, which can also be found at:

http://www.human-resources-health.com/content/12/1/27

ABSTRACT

Background: In South Africa, nurses form the backbone of the health system, because of their numerical dominance, their skills and training, their close contact with patients and communities and their prominence in managerial and leadership roles at all levels of the health system.

Objective: The aim of this PhD was to analyse the nature and dynamics of nursing management at primary health care (PHC) clinics in two South African provinces. The specific objectives were to: describe the social-demographic characteristics of selected PHC nursing managers; determine their job satisfaction levels; examine the work environment; determine the functionality of PHC support systems; and assess their managerial competencies.

Methods: In 2012, a mixed methods cross-sectional study was conducted in Gauteng and Free State Provinces. Using stratified random sampling, 111 PHC nursing managers working in eight hour clinics were selected. After obtaining informed consent, these managers were invited to participate in three surveys: job satisfaction, facility assessment and a 360 degree competency evaluation. A sub-set of these managers (n=22) was requested to keep a diary for six weeks. STATA® was used to do quantitative data analysis, while the qualitative data was analysed using thematic content analysis.

Results: A 95% response rate was obtained for all surveys. The majority of PHC clinic nursing managers were female (92%), black, married, with a mean age of 49 years (SD = 7.9), 90% were in permanent positions, and 36% had between 21-30 years of professional nursing experience. The overall job satisfaction scores for Gauteng and Free State PHC clinic nursing managers were 142.80 (SD± 24.3) and 143.41 (SD± 25.6) out of a possible score of 215. The predictors of their job satisfaction were: working in a clinic of choice (RRR = 3.10), being tired at work (RRR = 0.19) and experience of verbal abuse (RRR = 0.18). The facility assessment found that none of the selected clinics obtained scores of 100% for the vital elements of the National Core Standards. Overall, clinic nursing managers rated themselves high on the domains of communication (8.6), leadership and management (8.67), staff management (8.75), planning and priority setting (8.6), and problem-solving (8.83). The exception was the financial management domain where the nursing managers gave lower

ratings (7.94). Health system deficiencies, human resources challenges, leadership and governance, and unsupportive management dominated the diary entries, and coalesced to produce many negative emotions experienced by these PHC clinic nursing managers.

Conclusion: This PhD study has underscored the importance of PHC nursing managers, and has generated new knowledge on the overall levels and predictors of job satisfaction, the perceived competencies of these managers, together with information on the work environment and support systems. The successful implementation of PHC revitalisation and universal health coverage reforms cannot be achieved without addressing the concerns of PHC nursing managers and the health system issues affecting them.

Key Words: Nursing management, primary health care, job satisfaction, work environment, health facility assessment, competencies, primary health care clinics, South Africa

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NOMENCLATURE

5S	Sort, Set, Shine, Standardise, and Sustain
AIDS	Acquired Immuno Deficiency Syndrome
ART	Antiretroviral Treatment
BP	Blood Pressure
CA	Cronbach's Alpha
CEOs	Chief Executive Officers
CHCs	Community Health Centres
CHP	Centre for Health Policy
CHW	Community Health Worker
CPD	Continuous Professional Development
COHSASA	Council for Health Service Accreditation of Southern Africa
DBSA	Development Bank of Southern Africa
DCSTs	District Clinical Specialist Teams
DHS	District Health System
DMTs	District Management Teams
DOH	Department of Health
EDL	Essential Drug List
EOM	Essentials of Magnetism
EMS	Emergency Medical Services
EPJS	Emergency Physician Job Satisfaction Instrument
EPI	Expanded Program on Immunisation
FS	Free State
GP	Gauteng Province
GHWA	Global Health Workforce Alliance
HFMA	Health Financial Management Association
HIV	Human Immuno Deficiency Virus
HREC	Human Research Ethics Committee
HRH	Human Resources for Health
HST	Health Systems Trust
ICN	International Council of Nurses
IOM	Institute of Medicine
IQR	Inter-quartile Range
ISDS	Initiative for Sub-District Support
JIG	Job in General Scale
JLI	Joint Learning Initiative
JSS	Job Satisfaction Survey
LMICs	Low and Middle Income Countries
MDGs	Millennium Development Goals
MJS	Measure of Job Satisfaction
MMSS	McCloskey/Mueller Satisfaction Scale
MOH	Minister of Health
MTT	Ministerial Task Team
NCS	National Core Standards
NDoH	National Department of Health
NGO	Non-Governmental Organisation
NHA	National Health Act

NHI	National Health Insurance
NIMART	Nurse Initiated Management of Antiretroviral Therapy
NSDA	Negotiated Service Delivery Agreement
NSS	Nurse Satisfaction Scale
OHSC	Office of Health Standards Compliance
PCAT	Primary Care Assessment Tools
PHC	Primary Health Care
PhD	Doctor of Philosophy
PMTCT	Prevention of Mother to Child Transmission
PSC	Public Service Commission
RDP	Reconstruction and Development Programme
RESON	Research on the State of Nursing
RRR	Relative Risk Ratio
SAHR	South African Health Review
SANC	South African Nursing Council
SARA	Service Availability Readiness Assessment
SD	Standard Deviation
SDGs	Sustainable Development Goals
SMS	Senior Management Service
STIs	Sexually Transmitted Infections
TB	Tuberculosis
UHC	Universal Health Coverage
UK	United Kingdom
USA	United States of America
WHO	World Health Organization
WHPA	World Health Professions Alliance

CHAPTER 1: INTRODUCTION

1.1 Background

My PhD focused on an analysis of the nature and dynamics of nursing management at the primary health care (PHC) level in two South African provinces. The study brings together three important issues at both conceptual and methodological levels, namely nurses, health service management and PHC. Overlap exists among the issues, but each is discussed separately for the sake of clarity.

This chapter provides the background to and context of the research that was conducted as part of my PhD and is divided into eight distinct sections. Section 1.2 summarises key developments in nursing in South Africa, relevant to this PhD. Section 1.3 provides a brief background on health service management and the justification for focusing on nursing management. Section 1.4 synthesises the key developments in PHC in South Africa and highlights why the research focused on the PHC level. Section 1.5 focuses on the study rationale. Section 1.6 describes the conceptual framework underpinning this PhD thesis while section 1.7 focuses on the study aim and objectives. Section 1.8 outlines the structure of this PhD integrating narrative.

1.2 Key developments in nursing in South Africa

Nursing is a well-established and regulated profession in South Africa. The South African Nursing Council (SANC) is the regulatory authority that governs the nursing profession in the country. No nurse is allowed to practise without SANC registration [1]. At the end of 2015, 278 617 nurses were registered or enrolled with the SANC [2]. The three categories of nurses in South Africa [2] are: registered nurses and midwives (also referred to as "professional nurses"); enrolled nurses or midwives; and enrolled nursing auxiliaries.

The professional nurses have four years of training, and 136 854 were registered at the end of 2015 [2]. Enrolled nurses or midwives have two years of training, and 70 300 were registered at the end of 2015 [2]. Enrolled nursing auxiliaries (also referred to as "nursing assistants"), have one year of training and 71 463 were registered at the end of 2015 [2]. In terms of the distribution of nurses in the nine South African provinces, the urban province of Gauteng has the highest number of nurses (72 417), followed by KwaZulu-Natal with 68 645 [2].

Nurses form the backbone of the health system, because of their numerical dominance, their skills and training, their close contact with patients and communities and their prominence in managerial and leadership roles at all levels of the health system [3]. In South Africa, nurses work in both the private and the public health care sectors where they provide a range of preventive, promotive and curative health care services [4].

The period since democracy has witnessed a number of key developments in nursing in South Africa. These developments have been in response to global initiatives such as the 2006 World Health Report that focused on human resources for health (HRH) [5], as well as changes in South Africa's health [6] and education sectors [7]. The most important policy developments that have influenced nurses and nursing have been: the 2006 South African HRH strategic plan [8]; the 2008 Nursing Strategy [9]; the 2011 National Nursing Summit [10]; the 2012/13 HRH strategy [3]; and the 2012/13 Strategy on Nursing Education, Training and Practice [11].

South Africa's 2006 HRH strategic plan acknowledged the important role of nurses as part of the health workforce [8]. The document noted that:

> *…nursing being the largest category that endures such factors as the perceived low value placed on professionals, big workloads, access to personal development programmes, job security etc. It is therefore important to take note that a national strategy specific to nursing is necessary and must be developed [DOH, 2006: 65][8].*

In the foreword to the 2008 Nursing Strategy, the then Minister of Health (MOH) highlighted the shortages of professional nurses, and the perceived decline in the standards of care, exacerbated by South Africa's complex burden of disease [9]. For this reason, the 2008 Nursing Strategy focused on six critical areas: nursing practice, education and training; the social positioning of nursing; regulation; leadership; and the resources for nursing [9]. The Strategy also affirmed Government's commitment to PHC and acknowledged that this commitment placed new demands on all nurses, making it imperative that they be adequately trained and prepared for health reforms and nursing management [9].

Since assuming office in 2009, the current MOH, Dr Aaron Motsoaledi, has put the spotlight on the challenges facing the nursing workforce. Under his direction, a committee was set up in 2011 to convene a national nursing summit, under the banner of "Revitalising the nursing profession for a long and healthy life for all South Africans". The theme relates to one of the key outcome goals of the South African Government, which is the mandate of the MOH and

contained in his performance contract, known as the negotiated service delivery agreement (NSDA) [14]. The summit was held in April 2011 and close to 2000 nurses of different categories (from both the public and private health sectors) and from all nine provinces attended the summit. During the summit, the MOH highlighted the importance of nurses in the re-engineering of the health system towards quality PHC and this importance was re-iterated in the final nursing compact [10].

In the foreword to the summit report, the Minister noted that:

> *They* [nurses] *make up the largest group of health care professionals in South Africa, with four nurses for every ten other public sector health workers. This means that the training, development, management, utilisation of nursing professionals, and the planning and resourcing of the nursing profession are essential levers for enabling the contribution of the nursing profession to improved health outcomes* [DOH, 2011: 7] [4].

At the summit, the importance of nurses and their contribution to health systems strengthening in South Africa was reiterated [4]. Following the summit, a Ministerial Task Team (MTT) was set up to give effect to the aspirations of the community of nurses in South Africa, and the recommendations made at the summit [4, 10]. At the same time, the revision and development of a national HRH strategy was underway.

The 2012/13-2016/17 HRH strategy once again underscored the numerical dominance of nurses in South Africa and that the successful implementation of health sector reforms was unlikely to be successful if nursing challenges or issues were not addressed [3]. The 2012/13 – 2016/17 Strategic Plan for Nursing Education, Training and Practice contained seven clusters of recommendations that focused on: nursing education and training; resources in nursing; professional ethos; governance, leadership, legislation and policy; positive practice environments; compensation, benefits and conditions of service; and human resources for health [11].

The common element in all these strategic documents is the vision of PHC as the foundation of the South African health system and the central role of nurses in realising this vision [1-4, 6-11, 14]. As indicated above, the South African healthcare system is predominantly nurse based. It is important, therefore, to acknowledge the contribution that nurses have made to improvements in population health outcomes and the implementation of priority health programmes, particularly at the PHC level. Scholars have shown that the implementation of

the choice on termination of pregnancy Act would not have been possible without the seminal involvement of nurses [15]. Similarly, the commencement of nurse-initiated antiretroviral treatment (ART) has expanded treatment coverage in South Africa, which now has the largest ART programme in the world [16-18].

However, the nursing profession faces numerous challenges that have been well described by various South African authors [7, 9, 11, 19-27]. Apart from the contestations around race, class and gender, the most important of these relevant to the thesis are an ageing nursing workforce, the maldistribution of nurses in the health system, a crisis in nursing education, and problems with nursing practice and management [7, 9, 11, 19-27] (Table 1.1).

Table 1.1: Key dimensions of the nursing crisis

Nursing education	• Contestations among different stakeholders (government, SANC, nursing education institutions and nurses themselves) on nursing education reforms • Lack of investment in nursing education • Delays in the implementation of the new nursing qualifications framework • Insufficient preparedness of nurse educators for nursing education reforms • Perceptions that many nursing students are not suitable for the profession • Insufficient numbers of nurses trained to support PHC reforms • Outdated nursing education curricula that are unresponsive to population- and health system needs • Delays in the finalising of the competency framework for advanced nursing practice • Gaps in continuous professional development (CPD) and absence of formal mentoring programmes
Nursing Practice	• Ageing workforce • Delays in finalisation of scopes of practice, in part because of the delays in the implementation of nursing education reforms • Maldistribution of nurses between urban and rural areas, hospitals and PHC facilities, and between the public and private health sectors • Shortages of staff exacerbated by absenteeism and moonlighting • Complaints of heavy workloads • Task shifting, resulting in expanded or new responsibilities for PHC nurses and managers (e.g. NIMART) • Sub-optimal quality of care
Nursing management	• Insufficient consultation with nurses around strategic policies and health sector transformation initiatives • Fragmented health service planning resulting in increased demands on existing nursing managers • Gaps in managerial capacity (numbers), competencies and leadership skills • Sub-optimal management and/or supervision • Inadequate preparation or lack of succession planning • Unsupportive management environment

*This table was compiled from the National Nursing Summit Report and the Research on the State of Nursing (RESON) special issue [4, 7, 26, 28].

In December 2015, the majority of South African nurses were over the age of 40 years [2], and many will be reaching retirement by 2020 [5]. The 2013 National Strategy on Nursing Education, Training and Practice noted that 43.7% of professional nurses were over the age of 50 [9]. Several studies have confirmed an ageing nursing workforce in South Africa and view it as contributing to nursing shortages [20, 29, 30] and inadequate health service delivery [5].

The problems of an ageing nursing workforce are exacerbated by the delays in the implementation of nursing education reforms that have been in the making for more than a decade [7, 28]. The 2013 Strategic Plan for Nurse Education Training and Practice foregrounds the importance of nursing education reforms and the links these reforms have to

health system performance [11]. Evidence suggests that the numbers, competencies and effectiveness of nurses influence quality of care, patient outcomes [22], and the success of universal health coverage (UHC) reforms [21]. An overhaul of nursing education is likely to yield improved quality and social accountability of nursing graduates [28]. Furthermore, investment in nurse educators has to accompany any major transformation in nursing education [31].

However, two recent studies that examined nursing education reforms and social accountability found that South Africa is grappling with getting the basics right for transformative nursing education [7, 28]. Stewardship and governance by the SANC and the national DoH, overall investment in nursing education, curriculum reforms, nurse educator preparedness, and student nurse recruitment require urgent attention [7, 28]. Gaps in CPD and absence of formal mentoring programmes exacerbate the nursing education crisis in South Africa.

The ageing nursing workforce and the nursing education crisis, which hinder nurse production, in turn contribute to nursing shortages, particularly at the PHC level [32]. The shortages of nurses are a recurring theme in the discourse on the transformation of the South African health system [33]. The factors that influence these nursing shortages are complex, and include insufficient numbers of trained nurses to meet the country's health care needs, lack of retention of nurses in the system, and inappropriate use of nursing skills. The mal-distribution of nurses between urban and rural areas and between the public- and private health sectors are also detrimental to building up a strong nursing workforce. Practices such as moonlighting, agency nursing [33], and sub-optimal management and supervision also contribute to the nursing shortages [19, 21, 32-35].

The shortages of nurses have a knock-on effect on practising nurses, who complain of being overworked and exhausted. The shortages also contribute to absenteeism [33] and sub-optimal quality of care provided. Perceptions of work overload as a result of task shifting [36], working beyond their scope of practice, and the lack of an enabling practice environment are challenges cited by nurses and nursing managers as contributing to poor quality of health care [36]. Many nurses working in the South African public sector work under difficult conditions characterised by health system deficiencies [37]. These include poor infrastructure, lack of functioning equipment, inadequate medicine and supplies, sub-optimal administrative and management processes, as well as incidents of violence [38, 39]. Negative practice environments in turn contribute to sub-optimal quality of care, influence staff absenteeism,

erode professionalism and affect job satisfaction [21]. Some studies have also found that nurses do not always have the necessary competencies to practise in PHC clinics [4].

The challenges in nursing management intersect with and exacerbate those in education and practice. At the PHC level, nursing managers are responsible for overseeing nursing practice, managing multidisciplinary staff, setting clinic budgets and creating practice environments that encourage professionalism and employee engagement [37, 40]. Often, insufficient consultation with nurses around strategic policies and health sector transformation initiatives increase the demands on existing nursing managers [23, 27, 41]. A 2016 article on the progress and fault lines of health sector transformation in South Africa noted that general "tolerance of ineptitude and leadership, management and governance failures" was widespread in the health system but underscored the importance of health service managers at all levels of the health system in supporting UHC reforms [33]. Supervision for PHC clinic nursing managers is also problematic, as supervisors give conflicting directives and insufficient guidance, direction and feedback to these managers, often leading to crises in PHC facility management [27, 32, 41, 42]. Other challenges that have been highlighted are the systemic constraints such as the adoption of new public management models post-democracy that contributed to sub-optimal nursing leadership and management, insufficient administrative support and resource constraints [22, 40]. In addition, PHC clinic nurse managers face competing priorities in the workplace [22, 40, 42]. Hence, the optimal performance of the South African health system is dependent on addressing nursing challenges.

Section 1.3 provides a brief background on health service management and the justification for focusing on nursing management in this PhD.

1.3 Health service management

Health service management is a global priority, as seen in the World Health Organization's (WHO) initiatives on strengthening health management capacity [5, 43-46]. The WHO emphasises that effective leadership and management are essential to scaling up the quantity and quality of health services and for improving population health outcomes [46]. Good health service managers provide direction to and gain commitment from staff, facilitate change, and oversee the provision of quality health services through efficient, and responsible deployment of human and financial resources [46]. Effective health service management is

dependent on the fulfilment of four main conditions: an adequate number of managers; competent managers; access to functional support systems; and a work environment that expects, supports and rewards good management performance [46].

Although several global initiatives emphasise the importance of management, the 2006 World Health Report foregrounded managers as essential to the achievement of quality health care outcomes and the Millennium Development Goals (MDGs) [5, 47]. At the beginning of 2007, 100 participants from 26 countries gathered in Ghana to deliberate on a technical framework towards better leadership and management in health [46]. In 2008, the World Health Report reiterated the importance of leadership and management reforms and argued that sustained management capacity is needed at the PHC level to achieve good health outcomes and to reduce inequities between and within countries [48]. In the same year (2008), the International Council of Nurses (ICN), a global federation of more than 130 national nurses associations, advocated for international and national efforts to improve the preparation of nurses for management [49].

Since 1994, the importance of health service management has been a constant feature on the South African Government's transformation agenda in response to various health system reforms. Some of the key initiatives relevant for health services managers include the 2012/13-2016/17 HRH strategy [3] and the 2012/13 – 2016/17 Strategic Plan for Nursing Education, Training and Practice [11] that were mentioned in Section 1.2. The 2003 Senior Management Service (SMS) programme, the 2008 National Competency Survey, the 2010 NSDA, the development of an Academy for Leadership and Management in Healthcare in 2012, the 2006 and 2012/13 HRH strategies and the launch of the White Paper on the National Health Insurance (NHI) for South Africa in December 2015 [50] are other strategies that underscore the importance of health service management.

The SMS programme was developed in response to challenges experienced in the public sector in the recruitment, development and retention of competent health service leaders and managers [51]. The challenges faced by health service managers in South Africa have been well documented. The inaugural South African Health Review (SAHR) in 1995 [52] observed that:

> *…it is critically important to 'unshackle' managers from the many constraints they face, reward initiative and resourcefulness, and provide from senior levels much needed training and support [Tollman and Rispel, 2003:73] [52].*

The barriers and impediments that health service managers face broadly relate to inadequate management competencies, poor levels of organisational support and negative practice environments and fragmentation [22, 33, 46, 47, 53-59]. In 2008, the Health Systems Trust (HST) conducted a national assessment of competencies and current training programmes to inform a national strategy to strengthen district management capacity [60]. The assessment found that there were skills gaps and training inadequacies, exacerbated by the relatively low position and status of PHC facility managers [61]. Furthermore, there was insufficient preparation of managers to work in community-based settings [62]. The HST and the human resource development forum agreed on a syllabus for training district management teams [62]. Fourteen core management competencies were identified that could be applied at the district level [60, 62]. In 2010 the Development Bank of Southern Africa (DBSA) assessed the competencies of hospital chief executive officers (CEOs) and district managers in all the nine provinces of South Africa [63]. The assessment found that there were several gaps in the competency levels of hospital CEOs and district managers [63].

In 2010, the NSDA proposed an outcomes-based approach to health service management based on role clarity, delegation of managerial responsibilities, performance management, CPD, and the development of a common competency framework to prepare managers for health system reforms [14]. The 2012/13 HRH strategy emphasised the need to develop and professionalise the management of health facilities through nursing education and training and prioritising health workforce needs in the South African health system [3].

In 2012, the Academy for Leadership and Management in Healthcare was developed by the MOH to establish benchmarks, norms and standards to deal with the leadership and management challenges bedevilling South African hospital facilities [64]. The Academy was developed against the backdrop of the HRH strategy, which recommended the development of an institute to build capacity for the leadership and management of South African hospitals. The academy accredits short courses and training materials for leaders and managers and makes it mandatory for managers to attend the academy before assuming posts as hospital CEOs [64]. The common strand in all these initiatives is the need to capacitate health service managers in the health care system.

As noted above, professional nurses are responsible for the management of PHC clinics in the country [65]. The various health care system transformation initiatives, higher patient demand and the complex disease burden have increased the managerial responsibilities for health service managers, especially nurses [66]. Nursing managers are responsible for implementing

health system goals and maximising health worker performance [67]. PHC clinic nursing managers can benefit the health care system by improving service delivery and quality of care. A study among PHC managers in a South African urban setting highlighted their contributions in improving health services, particularly initiating and overseeing infrastructure renovations of the clinics that they managed [68]. PHC facility managers were pivotal in the implementation and guiding of service expansion of priority programmes such as HIV and Prevention of Mother to Child Transmission (PMTCT) [68]. These PHC facility managers had strengthened community participation in the management of clinics and improved patient satisfaction with waiting times and staff productivity [68].

Although the constraints and challenges in health service management in South Africa have been well described , the majority of these studies focus on hospital managers [22, 33, 46, 47, 53-56, 69]. While the challenges in hospital management are related to those that are experienced at the PHC level there is limited evidence on the realities that frontline nursing managers' face. Some studies have found that PHC nursing managers work at the periphery of the health system, often in isolation [32, 40, 70-72]. A study in Cape Town found that PHC managers think that government does not understand the realities of their work environment, which is characterised by impossible bureaucratic structures, isolation, budgetary cuts and staff shortages, which hamper health service delivery efforts [72]. Managers are also constrained by regulations that are highly centralised, poor incentives, staff shortages and pressures to reduce expenditure [32, 40, 70-72]. PHC managers reported that they often worked long hours to provide care to many patients, in inappropriately designed and overcrowded facilities that were lacking in privacy. PHC managers also revealed that they had little or no support from their immediate supervisors [32, 40, 70-72].

However, urban Cape Town is different from other parts of South Africa. I was interested therefore, in understanding the nature of nursing management at the PHC level in Gauteng – the economic powerhouse of South Africa – and the Free State Province, which is a largely agricultural setting [73, 74]. This is because these PHC managers are critical to the successful implementation of PHC revitalisation and UHC reforms.

1.4 Key developments in PHC in South Africa

The WHO endorsed PHC as a central strategy to achieve the *'Health for All'* goal [48]. In 1978, an international conference on PHC was held in Alma-Ata and was attended by

representatives from 134 countries, 67 international organisations, calling health care workers and communities to protect and promote the health of all people in the world [48, 75, 76]. The Alma-Ata declaration on PHC emphasise the provision of essential health care, community participation, and inter-sectoral collaboration [48], and is based on the principles of equity and human rights [77].

The PHC approach is a systematic way of organising the health system to promote and protect health, and prevent illness [78]. Where PHC forms the backbone of country health systems the health outcomes are better compared to those where the focus is not on PHC [48, 79]. In 2008, 30 years after Alma-Ata, the World Health Report recommended four policy areas of reforms: universal health coverage, people-centred care, quality health services that support continuity of care, and improved capacity in leadership and management of health services [75, 80].

South Africa was not party to the 1978 Alma-Ata Declaration because of its apartheid policies. In 1994, the democratic South African government made a commitment to improve the performance and effectiveness of the health system at the district level. The 1996 South African Constitution enshrined health care as a right, while the 1997 White Paper enunciated the PHC approach, which was also emphasised in the National Health Act [75, 81]. The White Paper sought to unify the national health system through the development of a decentralised, district-based health care system with the PHC approach as the foundation [6].

In South Africa, the DHS consists of 52 districts (in line with local government or municipal boundaries) [77]. District management teams (DMTs) and district managers are responsible for health outcomes within the relevant geographical areas, as well as financial and human resources for health management [77]. PHC managers report to the DHS managers, via a system of clinic supervisors [62, 82]. The key developments of PHC in South Africa are shown in Table (1.2).

Table 1.2 Key developments in South African PHC

Year	Key developments
1994	National Health Plan, free PHC services
1995	Reconstruction and Development Programme (RDP) expansion and improvement of clinics
1995	District Health System (DHS)
1996	South African Constitution
1996	The Initiative for Sub-District Support (ISDS)
1997	White Paper for the transformation of the health system in South Africa
1999	Human resources for health strategy
2000	The Primary Health Care package for South Africa - A set of norms and standards.
2001	A comprehensive Primary Health Care Service Package for South Africa
2003	PHC Clinic Supervision manual
2003	The Kopanong Declaration on PHC
2003	The National Health Act (NHA)
2004	The 2004-2009 strategic priorities for the health system
2004	National Community Health Worker Policy Framework
2006	Human Resources for Health Strategy
2008	The Birchwood Declaration on PHC
2008	The Patient's Rights Charter
2009	The NDoH 10-point plan for the health sector 2009-2014
2010	Nurse-initiated and managed antiretroviral treatment (NIMART)
2010	National Department of Health Strategic Plan 2010/11-2012/13
2010	2010-2014 Negotiated Service Delivery Agreement
2010	Revision of the essential primary health care (PHC) package of health services
2010	Ministerial Task Team on PHC
2010	PHC re-engineering strategy
2011	Green Paper on National Health Insurance
2012	Human Resources for Health South Africa. HRH Strategy for the Health Sector: 2012/13 – 2016/17
2013	National Health Amendment Act
2014	Establishment of the Office of Health Standards Compliance and implementation of the mandatory National Core Standards for health facilities
2015	White Paper on the National Health Insurance system in South Africa

*This table was adapted from a chapter titled *Primary health care as the foundation of the South African health system: myth or reality* written by Rispel *et al* [2014] in the State of the Nation: South Africa 1994-2014 A twenty-year review of freedom and democracy [32].

The PHC philosophy has been central to health policy developments in South Africa since 1994. The White Paper for the transformation of the health system proposed a comprehensive package of PHC services that includes promotive and preventive services, curative services for acute minor ailments, and chronic care [83]. The construction of 1345 new clinics and the removal of user fees increased access to health care [32]. The PHC package relied heavily on nurses as the first point of contact for individuals, families or communities seeking treatment in the South African public health care system [83]. The implementation of the

comprehensive PHC package meant the re-organisation of nurses' work [83, 84]. PHC clinics stopped offering services on specific days of the week but instead offered all services every day of the week [83, 84]. PHC clinic managers and staff expressed frustration with the re-organisation of services, the increased patient demand, and their increased scope of work despite the staff shortages [61, 68]. In addition to the expansion of the scope of practice, nursing managers had difficulties with the administrative tasks of procuring drugs and supplies for their clinics [68, 85].

The 2010 PHC re-engineering strategy is based on three tenets: community-based ward outreach teams, integrated school health teams and district clinical specialist teams (DCSTs), with nurses playing a key role [86]. This strategy depends on integrated and well-functioning teams that are led by competent managers to achieve health outcome goals [77].

1.5 Study rationale

The introduction has set the scene for and context of the PhD. My PhD study was inspired by the fact that nurses form the backbone of the health care system in South Africa and have assumed increased leadership and management responsibilities. Nursing managers at PHC clinic level have the potential to improve the overall performance of the health system. Furthermore, they are envisaged to have increased roles and responsibilities in South Africa's PHC re-engineering, which will require enhanced competencies to ensure successful execution of these roles and responsibilities. Given this context, there are several critical questions. Who are these managers? What are the experiences of front-line PHC nursing managers in South Africa? How do they experience health sector reforms in South Africa? How much do they know about these reforms? What are their narratives about these reforms? How does the working environment impact on these managers? What insights about the health system can be gleaned from the experiences of these nursing managers? However, there is limited research on the experiences of nursing managers at the PHC level, their levels of job satisfaction, and their perceptions on health sector reforms. It is envisaged that the findings of this empirical research can inform HRH strategies and service delivery at the PHC level, with potential benefits for the entire health care system.

1.6 Conceptual framework

My PhD research used an adaptation of the 2007 WHO framework on leadership and management in health [46]. This framework was developed in Ghana at a global consultation on strengthening health leadership and management in low-income countries. Four interlinked actions to develop better leadership and management in health were suggested: an adequate number of managers, appropriate competencies, functioning support systems and enabling working environment [46]. "Adequate number of managers" examines the numbers of managers available at all levels of the health system, whether they are permanently employed or are in an acting capacity [46]. "Managerial competencies" focuses on the qualifications and experience of managers and addresses weaknesses in management competencies [46]. "Functional support systems" examines the ability to carry out budget and financial management, procurement and distribution of drugs and whether there are sustained efforts to improve them [46]. "Enabling work environment" examines whether the health system is organised in a way that encourages effective managerial performance [46]. An enabling work environment includes the degree of autonomy, clear definition and communication of roles and responsibilities, fit between roles and structures, existence of national standards, and whether managers have access to supportive supervision or mentoring [46].

These four elements are relevant at all levels of the health system and at the PHC level. The elements in the framework emphasise that obtaining commitment from stakeholders is important to facilitate change in building leadership and management capacity in health [46]. The framework also recognises the importance of conducting research to determine gaps or the interventions needed to develop leadership and management capacity at a country level [46].

In comparison to other frameworks that include a management component [5, 48, 87, 88], the WHO *Towards Better Leadership and Management Framework* can be applied at any level of health system including the PHC and the individual level. The WHO 2007 framework is an attempt to bring meaningful change within health services management. The four key pillars and concepts surrounding the framework form part of the factors that are crucial in supporting nursing managers [46]. However, the framework does not include job satisfaction explicitly, which is crucial to the retention of experienced health managers. Figure 1.1 shows the adaption of the framework where job satisfaction is highlighted in the centre. Job satisfaction of nursing managers is a critical component in leadership and management and can be influenced by the other four factors.

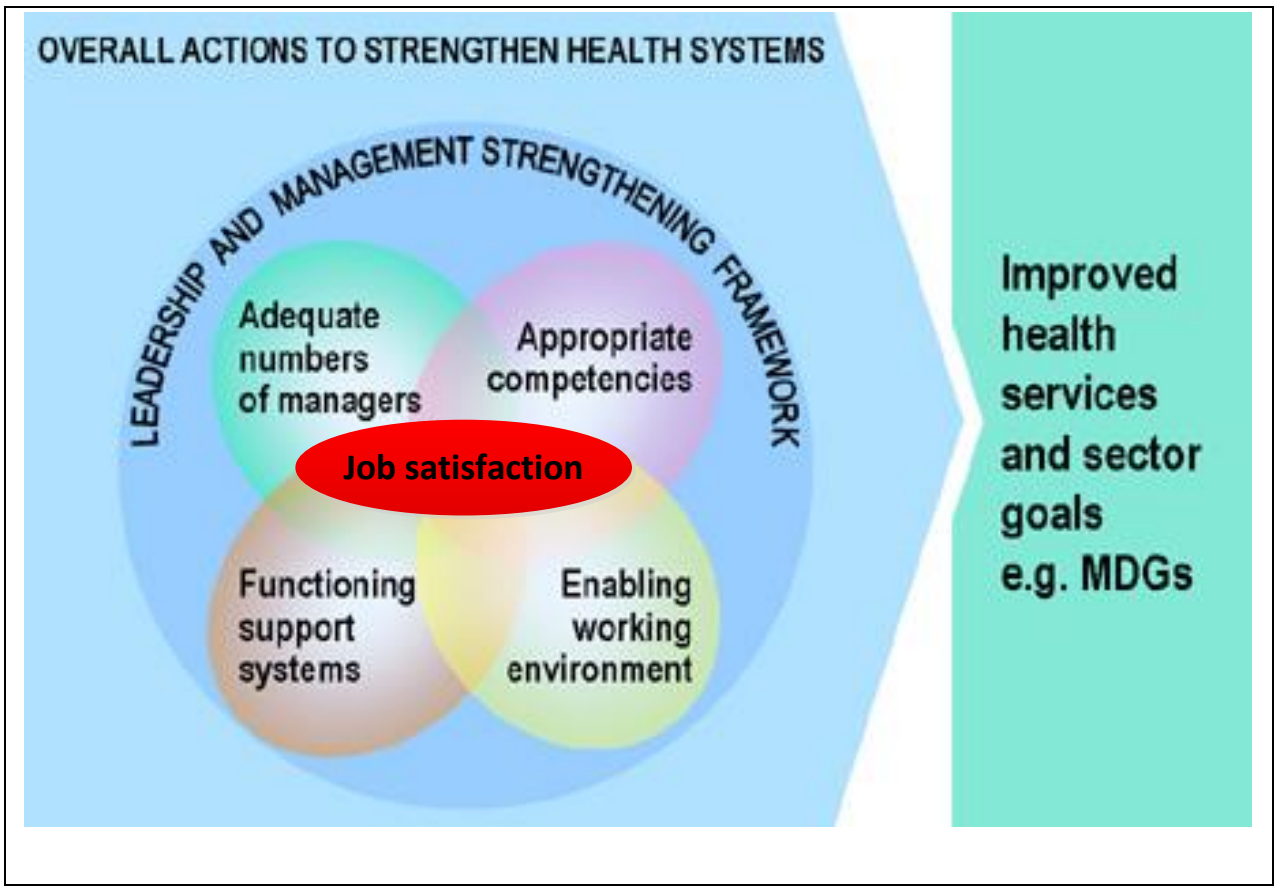

FIGURE 1.1 CONCEPTUAL FRAMEWORK: OVERALL ACTIONS TO STRENGTHEN HEALTH SYSTEMS. ADAPTED FROM WHO (2007), TOWARDS BETTER LEADERSHIP AND MANAGEMENT IN HEALTH, WORKING PAPER 10 [46]

1.7 Study aim and objectives

The aim of the study was to analyse the nature and dynamics of nursing management at PHC clinics in two South African provinces.

The specific study objectives were to:

a) Describe the social demographic factors of the study population – specifically, age, race, sex, marital status, level of education and number of dependents

b) Determine job satisfaction levels of PHC clinic nursing managers

c) Examine the work environment of PHC clinic nursing managers

d) Determine the functionality of PHC support systems

e) Assess the managerial competencies of PHC clinic nursing managers.

1.8 Structure of integrating narrative

Chapter 1 has introduced nursing management and the key developments in PHC in the South African health system. A brief background on health service management and the rationale for focusing on nursing management has been highlighted. The justification for conducting this study has been given. The conceptual framework that will be used in this study has been described.

Chapter 2 reviews the relevant literature on the nature and dynamics of nursing management.

Chapter 3 describes the methods that were used in the PhD study.

Chapters 4, 5, 6 and 7 present the study findings under the following headings:

Chapter 4: Positive practice environments influence job satisfaction of PHC clinic nursing managers in two South African provinces.

Chapter 5: Using diaries to explore the work experiences of PHC nursing managers in two South African provinces.

Chapter 6: Do primary health care clinics in two South African provinces comply with the national core standards?

Chapter 7: Evaluating competencies of primary health care nursing managers in two South African provinces.

Chapter 8: Discussion of the PhD study's findings and recommendations. It provides an integrated discussion and conclusion that brings together all the elements of the PhD thesis.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The aim of this chapter is to summarise the literature on the nature and dynamics of nursing management at the PHC level, using the conceptual framework described in Chapter 1. The different elements of the conceptual framework are inter-related and they overlap. However, each is discussed separately for the sake of clarity. This chapter begins with the definition of terms used in this PhD thesis. Sections 2.3 to 2.7 summarises the literature on the components of the conceptual framework: ensuring adequate numbers, job satisfaction, enabling work environment, functional support systems and appropriate competencies for managers.

2.2 Definition of terms

Competency is defined as the technical skills, knowledge and attitudes required to perform a job [89].

Enabling work environment is defined as the setting or context in which a person works and includes aspects such as the physical environment, facilities, equipment and infrastructure [46].

Functional support system is a work setting with interdependent elements, people, process, equipment that interact to achieve a common aim [46]. It consists of the national, provincial or district management systems set up to assist PHC clinic nursing managers with their work and includes staffing or logistical support [46].

Health services manager is an individual who spends a substantial proportion of his or her time managing health service provision including: planning, implementation and evaluation, resources such as staff, budgets, drugs, equipment, buildings and information and external relations and partners including service users [46].

Job satisfaction is the perceived relationship between what one expects and obtains from one's job and how much importance or value is attributed to the job [90].

Management consists of all the activities and tasks undertaken by one or more persons for the purpose of planning and controlling the activities of others to achieve an objective or complete an activity that could not be achieved by the others acting independently [91].

PHC clinic is defined as a clinic that operates for eight hours per day, five days a week. This definition includes any permanent or temporary structure that serves as a clinic.

PHC clinic nursing manager is a professional nurse in charge of a PHC clinic, responsible for the administration and overall running of the clinic, management of staff and resources for health service delivery, and coordination of health programmes through the delivery of specific outputs [46].

2.3 Adequate numbers of managers

The 2000 World Health Report emphasised three fundamental goals of any health system: improving the health of the population it serves; responding to people's expectations; and providing financial protection against the costs of ill-health [92]. Health service managers are important for achieving these health system goals [48, 66, 93, 94]. The WHO conceptual framework presented in Chapter 1 posits that health service managers must be present in "adequate" numbers to achieve these goals [9]. However, the notion of "adequacy" is country specific and influenced by context, disease profile, health care setting and availability of resources [95-97]. Furthermore, the majority of national HRH information systems lack vital information about their numbers, availability, tenure, and the profile of these managers [66, 93, 94]. National HRH databases are also limited in the socio-demographic information they collect on nursing managers specifically, their location in the health system and the functions they perform, their qualifications and competencies, and their length of service. Although the HRH information systems are more advanced in high income countries, the problems of identifying the numbers of nursing managers working in primary and community care settings in England have been documented [98]. In the USA, comparisons across surveys that collect information about the adequacy of nursing numbers in hospital settings are hampered by the use of different methods which in turn complicate the development of HRH policies [95, 96].

HR information in LMICs is often collected through surveys. An ICN study found that national databases in most LMICs are weak and cannot support critical decision-making and therefore require strengthening to inform policy and planning [99]. In Ethiopia, Ghana and Tanzania, a rapid assessment of health managers in 2009 concluded that there were

insufficient numbers of district managers [100]. The study found that the backgrounds of health service managers were diverse, and that they were between the ages of 27 to 72 years, with 40% being between the ages of 51 and 60 years. The advanced age of health service managers has implications for retirement and succession planning [100]. In addition, the majority of managers (33 to 100%) were clinicians who had additional management responsibilities [100]. In Tanzania, only 6.6% of nurses held health service management positions [100]. The study also pointed out that the majority of health service managers did not have a clear understanding of their functions, roles and responsibilities in the health system [100]. The study proposed that detailed needs and gap analyses were necessary to inform health workforce planning and the upscaling of priority health programmes [100]. The study also recommended that more attention should be paid at country level on health service managers and should generate information that will assist with planning for these members of the health workforce [100].

In South Africa, the Public Service Commission (PSC) publishes annual reports on the state of the public health service [101]. These reports are at a high level, and provide an overview of the entire public service, and not of the individual provincial health departments or the different types of health facilities. There has been some scholarly attention on hospital CEOs [102, 103] and district level managers [60]. However, there is a dearth of studies that focus on nursing managers at the PHC facility level [69]. Information on the numbers of health service managers at the PHC level, their socio-demographic profile, their roles and responsibilities, whether they are employed in acting or permanent capacity has implications for the strategies required to increase their numbers or to retain them in the health system [2, 98]. Such information is also critical for comprehensive workforce planning [35, 95]. Hence, this PhD study will be one of the first studies to use the WHO framework to determine the number and profile of PHC nursing managers in two South African provinces. Generating information about the socio-demographic profiles of these managers could contribute to HRH planning, policy and practice.

2.4 Job satisfaction

The seminal 2004 report of the Joint Learning Initiative (JLI) highlighted the relationship between adequate numbers and quality of staff on the one hand, and job satisfaction and morale of staff and improved health outcomes on the other hand [104]. As indicated in Chapter 1, a key aspect of this PhD's conceptual framework is the importance of considering

job satisfaction when studying the nature and dynamics of PHC nursing management. This is because numerous studies have demonstrated an inverse relationship between job satisfaction in nursing and turnover [105-110]. High turnover, especially of nursing managers, causes disruptions to day-to-day activities [84] and decreases the health sector's ability to achieve its strategic goals [111].

Although there are numerous definitions of job satisfaction in the literature, the one used in this PhD was proposed by Mobley and Locke [90]. Job satisfaction is the perceived relationship between what one expects and obtains from one's job and how much importance or value is attributed to the job [90]. Nonetheless, there has been a proliferation of research on the theories and conceptual refinements of job satisfaction [90, 112-119]. The more traditional views of job satisfaction state that satisfaction and dissatisfaction are simply opposite states on a single continuum [120]. In contrast, some scholars have argued for job satisfaction definitions that take into account the multi-dimensional factors and psychological responses to being employed [90, 121-123]. For example, the Motivator-Hygiene Theory by Herzberg, Mausner and Snyderman suggests that job satisfaction is associated with six factors: achievement, recognition, the job itself, responsibility, advancement and career growth [124, 125].

There is a substantial body of literature on the measurement of job satisfaction, which can be assessed at an overall (global) level or at the component level that assesses whether the individual is satisfied with different aspects of the job [114-116, 126, 127]. In 2003, van Saane and colleagues conducted a systematic review of the reliability and validity of several instruments measuring job satisfaction [114]. The authors found that seven instruments met the defined reliability and validity criteria, shown in the table 2.1 below.

Table 2.1: Reliable and valid job satisfaction instruments

Job satisfaction instruments
1. Job in General Scale (JIG) [128]
2. Andrew and Withey Job Satisfaction Questionnaire [129]
3. Job Satisfaction Survey (JSS) [130]
4. Emergency Physician Job Satisfaction Instrument (EPJS) [131]
5. McCloskey/Mueller Satisfaction Scale (MMSS) [117]
6. Measure of Job Satisfaction (MJS) [132]
7. Nurse Satisfaction Scale (NSS) [133]

Very few of the instruments listed in Table 2.1 have been used to measure job satisfaction of nursing managers at the PHC level. The most appropriate and validated tool to measure job satisfaction of community or PHC nurses is the 1993 tool developed by Traynor and Wade [132], entitled *the Measure of Job Satisfaction (MJS).* The tool comprises seven subscales: personal satisfaction; satisfaction with workload; satisfaction with professional support; satisfaction with training; satisfaction with pay; satisfaction with prospects; and satisfaction with standards of care which can be combined to give a measure of overall job satisfaction [134]. The MJS has 43 items which can be measured on a five point Likert scale ranging from very satisfied to very dissatisfied, it also includes a neutral response choice. Item 44 of the tool is meant to give an indication of global satisfaction [134]. Thus, the MJS has adequate content validity in all the work factors as well as good psychometric quality [114, 134] and was found to be the most appropriate for this PhD.

Similarly, there are numerous studies that have examined job satisfaction and the factors associated with such job satisfaction. Notwithstanding the differences in study contexts, populations, and methodologies, existing evidence suggests that job satisfaction is complex, multi-dimensional and influenced by the working environment, functional support systems, individual competencies, organisational and demographic variables, and the nature of the work [122, 135-143]. The sections that follow summarise the findings of those studies that examined job satisfaction among nurses working in PHC or ambulatory care settings.

In Australia, a study amongst nurses and midwives working in community health centres and hospitals found that the factors influencing their job satisfaction included: enjoying their practice setting; alignment of their skills to the practice setting; and intention to stay in

nursing [144]. A study in Britain among district nurses using the MJS tool found that the factors that influence job satisfaction were: appreciation or value for their work, workloads, salaries and professional prospects [145]. Studies in Saudi Arabia [146] and Egypt [147] that used the MJS instrument among nurses found that personal growth, professional support, professional opportunities, heavy workloads and inadequate reward systems influenced levels of job satisfaction. A South Africa study that used the MJS instrument found that contribution to work influenced job satisfaction positively, but that district nurses were least satisfied with their pay, career prospects and supervision [147].

A 2015 study that examined job satisfaction and burnout levels of PHC workers in Turkey [140] found that respondents between the ages of 21-60, (62.2%) were satisfied with their jobs. However, low job satisfaction scores were recorded by respondents who considered their economic status to be poor, those who were unhappy with their jobs, and those who were working in PHC departments that they did not choose [140]. In Australia [148], Jordan [125], Palestine [149] and China [139], the causes of job dissatisfaction among nurses included: taking care of patients with incurable illnesses; poor working relationships among colleagues especially with doctors; low wages; and stressful nature of nursing. A study in Hong Kong that examined the job satisfaction scores of the PHC workforce found that the overall satisfaction levels were low [139]. These scores were influenced by perceptions of inadequate remuneration and benefits, heavy workloads and limited professional prospects [139].

In LMICs, health system deficiencies and gaps in human resources management policies contribute to low levels of job satisfaction at the PHC level [122, 141-143, 150]. A 2014 study in Tanzania showed that nurses working at the PHC level were unhappy with their salaries, work environments, including staff shortages, equipment, supplies, drugs, and infrastructure [141]. The authors also found that health workers who had worked more than two years in the clinic had higher levels of job satisfaction and were more satisfied with supportive interpersonal relationships than with the infrastructure [141]. A Kenyan study among PHC workers found that the majority of respondents were unhappy with several aspects of their work environment, particularly inadequate access to electricity, equipment, transport, and the physical state of clinics [142]. These PHC health workers indicated that they lacked adequate training, job security, salary, supervisor support, and manageable workload which lowered their job satisfaction levels [142].

Despite the voluminous literature on the job satisfaction and factors associated with measures of job satisfaction, there is a dearth of studies on the job satisfaction of health service managers in general, and PHC clinic nursing managers in particular [5, 46, 48, 92, 94, 100]. Hence, generating new information on the overall levels and predictors of the job satisfaction of PHC clinic nursing managers can assist policy-makers with efforts to improve health service delivery and the performance of the health system. Furthermore, the MJS instrument has not been used extensively in African PHC settings, thus providing the opportunity to test the instrument in two South African provinces.

2.5 Enabling work environment

An enabling work environment is defined as the setting or context in which a person works and includes the physical environment, facilities, equipment and infrastructure. It also includes the availability of the human and financial resources, knowledge of roles and the work rules, supervision and incentives for better performance [46, 151]. Both the US Institute of Medicine (IOM) and the ICN have underscored the need for positive practice environments for nurses as these contribute to good patient outcomes [152, 153]. An enabling work environment enables nurses to apply their expertise, skills and clinical knowledge in support of good quality patient care [154, 155].

A plethora of literature exists on the links between nurses' job satisfaction and enabling work environments [37, 141, 156, 157]. In the USA, enabling work environments in hospitals have been documented through the Essentials of Magnetism (EOM) instrument [158-161]. EOM studies have found that hospitals with clinically competent nurses, adequate staffing, good nurse–doctor relationships, autonomous nursing practice, supportive management environment and control over nursing practice, support for education and a culture that values concern for patients contribute to enabling work environments and high levels of job satisfaction among nursing managers [152, 154, 155, 158, 160, 162, 163]. Enabling work environments also contribute positively to individual nurse and health system performance [164-166]. In the United Kingdom (UK), enabling work environments recognise the need for cooperation between PHC services, tertiary care and other health and social organisations - highlighted in the way that patients are moved within and between different health and social care providers through emergency medical services [167]. In Canada, enabling work environments for health managers include having adequate staff numbers to deliver quality patient care using standard treatment guidelines [168]. It has been found that enabling work

environments make it easy for PHC nurse managers and their patients or communities to navigate the health system [167, 168]. In contrast, sub-optimal work environments have been found to result in lack of recognition and feelings of demotivation among nursing managers [169]. A British study found that nursing managers felt stressed, frustrated, demotivated and burnt out when the work environment did not support quality in health service delivery [170].

In LMICs, health service managers often work in unstable and unsupportive management environments that hinder the upscaling of services [46, 151, 171-173]. A WHO study found that there is limited information about the working conditions of health service managers, but noted that health managers face numerous challenges, including resource constraints, limited financial information and working in centralised health systems [46, 151]. The study suggested that there is need for national health systems to map the challenges and perceptions that health service managers have about their work environments in order to improve the conditions that facilitate good management [46, 151].

Lack of role clarity and sub-optimal relationships among the national, provincial and the district health levels contribute to difficult work environments at the PHC level [171, 174-176]. The role of supportive management in creating enabling work environments has been well documented [157, 177-184]. A Botswana study found that, supportive supervision fosters good performance, productivity, motivation and retention of the health workforce [184]. A supportive management environment enables PHC nursing managers to access health system resources that improve the work environment in clinics [157, 169, 170, 177-185].

South Africa is well resourced compared to many other African countries, with structures and systems in place for enabling work environments for health service managers. However, several studies have found gaps in implementation of health policies [77, 186, 187]. There have also been gaps in the availability of essential medicines, routine maintenance programmes, affecting available infrastructure and resources needed in the clinics [188-192]. Clinic managers often do not have the relevant information or access to financial resources to enable them to procure supplies needed to improve quality of care [171].

A 2005 study on nursing staff dynamics and implications for maternal health provision in public health facilities in the context of HIV & AIDS found that nurses felt unsupported by management and that there were health system deficiencies, inadequate human and financial resources and leadership problems [187]. Other South African studies have found that getting commitment from existing PHC managers to implement health system reforms without improving the work environment is difficult [71, 77].

Methodological approaches to examine the work environments of PHC nursing managers have included: co-operative inquiry groups [184], case studies [71, 176], in-depth interviews and cross-sectional surveys [61, 68, 71, 141, 188, 193]. In South Africa, no published studies could be found that have used reflexive diaries to explore the work experiences of PHC clinic nursing managers. Although diaries have been used to obtain "the lived experiences" of participants in psychology and sociology studies and in clinical research [194-196], these have not been widely used in health systems research [194, 197-202]. The adoption of diary methods in this PhD study is novel as it was one of the first studies to gather information about PHC clinic nursing managers' perceptions of their work environment. The diary study also provided nuanced and reflective perspectives on the PHC clinic work environment.

2.6 Functional support systems

As described in the previous section, functional support systems cannot be separated from the work environment. These support systems facilitate the work of health service managers, and include health system inputs as well as regulations and standards to improve quality of patient care [46]. Health care standards define the performance expectations, structures or processes needed to provide safe, equitable, acceptable, and effective health services [46]. Compliance with these standards is essential to prevent accidents and to ensure patient and staff safety [203-205]. However, assessing compliance with these standards is critical and is an important lever in driving ongoing quality improvements in healthcare [205, 206].

Around the world, facility assessments have been used to determine compliance with standards, the structural quality of health services or to assess the needs of priority health programmes [38, 188, 189, 192, 207-212]. There are numerous health facility assessment tools, including: the WHO Service Availability Readiness Assessment (SARA) checklist [212], the 5S (Sort, Set, Shine, Standardise, and Sustain) checklist [208, 209], multimodal facility assessments [192], primary care assessment tools (PCAT) [210, 211] and PHC facility infrastructure and services assessment instruments [38, 188, 189]. The most widely used of these facility checklists is the WHO's SARA. The SARA has the specific items needed to assess health facility status for service delivery and allows for comparisons at the country level. However, the WHO SARA has numerous items, it does not allow for rapid data collection and requires intensive training of health service managers in order for them to collect meaningful information [212]. Consequently, there has been an attempt to refine,

validate and develop facility assessment tools that suit different country contexts and that allow for rapid, quality data collection [38, 188, 189, 192, 207-211].

Several health facility assessments in Egypt, Uganda, China, Serbia, and Tanzania have highlighted dysfunctional support systems caused by inadequate infrastructure, staff shortages, lack of staff training, resource constraints and poorly implemented quality improvement initiatives [38, 188, 189, 192, 207-211, 213]. A 2015 study in Tanzania found that clinics lacked consistent water supplies, had inadequate infrastructure in consultation rooms, roof leakages and irregular maintenance of technical medical equipment [188]. The study noted that health system deficiencies were caused by lack of funding to sustain routine maintenance programmes, inadequate personnel to monitor facility infrastructure and lack of accountability by health service managers to maintain quality [188].

Studies in South African clinics have highlighted several infrastructural constraints, lack of basic necessities, space, communication systems, water and electricity which pose a significant threat to the functionality of support systems [189, 191, 214-216]. A 2004 national PHC facilities assessment by the HST and a national health care facilities baseline audit in 2012 found several health system deficiencies and concluded that the majority of facilities do not comply with minimum health care standards [38, 39]. Poor quality infrastructure, drug stock-outs of essential medicines, absence of comprehensive security and lack of routine maintenance programmes were the main contributors to non-compliance of health facilities to standards [39]. Also a 2010, PHC facility infrastructure and services assessment in Eastern Cape and KwaZulu-Natal found that less than half of the study clinics had access to safe drinking water, electricity, flush toilets and operational telephones [189]. Clinic nurses highlighted that these health system deficiencies compromised the quality of health services [189]. However, this was a small study in 40 PHC clinics [189]. Furthermore, these studies were conducted prior to the implementation of the NCS in South Africa.

The NCS have seven cross-cutting domains: patient rights; safety, clinical governance and care; and clinical support services, public health, leadership and corporate governance, operational management, and facilities and infrastructure [206]. These standards provide a useful framework with which to assess functional support systems at PHC level. This PhD was one of the first studies to use the NCS to determine PHC clinic compliance with the standards. Generating information about clinics' compliance with the NCS can highlight gaps with each of the seven domains and can assist policy-makers with data needed to improve the functionality of support systems for clinic nursing managers.

2.7 Appropriate competencies of managers

The implementation of health sector reforms requires competent managers as defined in section 2.2 [46, 69, 89, 93, 217, 218]. The ICN, the WHO, the World Health Professions Alliance (WHPA) and the Health Financial Management Association (HFMA) advocate the need for competent health service managers to lead health sector reforms. The benefits of competent managers are at the strategic and operational levels of the health system. At the strategic level, competent managers manage productive teams and they communicate a broader organisational vision to achieve the MDGs and most recently the SDGs [56, 219-229]. At the operational level, they manage service provision including: planning, implementation and evaluation, resources such as staff, budgets, drugs, equipment, buildings and information and external relations and partners including service users [46, 163, 230-233].

The JLI recommended the continuous assessment of the competencies of health service managers' to enable benchmarking of practice environments and to support the development of appropriate knowledge and skills [104, 234]. Although competencies are context-specific, several studies in both high and LMICs have highlighted [56, 223-229, 234-236] those needed to transform health services or to lead complex health system reforms [228, 237-239]. The competencies for health services managers include: communication, analytical skills, leadership, staff management, information technology, customer orientation, community and health care team collaboration, risk-taking, analysing and solving problems, financial management, quality and performance improvement knowledge, laws and regulations, professionalism, ethical, health care and management knowledge [217, 228, 237-239]. Public relations was also listed as an additional competency needed by health service managers[224].

The lack of well-trained health service managers in LMICs contributes to sub-optimal health system performance [171]. A 2005 WHO study noted that it is important for policy-makers in LMICs to identify health service managers' competency areas that need further development and determine the kind of training that they need to strengthen leadership and management capacity [171]. An exploratory study in Ethiopia, Kenya, Tanzania, and Uganda found that the majority of clinicians and professional nurses were employed as health facility managers, but lacked appropriate management competencies [171]. The study found that the gaps in managerial competencies had implications for health service delivery [171]. The majority of these health service managers (70%) reported the need for additional training in staff management while a further 79% requested leadership and management training [171].

Although the competencies for hospital managers are well documented [240], there is a dearth of literature on the competencies needed for PHC clinic nursing managers. A European study that assessed PHC management teams and their perceived level of knowledge and skills found significant gaps in financial management skills [56]. The study recommended six core management competencies: communication, team building, planning and priority setting, assessing performance, problem solving and leadership [56]. The study proposed that financial management skills should be incorporated into baccalaureate and professional nursing education programmes [56].

In South Africa, there has been limited scholarly attention on the competencies of PHC clinic nursing managers [60, 186, 241, 242]. In 2008, the HST proposed a set of 14 managerial competencies at district management level were proposed by the HST [243]. The proposed core and management competencies at district management level include: strategic leadership, communication, people management and empowering environment, financial management, honesty and integrity, self-management, problem-solving and analysis, service delivery innovation, client orientation and customer focus, knowledge management, resource management and allocation, programme and project management, change management and community collaboration (18). However, these competencies are applicable to health service managers working in hospital settings or at senior levels in the public service and not to PHC clinic nursing managers. In 2013, an exploratory study with key informants focused on the public health and management competency requirements for PHC facility managers [69]. However, the study did not involve the actual PHC nursing managers [69].

The assessment of competencies of health service managers have been done through personality and psychometric tests, timed examinations, comparative case studies and other personal evaluation instruments and through cross sectional surveys [56, 60, 69, 218, 244-247]. The 360 degree feedback competency assessment is gaining momentum in health system contexts, and has been used to evaluate the competencies of doctors and nursing managers working in hospital settings [248-250]. This method entails self-assessment, as well as assessment by supervisors and/or peers thus enabling feedback from multiple sources [250-252]. Such multiple source feedback is useful for the development of programmes to enhance management competencies [248-250, 252]. However, studies using the 360-degree competency assessments with PHC clinic nursing managers' are not common in South Africa.

South Africa is implementing numerous health sector reforms that PHC nursing managers will be leading and managing. These reforms require new roles, management responsibilities, and enhanced or additional competencies [3, 50, 69, 241]. This PhD will be one of the first studies to evaluate the competencies of PHC clinic nursing managers using the 360 degree feedback assessment method on the domains of communication, leadership and management, staff and financial management, planning and priority setting and problem solving in South Africa. The information so generated will provide valuable information about their competencies that could inform the development of both pre-service and/or continuing education programmes.

2.8 Summary

Table 2.2 below summarises the identified gaps in the literature, and the contribution of the PhD in addressing some of the gaps.

Table 2.2: Summary of the literature review

Element of the conceptual framework	What is known	What is the gap?	Scholarly contribution of the PhD
Adequate numbers of managers	Recognition that health service managers are important for achieving population health outcomes and PHC revitalisation and UHC reforms Important category of HRH, hence information needed for workforce planning	HRH information systems • Do not focus on managers • Incomplete or out of date • Even less attention on PHC level	Focus on PHC nursing managers in two South African provinces (In light of UHC reforms) -will collect or generate new information on • Socio-demographic profiles • Whether in permanent or acting capacity • Roles and responsibilities • Contribute to HRH planning, policies and practice
Job satisfaction	Extensive literature on the job satisfaction of nurses and its contribution to individual and health system performance Variety of instruments measuring job satisfaction	Dearth of job satisfaction studies among PHC clinic nursing managers	Determine overall job satisfaction of PHC clinic nursing managers and the predictors of their job satisfaction Use Measure of Job Satisfaction (MJS) instrument with seven subscales
Enabling work environment	International recognition that enabling work environments are an important lever for individual nurse's performance and the achievement of health sector goals	Deficiencies in knowledge and limited use of reflexive diaries in health systems research.	Gather information about PHC clinic nursing managers' perceptions of the work environment using the reflexive diaries Add to the body of knowledge needed to enhance the work environment for nurses

Element of the conceptual framework	What is known	What is the gap?	Scholarly contribution of the PhD
Functional support systems	Compliance to health standards essential to improve quality of care and functional support systems for health service managers Recognition that adequately resourced health facilities contribute to quality health outcomes	Limited scholarly focus on PHC clinic level and compliance to health care standards • No standardised methods of assessment • Little published literature	Use the NCS to gather information on whether PHC clinics comply with the quality standards Complement measurement of indicators with clinic managers' interviews Information can assist policy-makers on strategies to improve functional support systems for PHC clinic nursing managers
Appropriate competencies of managers	Existence of voluminous literature on the measurement and description of health service managers competencies Competent health managers are critical to the achievement of strategic and operational goals of the health system	Dearth of studies on: • Examining PHC clinic nursing managers' competencies • Using the 360 degree competency assessment method	Generate new information on perceptions of PHC clinic nursing managers on their own competencies, as well as the perceptions of their supervisors and subordinate nurses, thereby informing their training/continuous professional development needs

CHAPTER 3: METHODS

3.1 Introduction

The PhD used a mixed-methods approach to analyse the nature and dynamics of nursing management at the PHC level. Combining methods provides the opportunity to build on and complement the strengths of larger sample sizes in quantitative methods and the rich narratives of qualitative methods, particularly to answer complex health systems research questions [253, 254].

This chapter describes the approach and methods used in my PhD study. The next section 3.2 describes the cross-cutting methodological elements, specifically the study setting, the study population, and the ethical considerations of the study. This is followed by an overview of the PhD's study components and sampling procedures in section 3.3. The different types of research instruments that were used during the fieldwork are highlighted in section 3.4. Sections 3.5 and 3.6 describe the data collection and management techniques for the quantitative and qualitative methods and the quality assurance mechanisms that were followed during the study. Section 3.7 describes the study's limitations and how these were addressed.

3.2 Cross-cutting methodological elements

3.2.1 Study setting

The study setting was two of the nine South African provinces, Gauteng (GP) and Free State (FS), marked as red dots in the map below (Figure 3.1).

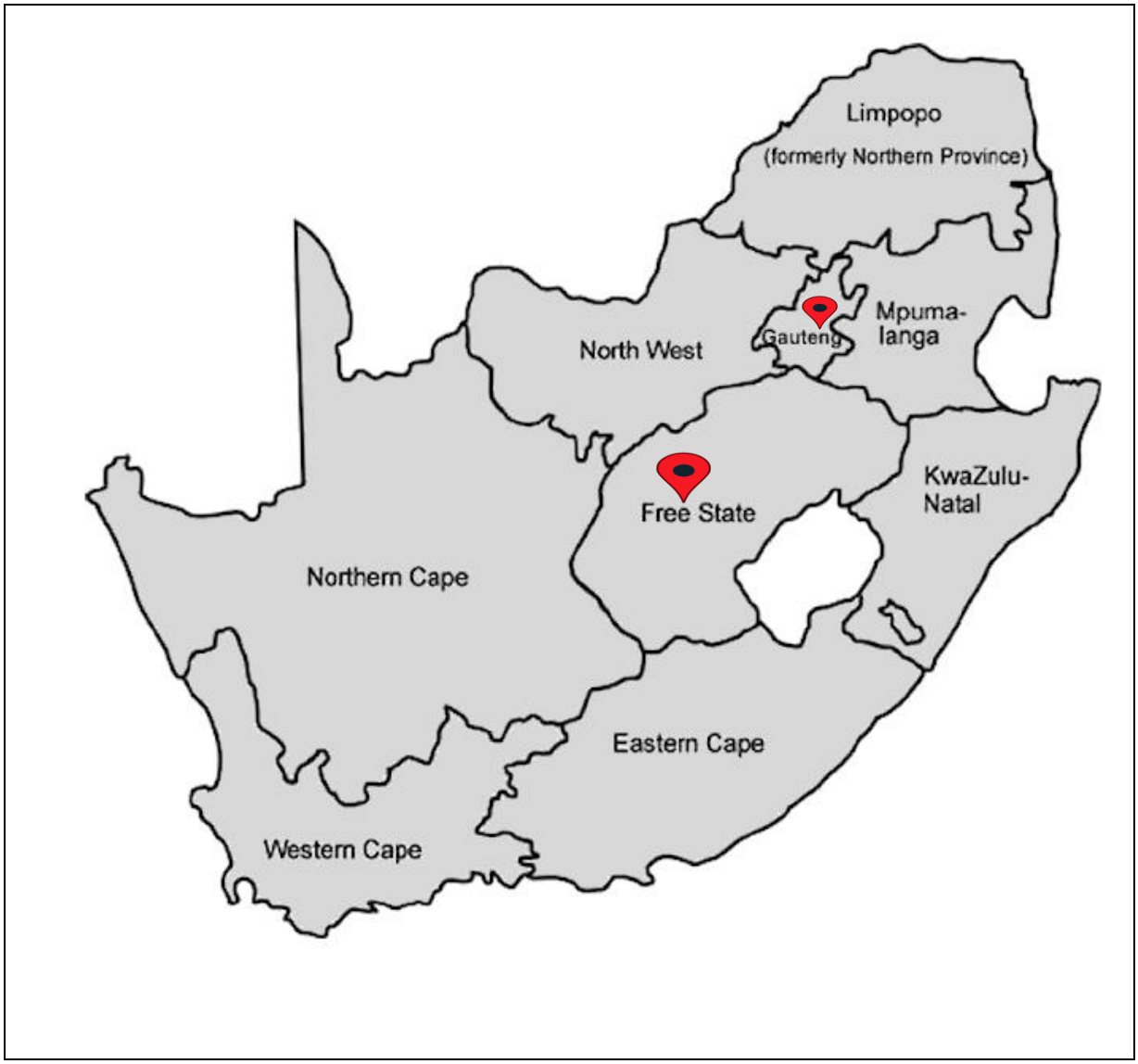

FIGURE 3.1: MAP OF SOUTH AFRICAN PROVINCES

These two provinces were purposively selected for several reasons: geographical proximity; budgetary and logistical considerations; and established relationships with health care authorities and approval of the main research programme. Fortuitously, the purposive selection of these two provinces enabled comparisons between a largely urban (GP) and rural province (FS).

GP (the urban province) is the most densely populated, urban province, with 12.3 million or 20% of the total population of South Africa [255]. GP is the economic powerhouse of the country, generating around one third of the country's gross domestic product [73]. The

majority of people in GP are dependent on public health services particularly at the PHC level [73]. PHC clinics in GP are very busy, but relatively well-resourced in terms of financial resources and infrastructure [73]. During 2012, GP had six municipalities: City of Johannesburg; City of Tshwane; Ekurhuleni Metro; Metsweding; Sedibeng; and the West Rand. Each municipality is also a health district, with a network of PHC clinics owned and managed by local government or the provincial authorities. In 2012, there were 343 PHC clinics in GP [73].

FS (the rural province) is situated in the geographical centre of South Africa, and is a largely agricultural province [74], with a population of 2.7 million or 6.1% of South Africa's total population [74, 255]. At the time of the study, FS province had five municipalities: Motheo; Lejweleputswa; Fezile Dabi; Thabo Mofutsanyane; and Xhariep. In 2012, there were 256 PHC clinics, all owned and managed by the provincial health authority [74].

3.2.2 Study population

The population of interest was PHC clinic nursing managers in charge of eight-hour (day) clinics in Gauteng and Free State provinces (whether in a permanent or acting capacity) and registered with the SANC. The PHC clinic managers are professional nurses, who typically possess a four-year nursing diploma or degree. These managers are responsible for managing all financial and human resources, service delivery and operations of the clinic. Other aspects of their work involves managing patient care and working with multiple stakeholders in the community and the health care system.

3.2.3 Ethical considerations

Prior to any fieldwork or data collection, I obtained ethical approval (Appendix 1) for the PhD study (certificate number, M 12 02 48) from the University of the Witwatersrand's Human Research Ethics Committee (HREC). In line with the Singapore Declaration, the research study complied with the principles of honesty, accountability; professional courtesy; and fairness in working with others; and good stewardship of research [256].

Study permission for the main RESON project was obtained from the relevant health care authorities in Gauteng (Appendix 2) and Free State Provinces (Appendix 3). I developed a 20 paged procedure manual to guide the study execution (Appendix 4). The manual was also used for the training of fieldworkers, to prevent potential breaches of confidentiality, and to serve as a reference for the research team during data collection. My contact details, those of the HREC and my supervisor were listed in the manual in case of urgent questions or requests for further information by study participants. The manual was effective as every member of the team had knowledge of all the aspects needed to ensure the successful execution of the study.

The steps that were taken to ensure and maintain an ethical approach to the study are listed in Table 3.1 below.

Table 3.1: Steps taken to ensure an ethical approach to the study

- University research ethics committee and health care authorities approved the study formally
- Formal procedure manual developed
- Training and supervision of fieldworkers
- The Research on the State of Nursing (RESON) Advisory Committee set up for the overall project, provided advice, and was consulted throughout the study
- Potential participants were informed that their participation in this study was strictly voluntary and that they were free to withdraw from the study at any time
- Following careful explanation of the survey, I together with the fieldworkers gave study participants the consent form to read
- The various research instruments contained no personal identifiers
- Confidentiality was maintained throughout the study. Consent forms were stored in a locked filing cabinet, and no one outside the research team had access to any confidential information
- All participants were given the name and telephone number of the principal investigator
- All participant questions that arose during the study were addressed adequately

3.3 Overview of PhD study components

In line with the conceptual framework shown in Chapter 1, Table 3.2 below illustrates the alignment of the study objectives, the methods, data collection tools, and the research outputs.

Table 3.2: Linkages between study objectives, methods, data collection tools and research outputs

Study Objective	Methods	Data collection tool	Research Outputs
Describe the socio- demographic factors of the study population	Job satisfaction survey	Measure of job satisfaction (MJS) tool, with added questions on socio-demographics	Published paper entitled: Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces (Chapter 4)
Assess the number and proportion of clinic managers in permanent posts			
Determine job satisfaction levels of PHC clinic nursing managers			
Examine the work environment of PHC clinic nursing managers	Diary study, combined with the PHC facility survey	Reflexive diary Facility checklist	Published paper entitled: Using diaries to explore the work experiences of primary health care nursing managers in two South African provinces? (Chapter 5).
Determine the functionality of PHC support systems	PHC facility survey, combined with diary study	136 item facility checklist Reflexive diary	Submitted paper entitled: Do primary health care clinics in two South African provinces comply with the national core standards? (Chapter 6).
Assess the managerial competencies of PHC clinic nursing managers	360 degree assessment/evaluation from perspectives of PHC managers themselves, their supervisors and their 'direct' reports (subordinates)	A competency assessment rating questionnaire with 40 items	Paper to be published in Global Health Action journal under the title: An evaluation of the competencies of primary health care nursing managers in two South African provinces (Chapter 7).

The quantitative component of the PhD study had three strands:

- The job satisfaction survey
- Competency assessment survey
- Facility assessment.

The qualitative component of my study consisted of the diary study. Although these components overlap, they are summarised in Table 3.3 below.

Table 3.3: Overall PhD study components

Overall	Quantitative component	Qualitative component
Strands	• Job satisfaction survey • Facility assessment • Competency assessment	Diary study
Sampling approach	Stratified, random sampling	Sub-set of overall study sample, selected randomly
Sample size	n=111	n=22
Data collection instrument	• Job satisfaction survey • Facility assessment • Competency assessment	Reflexive diaries
Data analysis	Stata v12 and 13	Thematic content analysis
Integrating narrative	Triangulation and integration of quantitative and qualitative data from the four studies	

3.4 Sampling approach: quantitative component

3.4.1 Sample size calculation

In order to calculate the sample size required for the PhD study, the variable of interest selected was the proportion of PHC nursing managers that were satisfied with their jobs. This is because the Epi Info programme was designed for epidemiological studies, and requires the selection of a variable for sample size calculation [257]. A job satisfaction variable was selected because it was the first study to go into the field, and it collected socio-demographic characteristics of the study population (described earlier). This proportion of nurses satisfied with their jobs was estimated at 50%, with the lowest value set at 40% and the highest at 60%. The type 1 error was set at 5% with a confidence interval of 95%. The total sample size calculated was 96 clinics (Epi Info, Version 6, Centre for Disease Control and Prevention, Atlanta, Georgia, USA). The desired sample size was set at 100. Stratified random sampling was used to select 111 nursing managers from both provinces to accommodate possible refusals or incomplete questionnaires. The selection of the clinics is described below.

3.4.2 Sampling frame

The sampling frame consisted of eight-hour (day) PHC clinics only. These clinics offer a comprehensive range of ambulatory care services, including preventive (e.g. immunisation, antenatal care), promotive (health education), and curative care (acute and chronic illnesses), and operate for five days a week (from Monday to Friday). The clinics that were excluded from the sampling frame were: those not managed by professional nurses; CHCs; mobile clinics; satellite clinics; those day clinics operating for less than five days a week; clinics that operate during the weekend; non-governmental organisation clinics; those earmarked to become CHCs; and those clinics attached to hospitals.

In Gauteng, a list of eight-hour clinics was obtained from both provincial and local government in each of the six health districts; City of Joburg, City of Tshwane, Ekurhuleni Metro, Metsweding, Sedibeng and West Rand.

In Free State, a list of eight-hour clinics was obtained the provincial government from each of the five health districts: Motheo, Lejweleputswa, Fezile Dabi, Thabo Mofutsanyane, and Xhariep.

The strata were: Province, health district and ownership of clinics (Province or local government as reflected in Figure 3.2 below.

3.4.3 Selection of clinics

In Gauteng, a random sample of clinics, proportional to ownership (provincial vs local government) and to the number of clinics in each of the six districts, was selected. Sixty-two clinics were selected.

In Free State Province, a random sample of clinics, proportional to the number of clinics in each of the five districts, was developed. The sample consisted of 49 provincial government clinics.

Hence, the final sample consisted of 111 PHC clinics in the two study provinces. Figure 3.2 represents the sampling algorithm that was followed during the study:

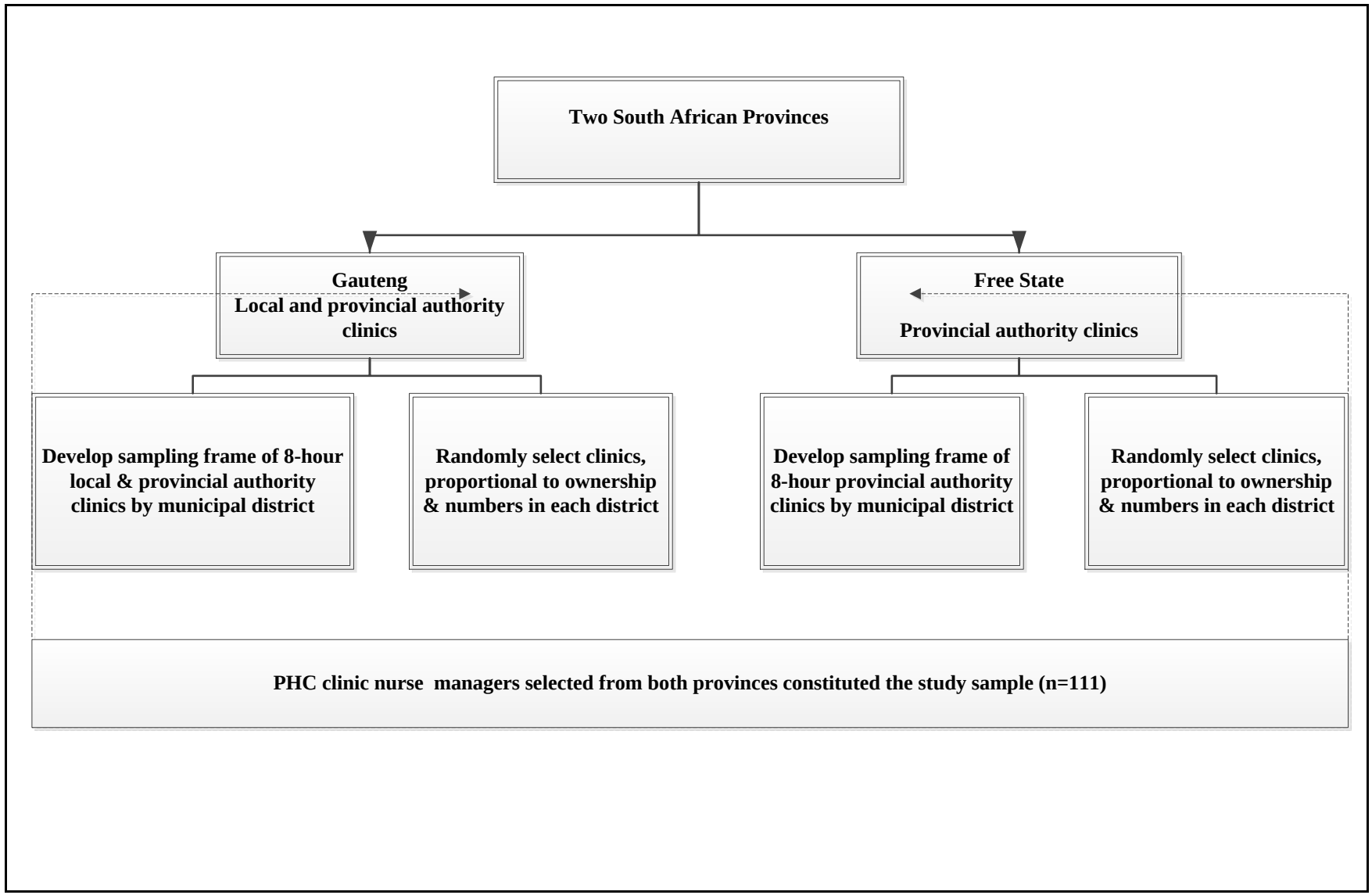

FIGURE 3.2: THE STUDY SAMPLING ALGORITHM ON ANALYSING THE NATURE AND DYNAMICS OF NURSING MANAGEMENT AT PHC CLINICS IN TWO SOUTH AFRICAN PROVINCES

3.5 Development of the quantitative component's study instruments

Figure 3.3 below illustrates the development of the study instruments for the quantitative component, specifically: the job satisfaction survey; the PHC facility checklist, and the job related skills perceptions of PHC clinic nursing managers. The development of the study instruments will be discussed separately for clarity:

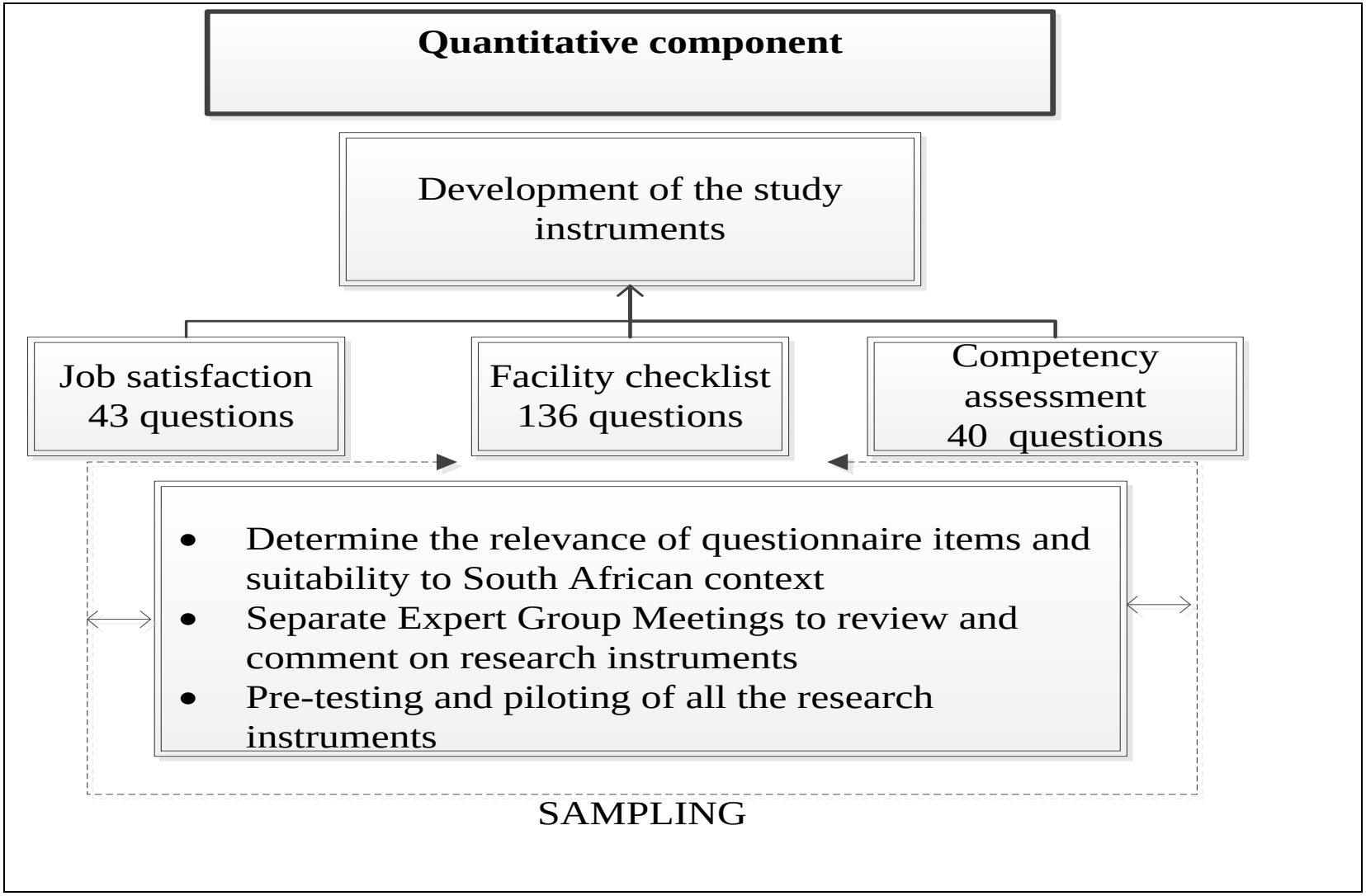

FIGURE 3.3: DEVELOPMENT OF THE QUANTITATIVE STUDY INSTRUMENTS

3.5.1 Job satisfaction

A review of the literature identified the MJS instrument as a validated and the most relevant tool for the planned job satisfaction survey (Appendix 5) with PHC clinic nursing managers [114]. The MJS has 43 items and includes seven subscales on personal satisfaction, satisfaction with workload, professional support, pay, prospects, standards of care and overall satisfaction, and has high reliability and validity. Additional variables that measured social and demographic characteristics were also added to the questionnaire. A workshop was held with the RESON advisory committee to discuss the suitability, content and relevance of the questionnaire. At the suggestion of the committee, additional variables that examine the practice environment i.e. experience of and perpetration of violence were also included in the questionnaire. An open ended question was included at the end of the questionnaire to enable nurse managers to comment in the page provided about any aspect of their job satisfaction. The questionnaire was piloted prior to implementation. Additional information on the job satisfaction survey is described in Chapter 4 of this integrating narrative.

3.5.2 Facility checklist

The facility checklist (Appendix 6) was developed from a review of literature and draws extensively from the National Core Standards (NCS) published by the South African government [206]. In concert with the NCS, the checklist has seven domains on patient rights, patient safety, clinical support, public health, leadership and governance, operational management and facilities and infrastructure. Each domain contained a number of criteria which served as proxies for the NCS. Clinic compliance to the NCS was measured by a 'yes' or 'no' answer to each item on the facility checklist for sampled clinics. An expert group meeting was held to discuss the applicability of the various items in the checklist and comments were taken into account. The checklist was piloted before data collection commenced. Chapter 6 of this thesis contains further information on the facility assessment.

3.5.3 Competency assessment

Following an extensive literature review, the competency assessment questionnaire (Appendix 7) was developed. It has 40 items and six subscales relating to the tasks that PHC clinic managers encounter in their daily work. The subscales fall under the broad categories of communication, leadership and management, staff management, financial management, planning and priority setting and problem solving. The items in the competency assessment could be measured on a 10-point scale, (1 being least competent to 10 being fully competent). The competency assessment questionnaire was also discussed and reviewed at an expert group workshop specifically organised for that purpose. The questionnaire was improved based on discussions at the workshop, and piloted prior to data collection. Further information on the competency assessment is included in Chapter 7 of the thesis.

3.5.4 Pilot study

Due to the complex nature of the study, a pilot study to pre-test all the study instruments was conducted towards the end of 2011. A pilot study imitates the actual study [258]. The objective of the pilot study was to test the study instruments, determine logistical feasibility, including time taken to complete the research questionnaires, elicit possible problems in the field, and determine changes needed with the study instruments or the overall approach to the study.

Following permission and approval from the relevant authorities, the pilot testing was conducted in three non-sampled clinics with similar characteristics to those from the actual study sample. With the competency assessment for example, we needed nine respondents (three clinic nursing managers, three supervisors and three frontline nurses) to simulate the fieldwork. We determined that getting supervisors would entail driving to different places as they are not situated in the clinics. Based on the pre-testing of the study instruments we calculated that a day was needed for clinics that were far apart in Free State, whereas in Gauteng it was possible to conduct field work in six clinics per day.

The pilot study revealed that no major revisions of the study instruments were needed, but that detailed planning was needed for smooth study execution. The data from the nursing managers, frontline nurses and supervisors who participated in the pilot study were excluded from the main study.

3.5.5 Internal consistency and reliability of study instruments

After piloting of all the quantitative instruments (the MJS, the facility checklist and the competency survey), to determine validity and reliability of the competency assessment the Cronbach's alpha coefficients were computed. Cronbach's alpha coefficients of more than 80% and higher were obtained on all the instruments and this was generally regarded as reflecting a good degree of internal consistency or inter-item correlation [259]. More details are contained in the individual chapters that deal with each of the quantitative study components.

3.6 Data collection in quantitative component

3.6.1 Training of fieldworkers

In preparation for field work and data collection for the PhD study, five research assistants with professional nursing diploma qualifications were employed to assist with data collection. I trained them for two days on various aspects of the study, including the objectives of the study, the methodology, how to recruit participants in an ethical manner and how not to impose on or burden busy nursing managers. We had role plays of how to recruit the study participants and how to carry out interviews using all the study tools highlighted in figure 3.3 above. The training also focused on how to ensure data quality and how to keep questionnaires safe.

3.6.2 Overview of data collection

PHC clinic managers were contacted in July 2012 to solicit their participation and to plan the date for fieldwork. Introductory meetings were held with individual clinic managers to explain the study components.

Figure 3.4 below shows an illustration of the data collection process for the quantitative studies, the job satisfaction survey of PHC nursing managers in two South African provinces; the job related skills perceptions of PHC clinic nursing managers and the work environment and support systems PHC facility checklist. As shown in Figure 3.4 below, I together with a member of the research team member were available to assist the nursing manager if needed. I visited all the PHC clinics that constituted the study sample.

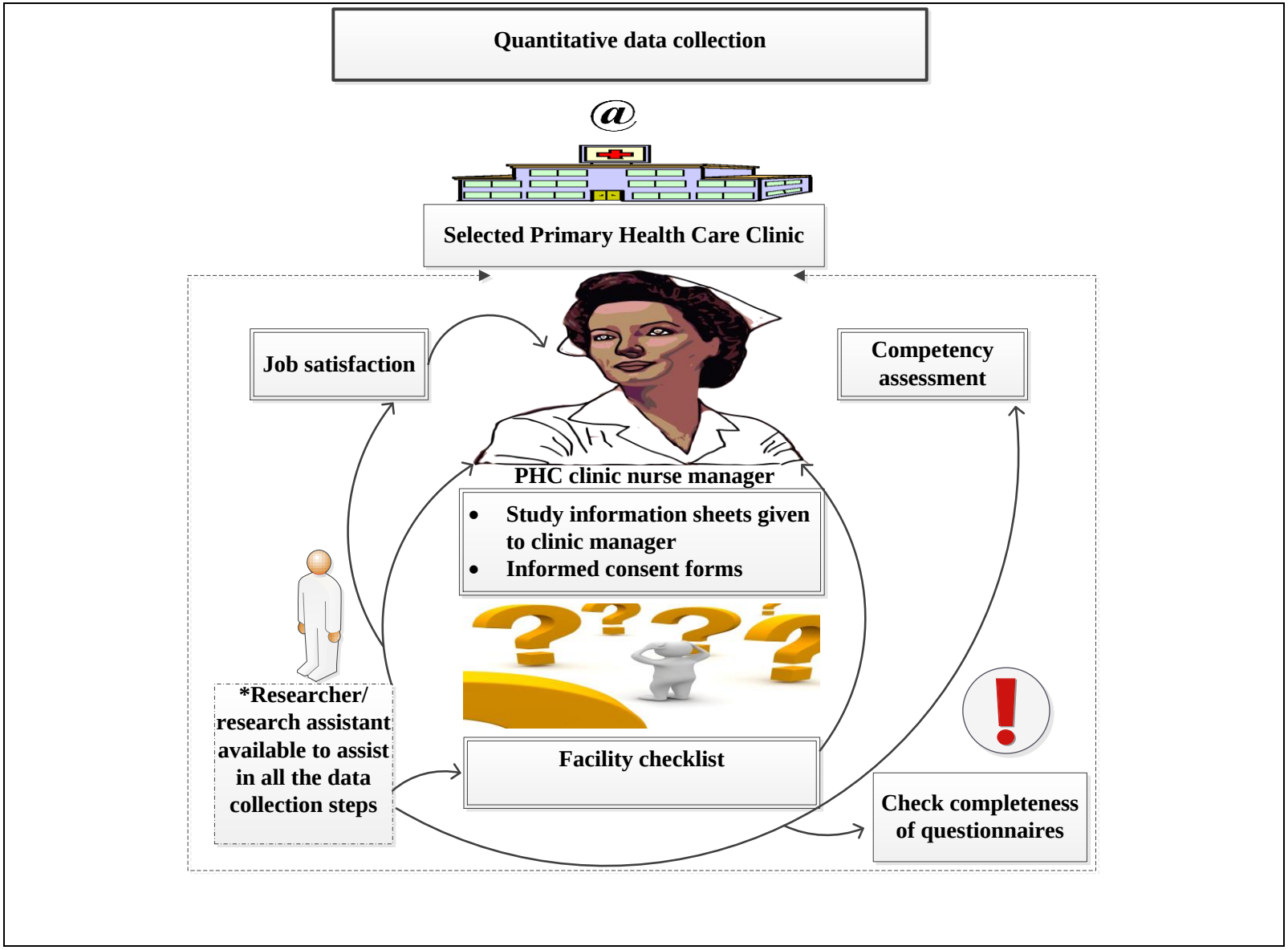

FIGURE 3.4: OVERVIEW OF THE QUANTITATIVE COMPONENT DATA COLLECTION

The data collection for each instrument is briefly described below.

3.6.3 Job satisfaction survey

The job satisfaction survey was self-administered questionnaire which included an informed consent form. It took ten minutes to complete. Information sheets (Appendix 8) were provided to all study participants. Further details are provided in Chapter 4.

3.6.4 Facility checklist

I was assisted by a trained fieldworker, who was a professional nurse with four years of training to complete the facility checklist. As shown in Figure 3.4, follow-up questions were asked from each PHC clinic manager to confirm items on the checklist, particularly if the inspection revealed non-availability of any item. Further details are provided in Chapter 6.

3.6.5 Competency assessment

The competency assessment was also a self-administered questionnaire (with an attached informed consent form) for completion by the PHC clinic nursing manager, the clinic supervisor and nurses reporting to clinic manager. Information sheets (Appendix 8) were provided to research participants. We obtained the contact details/ physical address of the clinic supervisor so that they could participate in the competency assessment survey too. Therefore, steps were taken to ensure that each clinic manager rated herself and in addition was rated by a clinic supervisor and the other nurses reporting to the clinic manager. The questionnaire took around 10 minutes to complete by each individual and could be completed in private at a convenient time by the study respondents. Further details are provided in Chapter 7.

3.6.6 Data management and quality assurance

Table 3.4 below shows the quality assurance approaches in the quantitative component of the PhD, particularly with regard to data management.

Table 3.4: Data management and quality assurance of the quantitative studies

- Quality assurance in the field by checking completeness of all study variables
- Cleaning of data set - dealing with errors and or missing values
- Developing coding sheets on all responses for all items, including do not know, refused to answer and ensuring that skip patterns were followed
- Comparing and verifying of coded labels against original survey questions
- Reliable data company contracted to do double data entry to ensure accuracy
- Labelling of all the variables before importing them into STATA for analysis
- Variables with missing data were labelled and set to missing during analysis
- Backup file of the original data set for security reasons

3.7 Quantitative data analysis

The common features of the quantitative data analysis i.e. the job satisfaction survey, the facility assessment and the competency assessment survey were the use of Stata (StataCorp, College Station, TX, USA), initial descriptive analysis, followed by multi-variate analyses. All tests were conducted at 5% significance level ($p<0.05$), unless otherwise indicated.

Table 3.5 below summarises the statistical techniques for the quantitative component of the PhD. Further details are contained in chapters four, six and seven. Appendices 10, 11 and 12 show permission from the journal publications and co-authors to reproduce the articles in the thesis.

Table 3.5: Summary of quantitative data analyses

Job satisfaction survey	Competencies assessment survey	Facility checklist
1. Descriptive analysis using frequency tabulations and summary measures: ➢ Socio-demographic characteristics ➢ Practice environment factors	1. Cronbach's alpha coefficients each of the three groups of respondents ➢ Clinic nurse managers (CNM) ➢ Clinic supervisors ➢ Other nurses reporting to CNM for each of the six domains: ➢ Communication ➢ Leadership and management ➢ Staff management ➢ Financial management ➢ Planning and priority setting ➢ Problem solving	1. Develop the risk categorisation of the items in the checklist ➢ Vital ➢ Essential ➢ Developmental categories ➢ Verification of categorised checklist elements by a health systems and quality expert who assisted with the development of the NCS
2. Calculation of mean scores for each of the seven subscales of job satisfaction: ➢ Personal satisfaction ➢ Satisfaction with workload Satisfaction with professional support ➢ Satisfaction with pay ➢ Satisfaction with prospects ➢ Satisfaction with standards of care ➢ Overall satisfaction	2. Calculation of mean scores, standard deviation and the median and inter-quartile range summaries: ➢ Six domains ➢ Three respondent groups	2. Computation of a composite compliance score for all the clinics using factor analysis based on the three risk categories
3. Determining predictors of job satisfaction in the two provinces through regression modelling	3. Calculation of agreement between raters: ➢ Tinsley and Weiss index ➢ Bland-Altman limits of agreement	3. Descriptive analysis using Pearson's Chi-Square test to determine clinic compliance with the NCS: ➢ 0-49% ➢ 50-64% ➢ 65-79% ➢ 80%-100% ➢ Student t-tests to compare differences

Job satisfaction survey	Competencies assessment survey	Facility checklist
4. Inter-coder agreement of themes in open ended question	4. Determine where training is needed: ➢ Proportion of managers who gave themselves poor scores ➢ Proportion of managers who were given poor scores by supervisors/ nurses	4. Mann-Whitney U-test for ordinal variables and skewed data 5. Pearson's correlation coefficients on continuous variables in the job satisfaction survey and vital category measures

3.8 Qualitative component

3.8.1 Introduction

Although the quantitative studies comprised the bulk of the PhD, the qualitative component was critical in understanding the nature and dynamics of nursing management at the PHC level. The qualitative component explained some of the findings to the structured responses in the three surveys.

After a review of the literature, and extensive discussion and debate within the research team, the qualitative research method that was selected was reflexive diaries. The rationale for their selection was to: encourage clinic managers to reflect on their practice; minimise the bias inherent in in-depth interviews or focus group discussions; and to get an insight into the clinic managers' working lives, as well as the joys, problems, ambiguities, and uncertainties that they face.

The use of reflexive diaries contributed to the methodological innovation in this PhD, as diaries have not been used extensively in health systems research [260-262]. The complexities of working as a nurse manager at the PHC level lend themselves to the use of the diary study methodology.

3.8.2 Recruitment and sampling

Although qualitative research does not aim for representativity, stratified random sampling was used to select a sub-sample of 22 PHC clinic nursing managers from the overall study sample of 111 nursing managers. The provinces and districts were used as the strata in order to avoid having all clinic managers being selected from one province or one district. The random selection of diary participants was important for capturing the different clinic nursing management contexts in Free State and Gauteng provinces. Thus, the diary sampling strategy allowed for the collection of information about the work and practice environment as described by nursing managers in their own words.

3.8.3 Development of the guide to reflexive diaries

Table 3.6 below shows the instructions that were pasted inside the diary for PHC clinic nurse managers on how to keep their diary (Appendix 9) It also highlights the specific information that nurse managers' were supposed to include or provide as part of the diary study.

Table 3.6: Instructions for PHC clinic nurse managers on how to keep a diary

- Thank you for agreeing to keep a diary. Please keep the diary for the next six weeks.
- We would like you to write about **one thing** that happened at work that week that really had an effect on you. Please write about:
    - What was the event?
    - Why did it stand out for you or why did it stick in your mind?
    - How did it make you feel?
    - What did you learn from it?
    - How will it affect the way you work in the future?
    - Please **write a date** whenever you make a diary entry so we can see clearly how many different diary entries you made.
- We do not mind how you write, or how much you write; we are just interested in getting your honest account about what happens at work and how it affects you.
- At the end of the six week period we will collect your diaries.

3.8.4 Data collection

The 22 PHC clinic managers were provided with an information sheet explaining the voluntary nature of keeping the diary. Following informed consent, an attractive diary with instructions

was given to each selected clinic nursing manager. This was also accompanied by a special envelope to insert the diary after the six weeks for collection. Nursing managers were encouraged to write in the diary once a week for six weeks about one thing that happened at work that week that really had an effect on them (as highlighted in Figure 3.5 of the qualitative component below). I also requested the mobile phone number of each manager so that I would call her or send SMS reminders to make a diary entry in the following weeks. Figure 3.5 presents an illustration of the approach to the diary study.

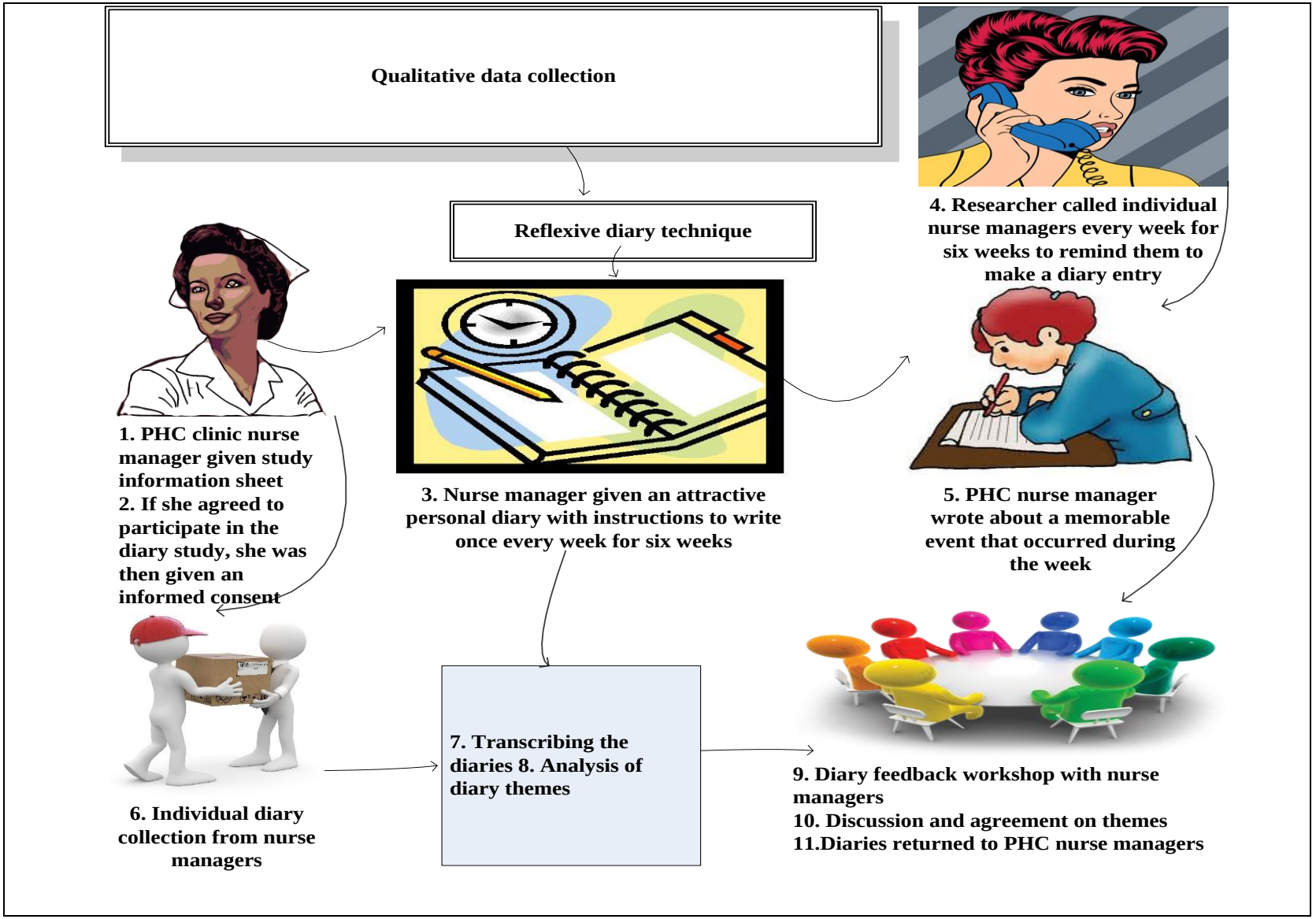

FIGURE 3.5: OVERVIEW OF QUALITATIVE DATA COLLECTION

3.8.5 Data management and analysis

Once all the diaries were transcribed I saved them as individual Microsoft Word documents, and conducted thematic content analysis. Thematic content analysis was used as a descriptive way of presenting the qualitative information from the nursing management diaries by identifying common themes in the written texts. From the text, common themes were grouped together to reflect the experience of the participants. Inter-coder agreement (with two other researchers) was done to agree on the themes and to ensure reliability of the study results. In the end, the themes were reflective of the expressions and voices of participants.

As illustrated in Figure 3.5 above, a diary feedback meeting was held at the Wits School of Public Health with the 22 nursing managers who participated in the study so that they could confirm the emerging themes from the study and to validate the study findings.

Additional information about the reflexive diary technique is presented in Chapter 5.

3.8.6 Reliability and validity of the qualitative study

Four issues of trustworthiness demand attention in qualitative research: credibility; transferability, dependability as well as confirmability [44]. Credibility was achieved through the validation workshop with the diary participants. Transferability was acknowledged through the random selection of clinics in the two provinces and getting an independent researcher to verify the themes and codes that were used for data analysis. Dependability was done through extensive piloting and assessment of the quality of the tools for data collection, data analysis and theory generation. Confirmability is the extent to which the diary entry themes could be confirmed or corroborated by the participants.

3.9 Integration of qualitative and quantitative findings

The preceding sections described the approach to sampling, data collection, management and analysis. The conceptual framework of the PhD study was presented in Chapter 1, and is repeated below (Figure 3.6), together with an illustration of the alignment between each quadrant

of the framework and the different study components. The final step in describing the methodological approach to this PhD is the integration of the study findings. This was done by comparing the quantitative findings obtained in the three surveys, with the themes obtained in the open-ended question (job satisfaction survey) and those obtained in the diary study. The findings were then triangulated, and there was an iterative process of examining the findings, checking inconsistencies, and linking the findings to the original study objectives. Lastly, the triangulated findings were reviewed in light of the existing literature (Figure 3.6).

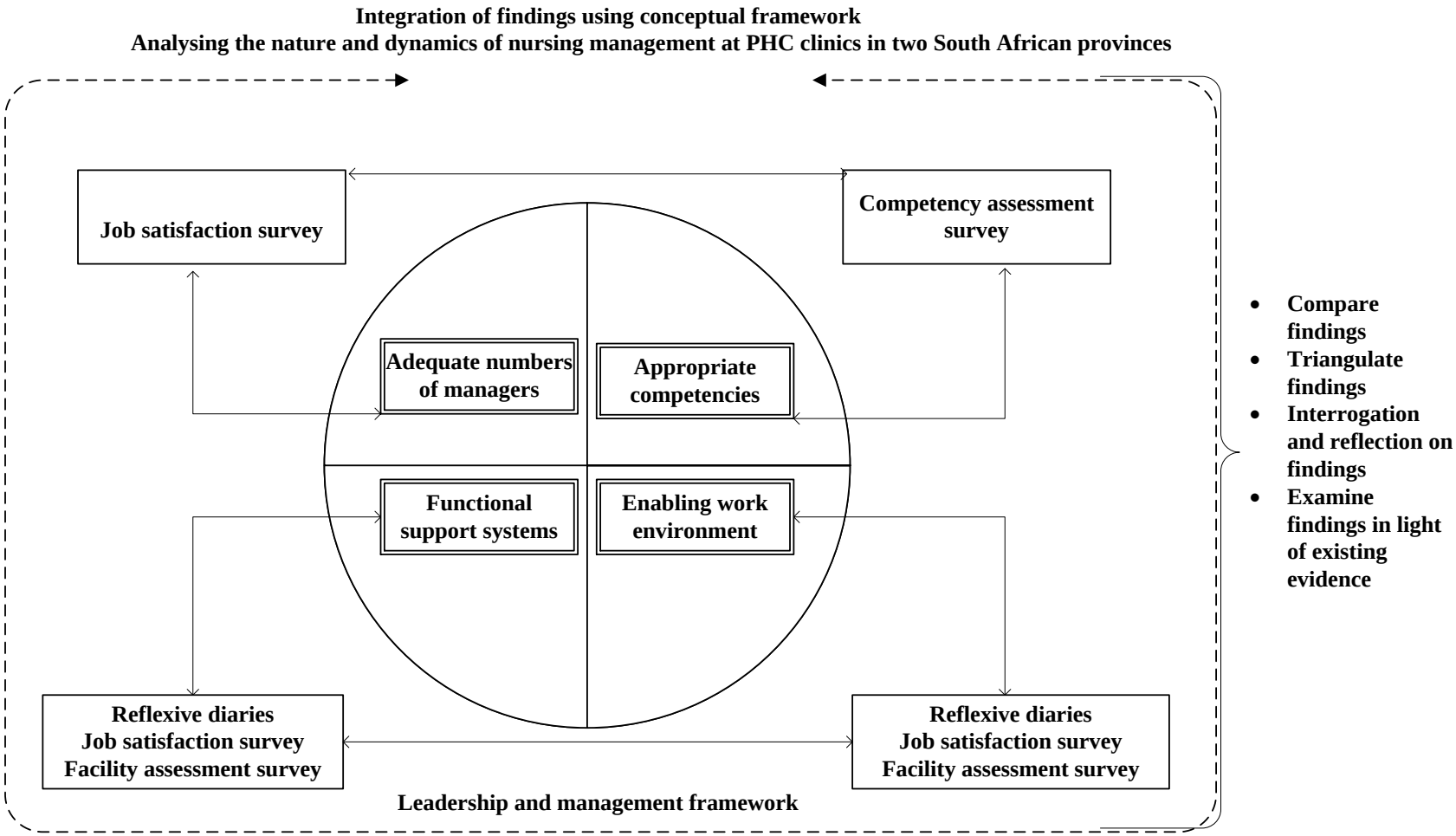

FIGURE 3.6: INTEGRATION OF QUALITATIVE AND QUANTITATIVE STUDY COMPONENTS

3.10 Addressing study limitations

This section describes the PhD study's limitations and the steps taken to address these. Broadly, these fall under the following categories: study setting, the cross sectional nature of the study, the study sample, and the self-reported information.

3.10.1 Study setting

Budgetary constraints and logistical issues prevented us from adding more provinces. Nonetheless, this was a huge study, its scope and scale met all the requirements of a doctoral degree. Gauteng Province plays an important economic and health service development role in South Africa and indeed in the entire Africa region [73]. The inclusion of Free State allowed for a rural comparison, and to analyse the nature and dynamics of PHC nursing management in a more resource constrained environment.

3.10.2 Cross sectional nature of the study

This was a cross sectional study that aimed to analyse the nature and dynamics of nursing management at PHC clinics in two South African provinces during 2012. The advantages of cross sectional studies are many. Compared to other study designs like cohort studies, cross sectional studies are relatively cheap, quick to administer and provide a general description of how a study sample perceives the context at a particular point in time [263, 264]. However, the limited time component that is characteristic of cross sectional studies makes it difficult to determine causal relationships between different exposures and outcomes [263] e.g. is job satisfaction influenced by the series of health sector reforms that were happening at the PHC level during the time data was collected?

3.10.3 The study sample

Although the study sample was representative of PHC clinic nursing managers from Gauteng and the Free State provinces, 111 is relatively small. This resulted in relatively wide confidence intervals in the statistics obtained. However, the PhD was novel in the components addressed, and a stratified random sample enabled generalisations to be made, while validated and reliable quantitative and qualitative study instruments increased the study's rigour.

3.10.4 Self-reported data

The job satisfaction survey and the competency assessments relied on self-reported information from PHC nursing managers. This was addressed by the following:

Firstly, in the competency survey, the supervisors and the nurses who report directly to the clinic nurse manager were asked to participate in the competencies rating of the PHC manager. Secondly, during analysis of the competency assessments, the Tinsley and Weiss index was used to calculate agreement or lack of it between each of the three possible pairs of raters i.e. clinic nurse manager versus supervisors, clinic nurse managers versus nurses and clinic nurses versus supervisors. Thirdly, to address bias in the job satisfaction survey, an open ended question was included to allow nursing managers to comment about any aspect about their job satisfaction. These open ended questions were analysed using thematic content analysis and linked to the job satisfaction subscales.

For the facility checklist, study results could have been limited by asking the clinic nurse manager to make the observations about the availability of items in the clinic. To avoid this bias, the assistance of a professional nurse was enlisted to check the availability of all the items and to ask questions from the clinic nurse manager to confirm the non - availability of items in the facility. Thus the facility checklist and questions to the clinic manager coupled with observations were useful in providing an understanding about the work environment of nursing managers.

3.10.5 Analysis

For the diary study, to prevent biases in the analysis, I enlisted the assistance of two other researchers for the inter-coding and agreement on the final diary entry themes.

The fact that most of the quantitative questionnaires were self-administered meant that study participants had greater levels of privacy which limited social desirability bias often observed in many self-reporting studies. The reflexive diaries also provided information about the job satisfaction and perceptions of support systems and their work environment. The results from the job satisfaction survey were analysed to examine any associations between socio-demographic characteristics and practice environment factors of nurse managers and clinics' compliance to the NCS.

Finally, all the quantitative and qualitative data from the different study components were integrated and triangulated. Data triangulation is defined as the use of multiple data sources or

perceptions to clarify meaning and verify the repeatability of observations and interpretations [265]. Combining methods and triangulating data sources results in convergence across qualitative and quantitative methods [253, 266].

CHAPTER 4: POSITIVE PRACTICE ENVIRONMENTS INFLUENCE JOB SATISFACTION OF PRIMARY HEALTH CARE CLINIC NURSING MANAGERS IN TWO SOUTH AFRICAN PROVINCES

4.1 Background

There is now global recognition of the importance of the health workforce to health systems development and the achievement of good population health outcomes [43, 267]. In many countries there is a health workforce shortage, characterised by inadequate production, suboptimal recruitment, and poor retention and staff management [35, 99, 268]. The WHO projects that there will be a shortage of 12.9 million healthcare workers by 2035 [44]. More than four million health workers are needed to address the health worker shortages in sub-Saharan Africa, with 11% of the world's population and only 3% of health workers [269]. Job satisfaction influences health worker motivation, staff retention and performance, which in turn impact on the successful implementation of health system reforms [270]. The global emphasis on UHC has put the spotlight on the revitalisation of PHC, particularly in resource constrained settings.

In South Africa, key health policies since democracy in 1994 have placed PHC as the cornerstone of the transformation of the national health system [271]. PHC service delivery in South Africa is primarily government-funded, and the more than 1,000 clinics throughout the country are government-owned. The PHC clinics offer a comprehensive range of preventive, promotive and basic curative services that are free at the point of contact [272]. In these clinics, nurses constitute the majority of the health workforce and they are the gatekeepers of the PHC system [3, 186]. In 2010, the South African government announced the re-engineering of PHC consisting of: community-based outreach teams and school health services led by nurses; and district clinical specialist teams in which nurses play a key role. A year later in 2011, the government green paper on NHI [273] was released, laying the foundation for health system reforms towards universal coverage and with PHC as a central tenet of the proposed reforms. PHC is envisaged as nurse-based, supported by doctors and other categories of health professionals. In light of renewed government commitment to PHC reforms in South Africa, this study was conducted to contribute to the development of solutions to the challenges faced by the nursing workforce. Specific challenges at the PHC

level include: changing disease burden; mal-distribution of resources between hospitals and clinics; suboptimal supervision and support, rising community expectations and demands [77]. The challenges are exacerbated by insufficient preparation and training of nurses for community-based work [9]. The objective of this study was to determine the job satisfaction of PHC clinic nursing managers in two South African provinces and the predictors of their job satisfaction.

4.1.1 Job satisfaction and nurses

Job satisfaction is defined as the perceived relationship between what one expects and obtains from one's job and how much importance or value is attributed to the job [90]. It represents the degree to which employees enjoy their jobs, an important aspect for both the employees and their organisations [274]. In recent years, there has been increased scholarly attention on the job satisfaction of health care professionals because of the need to improve the quality of care, health outcomes and the performance of the health system [275]. A high correlation has been found between employee performance and their job satisfaction [276], while dissatisfaction can be costly and disruptive to organisational effectiveness [277]. Poor levels of job satisfaction are fuelling the health workforce shortages and intensifying nursing imbalances [278].

A large body of literature exists about the job satisfaction of nurses in high-income countries such as Australia [148], Canada [279], China [280] the USA and the UK [137, 281]. Increasingly, researchers in LMICs have explored job satisfaction and its determinants. These studies have included: job satisfaction and its relationship to intention to leave in Tanzania, Malawi, and South Africa [282] and job satisfaction and turnover in rural South Africa and Papua New Guinea [157, 283].

The predictors of nurses' job satisfaction are complex. Nursing studies show a high correlation between workload, exhaustion, absenteeism, staff conflict and the job satisfaction of health care workers [284] while a strong association also exists between job satisfaction, work commitment and performance [285]. In South Africa, job satisfaction also varied by nursing category, age and gender and is influenced by workplace and the practice environment [135, 275, 286-288]. Individual demographic factors, the nature of tasks, pay and relationships with colleagues and the context of work can also influence job satisfaction [118, 157, 289].

Other research studies amongst nurses have found that the factors that influence job satisfaction are related to the working environment which influences the delivery of quality patient care in PHC clinics [290-292]. Determining job satisfaction among PHC clinic managers and the predictors of such job satisfaction can inform health workforce management strategies and can contribute to the creation of positive practice environments.

4.1.2 Measure of job satisfaction

Job satisfaction has many explanatory variables and it can be measured through single item questions such as overall satisfaction with one's job or multiple item measurements relating to co-workers, work demands, job content, workload, skills and pay [114, 116, 293]. Although there are a variety of job satisfaction questionnaires in the field of public health and industrial psychology, only a few of these instruments have shown both high reliability and high validity [114] The MJS developed by Traynor and Wade meets both these criteria of high reliability and high validity [132]. The tool consists of seven subscales, listed below.

Personal satisfaction (six questions) relates to the extent that nurses feel that they provide good quality patient care, whether their job is personally rewarding, is interesting, challenging and provides opportunities to practise skills while the subscale on *satisfaction with workload* (eight questions) looks at the time available to get through the work, time available for patient care, time spent on administration, staffing levels and overall workload. *Satisfaction with professional support* (eight questions) examines whether managerial and collegial support is available as well as the necessary supervision and guidance required in the role. It also looks at whether one has the opportunity to discuss one's concerns, the presence of teamwork and feeling valued. *Satisfaction with training* (five questions) assesses whether nurses have opportunities for further training, have access to in-service courses, time off or have funding to attend courses and the adequacy of training for the role performed while in the job. S*atisfaction with pay* (four questions) and *prospects* (six questions) are dimensions that deal with pay, grading, career prospects and job security and the last subscale, *satisfaction with standards of care* (six questions) focuses on perceptions of care given to patients. Each of the questions is measured on a Likert scale where 1 = very dissatisfied and 5 = very satisfied [132]. The last question on overall job satisfaction can be added up based on the above subscales to give an overview of overall job satisfaction [132].

4.2 Methods

4.2.1 Study sites and setting

This was a cross-sectional study conducted among professional nurses working as managers in PHC clinics situated in two South African provinces, namely Gauteng (GP) and Free State (FS), during 2012. GP is an urban province and the economic powerhouse of South Africa with a population of 12.2 million [255] while FS is largely a rural and agricultural province with a population of 2.7 million [255]. Geographical proximity to the researchers, health authority approval and budgetary constraints informed the selection of these provinces.

4.2.2 Study population and sampling

Professional nurses possessing a four-year qualification and managing eight-hour (day) PHC clinics constituted the population of interest. A PHC clinic nursing manager is a professional nurse in charge of a PHC clinic and is responsible for the overall management and administration of the clinic, including management of staff, health service delivery, patient care, equipment, pharmaceuticals, and supplies [100]. The exclusion criteria were professional nurses managing 24-hour health centres, satellite clinics and those that operate during the weekend or clinics managed by non-nursing managers and clinics that were linked to hospitals; so-called gateway clinics. In order to calculate the sample size, the variable of interest was the proportion of PHC nursing managers that were satisfied with their jobs. This was estimated at 50%, with an assumed 10% precision. Setting the level of significance at 5% and a confidence interval of 95%, a minimum sample size of 96 PHC nursing managers was required (calculated using Epi Info, Version 6, Centre for Disease Control and Prevention, Atlanta, GA, USA). We included an additional 15 PHC nursing managers to cater for 10% refusals, spoiled or incomplete questionnaires. Following this sample size calculation, stratified random sampling was done by district to select PHC managers from a list of eight-hour (day) clinics in both provinces proportional to each of the health districts (five in GP and five in FS). The final sample consisted of 111 nursing managers, each responsible for a unique clinic.

4.2.3 Data collection and study variables

The nursing managers were contacted during July 2012 to enlist their participation and to plan the date for fieldwork. At each clinic, an introductory meeting was held with the PHC nursing manager to explain the study components. After obtaining informed consent, a self-administered MJS questionnaire was given to the nurse manager for completion.

The research was conducted between July and November 2012. The MJS was used in its original form, but expanded to include demographic factors (age, sex, marital status, number of children, and number of dependants that they were financially responsible for, number of years qualified as a professional nurse, whether the respondent was working in a clinic of their choice, PHC clinical training and any current studies). The instrument also collected information on the practice environment, particularly concern about violence, experience of any form of violence, perpetration of violence by self, colleagues, patients or relatives, feelings of exhaustion while at work, taking sick leave when actually not sick, intention/desire to leave their employer in the next year and awareness of the PHC re-engineering reforms. These variables were added following key informants' recommendations obtained during formative, qualitative research conducted prior to the survey. We also included an open-ended question to allow clinic managers to comment on any aspect related to their job satisfaction. The questionnaire took ten minutes to complete. We used the MJS subscales and thematic content analysis [294] to analyse the open-ended responses. The themes helped in organising, managing, interpreting and retrieving meaningful segments of quotes and linking segments of text to a particular subscale of job satisfaction [295]. Two other researchers read the responses independently to ensure reliability and to establish inter-coder agreement [295, 296].

We pre-tested the tool with three PHC nursing managers prior to implementation and no adjustments were necessary. These three respondents were excluded from the main study.

4.2.4 Ethical considerations

We obtained ethics approval from the University's Human Research Ethics Committee (M 12 02 48). All relevant health care authorities granted permission for the study. In the field, PHC clinic nursing managers were given a detailed information sheet, as well as verbal explanation of the study, the voluntary, confidential and anonymous nature of participation and the sampling methodology of the research. We ensured anonymity of responses and maintained confidentiality of the data by ensuring that survey results would not be tied back to an individual person or individual PHC facility.

4.2.5 Data management and analysis

The data were analysed using Stata version 12 (StataCorp, College Station, TX, USA). A descriptive analysis of socio-demographic characteristics and work (practice) environment factors was conducted, using frequency tabulations and summary measures.

Two approaches were used to analyse the data so as to understand job satisfaction levels and its predictors. The first one involved the use of mean scores for each of seven subscales of job satisfaction as described above [132]. The mean scores were calculated by dividing the sum of subscale score by the number of questions in that subscale. The seven subscale scores were then aggregated to provide an overall job satisfaction mean score, which is the overall mean score was calculated from all the 43 questions that form the seven subscales of job satisfaction in the MJS tool. The possible scores for overall job satisfaction range from 43 to 215.

The second approach involved determining job satisfaction predictors through regression modelling. For this approach, the five point Likert scale of overall job satisfaction was categorized into three categories (satisfied = scores 4 and 5, indifferent = score 3 and dissatisfied = scores 1 and 2). Multinomial logistic regression was then used to determine predictors of job satisfaction in the two provinces. The reference group for job satisfaction and dissatisfaction was the 'indifferent' category. The regression models were fitted separately for GP and FS. It was decided in advance that a combined model would be fitted only if no significant differences existed in job satisfaction between the two provinces. All variables found significant (with $P < 0.25$) at the univariate analysis were included in the multinomial logistic regression. All tests were conducted at 5% significance level.

4.2.6 Validity and reliability

After piloting, to determine validity and reliability of the MJS instrument, Cronbach's alpha (CA) coefficients were used to assess the reliability of the scale and 0.94 or (94%) was obtained, signifying that it had high internal consistency [114]. The lowest CA was 0.75.

4.3 Results

4.3.1 Demographic characteristics of primary health care nursing managers

Table 4.1 indicates the socio-demographic and work environment characteristics of study participants. A total of 111 questionnaires were distributed to clinic nursing managers in GP and FS provinces. A total of 108 questionnaires were returned (GP n = 62 and FS n = 46) representing a survey response rate of 97%. The mean age of participants was 49 years (SD: 7.8). The majority in both provinces were female (92%); married (63%); employed in a permanent position (89%); and working in a clinic of choice (59%). Slightly over one third of the respondents (36%) had a professional nursing experience of between 21 and 30 years. The majority (76%) had formal qualifications in PHC clinical management and almost one third (29%) indicated that they were not aware of the PHC re-engineering reforms in South Africa.

Table 4.1: Socio-demographic and practice environment characteristics of study participants (n = 108)

Characteristics	GP n (%)	FS n (%)	Total n (%)
Total	62 (57.4)	46 (42.6)	108 (100.0)
Age (years)			
21-30	3 (4.84)	0	3 (2.78)
31-40	10 (16.1)	4 (8.70)	14 (12.9)
41-50	17 (27.4)	24 (52.1)	41 (37.9)
51+	32 (51.6)	18 (39.1)	50 (46.3)
Sex			
Male	7 (11.3)	2 (4.35)	9 (8.33)
Female	55 (88.7)	44 (95.6)	99 (91.7)
Marital status			
Married	42 (67.7)	26 (56.5)	68 (62.9)
Living together	1 (1.61)	1 (2.17)	2 (1.85)
Single	8 (12.9)	8 (17.4)	16 (14.8)
Divorced	4 (6.45)	7 (15.22)	11 (10.2)
Widowed	7 (11.3)	4 (8.70)	11 (10.2)
PHC qualification			
No	14 (22.9)	12 (26.1)	26 (24.1)
Yes	48 (77.4)	34 (73.9)	82 (75.9)
Years qualified as a professional nurse			
0-10	11 (17.7)	4 (8.70)	15 (13.9)
11-20	15 (24.2)	21 (45.6)	26 (33.3)
21-30	22 (35.5)	17 (36.9)	39 (36.1)
31-40	14 (22.3)	4 (8.70)	18 (16.7)
Clinic choice			
No	27 (43.5)	17 (36.9)	44 (40.7)
Yes	35 (56.5)	29 (63.0)	64 (59.3)
Permanent position			
No	8 (13.8)	3 (6.52)	11 (10.6)
Yes	50 (86.2)	43 (93.5)	93 (89.4)

Characteristics	GP n (%)	FS n (%)	Total n (%)
Number of dependents			
0	3 (4.84)	1 (2.17)	4 (3.70)
1-4	54 (87.1)	42 (91.3)	96 (88.9)
5-8	5 (8.06)	3 (6.52)	8 (7.41)
Currently studying			
No	47 (75.8)	40 (86.9)	87 (80.6)
Yes	15 (24.1)	6 (13.0)	21 (19.4)
Sector			
Provincial	16 (25.8)	46 (100.0)	62 (57.4)
Local authority	46 (74.2)	0	46 (42.6)
Concerned about violence in the workplace			
No	36 (58.1)	25 (54.4)	61 (56.5)
Yes	26 (41.9)	21 (45.6)	47 (43.5)
Ever experienced violence in the workplace in the last year (either from colleague or patient)			
No	40 (65.6)	33 (73.3)	73 (68.8)
Yes	21 (34.4)	12 (26.7)	33 (31.1)
Suffered verbal abuse in the last year			
No	38 (61.3)	28 (60.8)	66 (61.1)
Yes	24 (38.7)	18 (39.1)	42 (38.9)
Verbally abused or shouted at someone in the workplace in the last year			
No	56 (91.8)	43 (93.5)	99 (92.5)
Yes	5 (8.20)	3 (6.52)	8 (7.5)
Felt humiliated or shamed by another in the workplace in the last year			
No	47 (75.8)	37 (80.4)	84 (77.8)
Yes	15 (24.2)	9 (19.6)	24 (22.2)
Felt too tired to work while on duty			
No	28 (45.2)	24 (52.2)	52 (48.2)
Yes	34 (54.8)	22 (47.8)	56 (51.8)
Taken sick leave when actually not sick			
No	59 (95.2)	46 (100.0)	105 (97.2)
Yes	3 (4.84)	0	3 (2.78)
Intention to leave employer			
No	54 (87.1)	34 (73.9)	88 (81.5)
Yes	8 (12.9)	12 (26.1)	20 (18.5)
Awareness of PHC revitalisation currently underway			
No	22 (36.1)	9 (19.6)	31 (28.9)
Yes	39 (63.9)	37 (80.4)	76 (71.0)

4.3.2 Practice environment factors

The majority of participants (97%) did not take sick leave while not sick; 98% had not been absent from work without authorization and 81% indicated that they did not intend to leave their workplace in the year following the survey. However, 43% of PHC clinic nursing managers indicated that they were concerned about violence in the workplace, 31% had experienced violence; and 39% had experienced verbal abuse from other colleagues, patients or relatives in the workplace. More than half of the study participants (52%) reported that they felt ‘too tired to work’ while on duty.

4.3.3 Job satisfaction scores based on the subscales

Table 4.2 lists the seven subscales of job satisfaction for PHC nurse managers in GP and FS. The overall mean score of job satisfaction for nurse managers in GP (142.8; SD ± 24.3) and FS (143.4; SD ± 25.6) were similar, although these differences were not statistically significant ($P = 0.90$).

Table 4.2: Mean scores of job satisfaction subscale individual questions by province

Assessment subscales of job satisfaction	GP (n = 62) $\bar{x}$ ± SD	FS (n = 46) $\bar{x}$ ± SD	Total possible score	*P*-value
Personal satisfaction				
The feeling of worthwhile accomplishment I get from my work	3.29 ± 1.08	3.26 ± 0.97		
The amount of personal growth and development I get from my work	3.65 ± 0.85	3.46 ± 1.09		
The extent to which my job is varied and interesting	3.69 ± 0.94	3.76 ± 0.10		
The amount of independent thought and action I can exercise in my work	3.61 ± 0.96	3.72 ± 0.96		
The extent to which I can use my skills	4.05 ± 0.69	3.65 ± 0.10		
The amount of challenge in my job	3.38 ± 1.07	3.28 ± 0.98		
Total score	21.59 ± 3.91	21.13 ± 3.77	30	0.535
Satisfaction with workload				
The time available to get through my work	2.45 ± 1.05	2.26 ± 1.06		
The amount of time spent on administration	2.61 ± 0.99	2.21 ± 0.89		
My workload	2.38 ± 1.10	2.19 ± 1.24		
Overall staffing levels	2.35 ± 1.17	2.37 ± 1.12		
The amount of time available to finish everything that I have to do	2.45 ± 1.00	2.15 ± 0.97		
What I have accomplished when I go home at the end of the day	3.26 ± 1.05	3.11 ± 1.08		
The hours I work	3.71 ± 0.95	3.76 ± 0.92		
The time available for patient/client care	3.10 ± 1.09	2.87 ± 1.15		
Total score	22.16 ± 5.77	20.83 ± 6.37	40	0.258
Satisfaction with professional support				
The degree to which I feel part of a team	3.94 ± 0.67	0.87 ± 0.96		
The opportunities I have to discuss my concerns	3.26 ± 0 .93	3.59 ± 1.12		
The amount of support and guidance I receive	3.35 ± 0.99	3.56 ± 1.00		
The people I talk to and work with	3.92 ± 0.68	4.24 ± 0.64		
The degree of respect and fair treatment I receive from my boss	3.61 ± 0.96	3.50 ± 1.09		
The support available to me in my job	3.32 ± 1.04	3.37 ± 0.10		
The overall quality of the supervisions I receive in my work	3.61 ± 0.84	3.56 ± 0.86		
The contact I have with colleagues	3.97 ± 0.77	4.09 ± 0.72		
Total score	28.92 ± 4.77	29.78 ± 5.38	40	0.380
Satisfaction with training				
Being funded for courses	3.45 ± 1.20	2.98 ± 1.20		

Assessment subscales of job satisfaction	GP (n = 62) $\bar{x}$ ± SD	FS (n = 46) $\bar{x}$ ± SD	Total possible score	*P*-value
The opportunities I have to advance my career	3.63 ± 0.85	3.28 ± 1.00		
The extent to which I have adequate training for what I do	3.71 ± 0.80	3.76 ± 0.77		
Time off for in-service training	3.53 ± 1.05	3.13 ± 1.17		
The opportunity to attend courses	3.60 ± 1.05	3.43 ± 1.19		
Total score	17.85 ± 3.40	16.50 ± 3.06	25	0.035
Satisfaction with pay				
Payment for the hours I work	2.79 ± 1.33	3.76 ± 0.97		
My salary/pay scale	2.69 ± 1.36	3.80 ± 0.96		
The degree to which I am fairly paid for what I contribute to this organisation	2.77 ± 1.26	3.43 ± 1.11		
The amount of pay I receive	2.63 ± 1.33	3.52 ± 1.09		
Total score	10.73 ± 4.73	14.43 ± 3.72	20	0.000
Satisfaction with prospects				
My prospects for promotion	3.18 ± 0.95	3.15 ± 0.99		
My prospects for continued employment	3.50 ± 0 .90	3.59 ± 1.05		
The amount of job security I have	3.65 ± 1.01	3.00 ± 1.21		
The possibilities for a career in my field	3.66 ± 0.83	3.59 ± 1.02		
The outlook for my professional group/branch of nursing	3.53 ± 0.90	3.39 ± 0.80		
How secure things look for me in the future of this organisation	3.42 ± 1.06	3.30 ± 1.09		
Total score	20.87 ± 3.52	19.89 ± 4.28	30	0.195
Satisfaction with standards of care				
The quality of work with patients/clients	3.18 ± 0.98	3.15 ± 1.11		
The standard of care given to patients/clients	3.42 ± 1.02	3.41 ± 1.17		
The way that patients/clients are cared for	3.58 ± 0.84	3.63 ± 1.04		
The standard of care that I am currently able to give	3.60 ± 0.93	3.63 ± 0.93		
The general standard of care given in this unit	3.44 ± 0.97	3.54 ± 0.96		
Patients are receiving the care that they need	3.47 ± 0.97	3.48 ± 1.11		
Total score	20.68 ± 4.52	20.85 ± 5.00	30	0.85
Overall satisfaction	142.80 ± 24.3	143.41 ± 25.6	215	0.90

There were statistically significant differences between the mean scores for satisfaction with training in GP (17.85; SD ± 3.40) where scores were higher than in the FS (16.50; SD ± 3.06) ($P = 0.03$). Within this subscale, time available to attend courses, opportunities to advance their careers and the extent to which they had adequate training for their job was higher in GP than in FS. PHC nurse managers in FS (14.43; SD ± 3.72) had a significantly higher mean score for satisfaction with pay than those in GP (10.73; SD ± 4.73 (<0.001), who were mostly satisfied with the pay and payment for the hours worked. The mean scores for the subscales on personal satisfaction, professional support, prospects and standards of care were relatively high in both provinces, and the differences were not statistically significant.

4.3.4 Nurses' comments on job satisfaction

All nursing managers responded to the open-ended question; 'what do you think can be done to improve your job satisfaction in this clinic?'

4.3.5 Personal satisfaction and prospects

Nursing managers had relatively high mean scores on personal satisfaction in GP (21.59; SD ± 3.91) and in FS (21.13; SD ± 3.77) compared to satisfaction with career prospects (GP 20.87; SD ± 3.52 and (FS 19.89; SD ± 4.28). However, the qualitative comments made by nursing managers contradicted these high scores on personal satisfaction and career prospects. Their comments show that nursing managers were affected by their working conditions, which limited their ability to practise their skills. These challenging working conditions included: the lack of clinic maintenance (broken windows, leaking ceilings, dysfunctional sewage systems); the poor state of clinic infrastructure (insufficient consultation rooms and lack of patient waiting areas); and the unavailability of basic or clinical equipment (working refrigerators, blood pressure machines and telephones). The comments below are illustrative of this disjuncture between quantitative scores and qualitative perceptions.

> *'We want to have working equipment that is sustainable for a long period. An improved communication system that is not dependent on manual writing and messengers to deliver information is needed. I need a working environment and structure that is conducive and welcoming to both staff and patients.' (Respondent # 93, GP)*

Another nursing manager said:

> *'I feel so discouraged…In fact I feel I should leave nursing and pursue other new ventures…' (Respondent # 42, FS)*

4.3.6 Workload

Nursing managers from both provinces had low scores on workload (GP 22.16; SD ± 5.77 and FS 20.83; SD ± 6.37). These low scores were borne out by the qualitative responses, which highlighted work pressure, exacerbated by shortages of health professionals (nurses, doctors,

social workers, pharmacists) and support staff (cleaners, gardeners, security guards). The following excerpts reflect how these issues affected patient care and their ability to manage the clinics.

> *'At the moment, the clinic manager must wear all the caps, for example when the cleaner is not available she must clean the clinic, when the pharmacy assistant is not available she must dispense medication. If we can have relief staff in all categories to close the gap when there is shortage that would be nice because in PHC, staffing is important for quality service.' (Respondent # 9, FS)*

> *'We need to have more staff, especially nurses as we render a lot of services to our patients, the workload becomes unbearable.' (Respondent # 82, GP)*

4.3.7 Professional support

Nursing managers had high mean scores for professional support in GP (28.92; SD ± 4.77) and in FS (29.78; SD ± 5.38). However, the qualitative responses revealed that nursing managers experienced a general lack of support from their supervisors who either interfered or blamed them for wrong doing. Clinic managers reported lack of consultation on decision-making, especially those related to financial management. In addition, nursing managers did not feel that they had the authority to manage their clinics. One said:

> *'Recognition and degree of support from my senior manager is non-existent…the big boss does not recognize my contribution in the health system - he is a fault finder and very quick to blame and judge when things are not done. The management needs to consider my personal point of view…' (Respondent # 82, GP)*

> *'We need to get support from our supervisors because patients are disrespecting us…our communities have to know that rights go hand in hand with responsibility. Our supervisors must learn to respect us people on the ground because we are the ones doing the spade work. When there is a problem they must ask for both sides of the story, not only to get the patient's side and always thinking the staff is always wrong. (Respondent # 49, FS).*

4.3.8 Training

Although nursing managers in both provinces had low scores on satisfaction with training, the scores for FS was lower (16.50; SD ± 3.06) compared to GP (17.85; SD ± 3.40), and this difference was statistically significant ($P = 0.035$). They expressed a desire for continuing professional development and keeping abreast of new developments in nursing. They also indicated a need for training in information technology, including the use of computers. They were of the opinion that computers would cut down on the paper work and assist with the completion of different patient registers.

> *'The clinic manager should also be sent to school to upgrade themselves about new developments in nursing and management but in our region only nurses (not managers) are capacitated. If you apply for study leave as a manager our seniors will ask you who is going to manage the clinic…' (Respondent # 54, GP)*

> *'Take me to training courses, for example computer courses and managerial skills.' (Respondent #1, FS)*

4.3.9 Pay

PHC nursing managers in GP had low scores on the satisfaction with pay (10.73; SD ± 4.73) compared to those in FS (14.43; SD ± 3.72). This was supported by the qualitative comments, which illustrated that nursing managers were of the opinion that their salaries were not commensurate with the increasingly complex disease burden, growing number of patients, and various health system reforms. All these issues resulted in increased management responsibilities at the PHC level.

> *'The clinic manager has lots of responsibilities but they are underpaid, we get the same salaries as professional nurses and nursing assistants…' (Respondent # 54, GP)*

Nursing managers also complained that poor salaries for increased responsibilities were made worse by an unfair performance management and reward system:

> *'The performance management development system must be reviewed. Staff members who qualify for a bonus are not getting it. The system of rewarding a certain percentage of staff is not working; instead, it is creating bad relations between the manager and the staff…' (Respondent # 36, FS)*

4.3.10 Standards of care

Although nursing managers had high scores on satisfaction with standards of care (GP 20.68; SD ± 4.52; FS 20.85; SD ± 5.00), some complained about the large numbers of patients at PHC facilities. They were of the opinion that services had expanded, exacerbated by increasing numbers of patients from different catchment areas and neighbouring countries without the additional staff. Managers indicated that quality of care could be improved with adequate staff to cover disease programmes:

> *'Levels of staffing should be increased to improve the standard of care to clients. Currently, the demands of the work and the number of clients seen by each nurse compromises quality of care in terms of support services. Support services for HIV Counselling and Testing were provided when the ARV programme started. But due to non-payment of these counsellors (lay health workers), support services were removed and this exacerbates the work load and demands placed on the nursing staff. It is not possible to have job satisfaction when you are constantly under pressure to do more with inadequate resources…' (Respondent # 79, GP)*

Filling in too many disease programme registers was a source of tension as it diverted time needed for patient care:

> *'…we have just started the HIV/AIDS antiretroviral (ARV) programme. There is too much paper work that prohibits us to from doing proper nursing care…' (Respondent # 36, FS)*

4.3.11 Security

Security in the clinics was a big concern for nursing managers who felt that their workplaces were unsafe. They mentioned that most of their clinics do not have alarm systems or security personnel to guard the facilities. Examples were given of burglaries where equipment, drugs and personal belongings were stolen or damaged. Nursing managers also cited threats of violence from patients and from the community. Basic security infrastructure such as a security fence or availability of alarms, having phones that work in case of an emergency were requested and thought to be essential to improve job satisfaction:

> *'A security service for clinic staff is needed. We had a break in from the community and they actually wanted to force entry and we have no security available around the*

premises. They were having protest marches against the municipality but they also threatened us with war…' (Respondent # 42, FS)

'Clients are demanding services which are promised to them by politicians and it is not always possible to live up to these expectations. This leads to constant abuse from some clients and at times being threatened with physical violence as a result of this.' (Respondent # 79, GP)

4.4. Predictors of job satisfaction

Table 4.3 and 4.4 show the results of the univariate and multiple logistic regressions respectively. The predictors of job satisfaction based on the multiple logistic regression analysis were: working in a clinic of choice, feeling too tired and being verbally abused at work by patients, colleagues or someone close to the manager.

Table 4.3: Multinomial univariate logistic analysis outcome = job satisfaction

Multinomial univariate logistic analysis outcome = job satisfaction						
Predictor	**Dissatisfied compared to indifferent group**			**Satisfied compared to indifferent group**		
	***RRR**	**95% CI**	***P*-value**	***RRR**	**95% CI**	***P*-value**
Tired at work						
No						
Yes	2.57	0.64-10.3	0.18	0.34	0.13-0.93	0.037
Verbal abuse						
No						
Yes	0.56	0.16-1.91	0.35	0.14	0.05-0.42	0.001
Clinic of choice						
No						
Yes	0.83	0.25-2.74	0.761	1.08	0.40-2.90	0.087
Years qualified as PN						
0-10						
11-20	2	0.14-28.41	0.609	0.66	0.11-3.81	0.649
21-30	2.75	0.21-35.83	0.440	0.41	0.07-2.29	0.315
31-40	1.33	0.08-20.10	0.835	0.22	0.03-1.38	0.108
Province						
GP	…					
FS		0.75-8.78	0.132	1.56	0.56-4.35	0.393
Sex						
Male						
Female	2.09	0.17-25.00	0.557	0.96	0.18-5.18	0.968
Marital status						
Married	…	…	…	…	…	…
Living together	0.93	0.61-2.26	1.00	0.27	…	0.99
Single	0.37	0.08-4.31	0.282	0.57	0.16-2.00	0.38
Divorced	0.62	0.36-37.70	0.628	0.63	0.13-2.89	0.56
Widowed	3.71	0.50-2.29	0.267	1.90	0.20-17.28	0.57
Age						
21-30						
31-40	..	…	0.988	0.50	0.07-16.30	0.931
41-50	..	…	0.987	0.61	0.14-22.68	0.655
> 50	..	…	0.987	0.37	0.11-17.16	0.793
Permanent position						
No						
yes	1.42	0.21-9.51	0.717	1.47	0.33-6.47	0.608
PHC qualification						
No						
Yes	0.80	0.22-2.94	0.741	1.47	0.48-4.50	0.499
Currently studying						
No						
Yes	1.57	0.24-10.51	0.637	3.33	0.70-5.85	0.130

Legend: *RRR, relative risk ratio.

Table 4.4: Final multivariate multiple logistic regression model

Predictor	Dissatisfied			Satisfied		
	*RRR	95% CI	*P*-value	*RRR	95% CI	*P*-value
Tired at work						
No	1.00	Reference		1.00	Reference	
Yes	4.89	3.56-35.89	0.151	0.19	0.08-0.50	0.001
Verbal abuse						
No	1.00	Reference		1.00	Reference	
Yes	2.22	0.50-9.82	0.291	0.18	0.06-0.545	0.002
Clinic of choice						
No	1.00	Reference		1.00	Reference	
Yes	0.41	0.94-1.83	0.244	3.10	1.11-8.62	0.030

Legend: *RRR, relative risk ratio.
Outcome = job satisfaction (relative to reference category).

Among study participants who worked in a clinic of choice, the relative risk ratio (RRR) of them being satisfied with their job increases by 3.10 times compared to those in the indifferent group (95% CI 1.11 to 8.62, $P = 0.030$). For participants who were too tired at work, the RRR of them being dissatisfied with their jobs increases by 4.9 times compared to the indifferent group (95% CI 3.56 to 35.89, $P = 0.151$). Among study participants who experienced verbal abuse while at work, the RRR of them being dissatisfied with their job is 2.22 times more likely compared to those in the indifferent group (95% CI: 0.50 to 9.82, $P = 0.291$).

4.5 Discussion

We conducted a cross-sectional survey to determine the job satisfaction of PHC clinic nursing managers in two South African provinces. Our study is one of the first African studies that uses the MJS tool to examine the job satisfaction of nursing managers at the PHC clinic level, but that combined it with socio-demographic variables and that explored the role of workplace violence in job satisfaction. The tool was designed specifically for nurses working in community settings, it has high validity and reliability and it focuses on all aspects of job satisfaction. The tool is useful and relevant for application at PHC (or community) settings in other parts of South Africa and in other low- and middle-income countries (LMICs). As the MJS tool was originally designed and used in the UK, it has applicability to community-based settings in general.

We have found that these managers had moderate levels of job satisfaction. The findings are similar to those of two other studies done in rural KwaZulu-Natal, South Africa and in the United Kingdom [132, 296] that used the same MJS tool with non-nursing managers. A study

in Egypt in 2006 found moderate job satisfaction levels amongst PHC nurses [297]. Although our study population consisted of nurses in charge of PHC clinics, the findings are also similar to two other studies in Palestine and South Africa that focused on nurses working in PHC settings [149, 298]. A multi-country study on job satisfaction among different categories of health workers (including nurses) found low job satisfaction and high intention to leave the workplace among South African nurses, with 41% actively seeking other jobs [282]. However, a different instrument was used in this study, so the results may not be comparable.

4.5.1 Age, tenure and job satisfaction

The mean age of nurses in our study was 49 years. A similar study in South Africa using the same MJS tool also found that a large number of respondents were between the ages of 41 and 50 years, highlighting an ageing nursing workforce that has been pointed out by others [11, 19, 147]. Our study found that the job satisfaction of clinic nursing managers decreased for every unit increase in years qualified as a nurse and as they got older. This is similar to the finding of another South African study that found an association between years of nursing experience and job satisfaction [147]. The findings of our study are also similar to those of a Jordan hospital study, which found that older nurses were leaving the profession before retirement due to low levels of job satisfaction associated with poor working conditions [299]. Similarly, an international study on hospital nursing unit managers found that tenure (or years in nursing) had a negative relationship with job satisfaction [300]. The negative relationship between tenure and job satisfaction for our study respondents could be related to the comments they made about increasing workloads, roles and responsibilities of clinic managers due to ongoing health system reforms.

4.5.2 Job satisfaction subscales

The subscales with the highest scores were personal satisfaction, professional support, training, prospects and standards of care, while the lowest scores were obtained for workload and pay (Table 12). Although there were differences in the mean scores, the variation could be due to the small sample size. Another South African study also found that nurses were satisfied about their personal contribution to work and least satisfied with pay and prospects [147]. In contrast, a study among district nurses in the UK using the same instrument found high scores on personal satisfaction, work load and satisfaction with pay and prospects [145]. PHC nursing managers in GP had low mean scores on payment for the hours

worked and the degree to which they felt they were fairly rewarded for their contributions in the clinics where they work. PHC nurse managers in FS had a significantly higher mean score for satisfaction with pay than those in GP ($P = 0.001$). This could be related to the higher cost of living in the urban GP, compared to FS and because nurse managers in GP had more dependants than those in FS ($P = 0.042$). Dissatisfaction with pay has also been found in other studies on job satisfaction in the UK [145] and in South Africa [301].

Our study found that PHC clinic nursing managers, especially those in the FS, scored high on satisfaction with professional support. However, there is a disjuncture between the scores and the comments made by these nurses. This is also in contrast to the findings of other studies that have found weak supervision at PHC level [147, 302], and that supervisors in LMICs lack leadership and management skills [61, 303]. As shown in Table 12, some clinic managers in the FS were concerned about the degree to which they felt to be part of a team which suggests that there could be suboptimal teamwork in clinics in the province. Where similar studies have been conducted in hospital settings, the absence of teamwork influenced workloads leading to absenteeism, burnout and low levels of job satisfaction [304, 305].

PHC clinic nursing managers in our study had low levels of satisfaction with workload, especially on time available to get through work, on administration and overall staffing levels. Responding to the open ended question about issues that affected their job satisfaction, many clinic managers mentioned that they often work with limited human resources and have extended responsibilities beyond their job descriptions. Another South African study found that appropriate nurse to patient ratios would contribute a great deal to nurse retention, commitment and job satisfaction, which in turn would improve quality of patient care [37]. Concerns about workload are further exacerbated by staff shortages in South Africa and the complex burden of disease (communicable, non-communicable, perinatal and maternal conditions, and injury-related complications) which have a negative influence on nurses' job satisfaction [174, 306].

4.5.3 Predictors of job satisfaction

In our study, working in a clinic of choice, being too tired to work while on duty, and concern about violence were predictors of job satisfaction (Table 4.4). This is similar to the findings of other studies that found that work environment, workload, insufficient time for training and suboptimal management were negatively correlated with job satisfaction [137, 149, 307, 308]. However, the findings are not directly comparable because of different contextual situations

and different methodological approaches. Feeling too tired at work [309, 310] and suffering verbal abuse both have the potential to reduce the quality of care for patients [311]. We could not find other studies that examined the association between verbal abuse and job satisfaction amongst nurses. The comments made by nurses also pointed to other aspects of the practice environment such as poor clinic infrastructure, lack of functioning equipment, safety concerns, lack of recognition, and suboptimal supervision and management. Nursing managers commented on the lack of security in PHC facilities which compromised their personal safety as well as that of their patients. The ICN has noted that practice environments that address the challenges of physical and psychological violence and workloads, and that offer professional support and prospects for professional development can influence job satisfaction and individual performance [311]. The ICN has recommended safe and enabling practice environments for nurses at all types of health care facilities [153]. Hence, our study findings add weight to the ICN recommendations on positive practice environments for nurses.

In light of the study finding that highlights the importance of choice of clinic to nurses' job satisfaction, we recommend that district and executive health managers discuss and consult nurses about their placement. This is relatively easy to address through good management practices and the establishment of staff forums at the PHC level. It is also in line with the recent recommendation at the 2013 Third Global Forum on HRH that proposed mechanisms to enhance retention of health workers and to give health workers a voice to make inputs [44]. The findings also point to the need for an enabling practice environment that includes supportive supervision and management, and addressing other concerns such as staff shortages, safety, infrastructure and availability of functioning equipment. Policy-makers are aware of these issues that the study provides with evidence of challenges at the PHC clinic level. Addressing these issues requires additional financial resources and the current health system reforms provide a window of opportunity for concrete action.

Social marketing campaigns that raise awareness about the rights and responsibilities of users and providers will go some way towards addressing the concerns expressed regarding verbal abuse. Importantly, the study findings require dedicated effort to implement the recommendations of the 2013 strategic plan on nurse education, training and practice [11]. This plan contains recommendations on nursing education and training; resources in nursing; governance, leadership, legislation and policy; positive practice environments; and compensation, benefits and conditions of employment [11].

4.5.4 Health system reforms

Almost one third of our study respondents (29%) indicated that they were not aware of the current PHC re-engineering reforms in South Africa. The open-ended comments suggest that PHC nursing managers feel left out of current health system reforms and feel that information is passed down to them without consultation. Although the notion of job satisfaction is subject to individual interpretations [312] or other cultural biases, the moderate levels of job satisfaction could be linked to a series of reforms in the health system, notably at PHC level. This result is not unique to South Africa as evidence shows that health system reforms in the Africa region [313] or elsewhere [314] tend to expand or extend the roles of health workers, but are often imposed on health workers without their inputs or with insufficient discussion, thereby affecting job satisfaction and/or health service delivery. Existing evidence suggests that shared governance and leadership and health worker inclusion in the development of policies and strategies is an important aspect that positively influences job satisfaction and retention of nursing managers [315].

Policy-makers in all the countries, but particularly those with health workforce shortages in LMICs, should acknowledge that job satisfaction of nursing managers is an important aspect of staff retention. A previous Canadian study among hospital employees that focused on restructuring of hospitals and its effect on job satisfaction reported poor levels of job satisfaction [316]. Other studies have also noted that high levels of job satisfaction are likely to enhance retention, influence the quality of care and contribute to the success of health system reforms towards universal coverage [37, 137].

The study yields important information, but the findings are not generalizable to all PHC nursing managers in South Africa. Gauteng is a well-resourced urban province, while Free State has both urban and rural characteristics. Both provinces have relatively good PHC facility infrastructure and staffing levels. This is in contrast to rural provinces of South Africa that suffer from major financial and human resource constraints. Hence, PHC nursing managers in these rural provinces may experience lower levels of overall job satisfaction, and have lower scores on the seven subscales. We were also unable to show statistically significant differences between rural and urban clinic nurse managers because of the relatively small sample size. These limitations are not specific to our study but are a general indication of human resource studies in Africa that are often based on small numbers of health care professionals. Substantial funding is required to obtain bigger and more representative

samples to carry out longitudinal studies using the MJS tool that will inform additional and effective health workforce strategies in LMICs.

Nonetheless, there are many study strengths. The use of the MJS tool with high reliability and validity in an African setting and exploring the association between positive practice environments and job satisfaction is novel. The overall job satisfaction scores and for each of the subscales provide a basis for future comparisons with a national, more representative sample of PHC nursing managers, as well as with other LMICs. Combining a pre-tested instrument with the opportunity for *verbatim* comments from participants is a strength and provides insights into the issues that influence the job satisfaction scores in the two provinces. The high response rate in the survey is also a strength and allows for the study findings to be generalized to other nursing managers in the two provinces. The option of a self-administered questionnaire provided participants with greater privacy and is likely to have limited social desirability bias. The concurrent measurement of job satisfaction and the predictors of job satisfaction provide useful information to plan nurse retention strategies in PHC clinics. The research identifies key issues that influence the job satisfaction of PHC nursing managers', notably working in a clinic of choice; exhaustion (a proxy for workload) and verbal abuse. These issues have not featured high on health workforce policies or strategies, and could be used to inform these, both in South Africa and in other LMICs. At the same time, larger, national representative studies are needed to confirm these predictors of job satisfaction. In light of the envisaged seminal role of nurses in reforms towards universal health coverage, the complex and multiple issues raised by nursing managers would need to be addressed to ensure the successful implementation of these reforms. The study findings will be used for a policy brief requested by an advisor in the South African Ministry of Health.

4.5.5 Conclusion

There is renewed attention globally on universal health coverage and the importance of the health workforce in achieving this goal. This study highlights the job satisfaction challenges faced by nursing managers at the PHC level. The predictors of nursing managers' job satisfaction were the ability to choose the clinic to work in, feeling too tired to work whilst at work and experiencing verbal abuse. Our findings highlight the need for policy-makers to create positive practice environments that encourage flexibility and that aim to prevent workplace violence. Staff retention is important to break the cycle of turnover, while additional staffing will deal with complaints about workloads that contribute to feelings of

exhaustion among managers. The success of health system reforms, both locally and internationally, are dependent on addressing the challenges faced by the nursing workforce. Our study provides useful information and recommendations in order to make a difference.

4.5.6 Competing interest

The authors declare no conflict of interest, financial or otherwise.

4.5.7 Authors' contributions

Pascalia Munyewende (PM) participated in the conceptualisation of the study, led the field work, conducted the literature review, performed the initial analysis, interpreted the results and wrote initial drafts of the manuscript. Laetitia Charmaine Rispel (LCR) is Principal Investigator who conceptualised and designed the multi-year research project, and she is PM's PhD supervisor. LCR contributed to the writing, interpretation of study findings and revision of the manuscript. Tobias Chirwa (TC) assisted with the analysis of study findings and contributed to the writing and revision of the manuscript. All authors revised, read and approved the final manuscript.

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CHAPTER 5: USING DIARIES TO EXPLORE THE WORK EXPERIENCES OF PRIMARY HEALTH CARE NURSING MANAGERS IN TWO SOUTH AFRICAN PROVINCES

5.1 Introduction

PHC has re-occupied centre stage in the global efforts towards universal coverage and improved health system performance [48, 317]. Within this context, there is global recognition that competent managers are essential for ensuring that priority health needs are met, quality health services are delivered, and that resources are used effectively [94, 100, 318-320]. Health managers play a strategic role in planning, allocating resources, and monitoring health policy targets and outcomes [46, 100]. At an operational (hospital ward or clinic) level, managers are responsible for effective service delivery [46, 100].

South Africa is on the brink of another wave of major health sector reforms towards universal coverage that underscore the centrality of PHC [14, 273]. Nurses are the single largest category of trained health workers, and they play a crucial role in the current provision of PHC services and the management of the existing network of more than 3,000 government PHC clinics and community health centres [11]. The PHC re-engineering strategy is one of the major health sector reforms designed to improve population health outcomes and the performance of the health care system [11, 14]. These reforms acknowledge the critical role of nurses at the PHC level, both as members of multi-disciplinary clinical teams, and as managers of the community-based outreach teams and school health services [11, 77].

There is a plethora of literature on management and the different conceptual approaches to management [91, 321-324]. The management concept has also assumed increasing importance in the health sector [43, 325], with an entire WHO series focusing on different aspects of management strengthening [46, 48, 100, 319]. In the health sector, studies have focused on district health managers (i.e. individuals in-charge of an entire health district), and range from a description of socio-demographic characteristics of managers [100], their roles and responsibilities [100, 319, 326], relationships between district managers and their staff, through to assessments of their competencies [100, 319, 326-328]. The study findings suggest that there is a general lack of appreciation of managers as a critical component of the health workforce [100, 319, 326]. In South Africa, a national assessment of district management structures, competencies, and training programmes found several shortcomings, including

incomplete restructuring initiatives, over-extended staff, sub-optimal implementation of policies, and gaps in management competencies [326].

In terms of nurse managers, there have been several empirical studies that have examined the relationship between their management styles and the impact on staff job satisfaction and turnover, patient satisfaction, and quality of care [105, 179, 329-334]. These studies have found that transformational and supportive management styles of nurse managers result in lower nurse turnover and higher levels of job satisfaction, which in turn impact positively on patient outcomes [105, 179, 329-334]. However, all these studies have concentrated on hospitals, rather than on PHC facilities. In South Africa, there have been a number of studies that focus on nurses working at PHC facilities [41, 283, 335-338]. However, the majority of these tend to focus on registered nurses (with 4 years of training) who are the direct service providers [41, 283, 336-338], rather than on PHC clinic managers.

There are several reasons for focusing on PHC clinic nursing managers. Firstly, they are responsible for overseeing the strategic direction of health service delivery, and hence, they play a critical role in the implementation of any health sector reforms [46, 100]. Secondly, the literature suggests that effective operational management is positively associated with staff retention, levels of job satisfaction, and quality of patient care [105, 179, 329-334]. Thirdly, there is a dearth of information on the perspectives of PHC nursing managers, how they experience or reflect on their work and their practice environment. The aim of this study, therefore, was to explore PHC nursing managers' work experiences, particularly the successes, challenges or ambiguities faced by them, thereby contributing to recommendations for enhancing management and performance of the health system at the PHC level.

5.2 Research methodology

5.2.1 Study setting

The diary study was carried out in Gauteng (GP), an urban province, and Free State (FS), a mixed urban-rural province, as part of a larger doctoral study that included a job satisfaction survey [41]. These two provinces were chosen due to geographical proximity to the researchers, budgetary constraints, and prior approval from the health service authorities.

5.2.2 Ethical considerations

The study was approved by the University of the Witwatersrand's Human Research Ethics Committee (Medical), as well as the relevant provincial and municipal health authorities. The researchers adhered to standard ethical procedures, including detailed participant information sheets, informed consent, and ensuring confidentiality of information.

5.2.3 Population of interest

The population of interest was professional nurses (with 4 years of training) in charge of 8-hour (day) PHC clinics. These clinics serve catchment populations that range from 10,000 to 180,000 (J. Hunter, personal communication, 2014). The clinics provide preventive services (e.g. immunisation, family planning, and antenatal care), basic curative care for acute and chronic conditions, health promotion, and community outreach services.

5.2.4 Sampling, recruitment, and data collection

During 2012, a sub-set of 22 nursing managers, 10 in FS and 12 in GP, was selected randomly from an overall survey sample of 111 PHC nursing managers in charge of these 8-hour clinics [41]. The details of the job satisfaction survey have been described elsewhere [41].

The event-contingent diary method was used, as participants were asked to record an event that answers a specific research question [339]. In our study, we were interested in the qualitative experiences of PHC nursing managers - their successes, challenges, and ambiguities - in the workplace. The reason for the selection of diaries over traditional methods such as in-depth interviews was that it enabled the research team to obtain temporal and/ or spontaneous information on work events and nursing manager experiences in the PHC clinic context [340]. The diaries also allowed for confidentiality and unguarded responses that are not possible with face-to-face interviews.

Each selected clinic nursing manager was given an information sheet and the voluntary nature of study participation was explained to them. Following informed consent, the diary entry guidelines were explained verbally to each nursing manager. The selected clinic manager was then given an attractive diary, with the guidelines pasted in the front of the diary. Participants were assured of confidentiality and asked not to write their names in the diary.

Each manager was requested to write once a week for a period of 6 weeks about an event that happened at the clinic and that stood out for him/her. Once a week was considered reasonable and realistic for nursing managers who work with limited human resources, and it was done to avoid getting limited or no data at all. Participants had to reflect on why they chose that event, how it made them feel, what they learned from it and what the implications were for their current or future management practice. Clinic managers were also asked to write down the date of the diary entry so that these could be counted during analysis. Participants were encouraged to see the diary as their own personal diary, and the researchers undertook to return the diary to them after completion of data capturing. Participant reminders consisted of mobile text messages and weekly telephone calls.

5.2.5 Data analysis

The diaries were collected from participants and were stored safely at the researchers' offices in Johannesburg. The diaries were assigned number codes to prepare for analysis and to ensure confidentiality when returning them to their owners. The diaries were also grouped by province to allow for qualitative comparisons.

The diary entries, hand-written in English by each nursing manager, were typed and saved as individual Microsoft Word documents. During data capturing, we noted that diary entries were longer and more detailed in the first week and shorter in subsequent weeks.

The diary entries were analysed using thematic content analysis [295]. The first step in the analysis was to look at participants' own words and phrases and without preconceived notions or classification. We then examined the language used by each participant in light of the following questions: What do the responses tell us about the experiences, feelings and perspectives of PHC nursing managers? What is emerging about the nature and dynamics of PHC nursing management? What is the 'lived' reality of PHC clinic managers' work experiences?

To ensure reliability, two researchers (an experienced qualitative researcher with health system experience and a nurse academic) participated in the development of the themes by reading the diary entries independently from the first researcher in order to establish inter-coder agreement [295, 296]. Once the initial analysis was completed, the team met to discuss the themes generated independently, and to reach agreement on the themes and sub-themes (Table 5.1). Once agreement was reached on the themes, the diary entries were grouped into

the various themes [295]. Following the generation of themes, a diary feedback meeting was held with PHC clinic nursing managers. They were asked to comment on the themes, whether the themes represented their work experiences, and to reflect on whether the results obtained represented their working experiences. The feedback meeting provided space for reflectivity and ensured the credibility of the research findings. After the meeting, the diaries were returned to participants.

Table 5.1: Diary entry themes

Theme	Description
Health system deficiencies	• Complaints about emergency medical services (EMS) • Poor referral system • Shortages of medicines or consumables
Human resources challenges	• Shortages of all categories of staff (e.g. nurses, pharmacists, cleaners) • Staff absenteeism • Avoidable mistakes by staff, insubordination, or lack of professionalism
Unsupportive management environment	• Negative remarks made by clinic supervisor • Tension between supervisor and other district-level managers • Poor communication (from supervisor or about meetings) • Delays in responding to requests for additional staff • Failure to honour appointments • Demands for health information (monthly statistics, information for research and/or monitoring, and evaluation purposes)
Leadership and governance	• Lack of strategic planning • Tensions between clinic manager and staff or senior managers • Lack of delegation and authority (e.g. of the budget) • Difficulties in managing staff or their performance
Emotional impact of clinic management	• Feeling scared, tense, being overwhelmed, feeling abused, burnout, exhaustion, frustration, anger, demotivation • Includes personal crises at work or at home • Patient, community or political complaints about service delivery • Perceived burden of urgent or unscheduled meetings • Getting positive feedback from clinic supervisors, or feeling supported • Sense of achievement or feeling happy

5.3 Results

Diary entries were all hand-written in English. Fifteen clinic nursing managers participated in the diary study, representing a 68% response rate (GP, n=10 and FS, n=5). The reasons cited for non-participation by the remaining seven clinic managers were: handing over the individual diary to the courier company who lost it (n=5), stolen diary (n=1) and lost diary during a motor vehicle accident (n=1).

The majority of diary participants were female, with only one male respondent. Close to half of the participants were between the ages of 41 and 50 years (45% n=10) and a similar number were above the age of 51 (45% n=10), and the remainder were in the 21-30 age group. Participants' work experience ranged from 5 to 15 years. The majority had been qualified as professional nurses for more than a decade and possessed a PHC clinical training qualification.

In general, the participants took a reflective approach in their diary entries. Although inter-related and not mutually exclusive, the themes that emerged from the diary entries were: health system deficiencies, human resource challenges, unsupportive management environment, leadership and governance, and emotional impact of clinic management. All the themes are shown in Table 15 and summarised separately for the sake of clarity.

5.3.1 Health system deficiencies

Diary entries revealed several health system deficiencies. These ranged from poor emergency medical services (EMS), shortage of medicines, to lack of an enabling environment for service delivery, such as lack of running water. These deficiencies contributed to the difficulties in managing the clinics, as can be seen from the diary excerpts below.

> *'This is not the first [EMS] incident, but it's definitely the worst in terms of time turnaround. ... A patient lost her life having waited for more than two hours for an ambulance. Unless the problem is resolved . . . more patients will complicate or die waiting for an ''emergency vehicle.' [Respondent 3, Gauteng Province]*

In some clinics in the FS, diary entries show that clinics would sometimes run out of water and this affected the functioning of the clinic. Managers pointed out that hand washing and other infection control measures were dependent on the availability of water. One FS clinic manager had sought support from the clinic supervisor and the municipality but the problem was not being addressed. Eventually, with support from the community, the clinic had obtained a large plastic water container, to serve as a contingency measure for lack of running

water. The example below shows the frustration of this FS nursing manager as she wrote about the lack of water as a recurrent problem:

> *'There is no water in the clinic for three consecutive days... How will you implement infection control and prevention principles when you work without running water for three days? The clinic gets water cuts frequently - almost every 2-3 weeks... [Respondent 1, Free State Province]'*

5.3.2 Human resource challenges

Human resource challenges were the second major theme that emerged, and the diary entries reflected the negative impact on their management activities. Nursing managers documented wide-ranging responsibilities, which include patient consultations, with an apparent disjuncture between their job descriptions and the actual roles they performed in the clinic. Staff shortages impacted on management functions, as managers had to perform clinical duties, in addition to the management functions. In those situations where a staff member was absent or there was a vacant post, nursing managers reported that they had to take on that role, for example, as a pharmacist to dispense medication. High rates of planned and unplanned absenteeism among nursing staff affected clinic operations, and exacerbated the difficulties of PHC clinic management.

> *'I came to work at 7:30 am today realising again nobody came to work. Some are off sick, some just phone to say they will not be coming. Staff shortages are a big problem. I tried to get help again. Nobody from the other clinic can assist. So I must see patients again. All my work is piling up and I did not attend to it yet because of the shortage of staff. Patients are more important than the paper work so I saw patients.' [Respondent 7, Gauteng Province]*.

Staff shortages also led to increased patient waiting times, and influenced motivation and performance and in some instances impacted on managers' health and well-being.

> *'My blood pressure was 156/102 and my glucose level 2.0 mmol/L, I was feeling dizzy and tired. I was unable to go to the doctor because that will mean only one professional will be left at the clinic with more than 100 patients. I never reported the shortage to anyone. The answers that we mostly receive when reporting shortages are ''where do you think we will get nurses, find one if you can'' that is why we do not report [staff] shortage problems'. [Respondent 3, Free State Province]*

'It was a hectic week, only three nurses on duty on Wednesday and Thursday. I was doing curative [care], adults and children at the same time and I was also busy with statistics in the office.' [Respondent 5, Gauteng Province]

The reported staff shortages were exacerbated by perceptions of disabling provincial policies (such as the moratorium on filling posts), staff absenteeism, and an unsupportive management environment.

5.3.3 Unsupportive management environment

The third major theme that emerged from the diary entries was perceptions of an unsupportive management environment. The challenges from effective supervision ranged from systemic constraints and a culture of hierarchical and vertical management that insisted on control rather than gaining collaboration from clinic managers. Clinic managers expressed their disillusionment with their supervisors, who were perceived to be uncooperative and who lacked an understanding of the difficulties faced by them.

'My supervisor brought an action plan with time frames. Some of the interventions are not realistic. The clinic was full and staff members were not enough. I was juggling from dispensary, [patient] consulting and solving patients' minor queries and attending to my supervisor. I feel that I had to give priority to my patients. It was not her [supervisor] visit day according to the schedule. I was disorganised and had to accommodate her …'[Respondent 1, Free State Province]

The majority of diary entries reflected the negative perceptions that PHC nursing managers had of their supervisors. Clinic managers expected constructive feedback and problem-solving from their supervisors but diary entries reflected the perceived disrespect, punitive behaviour and verbal abuse from supervisors:

'She [supervisor] said there would be no replacement as I only have one entry point in the clinic…she shouted at me that whether I agree or not, she is going to instruct my clerk to go to another clinic which she did…she was so rude and dropped the phone in my ear …'[Respondent 1, Gauteng Province]

The clinic supervisors often made unannounced or unplanned visits to the clinics. On one occasion a FS supervisor did not keep the scheduled appointment, despite calling the clinic manager at her home and giving her instructions for the visit. Nursing managers also

complained that clinic supervisors had a top-down approach to supervision and were prescriptive of what needed to be done in the clinics. Supervisors appeared to be unresponsive to requests from clinic managers, especially about additional staff. The excerpt below gives a glimpse of an unpleasant experience of a GP clinic manager.

> *'I had informed the clinic supervisor a month prior to arrange someone for relief [staff] and she had promised to do so. Two weeks before and a week prior, I again reminded her and she still did not know who she was going to send to my clinic to relieve the PHC sister on leave…they sent me someone else whom I was only made aware of that morning. Another professional nurse from the clinic where the relief sister works called demanding that she returns back to her clinic (meanwhile there are four professional nurses in the same clinic)…harassing her that she should return to the clinic. When I checked on her she was tearful and threatening to resign. She found herself torn between wanting to assist at my clinic and being recalled back to her original clinic. This frustrated me even more…the pain…I realised I was… emotionally drained. I called my supervisor who at that time was actually changing from what she said…she now wanted the relief sister to go back to her original clinic while she searched for another one…I refused that the professional nurse leaves the clinic before the relief arrived. After two hours no one arrived. I called again…the nurse was restless and having her bag in hand and was on her way out. This really frustrated me…'[Respondent 2, Gauteng Province]*

The above quote reflects the unsupportive approach of clinic supervisors regarding staff shortages and the impact it has on the emotions of nursing managers.

5.3.4 Emotional impact of clinic management

The multitude of health system problems, human resource challenges, an unsupportive management environment and a range of other problems, coalesced in an overwhelming expression of negative emotions in the diaries, and revealed the emotional impact of PHC clinic management. In some instances, nursing managers wrote about 'incompetent' staff reporting to them, and the negative impact on their morale and family life. Importantly, the diary entries reflected the personal stress experienced by these managers at clinics.

> *'I was exhausted…I asked God why I had to come to work with such demotivated staff. I'm starting to hate my work. I know why they are demotivated…they couldn't get*

study leave, there is no performance management system, even though the population is increasing steadily. It's hard to work with demotivated staff because you must always follow after them for things to be done properly. The thing that hurts the most is that there is no support from coordinators of programmes. It's just complaints from patients then staff and from management. Nobody understands the depression we are going through.' [Respondent 5, Free State Province].

'[My] sleeping patterns are changed because one has to wake up in the early hours of the morning to catch up with administration and [to] meet deadlines. It does not mean one has poor time management but there is a lot of pressure that the manager is subjected to. Family life is also affected by this. Because you come home exhausted, household chores during the week become a challenge. I have sacrificed my weekends and public holidays in order to do my administration.' [Respondent 6, Gauteng Province]

PHC clinic managers were frustrated by poor communication from regional and provincial health managers, who often requested information at short notice or summoned them to unplanned meetings. Nursing managers reflected on the perceived burden of these unplanned meetings, despite careful planning on their part. They lamented the lack of control over their average working day as this could be interrupted by 'an urgent meeting':

'I was very upset on Wednesday. They called me and said there was an urgent meeting and all facility managers must attend. All my plans for the day messed up.' [Respondent 12, Gauteng Province].

'We were called for an urgent meeting whereby one of our colleagues was together with the supervisor questioning our Regional Health Manager's authority to delegate authority to us as operations managers. Assessing the whole deliberation, I realised that we were caught up in an ongoing misunderstanding and poor communication between the two senior managers…it causes paralysis…'[Respondent 9, Gauteng Province].

Despite the experience of negative emotions caused by an unsupportive management environment, health system deficiencies and unplanned meetings, clinic managers recognised their important role in health service delivery. They reflected on their responsibilities of: implementing health programmes in the clinic, managing human resources, liaising with community members and relevant stakeholders, and ensuring that clinic operations run smoothly. Notwithstanding the challenges experienced by nursing managers, the diary entries

suggest nursing managers who have great concern for patients and the quality of care delivered. One made the following diary entry:

> *'On that morning, the clinic was so full and there were many babies for immunisation and sick adults in the main hall. The passage leading to my office was packed! I had to ask 13 antenatal clients (three new cases) to wait inside the small fourth consultation room. I had to attend to family planning clients and to ARV initiation clients who need to be assessed and have their bloods taken for baseline, to TB patients who were collecting their medication and also referring one very sick (TB/HIV) patient which took almost an hour.' [Respondent 1, Gauteng Province]*.

> *'My ''little voice'' told me to check the BP (blood pressure) again - it was 240/160!! Severely, severely raised! Apart from now having to treat and refer a pre-eclamptic patient I also realised the terrible risk we take by relying on vital signs taken by a nursing assistant.' [Respondent 2, Free State Province]*.

Despite their crucial role at the PHC level, nursing managers indicated that they seldom receive positive feedback or feel appreciated in the health system. Three entries showed the appreciation of clinic managers when they received positive feedback from their managers or when they felt a sense of achievement:

> *'It was a clinic managers meeting where we were given feedback on programme performance for each clinic. I was told that our tuberculosis (TB) programme had improved since I allocated two professional nurses with the intention of making the programme a success.' [Respondent 13, Free State Province]*.

> *'I came on duty in my culture day dress and it was very nice. No problems this far. Two nurses did not pitch for work but clinic was not that full so I can do my work. I worked out the off duties and started on my report. It was a lovely day and I got all my things done.' [Respondent 12, Gauteng Province]*.

> *'I had local area meeting on Wednesday. I am feeling good because the manager mentioned that our clinic does the best we can with limited resources (staff). I am just glad she realises it'. [Respondent 1, Free State Province]*.

5.3.5 Leadership and governance

Some nursing managers reflected on feelings of disempowerment, and at times 'paralysis', caused by the lack of strategic planning at higher levels of the health system and the difficulties of managing staff reporting to them, the absence of teamwork and their perceptions of a general lack of caring and professionalism on the part of frontline nurses. They complained of the 'poor work ethic' among many nurses reporting to them, changing value systems, resistance to change, and lack of accountability. They also reflected on the importance of leadership in nursing given the constant changes in the healthcare system.

However, the diaries revealed that nursing managers do not hold the chain of command in clinics as this power resides with the clinic supervisor and in most instances with the district manager. The local area manager, who oversees several clinics, is responsible for the clinic budget. PHC clinic managers bemoaned the centralisation of the clinic budget, and their lack of control thereof, despite their responsibilities for the day-to-day management of the clinic. The clinic managers were often not consulted on spending priorities, despite compiling annual budget requests. One said the following:

> *'The budget is centralised, one has no power over it. The financial year comes and goes with little improvement . . . shortages of medicines occur because suppliers are not being paid.' [Respondent 1, Gauteng Province]*.

Clinic managers also receive instructions from doctors, pharmacists, social workers, and vertical health programme co-ordinators responsible for HIV or tuberculosis. All these combine to add further pressure on the clinic manager.

5.4 Discussion

This is one of the first studies to explore the work experiences of PHC nursing managers in two South African provinces using diaries as a research method. The major recurring themes in the diary entries were health system deficiencies, human resource challenges, and an unsupportive management environment - these problems are inter-related and contributed to the difficulties of working in or managing these PHC clinics.

PHC clinic managers expressed frustration with EMS problems and the unpredictable turnaround times, which in one case resulted in a seemingly avoidable patient death. Reliable EMS services have been found to be a critical component of health systems strengthening

[341]. These results were also borne out by the survey that examined whether these PHC clinics complied with the National Core Standards on health facilities. The latter found that the majority of clinics lacked vital category items needed to provide good quality of care (Chapter 6). The nursing managers both reacted and responded to the health system deficiencies in their own way, either by trying to cope with staff shortages or by responding creatively to the lack of water in rural clinics, through partnering with the local community. Other studies have also found that PHC clinic managers often balance operational management and service delivery to many patients amidst staff shortages in the health system [336-338]. Although the diary entry on the lack of running water in some FS clinics appears to be an isolated incident, the lack of running water at rural clinics is a common finding in national infrastructure assessments [191]. This influences the ability of nurses to comply with infection control standards in these rural clinics, and contributes to the sub-optimal performance of the health system.

The issues highlighted in the diaries resonate with health system deficiencies found in other studies [32, 336, 338, 342]. Staff shortages were highlighted in all diaries. The factors that appear to influence these shortages included provincial policies (such as a moratorium on filling of vacant posts), inadequate or poor planning on the part of clinic supervisors, and absenteeism of frontline staff. This meant that PHC nursing managers had to take responsibility for clinical duties often at the expense of their administrative or managerial duties. These results were confirmed in the job satisfaction survey which found that the majority of clinic managers in the Free State were concerned about suboptimal teamwork [41]. Although this diary study was small and qualitative, other studies have found that staff shortages have constrained South Africa's ability to achieve the strategic planning goals on HIV and AIDS [343] and the implementation of the services at PHC level [35, 337].

The reported staff shortages were made worse by nursing managers' perceptions of largely unsupportive supervisors. PHC nursing managers wrote about the lack of understanding, disrespect and at times verbal abuse from their supervisors. Experiences of verbal abuse were confirmed in the job satisfaction survey with the same managers [41]. Notwithstanding the existence of the detailed clinic supervision manual [65], there appears to be a disjuncture between the supervision guidelines in the manual and the clinic managers' diary reflections of an unsupportive management environment. For example, the manual states that: 'for the best provision of PHC in facilities, there should be a supervisor who facilitates good teamwork and promotes good working relationships among all the structures of the primary health care system, page 4 [65]. The lack of quality clinic supervision has been found in other studies as

well [147, 344]. Effective supervision of PHC clinics is a critical issue that needs to be addressed, given that health sector reforms include a wide range of community-based services and the inclusion of community health workers [32].

In light of the reported challenges experienced by PHC nursing managers, it is not surprising that the diary entries were dominated by an expression of negative emotions, which could be a symptom of the stress experienced by these managers. The job satisfaction survey found that PHC nursing managers had moderate levels of job satisfaction, influenced by the myriad of negative emotions that they felt at work [41]. In response to the question on how the recorded event made them feel, the most frequent responses were: exhausted and frustrated, angry, sad, burnt out, and demotivated. Being tired at work and the experience of verbal abuse were predictors of low job satisfaction of these nurses [41]. A study in Lithuania among PHC nurses also found that around 60% of nurses experienced negative emotions and resultant emotional stress [345]. The Lithuanian study further found that bullying and abuse by supervisors in the workplace caused stress and contributed to feelings of humiliation and disrespect [345]. Similarly, a study in Taiwan found that 25% of nursing managers were depressed: 30% suffered from anxiety and 44% suffered from poor quality of sleep leading to high levels of burnout and lower rates of retention [346]. Despite some of the negative emotions and experiences recorded in the diaries, overall, the entries reflect a commitment to providing quality care and a need to be acknowledged for their hard work.

There are limitations of this diary study, which was undertaken among a sub-sample of 22 PHC nursing managers. The majority of study participants were from GP, which is the economic powerhouse of South Africa. These clinics are likely to be much better resourced, compared to deep-rural clinics in other parts of South Africa. We had fewer diaries from the FS Province, due to the logistical problems experienced with the courier company. Hence, the study findings may not be transferrable to other PHC clinics in South Africa or elsewhere.

Nonetheless, the findings from the diary study are borne out by the findings of national health system assessments which have highlighted health system deficiencies, human resource challenges and supervision and management problems at the PHC level [32, 342]. The diaries are an innovative method of capturing the nature and dynamics of nursing management, as the method allows for confidentiality and anonymity, often not possible with individual interviews or focus group discussions. The diaries gave a voice to PHC nursing managers, facilitated greater self-awareness and allowed them to reflect on their management practices. Nursing managers reported that the diaries were cathartic, as it allowed them to say things that

no-one in authority could see or hear. In some instances, the diaries facilitated practical action with identified problems at PHC level, such as when one nursing manager communicated directly with the senior EMS manager after a patient had died. However, the use of diaries requires participant commitment and buy-in, as well as good preparation and initial piloting prior to implementation. It is important to ensure that study participants understand the study objectives and the guidelines for keeping a diary. The success of diary studies depends on regular communication with participants through constant reminders to ensure compliance and maintain the interest of the respondents.

The diary entries have given a glimpse into the difficulties of policy implementation at the local level, from the perspective of PHC nursing managers. These managers give effect to high-level government policies as they are at the interface of community members (and patients) and the formal health system. The PHC nursing managers are expected to manage the bulk of PHC reforms. Their experiences of disempowerment and paralysis need to be addressed through a participatory and inclusive approach, which could simply mean eliciting their views and opinions regarding prerequisites and implementation strategies. This is important because they have to mediate or manage complex health system problems, while ushering in the proposed reforms.

The human side of the managers found expression in a deluge of negative emotions recorded in the diaries. This study has shown that relationships matter and that how they are managed has an impact on how services are delivered or managed. The diary study has also illustrated the resilience among PHC nursing managers and their strategies for coping with a sub-optimal health care system in order to provide adequate care to patients or users. Inflexible hierarchies or policies (e.g. around staff recruitment) appear to make clinic work more onerous, with potential negative consequences for patients and clinic managers. Nursing managers are also curtailed by the centralisation of budget control, and they have to rely on supervisors who do not seem to know how to communicate effectively with them. An evaluation of the competencies of the same clinic managers found that they lacked financial management competencies and did not have control over the clinic budget (Chapter 7). This lack of delegation of authority, particularly of the clinic budget, exacerbated the reported health system deficiencies. The sense of disempowerment and paralysis experienced by PHC clinic managers was illustrated by the many negative emotions recorded in all the diaries. The relationship between the inability to manage or control the budget and feelings of disempowerment was also found in a 2008 assessment of district managers [326].

Although this was a small, qualitative study, the realities experienced by nursing managers point to issues that need to be addressed as part of the universal health coverage reforms in South Africa. Firstly, efforts to improve the performance of the health system must be comprehensive and recognise that PHC revitalisation must be accompanied by effective and efficient EMS, and appropriate delegation of authority. Secondly, chronic staff shortages require creative strategies, and there appears to be room for improved performance management to reduce staff absenteeism. Thirdly, there are clear guidelines for supportive clinic supervision, which appear to be largely ignored at present. Supervisors may need to be reoriented to the guidelines or receive additional training to enhance their supervision skills. Clinic managers have long experience in the health services, and the health system needs to find a way of harnessing their wisdom in support of current health reforms. Lastly, the identified challenges need to be addressed by policy-makers working together with managers at all levels of the health system, given that health system reforms will create different work demands and diverse experiences for nursing managers.

5.5 Conclusions

This study has highlighted the work experiences of PHC nursing managers, using diaries, a hitherto under-utilised research instrument. The PHC clinic managers' negative emotions expressed in the diaries have the potential to affect or derail health system reforms, as demoralised PHC nursing managers are unlikely to be champions for change or be committed to such change. At the same time, the PHC nursing managers who participated in the study highlighted the importance of sufficient numbers of health workers, supportive supervisors, and optimal functioning of the health system. The current reform process of South Africa's healthcare system provides a golden opportunity for policy-makers to address the root causes of health system inefficiencies in a participatory manner and through the creation of enabling work environments. To this end, the critical role of the health workforce requires much more attention than is currently the case. Addressing the challenges identified in the work experiences of PHC nursing managers would go a long way in ensuring the successful implementation of health sector reforms.

5.6 Author contributions

Pascalia Munyewende (PM) participated in the conceptualisation of the study, led the field work, conducted the literature review, performed the initial analysis, interpreted the results

and wrote initial drafts of the manuscript. Laetitia Charmaine Rispel (LCR) is Principal Investigator who conceptualised and designed the multi-year research project, and she is PM's PhD supervisor. LCR contributed to the writing, interpretation of study findings and revision of the manuscript. All authors revised, read and approved the final manuscript.

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CHAPTER 6: DO PRIMARY HEALTH CARE CLINICS IN TWO SOUTH AFRICAN PROVINCES COMPLY WITH THE NATIONAL CORE STANDARDS?

6.1 Introduction

There is global recognition that health care quality improvement initiatives are an important component of health system strengthening [46, 347, 348] which in turn contributes to population health outcomes [349]. Quality is conceptualised at two levels, firstly, quality of the health system as a whole and secondly, as a component of its resources and activities in relation to compliance with standards [205, 350]. The second level views quality as a set of functional variables that can be defined, measured and improved. Although there are many different definitions of quality [349, 350], in this paper it refers to the degree to which health service resources correspond to specified standards [205].

In recent years, there has been emphasis on the relationship between quality of care and health care infrastructure, such as hospitals and clinics [188, 347, 348]. This is because health facility compliance to recognised standards influences the quality and efficiency of service delivery for health service users and provides indicators of risk for care provision [351]. The compliance of health care facilities to minimum safety standards is also seen as a critical component of health systems strengthening as well as good patient outcomes [188].

South Africa has embarked on universal healthcare coverage reforms to improve access, efficiency and quality of care [352]. The compulsory accreditation and compliance with norms and standards for health facilities have gained critical currency in health care reforms [353, 354]. In 2014, the OHSC was established as an independent quality of care regulator to protect and promote the health and safety of health service users, through the effective management of patient complaints and the enforcement of compliance to prescribed norms and standards [206].

There is a significant body of literature on quality of care assessments, which include regulatory inspection or assessment, patient satisfaction surveys, statistical indicators and donor sponsored assessments [188, 216, 349, 355, 356]. Regulatory inspection or assessments in health care facilities [357] are typically done to determine compliance with norms and standards, and assist with recognising best practice across health systems and facilities [358].

Several facility assessments have been done in high income countries [359]. Some of the assessments have assisted with monitoring of compliance, identifying and prioritising risks, and helping staff to understand the importance of complying with standards and regulations [203, 359].

In LMICs like India [351], Kenya [356] and Tanzania [188, 360] compliance assessments have been done to obtain baseline information on facilities' compliance to healthcare standards and to determine the implementation of national health insurance schemes. Compliance assessments have informed the improvement and refurbishment of infrastructure, and the provision of functional equipment and physical patient consultation space to enhance service delivery for reproductive health and HIV&AIDS programmes [351]. Infrastructure audits and classification of facilities into risk categories have also been conducted to prepare for health system reforms that seek to improve access to quality health services [39]. However, the standards and compliance measures conducted in these countries did not use a standardised methodology, thus limiting the comparability of the results.

In South Africa, revisions to need norms for PHC services have been done [361]. Health facility assessments in the past two decades [39] have informed the building of new hospitals or clinics, and the upgrading or maintenance of health care facilities [38, 39, 191]. The Council for Health Service Accreditation of Southern Africa (COHSASA), a voluntary accreditation body, has conducted ad hoc quality assessments of hospitals' compliance with health standards [358]. In 2010, the South African Government published the NCS which consist of seven domains: patient rights, safety, clinical support services, public health, leadership and corporate governance, operational management, and facilities and infrastructure [206]. The NDoH, has since 2011 conducted inspections and quality audits of numerous health facilities including primary health care (PHC) clinics, focusing on cleanliness, infection control, attitudes of staff, safety and security of staff and patients, waiting times and drug stock-outs, to determine their compliance to the standards [362]. In 2014, with the establishment of the OHSC, compliance with the regulated norms and standards has become mandatory [363].

One of the gaps in the literature is that compliance assessments tend to focus on hospitals, rather than on PHC facilities [351, 364]. The importance of PHC is underscored in the universal health coverage reforms at a global level, including in South Africa. PHC clinics are the gateways for patients seeking health care services, and it is critical that they comply with quality standards. In light of the global emphasis on quality of care and the role of

infrastructure in achieving such quality, this study examined whether PHC clinics in two South African provinces complied with the NCS. A secondary objective of the study was to determine the factors that influence compliance of clinics with the NCS. The research is part of a doctoral study that focuses on the nature and dynamics of nursing management at the PHC level [41, 365].

6.2 Methods

6.2.1 Ethics statement

The University of the Witwatersrand's Human Research Ethics Committee granted study ethics approval [Certificate number – M120248]. Study permission and health facility access was also obtained from the relevant health care authorities in Gauteng and Free State provinces. The study's voluntary nature, confidentiality and anonymity were assured at each health facility.

6.2.2 Study setting

During 2012, a cross-sectional study was conducted in 110 PHC clinics in Gauteng (GP n=66) and Free State (FS n=44) Provinces of South Africa [41]. The selection of these two provinces was purposive and influenced by budgetary constraints, prior health authority approval and geographical proximity to the researchers [41]. The 110 clinics were part of a larger doctoral study focusing on PHC nursing managers [41]. The selected clinics operate for eight hours a day and offer scheduled range of services including: antenatal, mother and child care, Expanded Programme on Immunisation (EPI), family planning, sexually transmitted infections (STIs), tuberculosis (TB), and chronic disease services for diabetes, hypertension and HIV&AIDS.

6.2.3 Development of the facility checklist

Following a review of relevant literature [188, 206, 349, 360], a facility checklist comprising 136 elements was developed. Every clinic could either obtain a 'yes' response (compliance) or 'no' response on each of the items in the facility checklist. The elements in the checklist were proxies of the seven domains (Table 6.1) covered and defined in the NCS [206]. The NCS were developed over a three to five-year process that included pilot testing of the

standards in several health facilities in different provinces. Subsequent to the pilot and in consultation with multiple health sector stakeholders, revisions to the standards included a risk-based approach that took account of the South African context. The NCS compare well with those in the few countries where quality of care is regulated. The domains are cross-cutting and dependent on each other, and specify what is expected in terms of quality for clinics. They also identify aspects of service delivery where quality or patient safety is at risk [206]. Table 6.1 shows the number and examples of elements in each of the seven domains of the NCS, used to measure compliance.

Table 6.1: Checklist domains

Domain	Definition
Patients' Rights	Clinics to respect and uphold patients, including accessing needed care, and getting dignified attention in acceptable and hygienic environments
Patient Safety / Clinical Governance / Clinical Care	Clinics to ensure quality nursing and clinical care and ethical practice; reduce unintended harm to health care users. Identify clinical risk; prevent adverse events, health care associated infections; and support affected patients or staff
Clinical Support Services	Clinics should provide clinical care, medicines, diagnostic, therapeutic medical technology, and systems to monitor the efficiency of the care to patients
Public Health	Health facilities should work with NGOs, health care providers, local communities and relevant sectors, to promote health, prevent illness and reduce further complications and offer integrated quality care to the community, including during disasters
Leadership and Corporate Governance	Strategic direction by senior management and supervisory support structures through proactive leadership, planning and risk management and clinic committees
Operational Management	Every day clinics should deliver safe and effective patient care, manage human resources, finances, assets and consumables, records and information about the provision of PHC scheduled services
Facilities and Infrastructure	Clinics should offer clean, safe and secure physical infrastructure, functional services; and effective waste disposal

The checklist was pilot tested in three clinics similar to those in the study sample and no adjustments were necessary. After pilot testing, to determine validity and reliability of the checklist, we used Cronbach's alpha (CA) coefficients in STATA® 13 to assess the various elements in the questionnaire and 0.8 or (80%) was obtained signifying high internal consistency.

6.2.4 Data collection

Following approval and informed consent, the researcher accompanied by a professional nurse (with at least four years of training) conducted a two-and-a-half hour walk through of each clinic, and completed the 136 item checklist. This was complemented by an interview with the PHC clinic manager and the completion of a self-administered questionnaire by the same manager, which collected information on demographic information, and pre-tested measures of job satisfaction. Prior to leaving the facility, the researcher ensured that all fields were completed and that there were no missing values in the completed checklist.

6.2.5 Data management and analysis

Once data collection was completed, the checklists were entered into a Microsoft Excel spreadsheet. The completed data set was then exported into STATA® 13. Our analysis was done in three phases: development of risk categorisation, descriptive analysis; and multivariate analysis to test for associations between variables.

The first phase was to develop the risk categorisation of the items in the checklist. Checklist items were categorised into three groups: vital, essential and developmental, and linked to the domains of the NCS. Vital elements are those that promote the safety of patients and staff to prevent unnecessary harm or death. The checklist contained 39 vital elements spanning patient rights, cleanliness, availability of medicines, ambu-bags, electricity, water etc. Essential elements are those necessary to provide safe, decent and quality health care with the available resources. This category consisted of 91 elements, (Table 6.2), while developmental measures had seven items reflecting the aspirational qualities that health facilities need to have in order to deliver the best care. The categorisation of the checklist elements was verified by a health systems and quality expert who assisted with the development of the NCS.

A composite compliance score was computed for all clinics from the factor analysis and this was broken down by risk categorisation (vital, essential and developmental); domain (see Table 16), and by province. Once categorisation was complete, descriptive analysis was conducted to determine clinic compliance with the NCS. Clinic scores were categorised into four bands as follows: 0-49%, 50-64%, 65-79%, and 80%-100%.

The Pearson's Chi-Square test was used to test for associations between pairs of categorical variables. Student t-tests were used to determine significant differences in compliance scores

between the two provinces. The *Mann-Whitney U-test* was used to check whether the observations for ordinal variables had identical distributions in those instances when the data were not normally distributed. We also examined correlations between pairs of continuous variables in the job satisfaction survey and vital category measures using the Pearson's correlation coefficients. All tests were conducted at 5% significance level.

6.3 Results

6.3.1 Vital category

A 100% response rate was achieved (n=110 clinics, n=66 GP and n=44 FS). In the vital category, none of the clinics in GP or FS achieved 100% compliance, and only 18 (16.4%) achieved a score of 80% or more (range 53.8%-94.9%). The majority of clinics (47.3%); had experienced stock outs of at least one of the essential drugs like antiretrovirals, hypertension (40.9%), EPI Vitamin A (31.8%), antenatal care (17.3%), STIs (17.3%) and reproductive health (11.8%). Thirty three (30%) clinics had stock outs for all six, a further 27 (24.5%) for five drugs. Only six (5.5%) clinics had all drugs in stock. Selected clinics also scored poorly on entrances for people with disabilities (12.7%), fire extinguishers (30%), complete drug registers (26.3%), and back-up fridges (65.4%) or generators (82.7%). Some clinics also lacked staff training (19.1%) or comprehensive security (31.8%).

Table 6.2: Checklist categories

Vital category measures	Frequency (n=110)100%		GP Province		FS Province		P value
	No	Yes	No	Yes	No	Yes	
1. Clinic has disabled entrance	14 (12.7)	96 (87.2)	7 (10.6)	59 (89.4)	7 (16.0)	37 (84.0)	0.41
2. Clinic has clean toilets	20 (18.1)	90 (81.8)	16 (24.3)	50 (75.7)	4 (9.10)	40 (91.0)	0.04
3. Liquid soap in staff toilet	12 (10.9)	98 (89.0)	7 (10.6)	59 (89.4)	5 (11.4)	39 (88.6)	0.90
4. Clean counters and tables	6 (5.45)	104 (94.5)	3 (4.55)	63 (95.5)	3 (6.8)	41 (93.2)	0.6
5. Clinic floors free from dirt	15 (13.6)	95 (86.3)	8 (12.1)	58 (87.8)	7 (16.0)	37 (84.1)	0.57
6. Ambulance available	7 (6.36)	103 (93.6)	7 (10.6)	59 (89.4)	0 (0)	44 (100.0)	0.02
7. Referral system	7 (6.42)	102 (93.58)	6 (9.23)	59 (90.8)	1 (2.27)	43 (97.8)	0.14
8. Fire exit in clinic	13 (11.8)	97 (88.1)	5 (7.60)	61 (92.4)	8 (18.2)	36 (81.8)	0.09
9. Fire extinguisher	33 (30.0)	77 (70.0)	17 (25.8)	49 (74.2)	16 (36.4)	28 (63.4)	0.23
10. Fire hose reel	65 (59.0)	45 (40.9)	33 (50.0)	33 (50.0)	32 (73.0)	12 (27.0)	0.01

11. Easy to reach fire extinguishers	33 (30.0)	77 (70.0)	1 (1.52)	65 (98.5)	1 (2.27)	43 (97.7)	0.77
12. Contaminated waste disposal	3 (2.73)	107 (97.2)	3 (4.55)	63 (95.5)	0 (0)	44 (100.0)	0.15
Vital category measures	**Frequency (n=110)100%**		**GP Province**		**FS Province**		**P value**
	No	**Yes**	**No**	**Yes**	**No**	**Yes**	
13. Sharps containers	3 (2.73)	107 (97.2)	2 (3.03)	64 (96.7)	1 (2.27)	43 (97.7)	0.81
14. Oral rehydration	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
15. Intravenous infusion	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
16. Oxygen supply	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
17. Ambu-bag adult	8 (7.27)	102 (92.7)	1 (1.52)	65 (98.5)	7 (15.6)	37 (84.1)	0.01
18. Ambu-bag children	14 (12.7)	96 (87.3)	1 (1.52)	65 (98.5)	9.(20.5)	35 (79.5)	0.04
19. Scheduled Medicines in locked cupboard	8 (7.34)	101 (92.6)	6 (9.23)	59 (90.7)	2 (4.55)	42 (95.5)	0.35
20. Complete drug register	29 (26.3)	81 (73.6)	18 (27.3)	48 (72.7)	11 (25.0)	33 (75.0)	0.79
21. Reproductive drugs stock out	97 (88.2)	13 (11.8)	57 (86.4)	9 (13.6)	40 (90.9)	4 (9.10)	0.46
22. STI drugs stock out	91 (82.7)	19 (17.3)	51 (77.3)	15 (22.7)	40 (90.9)	4 (9.10)	0.06
23. ANC drugs stock out	91 (82.7)	19 (17.3)	53 (80.3)	13 (19.7)	38 (86.4)	6 (13.6)	0.41
24. EPI Vitamin A drugs stock out	75 (68.2)	35 (31.8)	37 (56.1)	29 (43.94)	38 (86.4)	6 (13.6)	0.01
25. Chronic drugs stock out	65 (59.1)	45 (40.9)	29 (43.94)	37 (56.1)	36 (81.8)	8 (18.2)	0.01
26. ART stock out	58 (52.7)	52 (47.3)	24 (36.4)	42 (63.6)	34 (77.3)	10 (22.7)	0.01
27. Refrigerator	84 (76.4)	26 (23.6)	50 (75.7)	16 (24.3)	34 (77.3)	10 (22.7)	0.88
28. Fridge thermometer	36 (32.7)	74 (67.3)	15 (22.7)	51 (77.3)	21 (47.7)	23 (52.3)	0.01
29. Backup fridge	72 (65.5)	38 (34.5)	37 (56.1)	29 (43.7)	35 (79.5)	9 (20.5)	0.01
30. No expired drugs	7 (6.36)	103 (93.6)	3 (4.55)	63 (95.5)	4 (9.10)	40 (90.9)	0.33
31. PHC statistics report	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
32. Notifiable medical conditions	1 (0.91)	109 (99.1)	1 (1.52)	65 (98.5)	0 (0)	44 (100.0)	0.41
33. Visit by Clinic Supervisor	1 (0.91)	109 (99.1)	1 (1.52)	65 (98.5)	0 (0)	44 (100.0)	0.41
34. Staff training	21 (19.2)	89 (80.9)	10 (15.1)	56 (84.9)	11 (25.0)	33 (75.0)	0.19
35. Comprehensive security	35 (31.8)	75 (68.2)	10 (15.2)	56 (84.8)	25 (56.8)	19 (43.2)	0.01
36. Electricity	3 (2.73)	107 (97.3)	2 (3.03)	64 (96.7)	1 (2.27)	43 (97.7)	0.81
37. Electrical interruption	78 (70.9)	32 (29.1)	48 (72.7)	18 (27.3)	30 (68.2)	14 (31.2)	0.60
38. Generator	91(82.7)	19 (17.3)	51 (77.3)	15 (22.7)	40 (91.0)	4 (9.09)	0.06
39. Water	0 (0)	110 (100)	0 (0)	66 (100.0)	0 (0)	44 (100.0)	

Essential measures							
40. People with disabilities can move independently	15 (13.6)	95 (86.3)	8 (12.1)	58 (87.9)	7 (16.0)	37 (84.0)	0.57
Vital category measures	**Frequency (n=110)100%**		**GP Province**		**FS Province**		**P value**
	No	**Yes**	**No**	**Yes**	**No**	**Yes**	
41. Separate toilet for people with disabilities	59 (53.6)	51 (46.3)	29 (44.0)	37 (56.1)	30 (68.2)	14 (31.2)	0.01
42. Clean flush toilets for patients	3 (2.7)	107 (97.2)	3 (4.55)	63 (95.5)	0 (0)	44 (100.0)	0.15
43. Liquid soap in patient toilets	44 (40.0)	66 (60.0)	25 (37.9)	41 (62.1)	19 (43.2)	25 (56.9)	0.57
44. Disposable paper towels in patient toilets	57 (51.8)	53 (48.1)	33 (50.0)	33 (50.0)	24 (54.5)	20 (45.5)	0.64
45. Clinic has staff toilet	1 (0.9)	109 (99.0)	1 (1.52)	65 (98.5)	0 (0)	44 (100.0)	0.41
46. Disposable paper towel in staff toilet	20 (18.1)	90 (81.8)	13 (19.7)	53 (80.3)	7 (16.0)	37 (84.1)	0.61
47. New patient cards in clinic	21 (19.0)	89 (80.9)	11 (16.7)	55 (83.3)	10 (22.7)	34 (77.3)	0.42
48. Patient carry card system	4 (3.64)	106 (96.3)	3 (4.55)	63 (95.5)	1 (2.27)	43 (97.8)	0.53
49. Monthly transport plan in clinic	76 (69.0)	34 (30.9)	50 (75.6)	16 (24.2)	26 (59.1)	18 (40.1)	0.06
50. Referral feedback system	46 (42.2)	63 (57.8)	33 (50.1)	32 (49.2)	13 (29.5)	31 (70.5)	0.02
51. Referrals in last month	10 (9.09)	100 (90.9)	5 (7.59)	61 (92.4)	5 (11.4)	39 (88.6)	0.49
52. Feedbacks on referrals in last month	78 (70.9)	32 (29.0)	49 (74.2)	17 (25.8)	29 (65.6)	15 (34.1)	0.34
53. EDL guideline for adults	0 (0)	110 (100.0)	0 (0)	66 (100.0)	0 (0)	44 (100.0)	
54. EDL guideline for children	5 (4.55)	105 (95.4)	5 (7.60)	61 (92.4)	0 (0)	44 (100.0)	0.06
55. Safe motherhood guideline	5 (4.55)	105 (95.4)	4 (6.10)	62 (93.9)	1 (2.27)	43 (97.7)	0.35
56. HIV guideline for adults	0 (0)	110 (100.0)	0 (0)	66 (100.0)	0 (0)	44 (100.0)	
57. HIV guideline for children	3 (2.73)	107 (97.27)	2 (3.03)	64 (96.7)	1 (2.27)	43 (97.7)	0.81
58. Hypertension guideline	1 (0.91)	109 (99.0)	1 (1.52)	65 (98.5)	0 (0)	44 (100.0)	0.41
59. Diabetes guideline	2 (1.82)	108 (98.1)	1 (1.52)	65 (98.5)	1 (2.27)	43 (97.7)	0.77
60. No smoking policy	21 (19.0)	89 (80.9)	15 (22.3)	51 (77.3)	6 (13.6)	38 (86.4)	0.23
61. Emergency alert for clinic users	37 (33.6)	73 (66.3)	22 (33.3)	44 (66.7)	15 (34.1)	29 (65.6)	0.93
62. Number of fire exits	10 (9.09)	100 (90.91)	5 (7.60)	61 (92.4)	5 (11.4)	39 (88.6)	0.49
63. Sluice room	44 (40.0)	66 (60.0)	30 (45.5)	36 (55.5)	14 (31.8)	30 (68.2)	0.15
64. Consulting rooms	0 (0)	110 (100)	0 (0)	66 (100.0)	0 (0)	44 (100.0)	
65. Wash basins	6 (5.45)	104 (94.5)	4 (6.10)	62 (93.9)	2 (4.55)	42 (95.5)	0.73
66. Diagnostic lights	25 (22.7)	85 (77.3)	13 (19.8)	53 (80.3)	12 (27.0)	32 (73.0)	0.35
67. HIV test kit	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
68. Condoms in clinic	0 (0)	110	0 (0)	66	0 (0)	44	

		(100.0)		(100.0)		(100.0)	
69. Quality testing kit	3 (2.75)	106 (97.25)	1 (1.54)	64 (98.5)	2 (4.55)	42 (95.5)	0.346
Vital category measures	**Frequency (n=110)100%**		**GP Province**		**FS Province**		**P value**
	No	**Yes**	**No**	**Yes**	**No**	**Yes**	
70. Sputum bottles	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
71. Sputum turnaround	18 (16.5)	91 (83.5)	12 (18.5)	53 (81.5)	6 (13.6)	38 (86.4)	0.50
72. Specimen register	5 (4.55)	105 (95.4)	5 (7.58)	61 (92.4)	0 (0)	44 (100.0)	0.06
73. Follow up specimen register	2 (1.82)	108 (98.2)	0 (0)	66 (100)	2 (4.55)	42 (95.5)	0.08
74. Baunometer	2 (1.82)	108 (98.2)	0 (0)	66 (100)	1 (2.30)	43 (97.7)	0.77
75. Stethoscope	1 (0.91)	109 (99.1)	0 (0)	66 (100)	0 (0)	44 (100.0)	0.41
76. Adult scale	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
77. Baby scale	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
78. Glucometer	2 (1.82)	108 (98.2)	0 (0)	66 (100)	1 (2.30)	43 (97.7)	0.77
79. Haemoglobinometer	10 (9.17)	99 (90.8)	6 (9.23)	59 (90.7)	4 (9.10)	40 (90.9)	0.98
80. Eat, nose and throat set	2 (1.82)	108 (98.2)	0 (0)	66 (100)	1 (2.30)	43 (97.7)	0.77
81. Pharmacist	91 (82.7)	19 (17.3)	61 (92.4)	5 (7.58)	30 (68.2)	14 (31.8)	0.01
82. Pharmacy	2 (1.82)	108 (98.2)	1 (1.52)	65 (98.5)	1 (2.30)	43 (97.7)	0.77
83. Expired stock record	7 (6.36)	103 (93.6)	6 (9.10)	60 (90.9)	1 (2.30)	43 (97.7)	0.15
84. Drugs packed by FEFO principles	9 (8.18)	101 (91.8)	5 (7.58)	61 (92.4)	4 (9.10)	40 (90.9)	0.77
85. Safe and secure storage for drugs	1 (0.91)	109 (99.1)	0 (0)	66 (100)	1 (2.30)	43 (97.7)	0.21
86. Safe storage seen	2 (1.82)	108 (98.2)	0 (0)	66 (100)	2 (4.55)	42 (95.5)	0.08
87. Thermometer in middle of fridge	18 (16.4)	92 (83.6)	15 (22.7)	51 (77.3)	3 (6.82)	41 (93.2)	0.02
88. No Vaccines in fridge door	8 (7.27)	102 (92.7)	5 (7.58)	61 (92.4)	3 (6.82)	41 (93.2)	0.88
89. Medicines in fridge door	52 (47.3)	58 (52.7)	28 (42.4)	38 (57.6)	24 (54.5)	20 (45.5)	0.21
90. Vaccine separate from food	71 (64.5)	39 (35.5)	44 (66.7)	22 (33.3)	27 (61.2)	17 (38.6)	0.56
91. Fridge cleaned record	6 (5.45)	104 (94.5)	4 (6.06)	62 (93.4)	2 (4.55)	42 (95.5)	0.73
92. Clinic management meetings	42 (38.2)	68 (61.8)	28 (42.4)	38 (57.6)	14 (31.9)	30 (68.1)	0.26
93. How often meetings occur	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
94. Record of meetings	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
95. Copy of meeting	1 (0.91)	109 (99.1)	0 (0)	66 (100)	1 (2.30)	43 (97.7)	0.21
96. Clinic committee	5 (4.59)	104 (95.4)	3 (4.62)	62 (95.4)	2 (4.55)	42 (95.5)	0.98
97. Committee meetings	19	91	19	47	0 (0)	44	0.01

occur once a month	(17.3)	(82.7)	(28.79)	(71.2)		(100.0)	
98. Broader committee in clinic	21 (19.1)	89 (80.9)	19 (28.79)	47 (71.2)	2 (4.55)	42 (95.5)	0.01
Vital category measures	**Frequency (n=110)100%**		**GP Province**		**FS Province**		**P value**
	No	**Yes**	**No**	**Yes**	**No**	**Yes**	
99. Suggestion box	53 (48.6)	56 (51.4)	31 (47.7)	34 (52.3)	22 (50.0)	22 (50.0)	0.81
100. Clinic collaborates with	1(0.91)	109 (99.2)	0 (0)	66 (100)	1 (2.30)	43 (97.7)	0.21
101. Patient satisfaction surveys	22 (20.2)	87 (79.8)	13 (19.7)	53 (80.3)	9 (21.0)	34 (79.0)	0.87
102. Complaints system	3 (2.73)	107 (97.3)	1 (1.52)	65 (98.5)	2 (4.55)	42 (95.5)	0.33
103. Medico legal forms	32 (29.1)	78 (70.9)	20 (30.3)	46 (69.7)	12 (27.3)	32 (72.3)	0.73
104. Know Clinic supervisor	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
105. Received report from clinic supervisor	17 (15.5)	93 (84.5)	11 (16.7)	55 (83.3)	6 (13.6)	38 (86.4)	0.66
106. Written report seen	47 (43.5)	61 (56.5)	26 (40.6)	38 (59.4)	21 (47.7)	23 (52.3)	0.46
107. Patient rights	0 (0)	110 (100)	0 (0)	66 (100)	0 (0)	44 (100.0)	
108. Clinic service standards	3 (2.75)	106 (97.3)	2 (3.03)	64 (96.8)	1 (2.33)	42 (97.7)	0.82
109. Patient facility evaluation forms	18 (16.4)	92 (83.6)	12 (18.2)	54 (81.8)	6 (13.6)	38 (86.4)	0.52
110. Manager wears uniform	31 (28.2)	79 (71.8)	22 (33.3)	44 (66.7)	9 (20.5)	35 (79.5)	0.14
111. Doctor	31 (28.2)	79 (71.8)	14 (21.2)	52 (78.8)	17 (38.6)	27 (61.2)	0.04
112. Staff wear uniform	51 (46.4)	59 (53.6)	39 (59.1)	27 (40.9)	12 (27.3)	32 (72.7)	0.01
113. Staff have name tags	49 (44.5)	61 (55.5)	31 (46.9)	35 (53.1)	18 (41.0)	26 (59.0)	0.53
114. District recruitment policies	73 (66.4)	37 (33.64)	46 (70.0)	20 (30 .0)	27 (61.2)	17 (38.6)	0.36
115. District personnel policies	12 (10.9)	98 (89.1)	5 (7.58)	61 (92.4)	7 (15.9)	37 (84.1)	0.17
116. Staff Job descriptions	4 (3.64)	106 (96.4)	3 (4.55)	63 (95.5)	1 (2.27)	43 (97.7)	0.53
117. Performance appraisals	24 (21.8)	86 (78.2)	22 (33.3)	44 (66.7)	2 (4.55)	42 (95.5)	0.01
118. Disciplinary problems are documented	42 (38.2)	68 (61.8)	19 (28.8)	47 (71.2)	23 (52.3)	21 (47.7)	0.01
119. Clinic organogram	5 (4.55)	105 (95.5)	1 (1.52)	65 (98.5)	3 (6.82)	41 (93.2)	0.14
120. Clinic organogram seen	22 (20.0)	88 (80.0)	1 (1.52)	65 (98.5)	4 (9.09)	40 (90.1)	0.06
121. Leave forms complete	3 (2.73)	107 (97.3)	2 (3.03)	64 (97.0)	1 (2.27)	43 (97.7)	0.81
122. Patient waiting area	0 (0)	110 (100)	0 (0)	66 (100.0)	0 (0)	44 (100.0)	
123. Waiting patients are seated	23 (20.9)	87 (79.1)	14 (21.2)	52 (78.8)	9 (20.5)	35 (79.5)	0.92
124. Generator maintenance	101 (91.8)	9 (8.18)	60 (91.1)	6 (9.09)	41 (93.2)	3 (6.82)	0.67
125. Generator fuel	97 (88.2)	13 (11.8)	57 (86.4)	9 (13.6)	40 (91.0)	4 (9.09)	0.46
126. Working phone	0 (0)	110	0 (0)	66	0 (0)	44	0.14

		(100)		(100.0)		(100.0)	
127.Computer	2 (1.82)	108 (98.2)	0 (0)	66 (100.0)	2 (4.55)	42 (95.5)	0.08
Vital category measures	**Frequency (n=110)100%**		**GP Province**		**FS Province**		**P value**
	No	**Yes**	**No**	**Yes**	**No**	**Yes**	
128.Working computer	24 (21.8)	86 (78.2)	6 (9.09)	60 (90.1)	18 (41.1)	26 (59.0)	0.01
129.Routine maintenance programme	30 (27.3)	80 (72.7)	8 (12.1)	58 (87.9)	22 (50.0)	22 (50.0)	0.01
Developmental measures							
130.Colour coded bags	5 (4.55)	105 (95.4)	4 (6.10)	62 (93.9)	1 (2.27)	43 (97.7)	0.35
131.Letters are inside suggestion box	33 (30.0)	77 (70.0)	16 (24.2)	50	33 (30.0)	77 (70.0)	
132.Clinic budget	46 (42.6)	62 (57.4)	13 (19.7)	53 (80.3)	33 (78.6)	9 (21.4)	0.01
133.Facility catchment map	10 (9.09)	100 (90.9)	6 (9.09)	60 (90.1)	4 (9.09)	40 (90.9)	1.0
134.Clinic Vision	4 (3.64)	106 (96.4)	1 (1.52)	65 (98.5)	3 (6.82)	41 (93.2)	0.14
135.Weekly Staff meetings	18 (16.5)	91 (83.5)	8 (12.3)	57 (87.7)	10 (22.7)	34 (77.3)	0.15
136.Staff tearoom	29 (26.4)	81 (73.6)	14 (21.2)	52 (78.8)	15 (34.1)	29 (65.2)	0.13

6.3.2 Essential category

The majority (79.5%) of the clinics in FS and 72.7% of clinics in GP achieved a score of 80% or more (range 70.3% to 92.3%). Slightly below a third (27.3%) of the clinics in GP and 20.5% in FS were in the 65-79% category. In GP, 24.2% of the clinics scored poorly on monthly transport plans for patients, compared to 40.1% in FS. Back referral feedback systems were absent in 34.1% of clinics in FS compared to 25.8%in GP. The majority of clinics in GP (56.1%) did not have toilets for people with disabilities compared to 31.2% in FS. About 54.2% of the staff in FS wear their uniforms compared to 45.7% in GP. However, in FS, 59% of the staff wear name tags for identification compared to 53.1% in GP. District recruitment policies were available in 38.6% of the clinics in FS compared to the 30% in GP. Close to a third of the clinics (31.8%) in FS did not have access to pharmacists compared to 7.58% in GP. A third of the clinics (32.7%) needed repairs and refurbishments to their building infrastructure such as walls, ceilings burst pipes or broken toilets (results not shown). Some clinic managers pointed out the need for entirely new buildings due to ageing of the facilities.

6.3.3 Developmental category

In the developmental category, 76% of the clinics in GP and 39% in FS achieved a score of 80% or more (range 14.2% to 100%). Only one clinic in GP achieved 100% compliance with this category. The majority of the clinics (61%) in FS and 24% in GP were in the 50-79% group. However, five clinics, two in GP and three in FS were in the 0- 50% category. Clinics scored poorly for unavailability of clinic budgets (80.3% in GP and 21.4% in FS). The majority (91%) of clinics in both provinces have facility catchment maps. The vision or mission statement was also available in 98.5% of clinics in GP and 93.2% in FS. The majority of clinics in GP (87.7%) and FS (77.3%) have weekly staff meetings. Seventy nine percent of the clinics in GP have staff tea rooms compared to 65.2% in FS. Figure 6.1 shows the overall clinic compliance scores across all the three category measures of the core standards, (range 63.4%-92.5%).

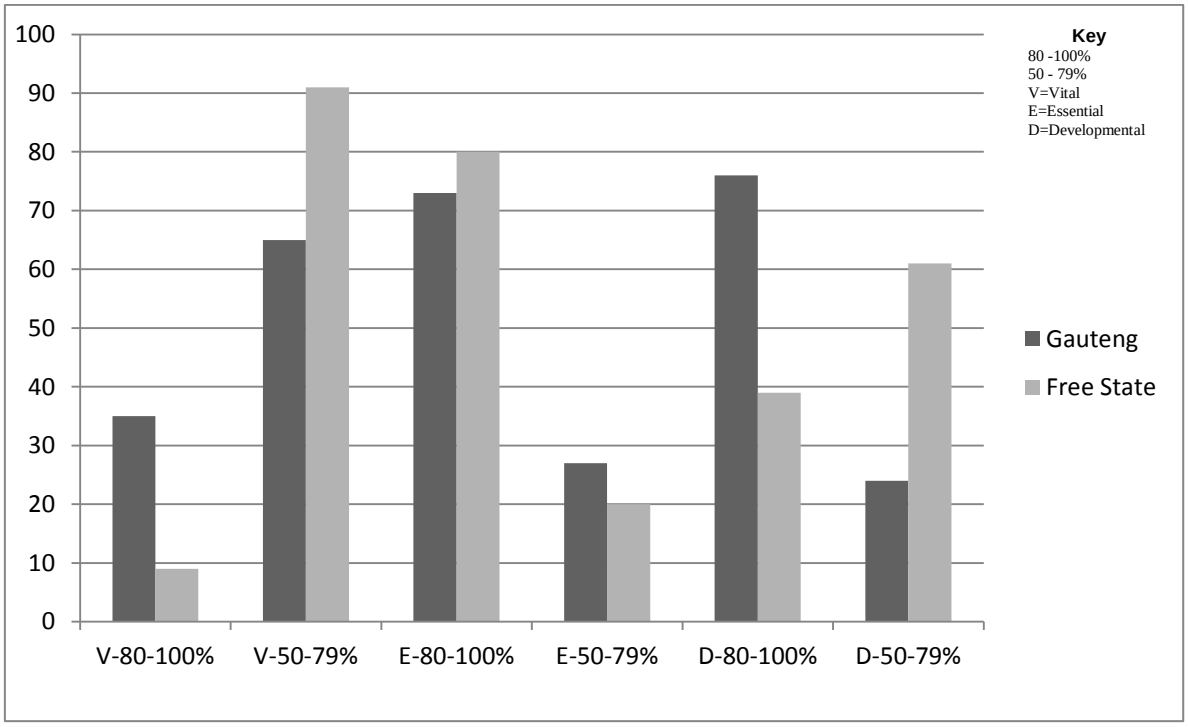

FIGURE 6.1: OVERALL CLINIC COMPLIANCE TO THE NATIONAL CORE STANDARDS

6.3.4 Domain performance

Table 6.3 highlights the results of clinics' compliance with domain categories. The majority of the domains and sub domains; patient rights (p = 0.12), continuity of care (p = 0.02), clinical governance (p = 0.75), diagnostic services (p = 0.32) and functional emergency trolleys (p = 0.08) as well as public health (p = 0.12) and leadership and governance (p = 0.01) had very high scores of between 80-100%. However, the cold chain (p = 0.11),

pharmaceuticals (p = 0.01), operational management (p= 0.72) and the facilities and infrastructure (p = 0.01) domains had scores of between 54-77% in both provinces. These results show the varying levels of domain compliance within the risk categories.

Table 6.3: Clinic compliance with the domains

Domain	Total	Mean % of domain		SD		p-value	Vital Category	Essential Category	Developmental Category
		GP	FS	GP	FS				
Patient rights	12	82	80	14	13	0.48	3	8	0
Continuity of care	8	68	75	16	14	0.02	2	6	0
Clinical governance	21	87	86	8	8	0.75	2	19	0
Diagnostic services	7	93	95	9	.9	0.32	0	7	0
Functional Emergency	12	97	95	5	7	0.08	12	0	0
Pharmaceuticals	14	62	54	12	14	0.01	14	0	0
Cold chain	9	66	61	14	16	0.11	8	1	0
Public Health	19	86	88	10	6	0.12	4	11	4
Leadership and governance	6	89	81	12	13	0.01	0	0	6
Operational management	15	73	74	13	16	0.72	0	12	3
Infrastructure	14	74	67	10	01	0.01	7	5	2
Total Compliance score	137	80	78	00	00	0.06	52	69	15

6.3.5 Factors influencing facility compliance

Table 6.4 highlights that the vital score is positively correlated with the essential and the developmental score. The vital score is also positively correlated with the variable that measured the number of patients seen in the clinic (in hundreds) which came from the facility checklist. However, these results were not correlated with any of the continuous items in the job satisfaction survey.

Table 6.4: Factors influencing facility compliance

	Vital Score	Essential Score	Developmental Score	Number of patients	Job Satisfaction Score	Experienced workplace violence	Manager verbally abused colleagues
Vital Score	1.0000						
Essential Score	0.3031	1.0000					
p-value	0.0013						
Developmental Score	0.3944	0.4682	1.0000				
p-value	0.0000	0.0000					
Number of patients	0.2637	0.0168	0.0950	1.0000			
p-value	0.0054	0.8616	0.3238				
Job Satisfaction Score	-0.0336	-0.1040	-0.0730	-0.0065	1.0000		
p-value	0.7312	0.2865	0.4552	0.9470			
Experienced workplace violence	-0.0299	-0.1304	-0.1573	0.0769	0.1743	1.0000	
p-value	0.7595	0.1807	0.1055	0.4314	0.0713		
Concerned about workplace violence	0.1068	-0.0574	-0.0632	0.1578	0.1720	0.7127	1.0000
p-value	0.2737	0.5570	0.5179	0.1045	0.0750	0.0000	
Manager verbally abused colleagues	0.1003	0.0939	-0.0226	0.1143	0.1307	0.2771	0.2514
p-value	0.3040	0.3363	0.8171	0.2409	0.1777	0.0037	0.0087

6.3.6 Factors influencing compliance with the vital category

Table 6.5 shows that the socio-demographic characteristics of the nursing manager such as age, years of experience or years in the current position were not associated with vital category compliance. However, a significant correlation was observed between clinic manager's experience of workplace violence (mean score 27.8; SD = 3.12) and perpetration of violence against colleagues (mean 28.2; SD = 3.22), (p = 0.01) and clinic compliance.

Table 6.5: Factors influencing compliance to the vital category

Factor	Level	n	Mean (standard deviation)	T-statistic (p-value)
Sex of clinic manager	Male Female	9 98	28.0 (2.87) 28.4 (3.25)	0.35(0.73)
This your choice of clinic?	Yes No	44 63	27.9 (3.11) 28.7 (3.27)	1.20 (0.23)
Permanent Position?	Yes No	11 92	28.2 (3.97) 28.3 (3.06)	0.10 (0.92)
Qualification in PHC clinical training?	Yes No	26 81	28.2 (3.12) 28.4 (3.26)	0.22 (0.82)
Currently Studying?	Yes No	86 21	28.4 (3.33) 28.0 (2.74)	0.49 (0.63)
Concerned about workplace violence?	Yes No	60 46	28.0 (2.94) 28.7 (3.47)	1.05 (0.29)
***Experienced workplace violence?	Yes No	72 33	27.8 (3.12) 29.6 (3.08)	2.89 (0.01)
Been verbally abused in past year?	Yes No	65 42	28.1 (3.09) 28.7 (3.40)	0.99 (0.32)
***Manager verbally abused colleagues	Yes No	98 8	28.2 (3.22) 30.1 (2.10)	1.70 (0.01)
Felt humiliated by colleagues?	Yes No	83 24	28.3 (3.23) 28.4 (3.22)	0.10 (0.92)
Felt too tired to work?	Yes No	52 55	28.2 (2.96) 28.5 (3.45)	0.57 (0.57)
Took sick leave when not sick?	Yes No	104 3	28.3 (3.23) 28.7 (3.24)	0.17 (0.87)
Intend to leave employer?	Yes No	87 20	28.5 (3.21) 27.8 (3.28)	0.78 (0.44)
Aware of PHC revitalisation programme?	Yes No	30 76	28.4 (3.75) 28.3 (3.01)	0.20 (0.84)

6.4 Discussion

This study examined the compliance of 110 PHC clinics in two South African provinces with the national core standards, with none of the clinics achieving a 100% compliance score with the vital category of the NCS.

Our study found that the majority of clinics had experienced stock outs of at least one of the essential drugs for antenatal care, hypertension, tuberculosis, HIV/AIDS, reproductive health and STIs. In South Africa medicine stock-outs are caused by a combination of factors which include bureaucratic delays and problems with the supply chain management processes [366]. Insufficient finances, sub-optimal management, shortages of pharmacists are also cited as contributing factors to medicine stock outs in PHC clinics [366, 367]. A 2014 South African national stock outs survey found that more than one in four facilities reported stock out of chronic and other essential medicines in the government sector [367].

The two study provinces (GP and FS) were among the five provinces with the largest proportion of facilities reporting drug stock outs [367]. However, the problem of drug stock outs is not unique to South Africa, and studies suggest that one third of all people worldwide are affected by medicine stock outs [368, 369]. South Africa has the largest antiretroviral treatment programme in the world hence a consistent supply of life-saving drugs is critical to individual and public health [367]. Efficient and effective supply chain management systems of medicines are needed in PHC clinics as mandated by the NCS [206, 367].

Although clinics had refrigerators, some of the refrigerators did not have thermometers for monitoring the cold chain. Studies in the UK [370], Canada [371] and Ethiopia [372] have found that the efficacy and potency of vaccines depend on the effective management of the cold chain and that lack of thermometers resulted in 10 to 20% of medicines failing quality control tests. Back-up refrigerators to cater for power outages and to maintain the cold chain were also not available in some of the clinics. The maintenance of the cold chain is a critical aspect of South Africa's EPI programme for children under six years of age [372]. In both provinces also, the majority of clinics did not have generators in case of power outages. Power outages impact negatively on the availability and functioning of medical equipment [190]. In light of South Africa's electricity challenges, generators and back-up refrigerators become vital equipment to have in health facilities as critical equipment is able to function and enable health facility staff to perform life-saving procedures in the event of power cuts [190].

Fourteen clinics (12.7%) did not have functional paediatric ambu-bags, while 7.27% did not have adult ambu-bags for emergency resuscitation. A situational analysis of obstetric care services in PHC clinics in rural Zimbabwe indicated that ambu-bags are important medical devices in an emergency [373]. Both paediatric and adult ambu-bags are listed in the PHC care package for South Africa as important pieces of resuscitation equipment that must be available in cases of a medical emergency [83, 373].

We found that half of our study clinics (53.6%) did not have suitable toilets for people with disabilities. The other half had toilets that were not user friendly for people with disabilities as they did not allow wheelchair users to move freely in the health facility. We could not find similar research focusing on the lack of toilets for people with disabilities in PHC clinics. However, a hospital study in the UK pointed to the loss of dignity caused by lack of ablution facilities for people with disabilities [374]. The design of these clinics that did not comply with the NCS contributes to access barriers for people with disabilities. These clinics need to

be renovated and refurbished to support the needs of people with disabilities as envisaged in the NCS [206].

Our study found that many clinics lacked comprehensive security systems such as an alarm, security guard or fencing around the premises. Theft and physical attacks on patients and staff in healthcare facilities is a concern around the world [375]. The job satisfaction survey and diary study among the PHC clinic managers working at these facilities found that security was an area of concern for these managers, and influenced their job satisfaction [41]. The NCS emphasise the importance of various measures needed to protect staff, patients, equipment and property against anticipated threats with the effective use of proven systems, technologies and human security guards to improve security [206, 365].

6.4.1 Essential elements

Pharmacists with expert knowledge and competencies on pharmaceuticals are important in health sector reforms and for achieving health targets [83]. While some clinics were compliant with the essential elements of the NCS, the majority did not have access to a pharmacist as proposed by the standards [206]. In the absence of a pharmacist in a clinic, the storage and dispensing of medicines becomes that of the clinic manager, which results in an additional burden for the clinic manager [41]. In South Africa there is unequal distribution of pharmacists between the private and public health sectors [376] and this affect the supply chain of medicines thus [376] influencing compliance with the NCS.

We found that a third of our study clinics needed infrastructural repairs to the walls, ceilings, pipes and toilets. Poor physical infrastructure in health facilities, and unequal development and maintenance thereof is attributed to inequalities dating back to Apartheid [352]. Functional infrastructure is critical to maintain quality and is essential for sustainable health care service delivery reforms such as NHI [352]. Dysfunctional infrastructure results in inefficiency and may cause frustration and demotivation among healthcare professionals thus weakening [41, 365] the compliance status of clinics.

6.4.2 Developmental category

In the developmental category, most clinics had no budget for various operational requirements. A study with the said clinic nursing managers highlights that District Health Service managers have the delegated powers on the medicines, functional equipment and human resources [365]. This is a barrier as it reduces the ability of clinic managers to be pro-active [365]. It is important that clinic managers have some delegated authority, accompanied by the necessary financial management skills [41, 365].

We found that half of the study clinics did not have a staff tea room or other area where staff can take breaks. The absence of dedicated staff areas for breaks or meals is a source of frustration in the work environment and this issue was highlighted in the job satisfaction and the diary studies with clinic nursing managers [41, 365]. This was also found in another study where the nurses' staff rooms had been turned into consultation rooms [377], leaving staff with no particular place to rest, eat or pray. Separate and furnished break areas for PHC nurses are important for rest and positive practice environments in the workplace [41, 153].

6.4.3 Factors influencing compliance

In our study, experiencing violence or perpetrating violence against colleagues were the factors influencing compliance in PHC clinics. This could be because clinic managers who experience or perpetrate violence are less likely to pay attention to non-compliance with the NCS, or that non-compliance with the NCS results in the experience or perpetration of violence. Nonetheless, violence between and against PHC staff has been reported in Saudi Arabia [378], Turkey [310], in the USA [379], Italy [380] and in South Africa [41]. Other studies have noted that violence in healthcare facilities among other challenging workforce issues such as poorly maintained equipment, unsafe working environment and shortages of staff are associated with the failure to implement standards and deteriorating care in health facilities [37]. The Global Health Workforce Alliance (GHWA) has found that that violence is a pervasive issue, which is often unrecognised [267]. At the PHC level, nursing managers play a critical role in implementing standards and achieving compliance [359]. Almost all the domains of the standards impact on nursing managers, thus their capacity for clinics to be compliant depends on the practice and work environment [359] and violence seems to be a factor that influences their ability to meet the target.

Positive and violence free practice environments attract and retain staff, improve job satisfaction and reduce adverse patient events [37, 41].

Further, clinic managers' time needs to be freed up from other non-managerial activities so that they have more time to focus on complying with the standards. These strategies need to be integrated with the quality and safety agenda which is being advocated for in the core standards to strengthen health system performance.

6.4.5 Domain compliance

The domain scores obtained in this study varied between 54 to 100%, highlighting that clinic managers and their supervisors need support and resources to comply with the standards. The seven domains are the vision of the NCS for health facilities in South Africa for the provision of decent care in a clean and safe environment for all users of the system [206]. The study found that Gauteng Province obtained higher compliance scores for most of the vital items and in most of the domains compared to Free State, possibly due to greater budgetary resources and resourced clinics [39].

It is difficult to compare our study to others, because of the various methods used to measure compliance in many studies and because the inspection reports on the NCS remain unpublished. Our study has various strengths. The use of an adapted checklist with high validity and reliability in PHC clinics coupled with observations and self-reports from the manager as well as examining correlation with variables from a job satisfaction survey, is novel. It is also one of the first studies to put the findings on PHC compliance into the public domain. PHC clinics in South Africa are not complying with the vital category of the NCS.

The use of a binary questionnaire was beneficial in highlighting items that were missing or available in the study clinics enabling the relevant authorities to intervene in the areas needing the most urgent attention. The research indicates that clinics that are in urban Gauteng Province obtained higher scores, compared to those in the mixed urban-rural province of Free State. This could mean that the Free State needs additional resources and support to allow them to comply with the NCS.

The study findings suggest that workplace violence influences compliance with the NCS. The cross-sectional nature of the study means that we cannot determine whether workplace violence leads to non-compliance or vice versa. Hence larger studies are needed to confirm the findings of our study.

Clinic managers should be supported with the necessary resources to ensure compliance with the elements in the vital category of the NCS. At the same time, a comprehensive strategy is needed on creating positive practice environments at the PHC level.

6.5 Conclusions

Providing resource investments to PHC clinics and the prevention of workplace violence could improve the compliance status of clinics and strengthen health system performance towards optimal quality of care. Importantly, clinic nursing managers should be encouraged to play a significant role in ensuring that their facilities comply with the NCS.

6.6 Acknowledgements

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CHAPTER 7: AN EVALUATION OF THE COMPETENCIES OF PRIMARY HEALTH CARE CLINIC NURSING MANAGERS IN TWO SOUTH AFRICAN PROVINCES

7.1 Introduction

Globally, managerial competencies to enhance individual and organisational performance have gained currency in efforts to strengthen national health systems and improve population health outcomes [22, 46, 89]. The 2007 World Health Organization (WHO) conceptual framework for strengthening leadership and management capacity includes appropriate managerial competencies needed for effective health service delivery [46]. Competency is defined as the technical skills, knowledge and attitudes required to perform a job [89]. Management competencies in strategic, financial and human resource management, service delivery innovation, client orientation and customer focus, and communication are essential for achieving organisational goals [235]. In complex health systems, health care managers require additional competencies to complement the generic management functions of planning, directing, coordinating and controlling to be effective [381]. This is because managerial competencies are important for optimal patient care and continuous quality of health improvement [22, 382], while competent managers' play a key role in the implementation of universal health coverage (UHC) reforms [56, 383]. The International Council of Nurses (ICN) and the World Health Professions Alliance (WHPA) advocate for competence-based education for health service managers that take account of career stage, roles and responsibilities, work context and setting [93, 384], through in-service training, short courses, diplomas and degree training programmes [7, 89].

However, in many low and middle income countries (LMICs) the health workforce crisis and sub-optimal functioning of health systems are compounded by the lack of competent managers [33, 66, 70]. Managerial incompetence has negative consequences for service delivery, well-being and retention of health workers and health system performance [20, 41, 70].

A significant body of literature exists on the description, identification, classification and measurement of the most appropriate competencies for managers, including nurse managers [41, 60, 69, 70, 240, 385]. Several authors have suggested that nursing management competencies should include communication, team building, planning, priority setting and

problem solving, performance, health programme and resource management [89, 240, 382, 385, 386], especially financial management [387, 388]. Change management and community collaboration are other essential competencies required at the district level [60].

Measuring competencies in a reliable and valid way is complex [235]. Methods include personality and psychometric tests [60, 69, 218] self-ratings [244], formal examinations [245], case studies [246] and vignettes of management challenges [247]. In South Africa, personality and psychometric tests using different types of Likert scales are used to measure competencies of executive managers [60, 69].

Some studies have used the 360 degree evaluation approach to determine the mastering of core competencies for medical doctors [248] and nursing managers [249]. The 360 degree approach involves self-assessment by the individual on key performance areas, and assessments by their supervisor and direct reports or peers [250]. The success of the 360 degree method depends on the raters [250]. These assessments aim to increase the individuals' awareness of their own competencies and how those competencies are viewed by others. Respondents are encouraged to list their weak competency areas for further training [244]. Although this practice is common in business [389] the method is increasingly being used in public health with health care managers being evaluated by their supervisors, subordinates or even patients [245, 390, 391].

Ongoing assessment of health managers' competencies is associated with health systems strengthening, staff retention and job satisfaction [56]. Competency assessments enable managers to enhance the skills needed to perform in complex health care systems [385]. However, studies on managerial competencies tend to focus on district or hospital managers, and there is a dearth of studies focusing on the competencies of PHC clinic nursing managers [56]. A small South African qualitative study on nursing managers' competencies, which cannot be generalised, concluded that the success of PHC re-engineering relies on skills and knowledge in health service planning, organisation, change management and leadership, conducting community health needs assessments and basic statistics to interpret health information [69]. Furthermore, the study did not include the views of the PHC managers [69].

The importance of PHC and its managers was re-emphasised in the 2015 South African White Paper on the national health insurance (NHI) system [50]. The proposed NHI reforms are based on PHC and nursing managers will play a key role in its implementation as they operate at the interface between care processes and overall health system goals [50].

The evaluation of the competencies of nursing managers is important for determining their training needs and to benchmark the performance of PHC facilities [60]. Competent managers facilitate the implementation of health care reforms, through ensuring staff participation and managing complex change. In light of this, and the dearth of empirical information on the managerial competencies of PHC nursing managers, the aim of this study was to evaluate the competencies of clinic nurse managers in two South African provinces using a 360 degree assessment that included their supervisors and those nurses reporting to them (subordinate nurses).

7.2 Methods

7.2.1 Study sites and setting

In 2012, a cross-sectional study was conducted in two South African provinces [27, 41], Gauteng (GP), (urban) and Free State (FS), (mixed urban-rural), selected on the basis of geographical access to the researchers, existing health authority approval and financial considerations [27, 41]. In 2012, there were 343 PHC clinics in Gauteng Province [73] and 256 PHC clinics in Free State Province [74].

7.2.2 Study population

The study population consisted of professional nurses, with a four-year qualification in nursing, registered with the South African Nursing Council, and in charge of an eight-hour or day PHC clinic. The PHC nursing managers are responsible for clinic management including health care service delivery, staff and implementation of policies [27, 41]. Non-nursing managers in charge of clinics operating for more than eight hours a day, weekend or mobile clinics and community health centres and those linked to hospitals were excluded from the study.

7.2.3 Sampling

For the study sampling approach, we drew up a list of eight-hour PHC clinics in each of the health districts, six in Gauteng and five in Free State province. Once this list was obtained, stratified random sampling proportional to the number of clinics in each district was used to

calculate the number of clinics to be included in the study sample - 62 and 49 clinics were sampled from Gauteng and Free State provinces respectively. In each sampled clinic, a self-administered 360 degree competency evaluation questionnaire was given to the PHC nurse manager, their supervisors (n=104) and 'subordinate' nurses reporting to the nurse manager (n=383). The number of subordinates ranged from one to seven with a median of four.

7.2.4 Development of the 360 degree competency evaluation instrument

Following a review of the literature [56, 60] a 360 degree competency evaluation instrument consisting of 40 items was developed. The 360 degree assessment was selected to increase the individual clinic manager's awareness of their own competencies and how those competencies are viewed by others, in this case their immediate supervisors, and their nursing colleagues who work with them and report to them.

The tool comprises six subscales relating to daily clinic management tasks. *Communication* (5 items) examines whether the clinic manager listens attentively to the concerns of others, can write reports and is able to share ideas with staff and other stakeholders. *Leadership and management* (6 items) assesses whether the clinic manager is visionary, implements the National Department of Health's (NDoH) ten point plan and knows when to consult the relevant people on the strategic objectives of the clinic. *Staff management* (8 items) examines aspects of people management (e.g. absenteeism) and in-service training. *Financial management* (9 items) examines the clinic manager's ability to manage the budget in line with the financial legislation; whether the asset register is up-to-date, and develops realistic budget projections. *Planning and priority setting* (6 items) contains dimensions of information management, prioritisation of tasks and identification of community health needs. Lastly, the *problem-solving* subscale (6 items) questions whether the clinic manager monitors the work environment for risks that could impact on staff and patients, manages clinic emergencies and implements corrective action for potential risks and problems. Each of the items was measured on a 10-point scale, (with 1 being low skills, needing more training) and 10 being (very high skills, no training needed). The information sheet, and initial briefing to the PHC clinic managers emphasised that the rating was linked to their perceptions of competencies and training needs.

Table 7.1: 360 degree evaluation of the skills of PHC nursing managers

Here is a list of job related tasks you may encounter in your work as a clinic manager. For each, please indicate **what your current level of skill is to perform the task** on a scale of 1-10 (with **1** being **Low skills, needing more training)** and **10** being **(Very high skills, no training needed).**

*****The above statement was adjusted for questionnaires being filled in by the supervisor or subordinate nurses rating the clinic manager**.**

COMMUNICATION	**Low Skills**									**Very High Skills**	**Don't know**
1. I listen attentively to the concerns of others	1	2	3	4	5	6	7	8	9	10	DN
2. I can share my ideas about improving services with the clinic supervisor	1	2	3	4	5	6	7	8	9	10	DN
3. I am able to write reports to meet the needs of different audiences	1	2	3	4	5	6	7	8	9	10	DN
4. I am able to communicate the specific programme targets to my staff	1	2	3	4	5	6	7	8	9	10	DN
5. I am able to inform community representatives about all the relevant clinic issues	1	2	3	4	5	6	7	8	9	10	DN
LEADERSHIP AND MANAGEMENT	**Low Skills**									**Very High Skills**	**Don't know**
6. I can implement my vision for health improvements in this clinic	1	2	3	4	5	6	7	8	9	10	DN
7. I am able to implement the 10 point plan of the NDOH for 2009-2014	1	2	3	4	5	6	7	8	9	10	DN
8. I know when to consult clinic employees when making strategic decisions	1	2	3	4	5	6	7	8	9	10	DN
9. I can deal with difficult patients and their relatives	1	2	3	4	5	6	7	8	9	10	DN
10. I encourage my staff to display a caring attitude to patients according to the Batho Pele principles	1	2	3	4	5	6	7	8	9	10	DN
11. I ensure that the risk of infection to patients in this clinic is minimised	1	2	3	4	5	6	7	8	9	10	DN

STAFF MANAGEMENT	Low Skills					Very High Skills					Don't know
12. I am able to measure clinical care programmes against National Core Standards	1	2	3	4	5	6	7	8	9	10	DN
13. I ensure that my staff receive ongoing in-service training to perform their nursing tasks	1	2	3	4	5	6	7	8	9	10	DN
14. I ensure that staff are knowledgeable about what is expected from them at work	1	2	3	4	5	6	7	8	9	10	DN
15. I supervise my staff through effective performance management for the achievement of health system goals	1	2	3	4	5	6	7	8	9	10	DN
16. I am able to delegate work to staff in an emergency context	1	2	3	4	5	6	7	8	9	10	DN
17. I have a system in place to manage staff absenteeism	1	2	3	4	5	6	7	8	9	10	DN
18. I provide constructive feedback to staff											
19. I monitor individual's performance in response to allocated work											
FINANCIAL MANAGEMENT	**Low Skills**					**Very High Skills**					**Don't know**
20. I manage the clinic budget in line with the relevant financial legislation	1	2	3	4	5	6	7	8	9	10	DN
21. I make sure that the asset register in my clinic is up-to-date	1	2	3	4	5	6	7	8	9	10	DN
22. I take prompt action when equipment is out of order	1	2	3	4	5	6	7	8	9	10	DN
23. I take prompt action when contractors fail to deliver against their service level agreement	1	2	3	4	5	6	7	8	9	10	DN
24. I engage staff about how best to use financial resources	1	2	3	4	5	6	7	8	9	10	DN
25. I educate staff about financial issues that impact on the clinic	1	2	3	4	5	6	7	8	9	10	DN
26. I can develop realistic budget projections based on previous expenditure	1	2	3	4	5	6	7	8	9	10	DN

27. I ensure that all the necessary expenses are included in the budget	1	2	3	4	5	6	7	8	9	10	DN
28. I am able to evaluate programme performance in relation to expenditure	1	2	3	4	5	6	7	8	9	10	DN
PLANNING AND PRIORITY SETTING	**Low Skills**					**Very High Skills**					**Don't know**
29. I use clinic statistics to motivate for financial and human resources	1	2	3	4	5	6	7	8	9	10	DN
30. I involve stakeholders in determining which needs are the most important to improve clinic performance	1	2	3	4	5	6	7	8	9	10	DN
31. I generally defend the interests of the clinic	1	2	3	4	5	6	7	8	9	10	DN
32. I always carry out the most urgent tasks first	1	2	3	4	5	6	7	8	9	10	DN
33. I follow through on agreed tasks and priorities	1	2	3	4	5	6	7	8	9	10	DN
34. I am able to identify community health needs in my catchment area for use in strategic planning	1	2	3	4	5	6	7	8	9	10	DN
PROBLEM SOLVING	**Low Skills**					**Very High Skills**					**Don't know**
35. I monitor the work environment for potential safety issues that could impact on staff and patients	1	2	3	4	5	6	7	8	9	10	DN
36. I remain calm and composed in emergency situations	1	2	3	4	5	6	7	8	9	10	DN
37. I implement corrective action in a timely manner in cases of non-compliance	1	2	3	4	5	6	7	8	9	10	DN
38. I can resolve conflicts among staff	1	2	3	4	5	6	7	8	9	10	DN
39. I can identify root causes of problems in the clinic	1	2	3	4	5	6	7	8	9	10	DN
40. I gather sufficient information prior to solving a problem	1	2	3	4	5	6	7	8	9	10	DN

Supervisors and subordinate nurses rated their perceptions of the clinic managers' competencies separately. The phrasing of the questions was adjusted for supervisors and subordinate nurses and made it clear that they were rating the competencies of the PHC clinic manager, and their training needs (where relevant).

After the development of the study instrument, a 22 member expert group consisting of academics, government and private sector health service managers, national nursing association representatives, health systems management and policy experts discussed and reviewed the content of the questionnaire at a workshop organised for this purpose.

The expert panel recommended improvements to the questionnaire and consensus was reached on the proposed changes. Prior to fieldwork, the instrument was pilot-tested with three PHC nursing managers, and their clinic supervisors and subordinate nurses to determine clarity of the questions and time taken to complete the questionnaire [392]. No further modifications were necessary. The nine pilot respondents were excluded from the main study.

7.2 Reliability of the research instrument

To confirm validity of the study instrument two separate processes were followed: firstly, the expert panel did a face-validity test to choose the items for each of the six dimensions. The tool was tested on a group of nurse managers, their supervisors and subordinates who did not form part of the final study sample. Secondly, Cronbach alpha coefficients were calculated to test the reliability of the instrument after the pilot-test. The Cronbach's alpha coefficient was 0.90 for all questions, signifying high reliability and inter-item correlation, hence after pilot-testing the instrument no amendments were done.

7.3 Data collection

Clinic nursing managers were contacted in July 2012 to encourage their involvement and to schedule the date for data collection. Information meetings were conducted with the PHC nurse manager to describe the study components. Following informed consent, the clinic nurse manager was given the self-administered 360 degree competency evaluation questionnaire to complete. Subordinate nurses were also approached and requested to evaluate the competencies of their clinic managers. Clinic supervisors were approached at their offices and asked to rate the clinic managers who report to them. The questionnaire took around 10 minutes to complete.

A research assistant collected the questionnaires on the day of completion. The researcher conducted quality checks to confirm the completeness of the questionnaires. Steps were taken to ensure that each clinic manager rated herself and in addition was rated by a clinic supervisor and her subordinate nurses. Double data entry from the questionnaires was done by a data capturing company. Data were cleaned and checked for inconsistencies before importing into STATA®13 for analysis. A don't know response was set as a 'missing' value in STATA.

7.4 Data management and analysis

Cronbach's alpha coefficients were calculated separately for each of the three groups of respondents; nurse managers, their supervisors and other nurses reporting to their clinic managers for each of the six domains, in order to confirm the reliability of the scales. As a further confirmation, for each of the three groups of respondents and for each of the six domains, an exploratory factor analysis was carried out to confirm that the items in the domain were summarised by a single construct.

The mean score was calculated for each domain and for each respondent group. The responses on each domain were summarised using means, standard deviations, medians and inter-quartile ranges, separately for nurse managers, supervisors and subordinate nurses. In order to determine the agreement between each of the three possible pairs of type of respondent, we used the Tinsley and Weiss index [393]. The index measures the consistency with which inter-raters reach agreement about a subject, or "the extent to which the different judges tend to assign the same rating to each object" [393] p. 98. In calculating the index we assumed that any ratings that differed by at most 1 were in agreement, while any ratings that differed by more than 1 were not in agreement. We calculated agreement between two raters and the hypothetical probability of chance agreement and then we estimated the Bland-Altman limits of agreement which provide a quantitative measure of how closely two groups of raters agree [394].

We defined a PHC nurse manager as competent and not requiring training if the average score was at least 8 or above out of 10 on all the competency domains. This value was selected as the majority of scoring systems in educational settings use 80% for distinctions, and this value is used as a proxy for competence. To determine the need for additional training, we looked at the proportion of managers who rated themselves and were also rated less than 8/10 by their supervisors and subordinates.

7.5 Ethical considerations

The study is part of a larger doctoral research project to examine the nature and dynamics of nursing management at PHC level. The University of the Witwatersrand's Human Research Ethics Committee (M 12 02 48) granted ethical approval. Study permission was obtained from the relevant health care authorities in the two provinces. Prior to fieldwork, an information sheet was given to each study participant and informed consent was obtained. Each participant was informed of the study's voluntary nature, and that confidentiality and anonymity would be maintained.

7.6 Results

A 95.4% (n=105) response rate was achieved from PHC nurse managers (GP n=57 and FS n=48) who completed the 360 degree competency evaluation. The average age of PHC clinic nursing managers was 49 years (SD: 7.8). With regard to gender, the majority of study participants in both provinces were female (92%); married (63%) and were employed in a permanent position (89%) [41]. PHC nursing managers (36%) had between 21 and 30 years of professional nursing experience and 76% had formal qualifications in PHC clinic management [41].

Nursing managers, supervisors and other nurses' scores on competency categories

Table 7.2 highlights Cronbach's alpha coefficients of greater than 0.8 for all domains (communication, leadership and management, staff management, financial management, planning and priority setting and problem-solving) for all three groups of respondents (clinic nurse managers, supervisors and subordinate nurses), confirming the reliability of the scales. In addition, exploratory factors analyses confirmed that for each group and dimension, the items were well explained by a single construct with similar positive loadings for all items. The exception was financial management which required two factors for nurse managers. The fact that all loadings were large and positive for the first factor and that financial management was explained by a single factor for supervisors and nurses was acceptable. In general, clinic nurse managers rated themselves high on all domains except for financial management. The majority of nurse managers rated themselves as competent on the other five domains, while the median on financial management was 7.94 (IQR 6.33 – 9.11).

Table 7.2: Summary of scales by type of respondent

Scale	Statistic	Nurse Managers	Supervisors	Other nurses reporting to nurse manager
A: Communication (5 items)	N Mean (s.d.) Median (IQR) Cronbach-α	105 8.51 (1.25) 8.6 (7.8 - 9.6) 0.84	104 7.33 (1.75) 7.6 (6.3 – 8.6) 0.92	109 7.48 (1.93) 7.9 (6.2 – 9.0) 0.96
B: Leadership and Management (6 items)	N Mean (s.d.) Median (IQR) Cronbach-α	105 8.55 (1.14) 8.67 (7.83 – 9.67) 0.86	104 7.32 (1.77) 7.83 (6.17 – 8.58) 0.93	109 7.68 (1.69) 8.0 (6.58 – 9.0) 0.96
C: Staff Management (8 items)	N Mean (s.d.) Median (IQR) Cronbach-α	105 8.54 (1.26) 8.75 (7.88 – 9.62) 0.90	104 7.22 (1.89) 7.69 (6.12 – 8.56) 0.95	109 7.56 (1.73) 7.81 (6.61 – 8.75) 0.97
D: Financial Management (9 items)	N Mean (s.d.) Median (IQR) Cronbach-α	102 7.68 (1.77) 7.94 (6.33 – 9.11) 0.90	104 6.64 (1.94) 6.56 (5.22 – 8.11) 0.95	109 7.25 (1.93) 7.31 (6.09 – 8.72) 0.96
E: Planning and Priority Setting (6 items)	N Mean (s.d.) Median (IQR) Cronbach-α	103 8.41 (1.38) 8.6 (7.33 – 9.83) 0.87	104 7.26 (1.75) 7.58 (6.08 – 8.67) 0.91	109 7.54 (1.83) 7.76 (6.57 – 9.08) 0.95
F: Problem-solving (6 items)	N Mean (s.d.) Median (IQR) Cronbach-α	105 8.68 (1.22) 8.83 (7.67 – 9.83) 0.93	104 7.36 (1.80) 7.67 (6.17 – 8.75) 0.94	109 7.36 (1.91) 7.75 (6.27 – 8.89) 0.96

The majority of supervisors gave lower ratings on all the competency domains, compared to the clinic managers or their subordinates, (mean 6.64 (SD 1.94)) for the financial management domain. The subordinates also rated their clinic managers lower on all domains, compared to the self-rating by these managers.

Table 7.3 below lists the six competency domains and the agreement on each domain between each of the three possible pairs of raters (i.e. manager and supervisor, manager and subordinates and supervisor and subordinates). In all cases, there was less than 50% agreement. The strength of agreement is measured by the Tinsley-Weiss T-index, where perfect agreement would lead to a T-index of 1. The largest value of T-index is 0.25, showing that the level of agreement between any of the three pairs is very poor. In addition, the Bland-Altman limits of agreement are very wide e.g. for communication the limits of agreement for subordinates and supervisors are -4.44 to 4.72 – showing that the rating of a nurse compared to that of a supervisor could be anywhere between 4.44 units lower to 4.72 units higher (on a scale of 1 to 10). The mean difference between the ratings of the two members of each pair shows a systematic difference in each case – so in the same example subordinates rated nurse managers 0.14 units higher than supervisors do. In each domain the rating of the nurse manager is at least 1 unit higher than the rating of the supervisor.

Table 7.3: Agreement between each possible pair of raters

Scale	Statistic	Nurse Manager *vs* Supervisor (n=98)	Nurse Manager *vs* other nurses (n=103)	Other nurses *vs* Supervisor (n=103)
A: Communication (5 items)	Agreements Na T-index Mean Diff (s.d.) Limits of agreement	32 0.11 1.28 (2.01) -2.74 ; 5.30	40 0.22 1.08 (2.19) -3.30 ; 5.46	37 0.18 0.14 (2.29) -4.44 ; 4.72
B: Leadership and Management (6 items)	Agreements Na T-index Mean Diff (s.d.) Limits of agreement	42 0.25 1.26 (2.02) -2.78 ; 5.30	37 0.19 0.89 (1.94) -2.99 ; 4.77	38 0.19 0.34 (2.12) -3.90 ; 4.58
C: Staff Management (8 items)	Agreements Na T-index Mean Diff (s.d.) Limits of agreement	40 0.22 1.33 (2.10) -2.87 ; 5.53	36 0.17 1.01 (1.99) -2.97 ; 4.99	37 0.18 0.31 (2.17) -4.03 ; 4.65
D: Financial Management (9 items)	Agreements Na T-index Mean Diff (s.d.) Limits of agreement	32 0.11 1.11 (2.47) -3.83 ; 6.05	34 0.15 0.41 (2.51) -4.61 ; 5.43	29 0.08 0.58 (2.51) -4.44 ; 5.60
E: Planning and Priority Setting (6 items)	Agreements Na T-index Mean Diff (s.d.) Limits of agreement	30 0.086 1.13 (2.14) -3.15 ; 5.41	40 0.22 0.88 (2.11) -3.34 ; 5.10	35 0.15 0.28 (2.23) -4.18 ; 4.74
F: Problem-solving (6 items)	Agreements Na T-index Mean Diff (s.d.) Limits of agreement	36 0.17 1.31 (2.04) -2.77 ; 5.39	32 0.12 1.36 (2.11) -2.86 ; 5.58	31 0.10 -0.001 (2.31) -4.62 ; 4.62

*****Supervisor and other nurse's ratings were omitted if the nursing manager had not rated themselves.

Table 7.4:Proportion of nursing managers rated below 8/10

Table 7.4 highlights the proportion of nursing managers rated below 8/10 on all the competency dimensions. Overall, the proportion of supervisors who rated nursing managers less than 8/10 was greater than the proportion of nursing staff that did so, on all six domains. Fewer nursing managers rated themselves less than 8/10 suggesting that they perceive themselves to be competent in management. In contrast, the majority of subordinates rated their managerial competencies less 8/10. The financial management domain had higher percentages of nursing managers, supervisors and subordinate nurses indicating scores less than 8/10 suggesting additional training is needed in this area. Scores of less than 8/10 were recorded from 57.3% of subordinate nurses (n=59) and 54.1% of supervisors (n=53) for nursing managers in the problem-solving domain.

Dimension	Nursing Manager (n=105)	Supervisors (n=98)	Other nurses (n=103)
Communication	28 (26.7%)	58 (59.2%)	55 (53.4%)
Leadership and Management	31 (29.5%)	52 (53.1%)	51 (49.5%)
Staff Management	28 (26.7%)	58 (59.2%)	58 (56.3%)
Financial Management	51 / 102 (50.0%)	71 (72.4%)	60 (58.2%)
Planning and Priority Setting	32 / 103 (31.1%)	61 (62.2%)	53 (51.5%)
Problem-solving	30 (28.6%)	53 (54.1%)	59 (57.3%)

7.7 Discussion

We conducted a cross sectional study to evaluate the competencies of PHC clinic nursing managers in two South African provinces using a 360 degree approach that included their supervisors and those nurses reporting to them (subordinate nurses). This discussion brings together and interprets the main findings from each of the six domains (financial management, communication, leadership and management, staff management, planning and priority setting and problem-solving) of the competency evaluation, it also outlines the recommendations that flow from these findings, and concludes the research study.

7.7.1 Financial management

Our results show that PHC nurse managers, supervisors and subordinate nurses provided the lowest ratings to financial management competencies compared to other categories. Hence, there was agreement on the need for training, albeit at different levels. The need for additional training in financial management among nurse managers is not unique to South Africa [41, 71]. In the United Kingdom and Australia, hospital nurse managers indicated that they lack confidence in financial management [47, 60, 395]. Nurse managers working in various community settings in South Africa also struggle with financial management and lack autonomy where budgets are concerned [41, 60]. A key recommendation contained in South Africa's NHI White Paper is decentralisation of budgets and finances to lower levels of the health system where nurse managers will play an important role in its implementation [50]. Financial management training is needed for these managers, but as a minimum, national and provincial health authorities should involve them in the preparation of annual clinic budgets. PHC nurse managers can contribute to budgeting process as they are aware of service delivery and community needs.

7.7.2 Communication

Nurse managers considered themselves to have high skills in communication contrary to their supervisors and subordinate nurses who indicated that they needed additional training. In other high income countries nursing management competencies include communication as critical for health systems strengthening [89, 240, 382, 385-388]. Notwithstanding study setting differences, our results are similar to a United Kingdom study among nurse managers which indicated additional training in communication as a need [395].

7.7.3 Leadership and management

The leadership and management functions that nursing managers encounter daily involve decision-making, delegating work, problem-solving, communication and acting with moral integrity [27, 41, 46]. That only a third of nurse managers indicated the need for leadership and management training in this study contradicts the findings of the job satisfaction survey among the same managers which found that the majority wanted training in leadership and management [41]. The differences could be due to different instruments that were used, social desirability bias, or different understandings among nurse managers, supervisors and

subordinate nurses about appropriate leadership and management competencies. Nonetheless, the implementation of PHC reforms in South Africa necessitates nursing managers with good stewardship and leadership skills [14, 69]. PHC nurse managers need opportunities to refine their leadership skills through personal reflection, mentorship and formal training programmes. Such leadership and management development opportunities could also influence their job satisfaction [41].

7.7.5 Staff management

Several nursing managers in our study perceived themselves to be competent in the staff management, but more than half of their supervisors and subordinate nurses indicated that these nurse managers need further development. Nurse managers self-ratings on staff management contradicts the findings from the diary and job satisfaction studies where they expressed difficulties in managing unplanned staff absences and human resources shortages [27, 41]. Therefore, these PHC managers need training in staff management to steer complex health system changes in the face staff shortages [396]. In Taiwan, improved staff management facilitates teamwork, boosts morale and reduces staff resignations or career changes [397].

7.7.6 Planning and priority setting

Our results suggest that nurse managers require additional training in planning and priority setting. These results could be explained by three factors. Firstly, numerous times during the day, nurse managers are forced to abandon managerial duties to provide direct care to patients [27, 41]. Secondly, the diary study among a sub-set of these clinic managers found that their supervisors were unsupportive and often derailed the activities of these nurse managers, through unannounced clinic visits and setting unrealistic targets and deadlines [27]. This could explain the lower scores of the supervisors. Thirdly, the lower scores from subordinate nurses could be because they perceive PHC nurse managers to have weak planning and priority setting skills as they bear the brunt of heavy workloads or other health system deficiencies [27, 41].

Our findings are supported by other studies. International studies examining PHC and hospital management teams found competency gaps in planning and priority setting which have negative consequences for health service delivery [56, 244, 395, 398]. Studies in LMICs note that planning and priority setting is a skill confined to lists of activities rather than coordinated

processes with measurable outcomes and procedures for monitoring performance of PHC clinics [56, 399]. Planning and priority setting skills are necessary for health systems strengthening to address deficiencies but they have received insufficient attention in nurse education and training [400].

7.7.7 Problem-solving

In contrast to the perceptions of nursing managers, their supervisors and subordinate nurses indicated the need for training in problem solving. The differences in ratings on problem solving among the three groups could be because the delegation of authority to solve problems resides with the district health managers [27, 41]. These PHC nursing managers had indicated in another study that they had problems getting basic operational requirements due to complex procurement systems that they could not override [27, 41]. Another South African study with PHC facility managers indicated that health system deficiencies hamper their attempts to solve service delivery problems, deal with public and community health issues [71]. Although carried out in a different context, a Turkish study on problem-solving abilities of hospital nurse managers highlighted several shortfalls [246, 401]. Nursing managers in Nicaragua [67], Uganda [402], Liberia [47] and the Gambia [403] who have effective problem-solving skills contribute to health systems strengthening and improve quality of care [401]. Hence, continuing professional development programmes should include problem-solving skills for PHC nursing managers.

This study found that the majority of nursing managers perceived themselves to be competent (very high skills, no training needed) for the five competency dimensions of communication, leadership and management, staff management, planning and priority setting; and problem-solving (Table 7.1) when compared to the ratings of their supervisors and subordinate nurses. The higher self-rating scores by the PHC nurse managers was also found in another study [245] where employees overestimated their skills, making it difficult to give meaningful feedback [404]. Other 360 degree evaluations have also found that individuals tend to rate their own competencies higher compared to their peers, supervisors or those reporting to them [250, 251, 391, 393, 404, 405]. An Iranian study that compared the competency assessments of hospital practising nurses with those of their head nurses found similar differences, with head nurses rating the practising nurses much lower compared to the nurses themselves [406]. However, it is difficult to make direct comparisons with this Iranian study because of

differences in methodologies used and different level of health facility (PHC clinic vs hospital).

In our study, both supervisors and subordinate nurses rated PHC nursing managers lower on all domains and there were poor levels of agreement between the self- ratings of nurse managers, and the ratings of supervisors and subordinate nurses. The ratings of supervisors and subordinate nurses suggest that the PHC clinic managers need additional training on all domains. These differences could be because of systematic rater biases [407] such as personal perceptions and experiences which influence the rating process. The use of a Likert scale may have contributed to these results as by their nature they allow respondents to choose an option that best aligns with their perception [408]. Objective measures to determine the competencies of nurse managers and combining it with self-perceptions of training are needed in future research.

Nonetheless, the 360 degree evaluation approach was useful in examining the perceptions and agreement of PHC clinic nurse managers among multiple raters i.e. nurses managers themselves, supervisors and subordinate nurses. The 360 degree evaluation also increased the awareness of the nursing managers of the competencies needed in a PHC clinic, and the perceptions of others of these competencies [407]. The low scores in financial management by the PHC nurse managers themselves suggest the need for additional training in this area.

Our study response rate was excellent. The results suggest a reliable and valid tool to measure PHC nurse managers' competencies with high levels of internal consistency. Our tool, combined with more objective measures of competencies, could be relevant for measuring nurse managers' competencies in other parts of South Africa or other LMICs settings, or to serve as a baseline for monitoring progress in the two study provinces.

7.8 Conclusion

South Africa's health sector reforms based on PHC require competent nursing managers to ensure successful implementation of these reforms. Although the socio-demographic characteristics of PHC nursing managers show that they have extensive experience in the health sector our study findings suggest the need for additional training in financial

management. These skills in financial management could be enhanced through continuing professional development programmes. Furthermore, additional training must be aligned to health system goals and supported by a positive practice environment.

7.9 Author contributions

PM contributed to the conceptualisation of the study; LCR is the Principal Investigator and PM's PhD supervisor who conceptualised and designed the multi-year Research on the State of Nursing (RESON) project. JL and PM analysed the data with input from LR and contributed equally in writing; LCR contributed to the writing, substantial revision and editing of the manuscript, and interpretation of study findings. All authors read and approved the final draft of the manuscript.

7.10 Acknowledgements

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7.11 Conflict of interest and funding

This PhD study was part of the RESON project funded by the Atlantic Philanthropies (Grant ID: 15 962). The views expressed in this study are those of the authors and not of the funder. The authors declare no conflict of interest, financial or otherwise.

7.12 Paper context

Previous research on this topic has focused on the competencies of district and hospital managers. This paper adds new knowledge on the managerial competencies of PHC clinic nursing managers in South Africa through the use of a 360 degree evaluation method. We recommend that the financial management competencies for PHC clinic nurse managers should be prioritised in continuing professional development programmes in South Africa.

The tool developed in this study could be used in other low and middle-income countries, and complemented with the use of more objective measures of competence.

CHAPTER 8: DISCUSSION AND RECOMMENDATIONS

8.1 Introduction

The aim of this PhD study was to analyse the nature and dynamics of PHC nursing management in two South African provinces. The study was guided by an adaptation of the WHO's conceptual framework, which included: adequate number of managers; enabling working environment; functional support systems; appropriate competencies; and job satisfaction. The study used a mixed methods cross sectional design to answer the research objectives. The quantitative component of the PhD study consisted of three strands: job satisfaction survey; facility assessment; and competency assessment survey, while the qualitative component of the study consisted of the diary study conducted with a sub-set of the nursing managers (Chapter 3).

This final Chapter brings together the findings of the various studies (Chapters 4, 5, 6 and 7), highlights the scholarly contribution of the PhD, outlines the recommendations that flow from the study findings, and concludes with proposals for future research.

8.2 Key findings

The key findings that emerged from this PhD study are shown in Table 8.1 and discussed further below.

Table 8.1 Summary of PhD findings

Key findings
• In 2012, the majority of PHC clinic nursing managers were female (92%), black, married, with a mean age of 49 years (SD = 7.9). More than one third (36%) had between 21-30 years of professional nursing experience, and 90% were in permanent positions. At the time, only 29% were aware of PHC re-engineering reforms.
• The overall job satisfaction score for PHC clinic nursing managers in GP was 142.80 (SD± 24.3) and in the FS 143.41 (SD± 25.6), out of a possible score of 215. The predictors of job satisfaction were: working in a clinic of choice (RRR = 3.10), being tired at work (RRR = 0.19) and experience of verbal abuse (RRR = 0.18).
• None of the 110 clinics in the two provinces obtained scores of 100% for the vital elements of the National Core Standards (NCS). These vital elements are defined in the NCS as those that promote the safety of patients and staff to prevent unnecessary harm or death. Clinics in Gauteng Province obtained higher scores on the vital elements, compared to those in Free State Province. There was an association between PHC clinic compliance to the NCS and nursing managers' experience of violence in the year preceding the study.
• Overall, clinic nursing managers rated themselves high on the domains of communication (8.6), leadership and management (8.67), staff management (8.75), planning and priority setting (8.6), and problem-solving (8.83), compared to their supervisors and subordinate nurses. The exception was the financial management domain where supervisors (6.56), and subordinate nurses (7.31), including the nursing managers themselves gave lower ratings (7.94), thus suggesting the need for additional training.
• The diary study provided rich insights into the work experiences of these clinic managers. Health system deficiencies, human resources challenges, leadership and governance issues and unsupportive management environment dominated the diary entries, and coalesced to produce many negative emotions experienced by these PHC clinic nursing managers.

8.2.1 Profile of PHC clinic nursing managers

This PhD was one of the first studies that used the WHO framework [46] to determine the profile of PHC nursing managers in Gauteng and Free State Provinces. These managers are the bedrock of the South African health system, with decades of experience (21-30 years). The majority of these nursing managers (75.9%) have specialised PHC training and management qualifications. Another positive aspect is that 90% of these managers were in permanent positions. The combination of experience, formal qualifications and stability through security of tenure is likely to facilitate ongoing health system reforms at the PHC level.

Similar to studies in Canada and Sweden [409-412], this PhD study found that the majority of clinic nursing managers in the two provinces were female (91.7%). This is in contrast to other African studies that found that health service managers tend to be male, medical doctors [100,

413]. In South Africa, race, class and gender continue to be central to the discourse in nursing [12, 13]. It goes beyond the scope of this thesis to discuss on how the gendered nature of PHC nursing managers influence their narratives, experiences and their job satisfaction. This is an area for future research.

The mean age of 49 years of these nursing managers is of concern, with 46.3% of managers above the age of 51 years [41]. This means that many of these managers will reach retirement age in 10 to 15 years, and their experience and skills will be lost to the health system, unless there is succession planning. This finding is similar to studies in Australia [414], the United Kingdom (UK) [415], Canada [416], Kenya [417] including South Africa [2, 7, 11, 20, 147]. The ageing nursing workforce is a global concern that requires pro-active planning by policy-makers [418]. As highlighted in Chapter 1, both the SANC and the national Strategy on Nursing Education, Training and Practice recognise the challenge of an ageing nursing workforce and the impending retirement of many professional nurses across the country [2, 11]. However, very few, if any of the recommendations of the strategic plan have been implemented.

8.2.2 Job satisfaction

In Chapter 2, I pointed out that there is a dearth of studies on the job satisfaction of PHC nursing managers. Job satisfaction of nursing managers is important because of the links to individual performance and quality of patient care outcomes. This PhD generated new knowledge on the overall levels of job satisfaction of these managers in two South African provinces. The study also generated information on the sub-scales of: personal satisfaction; workload; professional support; salaries; professional prospects or career advancement; and standards of care. The main predictors of job satisfaction were: working in a clinic of choice; being tired at work; and experience of verbal abuse [41].

The importance of choice in overall job satisfaction of nurses has also been found in studies in Turkey [140, 310] Mozambique and Peru, because it impacted on access to housing, educational opportunities, availability of equipment and medicine, salaries, recognition, personal and family preferences [419, 420]. This PhD study did not examine the multiple factors associated with clinic of choice. Nonetheless, the study finding suggests that there should be consultation with nursing managers as they are experienced and highly skilled professionals and greater flexibility in the health care system to allow nurses to indicate their clinic preferences.

Experience of violence in the workplace, whether as a victim or perpetrator, influenced job satisfaction as well as compliance to the NCS. The diary study complemented the job satisfaction study and highlighted that PHC clinic nursing managers in the two provinces were concerned about workplace violence. Studies in other countries have found that violence in clinics creates unsafe workplaces which damage professional relationships among health care workers and between health care workers and patients [378, 421-423]. The prevention of workplace violence is a critical element of positive practice environments and also benefits both staff (e.g. retention) and patient (e.g. satisfaction with care) outcomes [142, 424-427]. The identification and reporting of workplace violence in health facilities further contribute to enabling work environments [421, 427]. In the South African context, raising awareness on workplace violence and implementation of all the recommendations contained in the national strategic plan are important strategies.

The job satisfaction predictor of "being too tired to work" was underscored by the diary entries and the moving accounts of the exhausting nature of clinic management [27, 41]. There are several possible explanations for this result. The majority of nursing managers complained of health system deficiencies, staff shortages (due to absenteeism) and spending inordinate amounts of time on direct patient care and looking for additional resources in their clinics [27, 41]. In the more rural Free State province, PHC clinic managers complained that absenteeism by nursing staff meant that they had to multitask and provide clinical care which added to their workloads and feelings of exhaustion [27]. The issue of staff shortages due to absenteeism in the health system and the heavy workloads imposed on existing staff have been reported in high income and LMICs [110, 284, 428-430]. A South African study found that staff shortages due to absenteeism are influenced by the workplace, the nature of the job, personal and organisational characteristics and whether it is planned or unplanned, and voluntary or involuntary [25].

Tired nurses have implications for staff retention and quality of care provided, which in turn influences overall health system performance [25, 149, 431-434]. The factors that contribute to the exhaustion of nursing managers require active intervention.

8.2.3 Work environment and functional support systems

The open ended question in the job satisfaction survey (Chapter 4) and the reflexive diary study (Chapter 5) provided clinic nursing managers with an opportunity to describe their work

environment. PHC nursing managers reported overwhelmingly unsupportive management environments [27, 41], and that their supervisors treated requests for additional resources (staff, medicines, consumables, management of insubordinate staff etc.) with disrespect or indifference [27]. In Gauteng, for example, unsupportive management environments were exacerbated by poor communication between the clinic managers and their supervisors. Other South African studies have found that poor communication, fragmented health service planning, conflicting demands, inadequate co-ordination between national and provincial health departments compromise PHC management and service delivery [32, 33, 35]. Other studies have also found that unsupportive management environments and sub-optimal leadership constrained the work environment of PHC nursing managers [27, 33, 41, 61, 68].

The diary study revealed that unsupportive management environments resulted in the many negative emotions of anger, frustration and helplessness experienced by these clinic managers. Other studies have also reported on the links between unsupportive work environments and negative emotions [131, 137, 140, 149, 213, 305, 307, 308, 432, 434-441].

The PHC facility assessment (Chapter 6) corroborated the findings in both the job satisfaction survey and the diary study, and provided empirical information on the deficiencies in the work environment, and of support systems, when measured against the NCS. The majority of PHC clinics lacked essential medicines, back-up fridges, generators, comprehensive security, entrances for people with disabilities, fire extinguishers and staff training needed to comply with the NCS, enabling work environments and functional support systems.

Essential medicine stock-outs in the clinics were most pronounced for STIs, HIV&AIDS, hypertension, immunisation and reproductive health programmes. Although both provinces had medicine stock-outs, GP was most affected at the time of study. The medicine stock-outs could point to the shortages of pharmacists. In both the job satisfaction survey and the diary study, clinic managers complained about the time spent doing pharmaceutical duties, amidst all their other responsibilities. The other reason for drug stock-outs could be problems with centralised supply chain management system that were not flexible to local clinic needs [27].

Other studies in South Africa have found that insufficient money, poor budgeting, sub-optimal management and shortages of pharmacists fuel medicine stock-outs in PHC clinics [366, 367]. A South African survey on national stock-outs found that the two study provinces (GP and FS) were most affected compared to the other seven provinces [367]. However, one third of all people worldwide are affected by medicine stock-outs highlighting a universal

problem [442, 443]. Because South Africa has the largest ART programme in the world it is important for DHS management to ensure that there is a consistent supply of these life-saving medicines [367]. The availability of drugs in clinics boosts the public's trust in health services and improves access and utilisation of health facilities. The NCS underscore the importance of a well-organised chain management system for essential medicines in the health system [22, 206, 367]. Since one of the fundamental goals of the health system is to improve the health of the population, PHC clinics should have in stock all the drugs required for PHC services and all chronic conditions as recommended by the WHO. [92]. Functional supply chains and budgets to ensure the availability of essential medicines are necessary to improve quality of care at any level of the health system [46]. In Kazakhstan, managers had positive experiences with functional support systems that allowed them control and autonomy over the budget at facility level which improved quality assurance mechanisms and compliance to standards [444]. Decentralisation and improving the management of the supply chain including budget control may assist clinics in responding to urgent needs instead of depending on a central procurement process. However, giving clinic managers' control of the budget needs to be accompanied by the appropriate financial management competencies.

This PhD study found that some clinics in the Free State and Gauteng provinces did not have fire extinguishers. Clinics have the obligation to comply with minimum occupational health and safety standards and this includes having fire extinguishers in the event of a fire [445]. The study also found that some clinics in both provinces did not having entrances for people with disabilities. According to the Occupational Health and Safety Act, clinics must provide facilities for people with disabilities including special access ramps and entrances [445]. Entrances for people with disabilities facilitate easier evacuation in the event of an emergency [445]. The refurbishment of these health facilities in the study provinces need to take account of availability of routine maintenance programmes, occupancy levels, the age of the buildings, infrastructure and equipment [446].

Generators and back-up fridges are important in health facilities to maintain the cold chain. However, in both provinces, some clinics did not have generators and back-up fridges. This could be because of budgetary constraints or procurement issues. Having solar-powered refrigerators is a cheaper and cost effective way of maintaining the cold chain in the event of power cuts in the clinic. Using solar-powered refrigeration for vaccine storage where other

sources of reliable electricity are inadequate or costly has been proven to be effective in LMICs [447]. The shortage of generators makes Gauteng and Free State's PHC services vulnerable in the event of power failures. Hence, it is important that clinics in both provinces be provided with generators or solar powered refrigerators. The supply of solar powered back-up fridges or alternative mechanisms to maintain the cold chain should also be considered by district management [370, 372, 447].

The study found that some clinics lacked staff training. Possible reasons might be that staff training opportunities are available but because of staff shortages it is not possible to attend or it could be that staff training opportunities simply do not exist in the clinics. Other studies have found that investment in staff training is limited in many LMICs [7, 28, 448]. Staff training is important in improving quality of care, in encouraging compliance with prescribed standards and it keeps nursing staff up-to-date with changes in health services delivery [28, 448].

The facility assessment found gaps in security of the clinics. This was also reported in the job satisfaction survey and the diary study. PHC nursing managers indicated that they were concerned about the lack of comprehensive security in the clinics as it made them vulnerable and exposed both staff and patients to criminal acts. The lack of security also influences job satisfaction and retention of PHC staff [142, 423, 449]. Hence, the security concerns of these PHC clinic nursing managers need to be addressed, and this will require additional resources because infrastructural changes are needed to ensure compliance with the NCS.

8.2.4 Evaluation of competencies

A key component of this PhD was the evaluation of the competencies of clinic managers in order to inform training requirements or the content of continuing professional development programmes. A novel aspect of the PhD was the use of 360 degree evaluation on six domains: communication; leadership and management; staff and financial management; planning and priority setting; and problem solving. The competency scores revealed consensus among the three groups of rates (nursing managers, their supervisors, and their subordinates) that the PHC nursing managers needed additional training in financial management. The finding on perceived financial management competencies could be because this aspect in not covered in pre-service nursing training, and because financial management (including budget planning) is not devolved to PHC clinic managers. Other studies have also recommended that clinic managers need additional financial management training [450-452]. The studies also

recommended that financial management and business practice knowledge should be included in nursing educational programmes and prioritised in CPD strategies [56, 218, 387, 452]. A 2013 South African study concluded that all nursing managers need "appropriate qualifications and training" as a key requirement for the success of PHC re-engineering [69].

The WHO framework underscores the importance of appropriate competencies as a pre-requisite for strengthening leadership and management in the health system. Furthermore, the South Africa's White Paper on the NHI envisages decentralisation of financial management to clinic managers in the long term [50]. The study provides concrete indicators which can assist with pro-active planning to develop the financial management competencies of PHC clinic managers in a phased manner. This will require decisions on the content of pre-service nursing education programmes, as well as in-service or CPD programmes.

Although nursing managers scored themselves higher on the other five domains, both the supervisors and their subordinates were of the opinion that they require further training. Although these nursing managers have extensive health sector experience, the ICN recommends CPD for all professional nurses (including managers) as good practice, and to ensure that the best possible care is provided to patients and communities. South Africa's national Strategic Plan on nurse education, training and practice contains specific recommendations on CPD. Hence, the study findings point to the need for the speedy implementation of recommendations contained in the Strategic Plan.

8.3 Recommendations

A vision for PHC nursing management that draws on the PhD conceptual framework and the findings from the study is shown in figure 8.1 below. This vision informs the study recommendations, shown in Table 8.2. The recommendations also show the responsibilities of different role players, notably the individual nursing managers, the relevant health authorities, whether at national, provincial or local level, the SANC, and nursing education institutions.

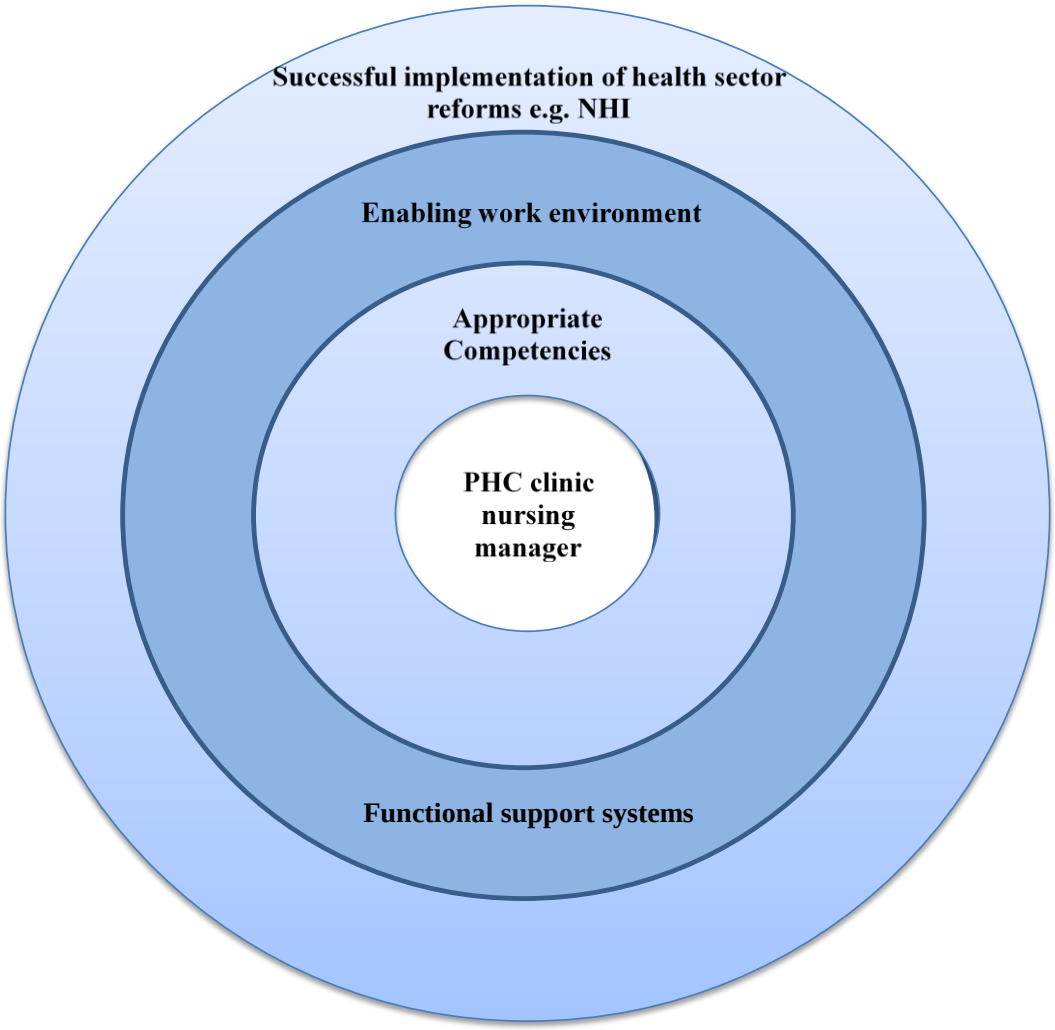

FIGURE 8.1: VISION FOR PHC CLINIC NURSING MANAGEMENT

At the centre of the vision for PHC clinic management is the individual nursing manager, who is committed and passionate about PHC, and who enjoys working in the clinic, because he/she is working in a clinic of choice. However, this is only possible if the individual clinic manager has the competencies to work in the clinic (shown in circle 2). These competencies could be developed through both pre-service, in-service/CPD and specialised PHC management training. The positive practice environment and functional support systems are shown in circle 3. Circle 4 illustrates that successful implementation of health sector reforms are dependent on competent PHC nursing managers and enabling work environments and functional support systems (circles 1-3).

The recommendations are shown in table 8.2, and discussed below.

Table 8.2: PhD Study recommendations

Recommendation	Individual clinic manager	Health authority (national, provinvial, local)	SANC	Nursing education institutions
1. Familiarisation with or training on health sector reforms (e.g. NHI, national core standards, etc.)	X			X
2. Request training to enhance all competencies, especially in financial management	X			
3. Provide leadership to implement health sector reforms at individual clinic	X			
4. Self-assessment and monitoring of compliance with NCS	X			
5. Engage with supervisors on constraints in working environment and support systems	X			
6. Advocate for additional resources for PHC	X	X		
7. Engage with other PHC clinic managers and share good practices	X			
8. Involvement of nurses in decision-making, including choice of clinic		X		
9. Revision of the PHC clinic supervision manual to respond to health sector reforms		X		
10. Careful selection and orientation of clinic supervisors		X		
11. Ongoing training and refresher courses for clinic supervisors		X		
12. Obtain feedback from PHC clinic managers on supervision and vice versa		X		
13. Monitoring the relationship between clinic managers and supervisors, and institute remedial action (if necessary)		X		
14. Provide training in quality assurance and compliance to the NCS		X		X
15. Provide technical support to clinic managers to comply with NCS		X		
16. Dedicated budget to enable clinics to comply with NCS		X		
17. Ensure functional support systems, prioritising NCS		X		
18. Ensure implementation of effective performance management and development systems		X		
19. Develop and implement strategies to prevent workplace violence		X		X
20. Finalise date for implementation of CPD regulations for all professional nurses			X	
21. Implement CPD regulations for all professional nurses		X	X	X
22. Revise or develop policies on workload and staffing norms		X		
23. Workforce and succession planning to deal with an ageing nursing workforce		X	X	

As highlighted in table 8.2 above, it is important for PHC clinic nursing managers to familiarise themselves with health sector reforms i.e. the NHI, the NCS and PHC revitalisation. Familiarisation with reforms will enable nursing managers to set priorities and to understand the implications of various health system reforms on their clinics and health service delivery. Individual clinic managers should actively seek continuous professional development on all aspects of clinic management, especially financial management skills. Enhancing their financial management competencies will allow individual clinic managers to draw up clinic budgets and to manage allocated finances actively.

Good leadership and management at PHC level are crucial to the successful implementation of health reforms and this entails getting clinics to comply with the NCS. Compliance to the NCS has become mandatory with the establishment of the Office of Health Standards Compliance (OHSC) in South Africa. Individual clinic managers can begin by creating "NCS clinic teams" to assist in monitoring and keeping up-to-date all the vital category requirements. The PhD study's facility checklist list had 39 vital category requirements for PHC facilities. This is a minimalist number for "NCS clinic teams" to monitor continuous quality improvement efforts within the facility. National, provincial and local health authorities should emphasise the importance of quality improvement strategies and "best practices" in clinics to PHC clinic managers, and support clinic managers with ongoing efforts to meet the NCS.

Nursing education institutions could assist by offering ongoing quality assurance and compliance training courses for nurses. Individual nursing managers also need to engage constructively with their supervisors and articulate their successes and challenges in the work environment. Regular engagement with their supervisors about the status of their clinics could facilitate and improve access to additional clinic resources.

Health authorities have a statutory obligation to provide functional support systems and supportive management environments to PHC clinic nursing managers and this includes taking active steps to address the health system deficiencies found in this study. Providing additional resources will enable clinics to comply with the NCS. Furthermore, it is important to develop and implement strategies that prevent workplace violence as it impacts on job satisfaction and compliance to health standards at the PHC level. Nursing managers who work in safe and violence-free environments are more likely to comply with the NCS. In addition, the ICN and the South African strategic plan on nursing education and training advocate for positive practice environments for nurses [11, 152, 153]. Furthermore, the NHI White paper

indicates that PHC clinics will require certification by the OHSC as a pre-requisite for accreditation and in order to contract health care services under the NHI fund [50].

The diary study and responses to the open-ended job satisfaction survey indicate that nursing managers want supportive supervision suggesting that their supervisors may need refresher courses, training or mentoring in supervision skills. The clinic supervision manual is an excellent base document that could be revised to respond to health sector reforms and the concerns expressed by nursing managers. There is need to select supervisors who espouse the virtues of supportive management in order to have clinic nursing managers who feel valued, and enjoy their work. This necessitates the need to monitor the two-way relationships between supervisors and clinic managers and to have mechanisms for conflict resolution, and redress if needed. PHC nursing managers underscored the importance of getting positive, constructive feedback, recognition for their health system contribution and active support from their supervisors. PHC clinic nursing managers recommended the need for effective performance management and development systems. Health authorities need to ensure that these performance management systems are implemented to ensure that individual PHC clinic nursing managers are assessed in relation to performance work plans, goal achievement, and key management competencies. Having an effective performance management development system could inform the CPD needs for clinic nursing managers. The SANC has delayed the implementation of CPD for all nurses, despite the CPD provision being stipulated in the regulations to the Nursing Act. There is urgency to finalise the date of implementation. Nursing education institutions can assist professional nurses by offering relevant courses. The HRH and the strategic plan for nurse education training and practice contain specific recommendations on the CPD requirements and performance monitoring of health care professionals especially nurses.

In light of PHC nursing managers' complaints about the workload, there is need for objective assessments on workloads and staffing norms in the clinics. This is important in light of their increased roles and responsibilities as part of South Africa's health sector reforms and is one of the goals of the 2012/13-2016/17 HRH strategic plan.

PHC clinics are being managed by an ageing nursing workforce. It is important for national, provincial and local health authorities to start succession planning in the health system. Succession planning assists with the identification of suitable clinic managers for the future. Succession planning needs to be supported by the relevant mentorship, training and leadership

development programmes to prepare candidates for the complex nature of the clinic management.

Last but not least, it is important for nursing managers to share good practices on leadership, staff management, quality of care and assurance and continuous professional development with each other so as to improve PHC clinic management continuously.

The study findings, centred on the adapted WHO framework, indicate the need to improve the overall functioning of the health system at the PHC clinic level. A multi-faceted approach is needed to address all the interconnected factors to improve nursing management at the PHC level. At the same time, the skills and wealth of experience of nursing managers, and their commitment to excel despite difficult work circumstances, should be commended. Positive feedback and acknowledging their strengths do not require additional resources and are likely to encourage these nursing managers to enhance both individual and clinic performance.

The PhD study findings could be used to inform health workforce planning and nursing management at the PHC level in the two study provinces. The findings could also inform discussions on strategies needed to improve PHC clinic management in other South African provinces, and may have relevance for similar settings in other LMICs. The recommendations are practical, and many of these could be implemented within existing resources (e.g. sharing best practices among managers).

The study has generated new knowledge on the nature and dynamics of nursing management at PHC level, specifically their job satisfaction, and the factors influencing their job satisfaction, their work experiences, as well as the nature of the work environment and support systems. The PhD study tools could be used and/or adapted by other researchers, wishing to answer complex health systems research questions. The use of diaries in health systems research is creative, as they can be used by managers as tools for reflection, and by other researchers to get a more nuanced understanding of experiences and perceptions of front-line health service managers.

8.4 Recommendations for further research

This PhD research was a cross sectional study design, done in two of the nine South African provinces. Future research could examine whether the nature and dynamics of nursing management differ or are similar in the other seven South African provinces, or in other

countries in the Africa region. Although there is a growing body of knowledge on the health workforce, studies tend to be cross sectional, making it difficult to determine "cause" and "effect". This points to the need for long-term cohort studies to examine whether and how the nature and dynamics of clinic nursing management change over time. Such cohort studies could enable analyses on changes in job satisfaction levels, turnover, competencies and perceptions of the work environment and support systems.

The PhD study found that health system deficiencies work against the effective management of PHC clinics. The list of problems elicited in this study is very long, and could be overwhelming for both managers and policy-makers alike. More research is needed on the most cost-effective strategies to achieve positive health system change, which in turn will improve population health outcomes. There is need to examine issues of PHC clinic coverage, availability of human resources and workloads. Another area for future research is the evaluation of specific interventions to strengthen PHC service delivery, in controlled environments, and using more complex study designs. In light of the study's findings on the association between workplace violence on the one hand, and compliance to health care standards as well as job satisfaction on the other hand, further research is needed to confirm these findings. Research also needs to focus on strategies to break this cycle of violence, and how best to create positive practice environments. The PhD found contrasting perceptions on the competencies of PHC clinic nursing managers. Future research should include more objective measures of competencies to inform the ongoing development and training needs of PHC nursing managers.

Lastly, there is need to research the good management practices, the positive experiences of PHC clinic nursing management in the South African health system, the individual and organisational factors that account for this, and the impact on patient care, and the health care system.

8. 5 Conclusion

This PhD study has analysed the nature and dynamics of nursing management at PHC clinics in two South African provinces. Through the use of a representative study sample, the PhD has underscored the importance of nursing managers, and has generated new knowledge on the overall levels and predictors of job satisfaction, and the perceived competencies of these managers, together with information on the work environment and support systems. The successful implementation of PHC revitalisation and UHC reforms addressing cannot be

achieved without addressing the concerns of PHC nursing managers, and the health system issues affecting them.

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APPENDICES

Appendix 1: PhD ethics approval

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/09 Ms Pascalia Munyewede

CLEARANCE CERTIFICATE	**M120248**
PROJECT	Analysing the Nature and Dynamics of Nursing Mangement at Primary Health Care Clinics in Two South African Provinces
INVESTIGATORS	Ms Pascalia Munyewede.
DEPARTMENT	School of Public Health
DATE CONSIDERED	24/02/2012
+DECISION OF THE COMMITTEE*	Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 20/04/2012 **CHAIRPERSON** .....
(Professor PE Cleaton-Jones)

*Guidelines for written 'informed consent' attached where applicable
cc: Supervisor : Prof Laetitia Ripel

DECLARATION OF INVESTIGATOR(S)
To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix 2: Gauteng Province ethics approval

CONDITIONS OF APPROVAL OF A RESEARCH STUDY PROPOSAL

health and social development
Department: Health and Social Development
GAUTENG PROVINCE

Vision of the Department

"To be the best provider of quality health and social services to the people in Gauteng"

POLICY, PLANNING AND RESEARCH (PPR)
Enquiries: Siviwe Mkoka
Tel: +2711 355 3249
Fax: +2711 355 3675
Email: Siviwe.mkoka@gauteng.gov.za

CONTACT DETAILS OF THE RESEARCHER	
Date	15 April 2011
Tel number	(Office/work) +2711 717 3436
Email	laetitia.rispel@wits.ac.za
Researcher /Principal Investigator (PI)	Prof L Rispel and others
Supervisor	Not Applicable
Institution	Centre for Health Policy, School of Public Health, University of Witwatersrand
Research title	**The Nature and Dynamics of Nursing Management in Primary Care and Hospital Settings**

This approval is granted only for a research study entitled "**The Nature and Dynamics of Nursing Management in Primary Care and Hospital Settings**" which will be conducted by Prof L Rispel and her team

Appendix 3: Free State Province ethics approval

health
Department of Health
FREE STATE PROVINCE

18 April 2011

Professor Laetitia Rispel
Centre of Health Policy, School of Public Health
University of Witwatersrand
JOHANNESBURGG
2000

Dear Professor Rispel

Subject: REQUEST FOR STUDY APPROVAL: THE NATURE AND DYNAMICS OF NURSING MANAGEMENT IN HOSPITAL AND PRIMARY HEALTH CARE SETTINGS

The above mentioned correspondence bears reference.

Permission is hereby granted for the above – mentioned research on the following conditions:

- Written and informed consent to be obtained from the subjects.
- The subjects should be protected from all forms of harm.
- Study should not interfere with service delivery.
- The results of the study should be communicated to Head: Health in writing.

Trust you find the above in order.

Kind Regards,

Dr S Kabane
HEAD: HEALTH
Date: 19/04/2011

Head: Health
PO Box 227, Bloemfontein, 9300
4th Floor, Executive Suite, Reproko House, cnr Maitland and, Hilsay Road, Bloemfontein
Tel: (051) 409 1100/8 Fax: (051) 408 1255, e-mail: [illegible]

Appendix 4: Procedure Manual

THE NATURE AND DYNAMICS OF NURSING MANAGEMENT IN PRIMARY HEALTH CARE CLINICS IN TWO SOUTH AFRICAN PROVINCES

INTRODUCTION

- This research study procedure manual sets out the procedures for the study on the nature and dynamics of nursing management in Primary Health Care (PHC) Clinics. Each member of the fieldwork team must follow the manual to ensure successful execution of the study.

- Every team member must know all aspects of the study procedure manual.

- We must all work together as part of a team. This means that all team members must help out other members of the team when necessary.

Remember

- ✓ **In any study, preparation is very important to ensure that the recruitment of study participants and data collection processes run smoothly.**
- ✓ **Before the actual start of the fieldwork, all project questionnaires, materials and equipment needed for the successful execution of the study should be ready.**

Ethics and maintaining confidentiality

This research has been approved by the Human Research Ethics Committee of the University of the Witwatersrand, Johannesburg. The Gauteng and the Free State Provincial Departments of Health and the municipalities that are part of the study also gave permission to do the study. We list the steps that have been and must be taken during fieldwork to ensure and maintain an ethical approach to the study.

1. Consultations have been held and a RESON Advisory Committee (RAC) has been set up for the overall project. The RAC acts in an advisory capacity to provide expert knowledge related to the conceptualisation, methodology, ethics, and review of findings and implementation of recommendations. They also help to promote the project. We are

targeting three groups of participants: nursing managers in charge of the clinic, frontline nursing staff and patients visiting the clinic.

2. Potential participants must be informed about their rights before participating in this study. They must be told that participation is voluntary and that they are free to withdraw from the study at any time.
3. Fieldworkers must give potential participants an information sheet to read and a consent form to sign if they agree to participate in the study. It is helpful to memorise the information sheet and the consent sheet so that if the person chooses not to read it you can explain it in a conversational way.
4. Confidentiality must be maintained throughout the study. Please explain to the study participant that you are not a staff member of any health department and they are guaranteed that no one will know the answers that they give us so that he or she is at ease. Let the participant know that all data collected will be assigned a code and will be used for study purposes only. The answers given by participants will be combined and analysed to look for common themes and experiences. All consent forms will be stored in a locked office or locked filing cabinet.
5. Please answer all questions that participants may have. If you do not know the answers to any questions please contact **Pascalia** on **072 083 0023**.
6. All participants will be given the name and telephone number of the principal investigator should they have any questions about the study.

Remember:

- ✓ **Professional behaviour of the research team is critical at all times.**
- ✓ **Confidentiality, privacy and respect for individuals are not negotiable and must be adhered to.**
- ✓ **The information sheet is critical to give to nurses even if they choose NOT to**

What is the PHC Component about?

In South Africa nurses are the largest group of health care providers at the PHC level. The recent emphasis on the re-engineering of PHC proposes additional responsibilities for clinic managers, but there is limited information available in South Africa about the nature and dynamics of nursing management at the PHC level.

We are conducting the PHC study to collect information in order to understand managers' perceptions of their day to day working environment, linkages to workforce management and health care delivery and the evolving role of, and changes in, nursing management.

Who is doing the study?

The study is being done by researchers from the Centre for Health Policy at the University of the Witwatersrand, Johannesburg. Atlantic Philanthropies is providing funding to conduct the study.

Who will be our target population?

Our target population is professional nurses registered with the South African Nursing Council, working as clinic managers (whether in a permanent or acting capacity) in provincial and local authority clinics in Gauteng and Free State provinces.

Other study participants will include:

- All frontline nurses working in the clinic during the study period.

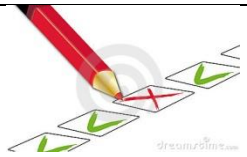
Where will the research study take place?

The PHC study will be done in 111 clinics that have been selected in the two provinces of Gauteng and Free State. In Gauteng Province, 62 clinics across all the five municipalities: City of Joburg, Ekurhuleni, Tshwane- Metsweding, Sedibeng and West Rand have been selected. In the Free State, 49 clinics across all the five district municipalities, Fezile Dabi, Lejweleputswa, Motheo, Thabo Mofutsanyana and Xhariep will be visited during the fieldwork.

The sample has been calculated very carefully, so if you find that the clinic you visit is listed as local authority when it is actually provincial or vice versa please let Pascalia know so that another clinic can be selected according to the sample calculations.

THE PHC STUDY COMPONENTS

We will use a range of research tools to collect data about the nature and dynamics of nursing management in PHC clinics. The study has been designed in a way that there are some selected clinics where all of the research tools will be used. The tools are listed in the table below:-

ALL CLINICS 	**SELECTED CLINICS**  In addition to those in column 1
1. Facility checklist 2. Job satisfaction survey of PHC nursing managers 3. Job-related task perceptions to be completed by: – Clinic Managers – Clinic Supervisors – Frontline Nurses	1. Keeping a diary (for clinic managers)

Once you enter the clinic, greet the clinic manager and thank them for allowing us to do the study. Introduce yourself to the clinic manager and give an overview of the study. Stress the importance of the study in generating information on nursing management and the delivery of health care in PHC clinics.

REMEMBER: First impressions are lasting impressions!

THE FACILITY CHECKLIST

The facility checklist assesses routine processes/transactions and resources (both human and material) in the clinic. There are seven sections in the facility checklist that cover topics about; clinic infrastructure and functionality, functional emergency trolleys, medical equipment and supplies, storage of medicines, maintenance of the cold chain, staffing service provision, community involvement and management.
You need to be vigilant when completing the checklist. You need to walk-through the clinic and observe carefully. You need to check that equipment is available and functional. Always ask to see the item and if possible confirm that it actually works. When approached in a methodical manner, the facility checklist can be completed within 30-45 minutes.

Some questions (for example those on policies, plans and procedures, will require a response from key clinic informants (ideally the clinic manager but usually a second in command should suffice). In that case, a simple 'Yes, it is available' response will not be adequate. One should politely ask to be shown evidence of this availability.

Some questions may require a judgment call, but please explain your rating or assessment.

AFTER COMPLETION OF THE FACILITY CHECKLIST REMEMBER TO:

- **Check that the checklist is complete**
- **Note the name of the clinic and the clinic type on the front page of the tool**

PROCEDURE FOR INVITING THE CLINIC MANAGER TO PARTICIPATE

- On the day of the clinic visit, **every clinic manager** should be invited to complete in the job satisfaction survey and the job related skills perceptions of the clinic manager.

The researcher/ fieldworker will approach the clinic manager at the most suitable/ convenient time and explain the study to them (use the fieldworker script).

Script for interviewer when requesting clinic managers to participate

My name is _____. I am from the Centre for Health Policy. We are doing a study on the nature and dynamics of nursing management in PHC clinics. One component of the research requires us to survey clinic managers about their job satisfaction as well as to get their views on job related skills person around management. We are inviting you to fill in these two questionnaires which are very short and will take around 15 minutes of your time to complete.

We have obtained ethics approval to conduct this study, and the provincial and local authorities have also given their approval. The questions are not a test, so there are no right or wrong answers. It is your opinions that are important. Everything that you say will be treated as private and confidential. Your name will not be used when the results of the study are presented or written up.

Your participation is completely voluntary. There will be no direct benefit to you if you participate in this study, but we hope that the information collected will be helpful in improving nursing management in South Africa. There will be no negative consequences if you do not want to participate.

This is an information sheet which explains the study in more detail

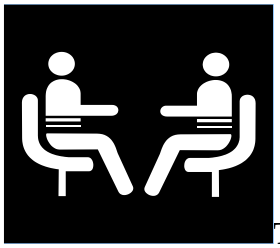
(GIVE THE CLINIC MANAGER THE INFO SHEETS).

You can either fill in the questionnaires yourself, or I could assist you with the completion of the questionnaires.

If the clinic manager refuses to participate, make a note of the refusal on the log sheet. Ask the clinic manager to sign or initial the statement of consent on the front of the questionnaire.

Remember for most clinic managers this may be their first time participating in a research study. Please explain the following to the clinic manager:

- ***How to indicate an answer***
- ***How to complete all the questions***
- ***The importance of completing the questionnaire***

 **THE INTERVIEW (Only follow these steps if the clinic manager wants assistance with filling out the form otherwise they should be able to fill it out on their own)**

 **At this point the interviewer should be in possession of the following forms:**

- **INFORMATION SHEET**
- **CONSENT FORM , THE JOB SATISFACTION SURVEY AND JOB RELATED SKILL PERCEPTIONS QUESTIONNAIRES**
- **EXTRA INFORMATION SHEET (to give copy to participant)**
- **ENVELOPE**
- **SMALL GIFT**

The interviewer should find a private spot, greet the participant, welcome her/him and put her at ease

- Remember to ask all the questions and to check that the form is completed.

AFTER COMPLETION OF THE JOB SATISFACTION SURVEY AND JOB RELATED SKILL PERCEPTIONS QUESTIONNAIRES

- Get the questionnaires from the participant if she completes them herself

- Check that the questionnaires are completed

- **Note the name of the clinic and the clinic type on the front page of the questionnaire.**

Thank the clinic manager for participation

HAND HER/HIM THE GIFT AS A TOKEN OF APPRECIATION

REMEMBER

CHECK THAT THE QUESTIONNAIRE IS COMPLETE

RECORD THE NAME OF CLINIC AND CLINIC TYPE ON THE FRONT PAGE

PROCEDURE FOR INVITING THE CLINIC SUPERVISOR TO PARTICIPATE

We are also interested in getting Clinic supervisors to complete the job related task perceptions questionnaire. If the clinic supervisor is available in the clinic, approach the clinic supervisor at the most suitable/ convenient time and explain the study to them (use the fieldworker script).

Script for interviewer when requesting clinic supervisors to participate

My name is _____. I am from the Centre for Health Policy. We are doing a study on the nature and dynamics of nursing management in PHC clinics. One component of the research requires us to get the opinions of clinic supervisors about the job related skills of PHC clinic managers. We are inviting you to fill in the questionnaire. It is very short and will take less than 10 minutes of your time.

We have obtained ethics approval to conduct this study, and the provincial and local authorities have also given their approval. The questions are not a test, so there are no right or wrong answers. It is your opinions that are important. Everything that you say will be treated as private and confidential. Your name will not be used when the results of the study are presented or written up.

Your participation is completely voluntary. There will be no direct benefit to you if you participate in this study, but we hope that the information collected will be helpful in improving nursing management in South Africa. There will be no negative consequences if you do not want to participate.

This is an information sheet which explains the study in more detail

Encourage the clinic supervisor to complete the questionnaire on the same day, and say that you will be there for the whole day to collect the form.

If the clinic supervisor refuses to participate, make a note of the refusal on the log sheet. Ask the clinic supervisor to sign or initial the statement of consent on the front of the questionnaire.

Remember for most clinic supervisors this may be their first time participating in a research study. Please explain the following to the clinic supervisor:

- ***How to indicate an answer***
- ***How to complete all the questions***
- ***The importance of completing the questionnaire***
- ***That she/he must ask any questions or assistance from you if needed***

***IMPORTANT:** If the clinic supervisor is not available in the clinic and has an office somewhere please approach the clinic manager. Explain to her that we would like to interview her clinic supervisor and we would like to have the clinic supervisors contact details. Please write down these details so that Pascalia can arrange to interview the clinic supervisor**

The INTERVIEW (Only follow these steps if the clinic supervisor wants assistance with filling out the form otherwise they should be able to fill it out on their own)

At this point the interviewer should be in possession of the following forms:

- **INFORMATION SHEET**
- **CONSENT FORM AND JOB RELATED SKILL PERCEPTIONS QUESTIONNAIRE**
- **EXTRA INFORMATION SHEET (to give copy to participant)**
- **ENVELOPE**
- **SMALL GIFT**

The interviewer should find a private spot, greet the participant, welcome her/him and put her at ease

- *Remember to ask all the questions and to check that the form is completed.*

AFTER COMPLETION OF THE JOB RELATED SKILL PERCEPTIONS QUESTIONNAIRE

- Get the questionnaire from the participant if she completes it herself
- Check that the questionnaire is completed
- **Note the name of the clinic and the clinic type on the front page of the questionnaire.**

Thank the clinic supervisor for participation

HAND HER/HIM THE GIFT AS A TOKEN OF APPRECIATION

REMEMBER

CHECK THAT THE QUESTIONNAIRE IS COMPLETE

RECORD THE NAME OF CLINIC AND CLINIC TYPE ON THE FRONT PAGE

PE

- On the day of the clinic visit, **every nurse** should be invited to participate in the job related skills perceptions of the clinic manager.
- The researcher/ fieldworker will approach nurses on duty at the most suitable/ convenient time and explain the study to them (use the fieldworker script).

Script for interviewer when requesting frontline nurses to participate

My name is _____. I am from the Centre for Health Policy. We are doing a study on the nature and dynamics of nursing management in PHC clinics. One component of the research requires us to find out the opinions of nursing staff regarding the skills of their clinic manager. We are inviting you to fill in a questionnaire which is very short to complete. It will take around 10 minutes of your time.

We have obtained ethics approval to conduct this study, and the provincial and local authorities have also given their approval.
The questions are not a test, so there are no right or wrong answers. It is your opinions that are important. Everything that you say will be treated as private and confidential. Your name will not be used when the results of the study are presented or written up.

Your participation is completely voluntary. There will be no direct benefit to you if you participate in this study, but we hope that the information collected will be helpful in improving nursing management in South Africa.
There will be no negative consequences if you do not want to participate.
This is an information sheet which explains the study in more detail **(GIVE THE NURSE THE INFO SHEET).**

You can either fill in the questionnaire yourself, or I could assist you with the completion of the questionnaire. Encourage the nurse to complete the questionnaire on the same day, and say that you will be there for the whole day to collect the form.

If the participant refuses to participate, make a note of the refusal on the log sheet. Ask the nurse to sign or initial the statement of consent on the front of the questionnaire.

Remember for most nurses this may be their first time participating in a research study. Please explain the following to the participant:

- ***How to indicate an answer***
- ***How to complete all the questions***
- ***The importance of completing the questionnaire***

THE INTERVIEW (Only follow these steps if the nurse wants assistance with filling out the form otherwise they should be able to fill it out on their own)

At this point the interviewer should be in possession of the following forms:

- **INFORMATION SHEET**
- **CONSENT FORM AND JOB RELATED SKILL PERCEPTIONS QUESTIONNAIRE**
- **EXTRA INFORMATION SHEET (to give copy to participant)**
- **ENVELOPE**
- **SMALL GIFT**

The interviewer should find a private spot, greet the participant, welcome her/him and put her at ease

- Remember to ask all the questions and to check that the form is completed.

AFTER COMPLETION OF THE JOB RELATED SKILL PERCEPTIONS QUESTIONNAIRE

Get the questionnaire from the participant if she completes it herself

- Check that the questionnaire is completed
- **Note the name of the clinic and the clinic type on the front page of the questionnaire.**

Thank the nurse for participation

HAND HER/HIM THE GIFT AS A TOKEN OF APPRECIATION

REMEMBER

CHECK THAT THE QUESTIONNAIRE IS COMPLETE

RECORD THE NAME OF CLINIC AND CLINIC TYPE ON THE FRONT PAGE

REFUSAL LOG SHEET (example)

Note this form should only be filled in if the clinic supervisor refused to participate in the job related task perceptions of clinic manager -not for individual questions

No.	Date	Clinic	Authority (LA/Prov)	Reason (if provided)/ other notes

GENERAL TIPS

1. **Planning**-make sure there are sufficient number of questionnaires and information sheets for nursing managers, clinic supervisors and other nurses, as well as sufficient number of gifts. Try to avoid having to make copies of the questionnaire at clinics- MAKE SURE THAT ALL THE PAGES ARE THERE, in the unforeseeable event of making copies at clinics.

2. **Working as a team and pro-active communication** are critical.

3. **Punctuality** is important-arrive early before the scheduled appointment with clinic managers.

4. **We are planning to have an initial presentation to district managers so that clinic managers are aware of our arrival and know the objectives of our research but where this is not possible, clinic managers should be given sufficient information about the study on the day you arrive in the clinic.** We need to demonstrate enthusiasm for all the study components, discuss why they are important, talk about planned feedback and acknowledge that people are doing us a great favour, often by giving us so much of their time and goodwill.

5. The study requires **active management** - leaving questionnaires in clinics does not work - nurses should be encouraged to complete the questionnaires as soon as possible.

6. **Checking questionnaires for completeness is critical** in the case of self-administered questionnaires: once the nurse has completed it- you will not have the opportunity to fill in missing details once you have left the clinic.

7. Aim to have **100% response rate** in each clinic- this means that you need to find out how many nurses are in the clinic on that day in order to get **ALL** the people to complete the questionnaires.

Remember

✓ **Please do not hesitate to contact Pascalia on 072 083 0023 for any**

TROUBLE SHOOTING

As a member of the fieldwork team you play a very critical role in this study. Aim to get all participants to be excited and want to be involved in the research through agreeing to participate and responding to all the questions. This requires enthusiasm and subtle persuasion skills on your part.

What would you do if a clinic manager refuses to participate in the study?

We have communicated with all the clinics about the study and fieldwork. In unlikely event that the clinic manager refuses you entry into the clinic for study purposes, the first reaction is to be polite and ask the clinic manager the reason for refusal.

Often, it may be that, at the time we called the clinic, someone might have been acting in her position and she was not informed. Is it because she is worried that we will publish her name?

Please reassure her that we adhere to the code of ethics that guarantee participant confidentiality and all the information we will get from her and the clinic will only be known by you and the researchers in the team.

No one else will have access to the information as we do not belong to any Health department, trade union or the district management.

Perhaps the participant didn't understand what was explained to her during the informed consent process. Emphasise the fact that no names will be used in this study. But remember and most importantly it is the participant's right to refuse.

Always be in possession of all the permission letters, as sometimes, it's just that clinic managers are nervous about letting people carry out research without letting their superiors know. If she is still nervous about participating, please tell Pascalia so that she can call the specific clinic manager.

What do you do when frontline nurses refuse to participate in the study?

It is the participant's right to refuse to complete the job related skills perceptions questionnaire of her clinic manager.

Nonetheless, we would like to encourage all participants to participate. Ask the frontline nurse why she is reluctant to participate? Is it because she is worried we will give the information to her clinic manager?

Please reassure her that we adhere to the code of ethics that guarantee participant confidentiality and everything she writes down in the questionnaire will only be known by you and the researchers in the team and **not** by her clinic manager.

Perhaps the participant didn't understand what was explained to her during the informed consent process.

Emphasise the fact that no names will be used in this study.

But remember and most importantly it is the participant's right to refuse.

Contact information:-

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Appendix 5:The job satisfaction survey of primary health care nursing managers in two South African provinces

PHC clinic nursing manager survey

STATEMENT OF CONSENT

I have been given an information sheet and I understand the objectives of the study. I further understand that my responses will be kept confidential and that it is up to me whether or not to complete this questionnaire. It has been explained to me that even if I choose not to complete this questionnaire, I should still return it to the researchers and indicate so in the space below. My refusal to participate will in no way prejudice me**.**

I agree voluntarily to complete the questionnaire **(please tick). Yes [ ] No [ ]**

Signature/Initial:..... Date:.....

For official use only

1. **Province**		**O** Gauteng 1 **O** Free State 2
2. **Sector**	**O** Provincial 1 **O** Local Authority 2	☐
3. **Primary Health Care Facility ID**		☐☐☐
4. **Participant number**		☐☐☐☐
5. **Date of interview:**	DD/MM/YY	☐☐☐☐☐☐
6. **Was the interview completed?**	**O** No 0 **O** Yes 1	☐
7. **Date checked:**	DD/MM/YY	☐☐☐☐☐☐

SECTION 1: BACKGROUND CHARACTERISTICS

For official use only			
☐☐	**101**	**How old are you?** *(in completed years)*	_____ years
☐	**102**	**Sex**	☐ Male…1 ☐ Female…2
☐	**103**	**What is your current marital status?**	☐ Married...1 ☐ Living together...2 ☐ Single...3 ☐ Divorced...4 ☐ Widowed...5
☐	**104**	**Do you have children?**	☐ No...1 ☐ Yes...2
☐	**105**	**How many dependants are you financially responsible for?**	_____ number of dependants

SECTION 2: CURRENT EMPLOYMENT AND MANAGEMENT QUALIFICATIONS

For official use only			
☐	201	How many years have you been qualified as a professional nurse?	____years (Answer 0 if less than 1 year)
☐	202	Was this your choice of Clinic?	☐ Yes ☐ No
			☐ Yes ☐ No
	203	Are you in a permanent position?	☐ Yes ☐ No
	204	How long have you been in your current position?	____years (Answer 0 if less than 1 year
			☐ Yes ☐ No
	205	Do you have a qualification in PHC clinical training?	☐ Yes ☐ No
	206	Are you currently studying?	☐ PHC clinical training courses...1 ☐ Generic management course ...2 ☐ Nursing administration management course ...3
	207	If YES what programme are you enrolled in?	☐ Other nursing course...9 Specify:_____

This measure has been designed to assess how groups of nursing managers feel about different aspects of their job.

Please answer EACH question by ticking ONLY ONE box and be sure to answer all questions even though some may seem very similar.

All answers are absolutely confidential and you will NOT BE identified.

This tool is derived from Traynor M and Wade B, (1991) Measure of Job Satisfaction. Royal College of Nursing; London.

101. How satisfied are you with these aspects of your work:

	Statement	Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
1.	Payment for the hours I work					
2.	The degree to which I feel part of a team					
3.	The opportunities I have to discuss my concerns					
4.	My salary/pay scale					
5.	Being funded for courses					
6.	The time available to get through my work					
7.	The quality of work with patients/clients					
8.	The standard of care given to patients/clients					
9.	The degree to which I am fairly paid for what I contribute to this organisation					
10.	The amount of support or guidance I receive					
11.	The way that patients/clients are cared for					
12.	My prospects for promotion					
13.	The people I talk to and work with					
14.	The amount of time spent on administration					

	Statement	Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
15.	My workload					
16.	My prospects for continued employment					
17.	The standard of care that I am currently able to give					
18.	The opportunities I have to advance my career					
19.	The extent to which I have adequate training for what I do					
20.	Overall staffing levels					
21.	The feeling of worthwhile accomplishment I get from my work					
22.	The degree of respect and fair treatment I receive from my boss					
23.	The degree of time available to finish everything I have to do					
24.	What I have accomplished when I go home at the end of the day					
25.	The amount of job security I have.					
26.	Time off for in-service training.					
27.	The amount of personal growth and development I get from my work					
28.	The extent to which my job is varied and interesting					

	Statement	Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
29.	The support available to me in my job					
30.	The amount of independent thought and action I can exercise in my work					
31.	The opportunity to attend courses					
32.	The possibilities of a career in my field					
33.	The general standard of care given in this clinic					
34.	The outlook for any professional group/branch of nursing					
35.	The overall quality of the supervision I receive in my work					
36.	The amount of pay I receive					
37.	The hours I work					
38.	The extent to which I can use my skills					
39.	The amount of challenge in my job					
40.	The time available for patient/client care					
41.	How secure things look for me in the future of this clinic					
42.	The contact I have with colleagues					
43.	Patients are receiving the care that they need					
44.	Overall; how satisfied are you with your job?					

HAVE YOU ANSWERED EVERY QUESTION?

In the last year; have you PERSONALLY experienced any of the following?
(Answer YES only if you have personal experience. If you have only heard someone else talking about it, please answer NO.)

For official use only			
☐	201	Are you concerned about violence in your workplace?	☐ Yes ☐ No
☐	202	In the last year; have you ever experienced workplace violence? (By workplace violence we mean:-violence or threat of violence by a patient, worker –on- worker, or someone close to you coming to cause violence at work)	☐ Yes ☐ No
☐	203	Have you been verbally abused in the last year?	☐ Yes ☐ No
☐	204	In the last year have you verbally abused or shouted at colleagues in the work place?	☐ Yes ☐ No
☐	205	In the last year; have you felt humiliated or shamed by another person at work (colleagues)?	☐ Yes ☐ No
☐	206	Have you felt too tired to work while on duty	☐ Yes ☐ No
☐	207	Have you taken sick leave when you were actually not sick during the last month? a. If YES, how many sick days have you taken in the last month?	☐ Yes ☐ No
☐	208	Absent without leave days:	_____days

For official use only			
	209	I intend to leave my employer in the next year	☐ Yes ☐ No
	210	If you intend to leave your employer in this hospital where do you intend going?	☐ Other LA clinic...1 ☐ Other Prov Clinic ...2 ☐ Prov Hospital...3 ☐ Private Hospital... 4 ☐ NGO... 5 ☐ Study... 6 ☐ Other...9
	211	Are you aware of the PHC revitalisation programme underway?	☐ Yes ☐ No

SECTION 3:

301. What do you think can be done to improve your job satisfaction as a nursing manager in this clinic?

Appendix 6: The work environment and support systems PHC clinic checklist

THE NATURE AND DYNAMICS OF NURSING MANAGEMENT AT PRIMARY HEALTH CARE SETTINGS IN TWO SOUTH AFRICAN SETTINGS

For official use only

2	Province		O Gauteng 1 O Free State 2
	Sector	O Provincial 1 O Local Authority 2	☐
	Primary Health Care Facility ID		☐☐☐
8	Date clinic checked:	DD/MM/YY	☐☐☐☐☐☐
12	Was the checklist completed?	O No 0 O Yes 1	☐
	Fieldworker details		☐☐☐☐☐☐

DOMAIN 1: PATIENT RIGHTS

The domain of Patient Rights sets out what a hospital or clinic must do to make sure that patients are respected and their rights upheld, including getting access to needed care and to respectful, informed and dignified attention in an acceptable and hygienic environment, seen from the point of view of the patient, in accordance with Batho Pele principles and the Patient Rights Charter.

Does the clinic have a disabled entrance?	☐ Yes...1 ☐ No...0
Are disabled people able to enter and move within facility independently	☐ Yes...1 ☐ No...0
Does this clinic have clean toilets?	☐ Yes ...1 ☐ No...0
Does this clinic have a separate toilet for people with disabilities?	☐ Yes ...1 ☐ No...0
Does this clinic have clean separate flushable toilets for use by patients?	☐ Yes...1 ☐ No...0
Does the patient toilet have a pumped liquid soap dispenser?	☐ Yes...1 ☐ No...0
Does the patient toilet have disposable paper towels?	☐ Yes...1 ☐ No...0
Does this clinic have a clean separate flushable toilet for use by staff?	Yes...1 No...0
Does the staff toilet have a pumped liquid soap dispenser?	☐ Yes...1 ☐ No...0
Does the staff toilet have disposable paper towels?	☐ Yes...1 ☐ No...0
Are condoms available in the clinic	Yes...1 No...0
Are the counters and tables wiped clean?	Yes...1 No...0
Are the clinic floors free from dirt?	Yes...1 No...0
Are new patient cards available in the clinic?	☐ Yes seen…1 ☐ No …0
Does the clinic have a patient carry card (filing system) that allows continuity of health care?	☐ Yes, observed …1 ☐ No filing system...0
Is there a system to transport patients in an ambulance in case of emergency?	Yes...1 No...0

Does this clinic have a monthly transport plan?	Yes...1 No...0
Is there a clear system for referrals in the clinic?	Yes, seen...1 No, not seen...
Is there a clear system for feedback on referrals in the clinic?	Yes, seen...1 No, not seen...
Number of referrals in the last month?	
Number of feedbacks on referrals in the last month?	

Which scheduled services does this clinic offer (curative, preventive etc)?
Please write the services:

_____
_____
_____
_____
_____
_____
_____
_____

DOMAIN 2: PATIENT SAFETY, CLINICAL GOVERNANCE AND CLINICAL CARE: GUIDELINES

The Patient Safety, Clinical Governance and Clinical Care domain covers how to ensure quality nursing and clinical care and ethical practice; reduce unintended harm to health care users or patients in identified cases of greater clinical risk; prevent or manage problems or adverse events, including health care associated infections; and support any affected patients or staff.

Is the EDL clinical guideline for adults available in the clinic?	Yes...1 No...0
Is the EDL clinical guideline for children available in the clinic?	Yes...1 No...0
Is the Safe motherhood clinical guideline available in the clinic?	Yes...1 No...0
Is the HIV clinical guideline for adults available in the clinic?	Yes...1 No...0
Is the HIV clinical guideline for children available in the clinic?	Yes...1 No...0
Is the Hypertension clinical guideline available in the clinic?	Yes...1 No...0
Is the Diabetes clinical guideline available in the clinic?	Yes...1 No...0

DOMAIN 2: PATIENT SAFETY, CLINICAL GOVERNANCE AND CLINICAL CARE: The Patient Safety, Clinical Governance and Clinical Care domain covers how to ensure quality nursing and clinical care and ethical practice; reduce unintended harm to health care users or patients in identified cases of greater clinical risk; prevent or manage problems or adverse events, including health care associated infections; and support any affected patients or staff.	
Does this clinic have a fire exit?	Yes...1 No...0
Does this clinic have a no smoking policy?	Yes...1 No...0
Is a system in place to alert occupants in the event of an emergency?	Yes...1 No...0
How many fire exits does this clinic have?	One Exit...1 Two exits not clearly marked...2 Two clearly identified exits...3
Does this clinic have a fire extinguisher?	One fire extinguisher...1 A fire extinguisher for each room...2
Does this clinic have a Fire hose reel?	Yes...1 No...0
Are the fire extinguishers in this clinic within easy reach?	Yes...1 No...0
Is there a system of disposal of potentially contaminated waste?	☐ Yes...1 ☐ No...0
Are suitable containers with correctly fitting lids available for the disposal of sharps?	☐ Yes...1 ☐ No...0
Are coloured coded bags available for various types of waste?	☐ Yes...1 ☐ No...0
Does this clinic have a sluice room?	☐ Yes...1 ☐ No...0
How many consulting rooms does this clinic have?	
Do the consulting rooms have wash basins? How many diagnostic lights are available in each consulting room?	☐ Yes...1 ☐ No...0

DOMAIN 3: CLINICAL SUPPORT SERVICES: DIAGNOSTIC SERVICES

The Clinical Support Services domain covers specific services essential in the provision of clinical care and includes the timely availability of medicines and efficient provision of diagnostic, therapeutic and other clinical support services and necessary medical technology, as well as systems to monitor the efficiency of the care provided to patients

Is a rapid HIV test kit available in the clinic?	Yes...1 No...0
Is a quality testing kit available in the clinic?	Yes...1 No...0
Are sputum specimen bottles available in the clinic?	Yes seen...1 Not seen...0
Is the sputum turnaround time within the norm?	Yes...1 No...0
Is the laboratory specimen register updated?	☐ Yes seen…1 ☐ No …0
Are missing results in the laboratory specimen register followed up?	☐ Yes seen…1 ☐ No …0

DOMAIN 3: CLINICAL SUPPORT SERVICES: FUNCTIONAL EMERGENCY TROLLEYS

The Clinical Support Services domain covers specific services essential in the provision of clinical care and includes the timely availability of medicines and efficient provision of diagnostic, therapeutic and other clinical support services and necessary medical technology, as well as systems to monitor the efficiency of the care provided to patients

Are oral rehydration preparations available in the clinic?			Yes...1 No...0
Is the intravenous infusion set available in the clinic?			Yes...1 No...0
		Does this clinic have a functional oxygen supply source?	Yes...1 No...0
		Does this clinic have a functional adult ambu-bag?	Yes...1 No...0
		Does this clinic have a functional paediatric ambu-bag?	Yes...1 No...0
		Does this clinic have a functional baunometer?	Yes...1 No...0
Vital		Does this clinic have a functional stethoscope?	Yes...1 No...0
Vital		Does this clinic have a functional adult scale?	Yes...1 No...0
Vital		Does this clinic have a functional baby scale?	Yes...1 No...0
Vital		Does this clinic have a functional glucometer	Yes...1 No...0

Vital		Does this clinic have a functional haemoglobinometer?	Yes...1 No...0
Vital		Does this clinic have a functional ear, nose and throat set?	Yes...1 No...0
DOMAIN 3: CLINICAL SUPPORT SERVICES: PHARMACEUTICAL SERVICES The Clinical Support Services domain covers specific services essential in the provision of clinical care and includes the timely availability of medicines and efficient provision of diagnostic, therapeutic and other clinical support services and necessary medical technology, as well as systems to monitor the efficiency of the care provided to patients			
Essential		Does this clinic have a pharmacist?	Yes...1 No...0
Vital		Is there a separate area for the storage of medicines?	Yes...1 No...0
Vital		Is a record available to write off expired stock?	Yes...1 No...0
Vital		Are drugs packed according to FEFO and FIFO principles (first expired/first out and first in/first out)?	Yes...1 No...0
Vital		All storage areas are self-contained and secure?	Yes...1 No...0
Vital		If yes, can we see it?	Yes seen...1 Not seen...0
Vital		Scheduled medicines are stored separately in locked cupboards? List the medicines---------- ----------	Yes...1 No...0
Vital		The drug register is complete, accurate and up to date?	Yes...1 No...0
Vital		In the last month have there been medicine stock-outs for Reproductive health services drugs?	Yes...1 No...0
Vital		In the last month have there been medicine stock-outs for STI drugs?	Yes...1 No...0
Vital		In the last month have there been medicine stock-outs for TB drugs?	Yes...1 No...0
Vital		In the last month have there been medicine stock-outs for ANC drugs?	Yes...1 No...0
Vital		In the last month have there been medicine	Yes...1

		stock-outs for EPI and Vitamin A drugs?	No...0
Vital		In the last month have there been medicine stock-outs for Chronic drugs?	Yes...1 No...0
Vital		In the last month have there been medicine stock-outs for ART drugs?	Yes...1 No...0
Vital		Does the clinic have a self checking refrigerator for the storage of vaccines?	Yes...1 No...0
Vital		If no, does the refrigerator have a working maximum-minimum thermometer or dial thermometer for vaccines?	Yes...1 No...0
Vital		Is the thermometer is placed in the middle of the refrigerator?	Yes...1 No...0
DOMAIN 3: CLINICAL SUPPORT SERVICES: MAINTENANCE OF THE COLD CHAIN The Clinical Support Services domain covers specific services essential in the provision of clinical care and includes the timely availability of medicines and efficient provision of diagnostic, therapeutic and other clinical support services and necessary medical technology, as well as systems to monitor the efficiency of the care provided to patients			
Vital		Are vaccines stored in the refrigerator door?	Yes...1 No...0
Vital		Are medications stored in the refrigerator door	Yes...1 No...2
Essential		Are vaccines stored separately from other refrigerator items like food?	Yes...1 No...0
Essential		A record confirms that the refrigerator is cleaned at least twice a month?	Yes...1 No...0
Vital		A backup system is available for storage of medicines when defrosting the refrigerator? (e.g. another fridge)	Yes...1 No...0
Vital		No expired drug stock is kept on the shelves?	Yes...1 No...0

DOMAIN 4: PUBLIC HEALTH

The Public Health domain covers how health facilities should work with NGOs and other health care providers along with local communities and relevant sectors, to promote health, prevent illness and reduce further complications; and ensure that integrated and quality care is provided for their whole community, including during disasters.

Essential		Do you hold clinic management meetings in this clinic?	☐ Yes ...1 ☐ No...0
Essential		If yes, how often do clinic management meetings take place?	☐ Every week...1 ☐ Once a month …2 ☐ Every 2-3 months …3 ☐ Every 4-6 months …4 ☐ Once a year …5
Essential		Is there an official record of clinic management meetings held with staff? (minutes or notes)	☐ Yes ...1 ☐ No...0
Essential		If yes can we see a copy	☐ Yes, copy seen ...1 ☐ No copy...0
Essential		Does this clinic have a clinic committee?	☐ Yes ...1 ☐ No...0
Essential		How often do clinic committee meetings take place?	☐ At least once per month …1 ☐ Every 2-3 months …2 ☐ Every 4-6 months …3 ☐ Once a year …4
Essential		Do you have broader community meetings taking place in the clinic (i.e. clinic committee meetings and other members of the committee)	☐ Yes ...1 ☐ No...0
Essential		Does this clinic have a suggestion box for the community to provide feedback on the quality of services provided by the clinic?	☐ Yes …1 ☐ No …0
Essential		Does this clinic collaborate with departments of social welfare for social assistance? List them here----------	☐ Yes …1 ☐ No …0
Develop mental		Are there any letters in the suggestion box?	☐ Yes …1 ☐ No …0
Essential		Does this clinic conduct quality assurance surveys?	☐ Yes …1 ☐ No …0
Essential		Does this clinic have a complaints system?	☐ Yes …1 ☐ No …0
Vital		Are medico legal forms available in the clinic?	☐ Yes …1 ☐ No …0
Essential		Does the clinic have a monthly PHC statistics report which is accurately completed?	☐ Yes, record observed …1 ☐ No record...0
Vital		Are notifiable medical conditions reporting according to protocol?	☐ Yes, record observed …1 ☐ No record...0
Develop mental		Do you know your clinic supervisor?	☐ Yes ...1 ☐ No...0

Develop mental		When was the last visit from the clinic supervisor?	☐ Less than a month…1 ☐ 1-3 months ago…2 ☐ 4-6 months ago…3 ☐ A year ago …4 ☐ Can't remember …5
Develop mental		Do you receive a written report from the clinic supervisor?	☐ Yes...1 ☐ No...0
Develop mental		What are the most urgent activities that are supposed to be addressed before the next supervisory visit?	
Develop mental		What aspects of care did the clinic supervisor say were being done very well?	
Develop mental		Can I see the written report?	☐ Yes, record observed …1 ☐ No record...0
DOMAIN 5: LEADERSHIP AND GOVERNANCE The Leadership and Governance domain covers the strategic direction provided by senior management, through proactive leadership, planning and risk management, supported by the hospital board, clinic committee as well the relevant supervisory support structures and includes the strategic functions of communication and quality improvement.			
Develop mental		Does this clinic have a budget that is divided into main categories?	☐ Yes ...1 ☐ No...0
Develop mental		Is the PHC facility Catchment Map displayed?	☐ Yes ...1 ☐ No...0
Develop mental		Are the Batho Pele patients' rights wall charts accessibly displayed?	☐ Yes ...1 ☐ No...0
Develop mental		Are the PHC facility's service standards displayed?	☐ Yes ...1 ☐ No...0
Develop mental		Is the clinic's vision/mission statement posted on the walls of the clinic?	☐ Yes…1 ☐ No ...0
Develop mental		Is the PHC facility management (organo-gram and contact details) displayed?	☐ Yes ...1 ☐ No...0
Develop mental		Are patients' PHC facility evaluation forms available?	☐ Yes and USED...1 ☐ Yes but NOT used...2 ☐ No...0

DOMAIN 6 OPERATIONAL MANAGEMENT: HR MANAGEMENT AND DEVELOPMENT

The Operational Management domain covers the day-to-day responsibilities involved in supporting and ensuring delivery of safe and effective patient care, including management of human resources, finances, assets and consumables, and of information and records.

Essential		Does the clinic manager wear a uniform with insignia in accordance with the South African Professional Councils' specifications?	Yes...1 No...0
Essential		Does this clinic have a doctor?	Yes...1 No...0
Essential		Do All personnel wear uniforms and insignia in accordance with the South African Professional Councils' specifications? If not who is not wearing a uniform? ----------	Yes...1 No...0
Essential		Do clinic personnel wear name tags for easy identification?	Yes...1 No...0
Essential		Are district personnel policies on recruitment available for staff to refer to in the clinic?	Yes...1 No...0
Essential		Are district personnel policies on grievances and disciplinary procedures available for staff to refer to in the clinic?	Yes...1 No...0
Essential		Job descriptions for each staff category are available in the clinic file?	Yes...1 No...0
Essential		There is evidence that performance appraisals are carried out for each staff member every year?	Yes...1 No...0
Essential		Disciplinary problems are documented and copied to the supervisor?	Yes, seen...1 No, not seen...0
		On average how many patients are seen per day in the clinic?	_____
Essential		Do you have a clinic organo-gram?	Yes...1 No...0
Essential		If yes, can I see it?	Yes, seen...1 No, not seen...
Essential		How many posts are filled?	_____
Essential		How many nurses are on your duty roster today?	_____
Essential		Is the attendance register for staff who are present today correctly filled?	Yes, seen...1 No, not seen...0
Developme		For staff that are on leave, are the leave forms	Yes, seen...1

ntal		completed?	No, not seen...0
Developmental		Is there evidence that health personnel weekly meetings are held?	Yes, seen...1 No, not seen...0
Developmental		Is there a health personnel in-service training plan?	Yes, seen...1 No, not seen...0
DOMAIN 7: FACILITIES AND INFRASTRUCTURE The Facilities and Infrastructure domain covers the requirements for clean, safe and secure physical infrastructure (buildings, plant and machinery, equipment) and functional, well managed hotel services; and effective waste disposal.			
Essential		Does the clinic have a waiting area?	☐ Yes...1 ☐ No...0
Essential		Are all the patients who are waiting seated?	☐ Yes...1 ☐ No...0
Essential		Does the clinic have comprehensive security services to protect property and safety of patients?	☐ Yes observed...1 ☐ No...0
Developmental		Is there a staff tea room?	☐ Yes...1 ☐ No...0
Vital		On the day of visit does the clinic have electricity?	☐ Yes ...1 ☐ No...0
Vital		Has there been an electrical interruption in the last week?	☐ Yes ...1 ☐ No...0
Vital		Does this facility have a backup generator?	☐ Yes ...1 ☐ No...0
Essential		Has the generator had a maintenance check in the last two weeks?	☐ Yes...1 ☐ No...0
Essential		Does the generator have fuel today?	
Vital		What is the source of water in this clinic?	☐ Tap water …1 ☐ Borehole …2 ☐ No water…0 ☐ Other.....…(please specify)
Essential		What kind of phone is used in the clinic?	Cell phone...1 Fixed line...2 No phone...0
Vital		Is the clinic telephone working today?	Yes...1 No...0
Developmental		Does this clinic have a computer?	Yes...1 No...0
Developmental		Is the computer functioning today?	Yes...1 No...0
Essential		Is there a routine maintenance programme for the repair of infrastructure?	Yes functioning...1 No...0

Essential		If yes, who is responsible for the maintenance?	Yes onsite staff...1 Yes outside staff...2 No routine maintenance...0
Essential		What is the overall condition of the structure of the building? If serious repairs needed, please list them here: --------- ----------	Serious repairs needed...1 Minor or repairs needed...2 Sound. No repairs needed...0

Appendix 7: The job-related skill perceptions of PHC nursing managers
The nature and dynamics of nursing management in primary health care clinics

STATEMENT OF CONSENT

I have been given an information sheet and I understand the objectives of the study. I further understand that my responses will be kept confidential and that it is up to me whether or not to complete this questionnaire. It has been explained to me that even if I choose not to complete this questionnaire, I should still return it to the researchers and indicate so in the space below. My refusal to participate will in no way prejudice me**.**

I agree voluntarily to complete the questionnaire **(please tick). Yes [ ] No [ ]**

Signature/Initial:..... Date:.....

For official use only

8. Province		**O Gauteng 1** **O Free State 2**
9. Sector	**O Provincial 1** **O Local Authority 2**	☐
10. Primary Health Care Facility ID		☐☐☐
11. Participant number		☐☐☐☐
12. **Date of assessment:**	**DD/MM/YY**	☐☐☐☐☐☐
13. Was the assessment completed?	**O No 0** **O Yes 1**	☐

Here is a list of job related tasks you may encounter in your work as a clinic manager. For each, please indicate **what your current level of skill is to perform the task** on a scale of 1-10 (with **1** being **Low skills, needing more training)** and **10** being **(Very high skills, no training needed):**

COMMUNICATION	**MY SKILLS**										**Don't know**
	Low Skills									**Very High Skills**	
41. I listen attentively to the concerns of others	1	2	3	4	5	6	7	8	9	10	DN
42. I can share my ideas about improving services with the clinic supervisor	1	2	3	4	5	6	7	8	9	10	DN
43. I am able to write reports to meet the needs of different audiences	1	2	3	4	5	6	7	8	9	10	DN
44. I am able to communicate the specific programme targets to my staff	1	2	3	4	5	6	7	8	9	10	DN
45. I am able to inform community representatives about all the relevant clinic issues	1	2	3	4	5	6	7	8	9	10	DN

LEADERSHIP AND MANAGEMENT	**Low Skills**									**Very High Skills**	**Don't know**
46. I can implement my vision for health improvements in this clinic	1	2	3	4	5	6	7	8	9	10	DN
47. I am able to implement the 10 point plan of the NDOH for 2009-2014	1	2	3	4	5	6	7	8	9	10	DN
48. I know when to consult clinic employees when making strategic decisions	1	2	3	4	5	6	7	8	9	10	DN
49. I can deal with difficult patients and their relatives	1	2	3	4	5	6	7	8	9	10	DN
50. I encourage my staff to display a caring attitude to patients according to the Batho Pele principles	1	2	3	4	5	6	7	8	9	10	DN
51. I ensure that the risk of infection to patients in this clinic is minimised	1	2	3	4	5	6	7	8	9	10	DN

STAFF MANAGEMENT	**Low Skills**									**Very High Skills**	**Don't Know**
52. I am able to measure clinical care programmes against National Core Standards	1	2	3	4	5	6	7	8	9	10	DN
53. I ensure that my staff receive ongoing in-service training to perform their nursing tasks	1	2	3	4	5	6	7	8	9	10	DN
54. I ensure that staff are knowledgeable about what is expected from them at work	1	2	3	4	5	6	7	8	9	10	DN
55. I supervise my staff through effective performance management for the achievement of health system goals	1	2	3	4	5	6	7	8	9	10	DN
56. I am able to delegate work to staff in an emergency context	1	2	3	4	5	6	7	8	9	10	DN
57. I have a system in place to manage staff absenteeism	1	2	3	4	5	6	7	8	9	10	DN

58. I provide constructive feedback to staff	1	2	3	4	5	6	7	8	9	10	DN
59. I monitor individual's performance in response to allocated work	1	2	3	4	5	6	7	8	9	10	DN

FINANCIAL MANAGEMENT	**Low Skills**									**Very High Skills**	
60. I manage the clinic budget in line with the relevant financial legislation	1	2	3	4	5	6	7	8	9	10	
61. I make sure that the asset register in my clinic is up-to-date	1	2	3	4	5	6	7	8	9	10	
62. I take prompt action when equipment is out of order	1	2	3	4	5	6	7	8	9	10	
63. I take prompt action when contractors fail to deliver against their service level agreement	1	2	3	4	5	6	7	8	9	10	
64. I engage staff about how best to use financial resources	1	2	3	4	5	6	7	8	9	10	
65. I educate staff about financial issues that impact on the clinic	1	2	3	4	5	6	7	8	9	10	
66. I can develop realistic budget projections based on previous expenditure	1	2	3	4	5	6	7	8	9	10	
67. I ensure that all the necessary expenses are included in the budget	1	2	3	4	5	6	7	8	9	10	
68. I am able to evaluate programme performance in relation to expenditure	1	2	3	4	5	6	7	8	9	10	
PLANNING AND PRIORITY SETTING	**Low Skills**									**Very High Skills**	
69. I use clinic statistics to motivate for financial and human resources	1	2	3	4	5	6	7	8	9	10	
70. I involve stakeholders in determining which needs are the most important to improve clinic performance	1	2	3	4	5	6	7	8	9	10	
71. I generally defend the interests of the clinic	1	2	3	4	5	6	7	8	9	10	
72. I always carry out the most urgent tasks first	1	2	3	4	5	6	7	8	9	10	
73. I follow through on agreed tasks and priorities	1	2	3	4	5	6	7	8	9	10	
74. I am able to identify community health needs in my catchment area for use in strategic planning	1	2	3	4	5	6	7	8	9	10	

PROBLEM SOLVING	**Low Skills**									**Very High Skills**	
75. I monitor the work environment for potential safety issues that could impact on staff and patients	1	2	3	4	5	6	7	8	9	10	
76. I remain calm and composed in emergency situations	1	2	3	4	5	6	7	8	9	10	
77. I implement corrective action in a timely manner in cases of non-compliance	1	2	3	4	5	6	7	8	9	10	
78. I can resolve conflicts among staff	1	2	3	4	5	6	7	8	9	10	
79. I can identify root causes of problems in the clinic	1	2	3	4	5	6	7	8	9	10	
80. I gather sufficient information prior to solving a problem	1	2	3	4	5	6	7	8	9	10	

Appendix 8: Information sheet

The nature and dynamics of nursing management at primary health care clinics in two South African provinces

What is this study about?

The overall aim of this study is to examine the nature and dynamics of nursing management in primary health care (PHC) settings. We want to understand managers' perceptions of their day to day working environment; linkages to workforce management and health care delivery; the evolving role of and changes in nursing management.

How we will find this out?

We will use a range of research tools to collect data about what is involved in nursing management in primary health care clinics. This includes the following;

1. **A job satisfaction survey with clinic managers.**
2. **Reflexive diaries with clinic managers to understand the nature and dynamics of nursing management in PHC settings**
3. **A work environment and support systems questionnaire and checklist**
4. **Competency assessment tool**

Some of the tools are self-administered but fieldworkers will also be available to help if needed. If you have any questions about any of the tools we will be happy to go through the questions with you. This research is not about evaluating the performance of clinic managers but aims to understand the realities of their work and the challenges they face. Our role is to listen and to understand your view points, but not to pass judgment.

Will my confidentiality be compromised by this study?

No. The information that will be obtained in this facility and from you will be kept confidential. None of the researchers who work in this research project are staff members of any provincial or local health authority. Only members of the research team will know who has been interviewed. All interviewees will be assigned a code and these codes will only be known by members of the research team for the purpose of the study. No names will be revealed in any written data or report resulting from the study. The answers given by participants will be combined and analysed to look for common themes and experiences. The combined information will be written up in the form of a report.

Where did we get permission to carry out the study?

Permission to carry out this project was obtained from the University of the Witwatersrand Research Ethics Committees. We will appreciate your participation and we will ask you to sign an informed consent form for each different tool we are using in this study to ensure that you are well informed about the study.

Will there be any harm from participating?

There will be no negative consequences for individuals who do not want to be interviewed. However, we would really appreciate it if you do share your thoughts and feelings about the issues we will be asking you about. We hope that the information we will get from you will be used to inform or advocate for policy or health system improvements.

Will there be any benefits from participating?

Participation is voluntary this means you have the right to refuse to answer any questions or to participate in the research. There will be no direct benefits to anyone who participates in the interviews.

Who is carrying out this project?

This project is being carried out by researchers from the Centre for Health Policy (CHP) in the School of Public Health at the University of the Witwatersrand. CHP obtained funding from Atlantic Philanthropies for this project in order to develop and strengthen the evidence for improved nursing supervision and management practice in South Africa.

Who do I contact if I want to ask more questions?

We will be happy to answer any questions you have about this study. If you have any questions about your rights as a study participant, or questions or concerns about any aspect of the study, you may contact the ethics office on (011) 717 1234. If you have questions about the research, you may also contact the project manager or the principal investigator.

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Appendix 9: Diary keeping instructions

Analysing the nature and dynamics of nursing management at primary health care clinics in two South African provinces

Thank you for agreeing to keep a diary for the next six weeks. We hope that by writing in this diary you will give us a full picture of what your daily life as a PHC nursing manager is really like, and the challenges that you face. It would benefit us a lot if you agree to write in the diary once a week, preferably at the end of each week. Please write about one thing that happened at work that week that stuck in your mind and tell us more about what happened and how you felt. We would be grateful if you would do this for 6 weeks.

We do not mind how you write, or how much you write; we are just interested in getting your honest account about what happens at work and how it affects you.

We would like you to write about **one thing** that happened at work that week that really had an effect on you. Please write about:

1. What was the event?
2. Why did it stand out for you or why did it stick in your mind?
3. How did it make you feel?
4. What did you learn from it?
5. How will it affect the way you work in the future?

Please **write a date** whenever you make a diary entry so we can clearly see how many different diary entries you have made.

During this six week period we will send you a SMS once a week as a gentle reminder to keep the diary. At the end of the six week period we will collect your diaries and the researchers will read and analyse them. We will then arrange a workshop with all the PHC nursing managers who kept a diary where we will feed back the key themes to get their views and insights. We will then also use the ideas from the workshop in writing up the report. We will use all of this information in our final report which we hope will give readers a sense of the realities of PHC nursing managers' daily lives.

Appendix 10: Approval to reproduce published journal article: Using diaries to explore the work experiences of primary health care nursing managers in two South African provinces

From: rachel.thomas@co-action.net [mailto:rachel.thomas@co-action.net]
Sent: 11 January 2016 11:17 AM
To: Pascalia Munyewende
Subject: Re: Global Health Action

Dear Pascalia,

Thank you for your email and congratulations on entering the final stretch of your PhD.

Your article was published in the open access journal Global Health Action, under the CC BY 4.0) License, which allows third parties to copy and redistribute the material in any medium or format and to remix, transform, and build upon the material for any purpose, even commercially, provided the original work is properly cited and states its license.

This means that you can absolutely use your article as a part of your PhD thesis. Just be sure to correctly reference the original publication: Glob Health Action 2014, **7**: 25323 - http://dx.doi.org/10.3402/gha.v7.25323

Best wishes and good luck :)

Rachel

Rachel Thomas
Managing Editor
Co-Action Publishing
www.co-action.net
rachel.thomas@co-action.net

Appendix 11: Approval to reproduce published journal article: Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces.

From: Human Resources for Health [mailto:HumResourHealth@biomedcentral.com]
Sent: 12 January 2016 02:47 AM
To: Pascalia Munyewende
Subject: RE: Copyright Permission request

Dear Dr. Munyewende,

Thank you for your email.

All authors of papers published by Biomed Central retain copyright of their manuscripts and can therefore use any part of it again as long as the original article is properly cited. Biomed Central's full copyright policy can be found here:

http://www.biomedcentral.com/submissions/copyright

Please let us know if you have any further questions.

Best Wishes,

Jonnalyn

Ms. Jonnalyn Torre
Journal Editorial office
BioMed Central
Web: www.biomedcentral.com

Appendix 12: Declaration by student and co-authors' agreement for write-up with published articles

Declaration: Student's contribution to articles and agreement of co-author(s)

I, [Pascalia O Munyewende], student number [0419576P], declare that this Thesis is my own work and that I contributed adequately towards research findings published in the articles stated below which are included in my Thesis.

Signature of Student…….....**Date**…….....……
Name of Primary Supervisor…….....……...
Signature of Primary Supervisor ……**Date**……...…….....……

Agreement by co-authors: By signing this declaration, the co-authors listed below agree to the use of the article by the student as part of her Thesis. In cases where the student is not the 1st author of a published article, the primary supervisor must explain (under comments) why the student is entitled to use the paper for her degree purposes.

Article 1: Title: Using diaries to explore the work experiences of primary health care nursing managers in two South African provinces. *Global Health Action.* 2014, 7:25323.

Authors	Name	Signature	Date
1st Author	Pascalia O Munyewende		
2nd Author	Laetitia Charmaine Rispel		
3rd Author			
4th Author			
5th Author			

Comments by primary supervisor:……
…….....

Article 2: Title: Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces. *Human Resources for Health.* 2014, 12:27.

Authors	Name	Signature	Date
1st Author	Pascalia O Munyewende		
2nd Author	Laetitia Charmaine Rispel		
3rd Author	Chirwa Tobias		
4th Author			
5th Author			

Comments by primary supervisor:……
…….....

Article 3: **Title: Do primary health care clinics in two South African provinces comply with the national core standards? Under review, *PLOS ONE*. 2016**

Authors	Name	Signature	Date
1st Author	Pascalia O Munyewende		
2nd Author	Eustasius Musenge		
3rd Author	Laetitia Charmaine Rispel		
4th Author			
5th Author			

Comments by primary supervisor:……

…….....

Article 4: **Title: An evaluation of the competencies of primary health care clinic nursing managers in two South African provinces. Under review, *Global Health Action*. 2016**

Authors	Name	Signature	Date
1st Author	Pascalia O Munyewende		
2nd Author	Jonathan Levin		
3rd Author	Laetitia Charmaine Rispel		
4th Author			
5th Author			

Comments by primary supervisor:……
…….....**.....**

Appendix 13: Turnitin Report

TurnitinPhDIntegratednarrative892016.docx

ORIGINALITY REPORT

%12	%11	%7	%4
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.globalhealthaction.net Internet Source	%2
2	www.ncbi.nlm.nih.gov Internet Source	%2
3	www.hst.org.za Internet Source	%1
4	Munyewende, Pascalia Ozida, Laetitia Charmaine Rispel, and Tobias Chirwa. "Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces", Human Resources for Health, 2014. Publication	<%1
5	www.sarrahsouthafrica.org Internet Source	<%1
6	human-resources-health.biomedcentral.com Internet Source	<%1
7	4-chapter-nra.org Internet Source	<%1