

FACULTY OF HEALTH SCIENCES UNIVERSITY OF CAPE TOWN

DIVISION OF NURSING AND MIDWIFERY

The role of the Dermatology Nurse Practitioner in the Western Cape as perceived by nurses and other health care practitioners

Minor dissertation submitted in partial fulfilment of the requirements for the MSc Nursing degree MM017 (Course work and minor dissertation)

Student: Nomgcobo Anthia Ndyenga

Student number: NDYNOM004

Supervisor: Associate Professor Pat Mayers

Date of Submission: 28 September 2018

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

PLAGIARISM DECLARATION

I, Nomgcobo Anthia Ndyenga, hereby declare that the work on which this thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university. I authorise the University to reproduce the research either as a whole or any portion of the contents in any manner whatsoever.

Signature ...

Signed by candidate

Date: 28– 09 - 2018

“This thesis/dissertation has been submitted to Turn-it-in software (or equivalent in similarity and originality checking software) and I confirm that my supervisor has seen my report and any concerns revealed by such have been resolved with my supervisor.”

Name: Nomgcobo Anthia Ndyenga

Student number: NDYNOM004

Signature:

Date: 28-09-2018

DEDICATION

I wish to dedicate this study to all the children from disadvantaged communities, who would never have an opportunity to study in the institutions of higher learning either due to substandard education in some underprivileged schools or financial constraints to access quality education.

I want to encourage them not to give up on their dreams for God has good plans for their lives.

ACKNOWLEDGEMENTS

I would like to acknowledge my supervisor Professor Pat Mayers for her contribution to this study.

My sincere gratitude goes to Professor Nonhlanhla Khumalo, Professor Sinegugu Duma and Dr Katherine Murphy who would not let me give up when the going got tough. I appreciate your encouragement and support.

My heart felt appreciation goes to Dr Susan Jessop, and Dr Laduma Ngwanya for being there when I needed them most. I am humbled by their spontaneous response to my various needs throughout this project. May I never take for granted the sacrifices they made to help me through.

UCT writing centre, Health Science Library staff and Viki Janse Van Rensburg, thank you for your technical guidance.

Thank you G23 staff and the Hair and Skin Lab at Groote Schuur hospital for your support and contributions in various ways including words of encouragement, prayers and standing in for me in various tasks.

To my daughter Lethukuthula Magagula and my husband Ernest Magagula, thank you for making self-denial sacrifices just for my education.

I would like to acknowledge my spiritual father Pastor Godwin Eze who encouraged and supported me spiritually. I thank him and Heal Our Land church for standing with me in prayer.

ABSTRACT

Background information

Most dermatologists in South Africa practice in urban areas whereas rural populations have limited access to dermatology services. The first group of dermatology nurses in South Africa was trained in 1997, through a short course programme offered at Groote Schuur Hospital in Cape Town, to increase access to care. These nurses provide dermatological treatment and care in a variety of health care settings; however, their role has not been formally described.

Aim of the Study

The study aim was to explore and describe the role of a dermatology nurse practitioner at primary and tertiary care in the Western Cape Province, South Africa, as perceived by dermatologists, physicians, dermatology nurse practitioners, non-dermatology trained nurses and nurse managers who have worked with dermatology nurses.

Methodology

A qualitative, descriptive and exploratory design was selected for the study. Purposive sampling was used to select participants who were doctors and nurses and who had been involved in rendering dermatological services. Participants were drawn from public and private health care institutions at primary and tertiary care levels. Individual interviews, using a semi-structured interview schedule, were conducted with three nurses, two medical officers, three nurse managers and four dermatologists. A focus group was conducted with seven dermatology nurse practitioners. Data were analysed using content analysis.

Findings

The findings show that dermatology nurse practitioners are not only involved in clinical care of patients, but have other roles which include education, management of the services and leadership. The benefits of dermatology nurse practitioners' roles for the patient include increased access to care, improved quality of life and reduced costs. The health system is thought to have benefitted from reduced referrals to tertiary care as more patients are effectively managed at primary care level.

Challenges to the role include a lack of support for the dermatology nurse practitioners, inadequate resources and lack of regulation. Recommendations include a call for accreditation of dermatology nursing and provision of learning opportunities for DNPs. The findings of the study may not reflect the experiences and perceptions of practitioners beyond this region as the study was limited to the Western Cape.

Conclusion

The value of the dermatology nurse practitioners has been appreciated by all stakeholders in this study. If recognised by statutory bodies and the role of the dermatology nurse practitioner is regulated, it has the potential to expand the reach of dermatology services and contribute to the overall health care for persons with skin disorders.

Content

PLAGIARISM DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS	iv
ABSTRACT	v
LIST OF TABLES	xi
LIST OF FIGURES	xi
LIST OF APPENDICES	xi
List of Abbreviations	xvi
CHAPTER 1.....	1
INTRODUCTION.....	1
1.1 Background to the study	1
1.2 Current issues in Dermatology care.....	1
1.3 Dermatology nursing training in South Africa	6
1.4 Role and function of dermatology nurse practitioners in South Africa.....	7
1.5 Statement of the problem	8
1.6 Aim of the study	8
1.7 Objectives	8
1.8 Research question.....	8
1.9 Significance of the study	8
1.10 Conclusion.....	9
1.11 Overview of chapters	9
CHAPTER 2.....	10
LITERATURE REVIEW	10
2.1 Introduction	10
2.2 Literature search	10
2.3. Development of the DNP role.....	10
2.4 Roles of Dermatology Nurse Practitioners.....	17
2.5 Benefits of the DNP role	24
2.6 Challenges for the DNP role	25
2.7 Framework of DNP roles derived from the literature	27
2.7.1 DNP roles definitions (table 5).....	31
2.7.1.1 Clinical practice.....	31
2.7.1.2 Education.....	31
2.7.1.3 Personal development	32
2.7.1.4 Management	32
2.7.1.5 Leadership	32
2.7.1.6 Quality improvement.....	32
2.7.1.7 Professional practice	33
2.7.1.8 Research	33
2.8 Conclusion.....	36
CHAPTER 3.....	37
METHODOLOGY	37
3.1 Introduction	37
3.2 The research design.....	37
3.2.2 Exploratory-descriptive, and contextual qualitative research	38
3.3 Study setting.....	38

3.4 Population and Sampling	39
3.4.1 Participants in individual interviews	39
3.4.3.1 Individual interviews	40
3.4.3.2 Focus group.....	40
3.4.4 Exclusion criteria	41
3.5 Sample size	41
3.6 Gaining access to participants	41
3.7 Data Generation.....	42
3.7.1 Data collecting tools.....	42
3.7.1.1 The interview guide	43
3.7.1.2 The focus group guide.....	43
3.7.2 Pilot Study	43
3.7.3 Data collection process.....	44
3.7.3.1 Individual Interviews	44
3.7.3.2 Focus group discussions.....	45
3.7.4 Data saturation.....	45
3.7.5 Data Management and Analysis.....	46
3.8 Reporting of findings	46
3.9 Ethical considerations	47
3.9.1 Autonomy	47
3.9.2 Beneficence	47
3.9.3 Non-maleficence	47
3.9.4 Justice.....	48
3.9.5 Anonymity and confidentiality.....	48
3.9.6 Researcher-participant relationships	49
3.10 Trustworthiness	49
3.10.1 Credibility.....	49
3.10.1.1 Preparation phase	49
3.10.1.2 Organizational phase.....	50
3.10.1.3 Reporting phase.....	50
3.10.2 Confirmability	50
3.10.3 Dependability	50
3.10.4 Transferability	51
3.11 Reflexivity	51
3.12 Conclusion.....	52
CHAPTER 4.....	53
FINDINGS.....	53
4.1 Introduction	53
4.2 Study Participants.....	55
4.2.1 Study participants' demographics	55
4.2.2 Categories of DNPs and their activities	56
4.2.3. DNPs' practice settings	56
4.3. Theme 1: Perceived Role of the DNP.....	57
4.3.1 Clinical practice role	57
4.3.1.1 Patient care and treatment.....	57
4.3.1.2 Counselling	59
4.3.1.3 Patient support.....	59
4.3.1.4 Patient triage	60

4.3.1.5 Teledermatology.....	60
4.3.2 Management of services role.....	62
4.3.2.1 Management of nurse-led services at primary care level	62
4.3.2.2 Management of services at tertiary care level	62
4.3.2.3 Administration and clerical work.....	63
4.3.2.4 Providing staff support:	63
4.3.2.5 Maintaining interpersonal relationships.....	63
4.3.3 Education Role	63
4.3.3.1 Patient education (health education)	64
4.3.3.2 Teaching students.....	64
4.3.3.3 Teaching non-dermatology trained doctors and nurses	64
4.3.5 Self-development role	65
4.3.6 Researcher Role.....	65
4.3.6.1 Active participation in research.....	65
4.3.6.2 Capturing statistics	65
4.3.7 Professional practice role	65
4.3.7.1 Specialist/Consultancy	65
4.3.7.2 DNP as patient advocate	66
4.3.8 Leadership Role.....	66
4.3.8.1 Voluntarism.....	67
4.3.8.2 Intersectoral collaboration	67
4.3.8.3 Mentoring.....	67
4.3.8.4 Ambassador role	67
4.3.9 Quality improvement.....	67
4.4. Theme 2: Benefits of the DNP Role	67
4.4.1 Patient benefits	68
4.4.2 Health system benefits	68
4.4.3 Personal (DNP) benefits.....	68
4.5. Theme 3: Role Challenges.....	69
4.5.1 Lack of resources	70
4.5.1.1 Human resources: Staffing constraints.....	70
4.5.1.2 Medication and prescribing restrictions	71
4.5.1.3 Other resources	72
4.5.2 Dermatology nursing SANC accreditation.....	72
4.5.3 Lack of recognition and support.....	72
4.5.4 Lack of statistics and leadership skills	72
4.5.5 Referral system challenges.....	73
4.5.6 Work overload.....	73
4.5.7 Lack of a job description.....	73
4.6 Theme 4: Future Role (Recommendations).....	73
4.6.1 Recommendation for the Provincial Department of Health (DOH).....	74
4.6.1.1 Increase the number of DNP posts.....	74
4.6.1.2 DNP job description.....	75

4.6.1.3 Eczema and psoriasis clinics at tertiary care	75
4.6.1.5 DNP training funding and support	76
4.6.1.6 Strengthen existing PHC clinics for capacity building	76
4.6.2 Recommendations for the South African Nursing Council (SANC)	77
4.6.3 Recommendations for the Dermatology training programmes	77
4.6.3.1 Develop DNPs leadership skills.....	77
4.6.3.2 Provide support for DNPs	77
4.6.3.3 Capture statistics	77
4.7 Conclusion.....	78
CHAPTER 5.....	79
DISCUSSION AND CONCLUSION	79
5.1 Theme 1: DNP roles	79
5.1.1 Clinical practice role	79
5.1.2 Nursing professional practice role.....	81
5.1.3 Education role	81
5.1.4 Management and leadership role.....	83
5.1.5 Research and self-development role.....	83
5.2 Theme 2: Benefits of the DNP role	85
5.3 Theme 3: The DNP role challenges	86
5.4 Recommendations.....	89
5.4.1 Research	89
5.4.2 Education and training	89
5.4.3 Practice	90
5.4.4 Regulation	91
5.5 Study strength and limitations.....	91
5.6 Conclusion	92
REFERENCES.....	94
Appendices.....	107

LIST OF TABLES

Table 1: Number of dermatologists in either urban or rural setting by region	3
Table 2: Prevalence of the top five of skin conditions at the different levels of care in two provinces	5
Table 3: SANC training requirements for professional nurses/midwives in South Africa	12
Table 4: Global DNP roles	22
Table 5: Modified Framework for DNP roles and activities	34
Table 6: Demographics information of participants of the focus group	55
Table 7: Demographics information of focus group participants (DNPs)	56
Table 8: Example of the DNP’s role and activities	61
Table 9: Perceived benefits for a DNP Role	69

LIST OF FIGURES

Figure 1: Showing a DNP role (table 5) framework from various sources	31
Figure 2: Diagrammatic portrayal of the findings	54
Figure 3: DNP challenges	70
Figure 4: Recommendations for future DNP role	74

LIST OF APPENDICES

Appendix 1: Table 10: Depicting global DNP role, benefits and role challenges	107
Appendix 2: UCT ethical clearance	111
Appendix 3: UCT ethical clearance extension	112
Appendix 4: Red Cross Children’s Hospital ethical approval	113
Appendix 5: Groote Schuur Hospital ethical approval	114
Appendix 6: Permission letter to the facility manager	115
Appendix 7: Information sheet and consent for focus group (Dermatology Nurse Practitioners)	116
Appendix 8: Information sheet and consent form for individual interviews	120
Appendix 9: Interview guide for Doctors and Professional Nurses	124
Appendix 10: Focus Group Guide	125
Appendix 11: Table of codes sample	126
Appendix 12: Mind map of the analysis process	129
Appendix 13: Ethical approval from Department of Health, Caledon clinic	130
Appendix 14: Ethical approval from Department of Health, Mitchell’s Plain Community Health Centre	131

Definition of Terms

Acute disease/illness: In this study, it refers to a patient whose skin symptoms occur suddenly with a rapid progression. It may be a single or repeated occurrence that takes a short duration from which the patient returns to her normal state. The patient may or may not need follow-ups (World Health Organization, 2004).

Advanced Nurse Practitioner: is a registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competences for expanded practice, the characteristics of which are shaped by the context or country in which he or she is credentialed to practice (Hall, 2016).

“A person who focuses on primary care, health assessment, diagnosis and treatment” (South African Nursing Council, 2012, p. 1).

Chronic disease or illness: In this study it refers to a condition in which skin symptoms occur gradually with a slow progression and may take a lengthy period to heal. The patient may require indefinite or many follow-ups with possible rehabilitation or prolonged supervision of care (World Health Organization, 2004)

Clinical Associates, Assistant Medical Officers, and Medical Assistants: Refers to a cadre of clinicians in South Africa who graduated with a Bachelor’s degree in Clinical Medical Practice. They are medical assistants who have been trained to treat patients, supporting and working with doctors in district hospitals (Couper & Hugo, 2014).

Clinician: Refers to a professional health practitioner who is involved in clinical practice, for example, a professional nurse, medical officer, or a psychologist.

Competencies (nursing): are referred to as “requirements of a practitioner to be considered competent in a designated role and practice setting. They are building blocks that shape nursing work in all clinical and practice setting ... competencies, scope of practice and nursing standards are sometimes used interchangeably... The Scope of Practice addresses the role and boundaries of practice, while the Practice Standards describe what is considered best practice by the profession and Competencies describe how each standard is met” (South african Nursing Council nursing Act 33 of 2005, pp. 2-4)

Cosmetic Camouflage: Refers to the skilled use of cosmetic products to conceal abnormal skin lesions (Ramien et al., 2014).

Cryotherapy: Refers to the destruction of abnormal skin tissue cells using extreme cold temperatures (Bologna, Jorizzo, & Scaffer, 2012, p. 2283).

Dermatologist: Refers to a medical doctor who has undergone specialised training in the field of dermatology after completion of medical training.

Dermatology programme/community: Refers to dermatology nursing colleges, dermatologists and dermatology institutions in which DNP are working or training especially in South Africa.

Dermatology Nurse Practitioner (DNP): In South Africa there is no formal definition of a dermatology nurse practitioner as the qualification is not registered with the South African Nursing Council. Based on the definition of a nurse practitioner, the dermatology nurse practitioner in this study refers to a professional nurse who has completed formal training in dermatology for a period of not less than two months. Nevertheless, literature indicates that a professional nurse who has undergone special training in dermatology is regarded as a dermatology nurse practitioner (Kelly, 2012).

Grey literature: Refers to documents which are not commercially published and may not be traceable through the bibliography route and usual book shops. They are either printed or electronic. These include reports, conference material, theses and dissertation (Ridley, 2008).

Levels of health care:

- **Primary health care:** Refers to care rendered at the community clinic and community health centres
- **Tertiary health care:** Refers to care rendered in a tertiary level hospital by specialists

Nurse: According to the South African Nursing Council a nurse is a person authorised to practise nursing according to Regulation 31 of the (Ministry of Health Manatu Hauora, 2014)

Occupation Specific Dispensation: It is a system in which remuneration was regraded and increased for public health personnel according to their qualifications and years of service. It was introduced in 2007 in South Africa and nursing was the first profession to implement it (George & Rhodes, 2012).

Outreach clinics: Refer to a planned regular visit by a medical practitioner from a usual practice to a remote venue (Gruen, Weeramanthri, Knight, & Bailie, 2003).

“Outreach service” means all health care services rendered by a health establishment outside its institutional premises through the development of its resources” (*National Health Act 61 of 2003*).

Patient: In this study, patient refers to a person who undergoing treatment for a skin condition or disorder. World Health Organization (2004, p. 44) describes a patient as “a person in contact with the health system, seeking attention for a health condition”.

Patch tests: Refers to a skin test where allergens known to elicit a reaction are applied on the test site and are evaluated for an eczematous reaction after 24 – 72 hours (Kerschenlohr, Darsow, Burgdorf, Ring, & Wollenberg, 2004)

Phototherapy: Refers to “the use of ultraviolet light in the treatment of skin diseases” (Bologna et al., 2012, p. 2219)

Practitioner: refers to a nurse or midwife who practises nursing and is registered according to the requirements of the (South African Government, 2005). The operational definition of a DNP therefore is based on the two definitions above.

Primary Care Nurse Specialist: Refers to a skilled professional nurse with a registered additional qualification in Primary Care Nursing, independently rendering first line care to patients with all types of illnesses by conducting physical assessment, making a diagnosis, providing treatment for the patient, and referring patients who need further management (South African Nursing Council, 2014)

Professional Nurse: The South African Nursing Act 33 of 2005 defines a professional nurse as a "... a person who is qualified and competent to independently practise comprehensive nursing in the manner and to the level prescribed and who is capable of assuming responsibility and accountability for such practice" (South African Government, 2005, p. 25).

Role: refers to organizationally developed expected behaviour of an individual holding a certain position in an organization, or "...an expected set of behaviours that is characteristic of a specific function in a team (Ebbers & Wijnberg, 2017, p. 1344).

South African Nursing Council: It is an autonomous, financially independent body entrusted to set and maintain standards for nursing education and practice in the Republic of South Africa the body entrusted to set and maintain standards of nursing education and practice in the Republic of South Africa...initially established by the Nursing Act, 45 of 1944 and currently operating under the Nursing Act 33 of 2005" (South African Nursing Council, 2018).

Staff Nurse / Enrolled nurse: The South African nursing Act 33 of 2005 defines a staff nurse as "a person educated to practise basic nursing in the manner and to the level prescribed" (*Nursing Act 33 of 2005*, p. 25).

Teledermatology: Teledermatology is a component of telemedicine in which health care service is delivered remotely through information and technology. Patients' digital images and information are taken and conveyed to the consultant through emails or a web-based platform and the feedback is received through the same media (store-and-forward). In live-interactive teledermatology, teleconferencing may be used (Gaffney & Rao, 2015). The use of smart phones for taking and conveying images has become common.

Vitiligo: Refers to a skin condition characterised by a loss of pigment producing cells, resulting in loss of pigment of the skin and hair (Ho et al., 2011)

List of Abbreviations

ANP:	Advanced Nurse Practitioner
CAS:	Clinical Associates
PCNS:	Primary Care Nurse Specialists
DNP:	Dermatology Nurse Practitioner
EDL:	Essential Drug List
FGP:	Focus group participant
GSH:	Groote Schuur Hospital
HIV:	Human Immunodeficiency Virus
ICN:	International Council of Nurses
INSG:	International Skin Care Group
NP:	Nurse Practitioner
NQF:	National Qualifications Framework
OSD:	Occupation Specific Dispensation
P1:	Participant 1 (first participant)
PA:	Physician Assistant
PACK:	Practical Approach to Care KIT
PCNS:	Primary Care Nurse Specialist
PN (RN):	Professional Nurse/Registered Nurse
SADNA:	South African Dermatology Nursing Association
SAMF:	South African Medicines Formulary
SANC:	South African Nursing Council
SAQA:	South African Qualification Authority
TB:	Tuberculosis
UCT:	University of Cape Town

CHAPTER 1

INTRODUCTION

1.1 Background to the study

Dermatology nursing is a field of nursing that specialises in the care and management of people with skin disorders (Kelly, 2012). Dermatological treatment was initially prescribed by dermatologists only and the nurse's role was mainly health education, administration of treatment as appropriate and patient support. In 1995, dermatologists at Groote Schuur Hospital recommended that nurses be trained to run day-care centres for dermatology patients (Saxe & Todd, 1995). This marked the beginning of task shifting from dermatologists to registered/professional nurses and it led to the first known programme for the training of dermatology nurses in South Africa. The dermatology nurse practitioners (DNP) functioned under the guidance of dermatologists. The reasons for establishing the DNP role included a shortage of dermatologists, inadequately trained health personnel at primary care level and an increasing burden of disease in South Africa and the world in general (Kelly, 2012).

Skin diseases affect the individual, the family and society. Most skin conditions are not fatal but may inflict psychosocial burdens and carry financial implications (Basra & Shahruckh, 2009) In South Africa, skin disorders may be more severe and may contribute to morbidity and mortality (Jessop et al., 2002), especially in people with HIV or other chronic diseases such as diabetes mellitus. Research in Africa reveals that about 85% - 90% of HIV infected patients have skin problems (Katibi, Dlova, Chateau, & Mosam, 2016; Lowe et al., 2010; Panya, Mgonda, & Massawe, 2009). About 68% of diabetes mellitus patients have skin manifestations (Pavlovic et al., 2007). Severe drug reactions such as toxic epidermal necrolysis, especially from antiretroviral drugs (ARVs), and TB medication highlight the complex multiple contributing factors in the development of skin problems. The association between HIV, diabetes, skin conditions and other comorbidities may lead to underestimation of the burden of skin disease in South Africa and consequently poor planning of resources.

1.2 Current issues in Dermatology care

Dermatology services are inadequate to meet the care needs of the population globally. In a survey to establish demand and supply of dermatology services in the United States of America

(USA), Kimball and Resneck Jr (2008) report the shortage of dermatologists which is thought to be due to increasing medical dermatology, surgery and cosmetic dermatology demands. Consequently, the waiting time for patients increased. This also led to an increasing number of physician assistants and nurses entering the dermatology workforce. By 2008 there was a 43 % increase in the use of nurse practitioners and physician assistants in the USA (Resneck Jr & Kimball, 2008). To address the shortage of dermatologists, the global dermatology community embarked on strategies that would complement specialist dermatology services.

Some of the strategies adopted were to increase the number of dermatologists worldwide, the introduction of nurse prescribers and physician assistants, and the involvement of general practitioners and pharmacists (Kimball & Resneck Jr, 2008; Lindblad, Kjelgren, Ring, Maroti, & Serup, 2006). The extended roles for nurses globally, in the form of nurse prescribers and nurse-led dermatology clinics, were the results of these changes (Carey, Courtenay, & Stenner, 2013; Van Cott & Kimball, 2009).

Inadequate dermatology services and the lack of using nurses in dermatology care affected underdeveloped countries like India and Africa in particular. According to Kaur (2012), India faced a lack of dermatologists for more than half of the population, especially in rural areas. The Indian Society of Dermatologists and Leprologists took the initiative to form a Special Interest Group to set up dermatology nursing in India. The group included nurses and dermatologists. With the assistance of the International Skin Group, a curriculum was developed, and a series of workshops were conducted for nurses, students and nurse educators. Similarly, in Africa, The International Society of Dermatology and the International Foundation for Dermatology participated in the creation of the Regional Dermatology Training Centre (RDTC) in Moshi, Tanzania (Ryan, 2000; Ryan, Ersser, & Fuller, 2012). The college trained dermatologists and dermato-venereal officers from African countries such as Swaziland, Lesotho, Botswana, Malawi, Ghana and Cameroon among others. There is no literature indicating that the South African government sent nurses to participate in this dermatology programme.

Countries such as Swaziland and Lesotho, which did not have physician assistants, trained their professional nurses instead (Ryan, 2000; Ryan et al., 2012) and they qualified as dermato-venereology officers. South Africa is one of the developing countries that is affected by the shortage of dermatologists.

In South Africa, there is an insufficient number of dermatologists and they are not equally distributed among the population. There is approximately one dermatologist per four million of the population (Ersser et al., 2011; Kelly, 2012). Most specialist dermatologists provide services for the sector of the population covered by medical insurance, and the majority are in the larger towns and cities. Consequently, rural populations have limited access to dermatology services, via referral to tertiary hospitals (Katibi, Ogunbiyi, et al., 2016). Approximately 166 dermatologists serve a population of about 51.8 million (South African Government, 2012) and 20% of these are in the private sector; this makes them inaccessible to the majority of South Africans (Ersser et al., 2011). Similar findings on the shortage of dermatologists in resource-poor countries have been reported by Gaffney and Rao (2015), in a literature review on global teledermatology. Developed countries have more dermatologists compared to developing countries but in rural populations, such care is scarce (see Table 1). Despite Gaffney and Rao (2015) omission of not stating how many dermatologists per population would be adequate, they demonstrate that South Africa has a shortage of dermatologists when other countries are used as a bench mark.

Table 1: Number of dermatologists in either urban or rural setting by region

Country	Urban	Rural
USA	1: 30,000	
UK	1: 200,000	
Asia	1: 2000,000	1: 780,000
Sub-Sahara Africa	1: 1000,000	1: 5-50 000,000
Central/South America	1: 76,000	1: 1-66 000,000

(Gaffney & Rao, 2015).

Table 1 reflects a benchmark of the prevalence of dermatologist in the developing countries against those who are in the developed countries, categorised by region.

General medical officers and professional nurses attend to patients suffering from skin problems in areas where there are no dermatologists, even though they lack the skills to treat these patients. A marked shortage of general medical officers aggravates the problem of inadequate access to health care in general. In a draft document on human resource for health 2030 in South Africa, the Department of Health (2011) discussed the shortage of doctors in

South Africa. Doctors constitute 12 % of health professionals in South Africa while nurses constitute 80% (World Health Organization, 2016). The information was benchmarked by comparing South African health human resources with countries with a similar economy and population size. The Department of Health (2011), cautioned that even though the number of vacancies in the public sector is commonly used to measure shortage of human resources, they are unreliable indicators.

Skin conditions are commonly encountered in primary care and many can be successfully managed in the community if health practitioners have appropriate training. Infections, although easily spread, may be contained if treated early (Kelly, 2012). Contrary to this information, Cloete (2013) noted that infections were lower compared to chronic conditions such as eczema and psoriasis at primary health care clinics in the Overberg district of the Western Cape. Some of the common skin conditions reported were atopic dermatitis, acne, tinea versicolour, acne and papular urticaria (Cloete, 2013). In a retrospective, chart review prevalence study in Kwazulu-Natal, South Africa, 86.6% of patients who were referred to the dermatologists were adults. The top five skin conditions were acne, eczema, pigmentary disorders, infections and hair disorder (Dlova et al., 2015), all of which could have been treated at primary care level.

The burden of skin diseases at primary care level was reported in a retrospective data review study of skin conditions in a paediatric tertiary hospital in Cape Town. The top ten conditions treated by dermatologists constituted 88.5% of the consultations, of which the first five conditions were atopic eczema, seborrheic dermatitis, superficial fungal infections, molluscum contagiosum and vitiligo (76.7%). Atopic eczema was accounted for 60% of the first five skin conditions (Kakande, Gumedze, Hlela, & Khumalo, 2016). The objective of the study was to train primary care health workers on the first ten conditions in order to reduce the referrals to the paediatric hospital.

Most of the top ten skin conditions are treatable at the primary care level hence the study recommended education and training of the primary healthcare providers to improve access to care, reduce the number of referrals to tertiary hospitals and open up space for more complicated skin conditions. Inadequate training in dermatology among primary care health personnel was further demonstrated in a study conducted in KwaZulu-Natal in which 37.6%

children who were referred for skin related disorders were misdiagnosed (Katibi, Dlova, et al., 2016).

Table 2: Prevalence of the top five of skin conditions at the different levels of care in two provinces

Province	Western Cape	Western Cape	Kwazulu-Natal	Western Cape	Kwazulu-Natal
Level of care	Primary: Community clinic	Primary: CHC	Tertiary: OPD	Tertiary: Paediatrics hospital	Tertiary: OPD Paediatrics hospital
Urban/rural	Rural	Peri- urban	Urban	Urban	Urban
Year of study	2013	2013	2015	2016	2016
Author	(Cloete, 2013)	Stevens, (2013)	(Dlova et al., 2015)	Kakande et al., (2016)	Katibi, Dlova, et al., 2016
Most prevalent skin conditions	Atopic eczema Tinea, Versicolor, Acne, Papular urticarial, Psoriasis	Acne Alopecia, Eczemas, Impetigo, Molluscum contagiosum, Nappy rash	Acne, Eczemas, Pigmentary disorders, Infections, Hair disorders	Atopic dermatitis, Seborrheic dermatitis, Tinea, Molluscum Vitiligo	Atopic dermatitis, Viral warts, Seborrheic dermatitis, Vitiligo, Molluscum

Table 2 reflects the prevalence of the top five common skin disorders at various levels of care in the Western Cape and Kwazulu-Natal.

Nursing and medical curricula in South Africa allocate minimal time to the teaching of dermatology, as skin disease is not seen to be life-threatening, yet it has a major impact on the quality of life and on an individual's access to education and to the workplace (Kelly, 2012)Kaur, 2012). Trained health personnel at the primary care level could reduce referrals to tertiary hospitals considerably, saving costs for the patient, the family and the health services (Lehmann, 2008). One approach to addressing this shortfall in skills is the training of professional nurses in the field of skin care and the diagnosis and management of common skin disorders.

To build capacity in South African Dermatology care, and to improve access to quality skin care, particularly at the primary care level, the Division of Dermatology at Groote Schuur Hospital (Western Cape, South Africa) decided to train professional nurses in dermatology care. The provision for affordable yet specialised DNP services at primary health care is in line with the World Health Organization's (WHO) global strategy on human resource workforce 2030 which recommends matching the population need for care with proper distribution of health workers in order to achieve universal access to health at all levels of healthcare (World Health Organization, 2016). The long-term vision for this approach includes a more diversified skill mix and harnessing different complimentary cadres of health personnel.

1.3 Dermatology nursing training in South Africa

In 1997, the Division of Dermatology at Groote Schuur Hospital, in collaboration with the Division of Nursing and Midwifery at University of Cape Town (UCT), developed and introduced a two-month Dermatology Nursing programme, mainly for Specialists. The programme content covered diagnosis and management of common skin conditions, such as eczema, bacterial, fungal and viral skin infections, and included wound care and the treatment of leprosy. Nurses were drawn from across South Africa and other African countries, including Zambia, Zimbabwe, Botswana, Kenya, Niger and Sierra Leone, although 40% of the trainees were based in Western Cape health facilities. A certificate in Dermatology Nursing was awarded to successful candidates on completion of the training.

By the end of 2011, 153 dermatology nurses had completed the training (Kelly, 2012). Some of these nurses have established nurse-driven dermatology clinics in their home countries and a few have opened their own private practices (Ersser et al., 2011; Kelly, 2012).

It became evident that there was a need for a more formally accredited programme, and in 2012 the Postgraduate Diploma in Dermatology Nursing was introduced in the Division of Nursing and Midwifery at UCT (Doherty et al., 2013). The primary purpose for upgrading this programme was to produce a clinical nurse specialist in dermatology who would contribute to improved health outcomes for dermatology patients (Kelly, 2012). A secondary aim was to promote recognition of the speciality, dermatology nurse practitioner, by the nursing profession, which would pave the way for career progression (Kelly, 2012). Accreditation for the programme was sought, however, due to many restricting processes within postgraduate nursing education, this process has been delayed.

The Dermatology Division at UCT introduced a blended dermatology short course for medical officers and PCNSs in 2015, primarily to improve primary health care dermatology services and to increase the number of DNPs. The curriculum covers the diagnosis and treatment of common skin conditions. Additionally, the participants are trained to recognise and refer to the dermatologist skin conditions that are beyond their scope of practice. To date, 14 medical officers, three professional nurses and nine PCNSs have completed this programme.

1.4 Role and function of dermatology nurse practitioners in South Africa

The DNP role is an extended role of a registered nurse, PCNS or specialist and it varies from country to country. The variations are dependent on the level of training, level of care at which the nurse practices and the relevant governance and regulation in different countries. For instance, according to the Dermatology Workforce Service Forecast (Ministry of Health Manatu Hauora, 2014) dermatology nurse practitioners are dedicated professional nurses and nurse specialists without dermatology training. In rural India, nursing services are provided by Auxiliary Nurse Midwives (ANMs), who are trained to provide dermatological services (Kaur, 2012).

In South Africa, a DNP has not been defined by the South African Nursing Council. In this study, it refers to a professional nurse or a primary care nurse specialists who has completed formal training in dermatology for a period of not less than two months (Kelly, 2012). There are no studies on the role of a DNP, only the description of their services provided by the DNPs.

At the tertiary care level, the roles included routine skin care, health education regarding skin care and hygiene, supervision of skin care and psycho-social support of patients (Kelly, 2002, 2012). At primary health care level, the South African DNPs treat common skin problems, use teledermatology for consultations with colleagues and other health providers, provide teaching and health education to staff and patients and provide placement opportunities for health science students' clinical learning (Cloete, 2013; Stevens, 2013). The services are provided largely at primary care level through nurse-led clinics and outreach clinics, and to a lesser extent at secondary (Klem, 2016) and tertiary levels and in the private sector (*National Health act 61 of 2003*).

1.5 Statement of the problem

There is limited information regarding dermatology nursing in South Africa. Lack of accreditation, regulation and recognition of DNPs' potential contribution may result in underutilisation of their skills. It is not known how effectively DNPs are utilised by the health care system in South Africa, and their role and functions as perceived by themselves and other health workers have not been investigated. The DNP role in South Africa lacks both job description and a clear role definition, hence the need for this study.

1.6 Aim of the study

The aim of the study was to explore and describe the role of a dermatology nurse practitioner at primary and tertiary care level in the Western Cape Province, as perceived by dermatologists, medical officers, dermatology nurse practitioners, non-dermatology trained nurses and nurse managers who work with dermatology nurses.

1.7 Objectives

The objectives of the study were:

- To explore and describe the perceptions of the trained DNPs regarding their role
- To explore and describe the perceptions of health care providers who have worked with DNPs regarding the role of DNPs

1.8 Research question

What are the perceptions of dermatology nurse practitioners, doctors and nurses, regarding the role of a DNP in the Western Cape Province?

1.9 Significance of the study

The findings of the study may inform those responsible for nursing curriculum design and could lead to recognition of the role and function of the DNP. The information could provide the foundation for a formal job description and a scope of practice for the DNP. The findings may help to illustrate how these roles may be integrated into the roles of other health team members without duplicating them and may assist in the planning of the provision of human resources within the Department of Health.

1.10 Conclusion

This chapter highlighted the global lack of access to dermatology services, followed by the strategies taken to address these issues. The focus is on the creation of the DNP role in South Africa and the need to define the role. The perceived lack of awareness of this role in the Western Cape and the resultant need to describe the DNP role was highlighted. The research aim is to explore and describe the role of the DNP in the Western Cape.

1.11 Overview of chapters

Chapter 1 provided the introduction and background to the study. It presents study objectives and significance of the study.

Chapter 2 presents a review of relevant literature and a framework of the roles of a DNP.

Chapter 3 describes the study methodology, including the study setting, population, sampling, data collection, data analysis, and trustworthiness. The ethical considerations are presented.

Chapter 4 the study findings are presented.

Chapter 5 discusses the study results, implications, limitations, recommendations and conclusions.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, a literature review regarding the global view of the DNP role is discussed. Gaps in the literature are highlighted and justification for the current study is presented. The literature search process is described. The themes under which published literature will be discussed are the development of the DNP role, the DNP role, benefits of the DNP role and challenges of the DNP role.

2.2 Literature search

The search was conducted using the electronic databases MEDLINE, Google, Google Scholar CINAHL, Africa-wide Information, Health Source Consumer Edition, Health Source: Nursing/Academic Edition and Humanities International Complete, via Ebscohost. A search of published literature and their lists of references was conducted. Search terms used were nurse practitioner or specialist, nurses in advanced roles, dermatology nurse practitioner or specialist, dermatology nursing role, function, job description, scope of practice, nurse competencies, protocols and nursing standards for dermatology nurses. There was no time limitation or geographical location of the articles that were used during the literature search as the published literature is limited in breadth and scope. This review is presented in a thematic structure as described above.

2.3. Development of the DNP role

A role is defined as "...an expected set of behaviours that is characteristic of a specific function in a team" (Ebbbers & Wijnberg, 2017, p. 1344). This suggests that other stakeholders interact with the DNP in the health team. Based on the role definition stake holders seem to play a key role in the development and support of the DNP role.

The DNP role development was based on strategies which are recommended by (World Health Organization, 2016) on human resources for the health workforce, 2030.

The focus was on education and training, issues pertaining to governance and regulation and support from stakeholders.

The World Health Organization (2016) objective number two urges member states to invest in education and training of healthcare personnel. Some of the strategies recommended included alignment of training with needs of the health system and health labour market using more cost-effective ways and decreased reliance on foreign-trained health works. Curricula should cater for local and international needs. Some of the reasons cited in the literature for educating nurses were to prepare them for their role, increase the quality of care (Armstrong & Rispel, 2015), increase professionalism, enhance health system performance and to meet population needs (Blaauw, Ditlopo, & Rispel, 2014).

The education and training of nurses vary from country to country. The literature suggested that educational requirements for nurses in advanced roles were higher in developed countries compared to developing countries. Delamaire and Lafortune (2010) revealed that the highest level of education among advanced practice nurses in 12 developed countries was Masters' degree and a small number of Nurse Consultants in England have a Ph.D. qualification. In the United Kingdom, Carey, Courtenay, and Burke (2007) reported that the majority of the DNPs obtained a short course in dermatology nursing, with the minority who have been mentored or attended a training workshop. The DNPs who had obtained higher certificates (diploma, degree and Masters) in dermatology were in the minority (Carey et al., 2007) noted that due to a lack or absence of qualified DNPs, some of the nurses prescribed dermatology medication without training in dermatology. Andrew (2017) concurred with Courtenay, et.al. (2007), finding in the study "Optimizing the role of a dermatology nurse" by revealing that the majority of DNP held a Diploma in Dermatology, few nurses had a first degree and fewer nurses had a Master's degree This is in keeping with study of Nurses in advanced roles in 12 developed countries, conducted by Delamaire and Lafortune (2010) in which most registered nurse practitioners in the USA held a master's degree. A lack of clearly defined roles and inconsistent training requirements for DNPs may lead to role ambiguity, lack of credibility, varied evaluation procedures, poor programme quality and may negatively affect career advancement (Bryant-Lukosius & DiCenso, 2004).

In the Netherlands, Norbart (2015), studying the role of a Nurse Practitioner (NP) in a dermatology outpatient clinic, argued that not everybody working in dermatology is professionally trained. This carries ethical and legal implications as patient safety is questionable and health personnel is at risk of being sued.

NPs in this study were generalists by training and their role was mainly therapeutic. They were recruited and trained on the job by the dermatologists to treat patients suffering from skin disorders, Norbart (2015) reported that NPs perceived their role as closer to a dermatologist and this was contested by DNS. In contrast, DNSs were nurses formally trained in dermatology as specialists and performed mostly nursing duties even though some were appointed to the same positions as NPs. This arrangement contributed to rivalry between NPs and DNSs instead of a professional and complementary relationship. Hence it was suggested that it could be beneficial to provide more formal and professional training for an NP in dermatology. It also left a question of whether an NP's training background was beneficial for a DNP to provide care in dermatology. Dermatologists did not see the need for intensive training of DNPs as one medical specialist in South Africa did not believe that degrees in nursing are appropriate (Armstrong & Rispel, 2015). The highest dermatology nursing qualification in Africa is a two-year advanced diploma in dermato-venereology, offered in the Regional Dermatology Training Centre in Tanzania, (Ersser et al., 2011).

In the South African context, inadequate training for medical and nursing students has been cited as a concern (Kelly, 2012). This has been confirmed by Blaauw et al. (2014) who identified a lack of alignment between nursing education and service in South Africa. According to Blaauw et al. (2014), Nursing Qualification Framework changes were submitted to SAQA, as reflected in the table below, as part of nursing educational reforms. A 4-year bachelor's degree is a minimum education requirement for a PN in South Africa. A specialist nurse is a PN with expertise in a particular nursing field who has obtained a postgraduate diploma in that field. The specialist is registered with the (South African Nursing Council, 2012) (SANC) to practice in South Africa. Dermatology nursing could also be a specialist postgraduate qualification in line with other similar specialties. The PCNS and ANP training curricula do not provide adequate dermatology training in South Africa (Kelly, 2012) and in other countries like Netherlands (Andrew, 2017).

Table 3: SANC training requirements for professional nurses/midwives in South Africa

Professional nurse/midwife	Specialist nurse	Advanced specialist nurse	APN nursing
4-year bachelor's degree	1-year postgraduate diploma	1-year Master's degree	2-year doctoral degree

(Blaauw et al., 2014)

Table 3 shows the minimum SANC training requirements for professional nurses/midwife in South Africa (Blaauw et al., 2014).

Lack of patient protection due to unskilled health workers was demonstrated in a cross-sectional study on the prevalence of paediatric skin conditions in KwaZulu-Natal, in which 38% of children who were referred to a dermatologist from primary care had been misdiagnosed (Katibi, Dlova, et al., 2016). Although the study cannot be generalised to a South African population, it is a significant ethical issue. Failure to provide trained dermatology practitioners and adequate dermatology services impinge on the patient's right to quality care. In the SANC Code of Ethics for Nurses in South Africa, nurses are reminded "... of their responsibilities towards individuals, families, groups and communities, namely to protect, promote and restore health, to prevent illness, preserve life, and alleviate suffering" (South African Nursing Council, 2013). In South Africa, there does not seem to be figures available with respect to misdiagnosing, undertreating and mistreating patients with skin problems owing to a lack of training in dermatology. Although dermatology nursing was first established in South Africa in 1977, the DNP role is not yet registered with the nursing accrediting body, the South African Nursing Council (Cloete, 2013). The combination of education and regulation are necessary components for well-developed advanced nursing roles to succeed (Bryant-Lukosius & DiCenso, 2004; Maier, 2015).

The World Health Organization, (2016) 2030 strategies for a health workforce calls for "countries to modify political will and decision into effective implementation". Such strategies include the adoption of regulations that are transparent, consistent and that target population needs. Furthermore, government collaboration with professional councils and other regulatory authorities would be required.

In addition, regulatory authorities should ensure that health professionals are competent, experienced, and that they conform to legislative norms. Health professionals should be involved in policy setting with balance between the role of being in a public protector and that of representing their members. Countries should be supported to provide continuous credentialing and accreditation. With respect to governance and regulation as additional strategies to develop advanced nursing roles, in a task-shifting and governance study, Maier (2015, p. 1628) defined governance as "structures and processes by which policies are set while

regulation is defined as legally binding policy instruments, which may be national or delegated to professional bodies according to law. The duties involve licensing and credentialing certain cadres of a health profession, setting standards and allowing or limiting certain practices". A country may decide not to regulate but allow the use of protocols and agreements between the nurses and employers (Maier, 2015). Failure to regulate has been associated with lack of role clarity, title protection, and educational and financial barriers (Maier, 2015; Maier & Aiken, 2016a). Some benefits that are associated with regulation are formalising the role, standard educational requirements, facilitation of payment, and definition of the role competencies. Lack of legally binding policies and the speed of adopting the extended nursing roles have been implicated in the title confusion, the consequent absence of job description and unclear role definition (Maier, 2015). In developed countries such as the UK and USA, where dermatology nursing is established, the titles of the role that have emerged included Dermatology Specialist Nurses, Dermatology Nurse Consultant, Practice Nurse and Nurse Practitioner (Carey, Stenner, & Courtenay, 2010).

Further support for the advanced nursing roles is regulation reforms. In some European Union countries, several prescription barriers were removed, and prescription authority was extended for certain nurses. In countries such as the USA and Canada, certain nurse practitioners were authorised to prescribe medication without physician supervision (Davis, 2012). In the UK, Qualified Independent Prescribers prescribe from an extended list of medicines and for conditions listed in the Nurse Prescribers Medicine Formulary (NPMF), while supplementary prescribing requires that the nurse prescribes medicine according to the doctor's plan (Courtenay et al. 2007). A review by Maier (2015), found that in 11 countries where professional nurses were trained to prescribe, prescription regulations were in place. There is a national certifying examination which provides for unsupervised prescription of medication in most places in the UK. A study conducted on nursing and midwifery regulation in East, Central and Southern Africa, revealed discrepancies between practice and education (McCarthy et al., 2013).

The governance and regulation of Nursing in South Africa are as follows: the higher education qualifications under which specialist nursing postgraduate diplomas resort, are approved, classified, registered and published by the South African Qualification Framework (NQF). The NQF is a legal authority which was developed under the Qualification Framework Act 67 of 2008. The South African Department of Education mandated SAQA to oversee, implement

and facilitate the objectives of NQF. SAQA further recognises and registers professional bodies through legally determined criteria of which SANC is one (*National Qualifications Framework Act 67 of 2008*, 2008). The SANC was formed under the Nursing Act No. 45 of 1944 and currently operates under the Nursing Act 33 of 2005. Its mandate is to implement government policies pertaining to education, registration, service, and legal regulation of nursing practice in South Africa (*Nursing Act 33 of 2005*).

There is no statutory regulation for DNPs as specialists even though they are utilised as primary care nurse specialists or professional nurses in the public and private sector under the authority of the Western Cape Department of Health. Currently, the professional practice of DNPs is legally regulated by SANC according to the scope of practice of the nurse. The SANC authorises certain professional nurses to treat patients and give medication in the absence of a pharmacist and a medical officer (Geyer, Naude, & Sithole, 2002). According to the South African Nursing Council (2005), in a letter of clarity from the DOH, Section 22A (15) permits holders to acquire and supply schedule 1 and 2 medications without a prescription while 22A (3) allows purchase medication over the counter (Schedule 0). Additionally, there are standard treatment guidelines at various levels of care that limit or give more authority to the DNP scope of practice, such as Standard Treatment Guidelines and Essential Medicine List for South Africa Primary Health Care Level (Department of Health, 2014), Practical Approach to Care KIT (*Practical Approach to Care Kit*., 2016) and South African Medicines Formulary (SAMF) 2012 (Rossiter, University of Cape Town, & Division of Clinical Pharmacology, 2012).

The World Health Organization (2016) calls for quality and optimisation of health worker performance. To achieve this, countries and institutions are encouraged to improve working conditions, use evidence-based policies and take limited resources into consideration.

Some strategies include a provision of incentives, provision of clear role expectations, mapping up a clear career pathway, continuing professional development opportunities, and interprofessional collaboration. This knowledge implies that the DNP's roles, like other nurses in advanced roles, need support from the stakeholders in order to provide quality nursing service.

According to Oelke, Besner, and Carter (2014), in a study of the evolving role of nurses at primary care, RNs felt unsupported by physicians, nurses and other health workers. The author observed that poor relationship and lack of trust among the health team members became a

barrier to optimization of the RNs' role. Lack of role clarity was also reported which could have perpetuated misunderstanding among health workers. Lack of collaboration and support of new roles among health workers have been confirmed by other researchers such as Scrafton, McKinnon, and Kane (2012) who reported that the barriers to prescribing by nurses were lack of support from nurse managers, nurse administrators and colleagues. Exploring nurses prescribing at secondary care, Kimball and Resneck Jr (2008) observed that coordinated support from doctors, nurses and pharmacists may have improved patient treatment outcomes.

Globally, the primary dermatology services providers are dermatologists, general medical practitioners, physician assistants who are also called clinical associates, professional nurses holding various titles and to a lesser extent, pharmacists (Lindblad et al., 2006; Resneck & Kimball, 2008). In a study of the roles of dermatologists, nurses and pharmacists as perceived by health-care providers and patients in Sweden (Lindblad et al., 2006), the patients expressed dissatisfaction with fragmented services where the dermatologist examines, diagnoses and treats without much explanation of diagnosis and treatment. Nurses demonstrated the use of medication and provided telephonic information and were more accessible. The pharmacists mainly provided medication but gave limited information regarding medication and referred patients who required a diagnosis to the dermatologists. According to Lindblad et al. (2006), doctors, nurses and pharmacists agreed the way forward was an intentional collaboration of the services where they complement each other, use collaborated guidelines and attend common meetings.

Confirming this lack of collaboration among health workers, Lindblad et al. (2006) reported difficulty in collaboration between dermatologists, pharmacists and nurse prescribers in Sweden. Norbart (2015) found that nurse practitioners in the Netherlands reported lack of support and resistance from medical specialists to work as a nurse in a doctor's role and lack of support for the NP role by other nurses within the same organization. In a case study which explored nurse prescriber-patient consultations in dermatology, Courtenay, Carey, and Stenner (2009), found that doctors and nurses agreed that the benefits of nurses prescribing outweigh challenges, but doctors had some reservations concerning the competency of some nurses. In prescribing as an extension of nurses' roles, however, concern was expressed about the boundaries between doctors and nurses prescribing. The participants recommended the development of competencies for nurse prescribers to ensure that only experienced nurses

should be allowed to prescribe. The emerging picture in all these studies is a lack of role clarity which may create mistrust and foster lack of collaboration among the stakeholders.

2.4 Roles of Dermatology Nurse Practitioners

The extended nurses' roles varied according to the countries and institutional needs (see Table 3). The number of non-medical prescribers (NMPs) is increasing globally (Courtenay, 2014). The common rationale reported for the use of NMPs is to reduce medical officer overload and to provide health services access for patients in remote areas. Nurses are expected to comprise the majority of the NMPs (Courtenay et al., 2012)

In 1965, the first nurse practitioner role was piloted in the USA. In the UK, the Medicine Act 1968 was amended in 1992 to authorised prescription of a limited number of medications by nurses who had undertaken a recognised prescription course (Cox, Jackson, & Bowman, 2003). In 2004, the UK Department of Health planned to extend prescribing to 10 000 nurse prescribers and 1000 pharmacists, to reduce doctors' load but failed to meet the target (Bradley, Campbell, & Nolan, 2005). Since 2006 legislative reforms in UK have resulted in non-medical prescribers being awarded independent prescription rights (Courtenay, 2012). The same prescriptive rights were awarded to New Zealand NPs in 2014 (Poot et al., 2017).

Global reforms in task shifting are removing barriers to expand the role of NPs and APNs (Maier and Aiken Maier and Aiken, 2016b).

Consequently, nurses have been granted full prescriptive authority in a limited number of countries although restrictions are still evident in some of the countries regarding the type of medicine to prescribe and the type of patient to whom a nurse may prescribe (Kroezen, van Dijk, Groenewegen, & Francke, 2011).

Educational, legislative and organizational variations pertaining to nurse prescribers have been reported worldwide (Fong et al., 2015; Kooienga & Wilkinson, 2017) Educational preparation for nurse prescribers have been offered at certificate, post graduate diploma, masters and PhD level. In some countries prescribing modules are included in clinical competency requirements. In countries where prescribing is permitted there is some form of legislation in place; the most flexible and extensive is currently the UK (Kooienga & Wilkinson, 2017).

Various prescribing models have been reported. In the UK independent prescribers are authorised to independently assess, diagnose and prescribe medication. while complementary prescribers diagnose and prescribe medication in agreement with an independent prescriber which is usually a medical officer or a dentist (Royal College of Nursing, 2014). Patient group directives are pre-determined protocols, drawn up by a multidisciplinary team under which the non-medical prescribers supply and administer medication (Kroezen et al., 2011).

Courtenay et al. (2007) reported that 638 qualified independent nurse prescribers participated in a survey, which studied the practices of the independent, extended nurses who prescribed for patients with skin conditions in the UK. Most of the nurses were highly qualified prescribers, working in general practice, with experience of more than six years. More than a quarter of the nurse prescribers had no training in dermatology while almost a half had informal training. Few had degrees in dermatology. Most nurse prescribers work in primary care with poorly organized dermatology training (Courtenay et al., 2007). Missing information on the period of prescribing experience may have weakened the study results. Table: showing nurse prescribing variations in some developed and developing countries.

In an overview of non-medical prescribing across one UK strategic health authority (Courtenay et al., 2012), the largest number of NMPs were nurses, the majority of whom were stationed at primary care level. Nurses in general practice and acute care prescribed more and were more supported compared to nurses who worked in other settings. More clinical or practice experience was associated with opportunities to specialise and to prescribe independently (Courtenay et al., 2012). Nurses who were the most active prescribers treated diabetes and dermatology patients.

The benefits of non-medical prescribing reported includes time saving, increased job autonomy and increased job satisfaction. Patient quality care and patient satisfaction, increased access to medicines and reduced waiting times for appointments have also been reported (Royal College of Nursing, 2014) Additional benefits were reduction of the medical officer's load, better use of resources, improved access to care and professional development (Nuttal, 2017).

Prescribing barriers have been reported as lack of support, lack of recourse to medical personnel and continuing education related constraints (Courtenay et al., 2012). Nuttal (2017)

reported barriers which included lack of adequate education, lack of policy, resistance and professional rivalry, time pressure and role restrictions.

Surgical roles were among the first roles to be extended to nursing. The British Association of Dermatologists consultants conducted a study through a questionnaire, regarding the prescriptive and surgical roles extended to their nurses (Cox, 1999). The role which nurses carried out under supervision by a physician or a dermatologist, listed under surgery supervised procedures, included cryotherapy, curettage, shaved, punched and incisional biopsies, administration of intralesional steroids and laser treatment. Nearly half of the nurse prescribers were independent prescribers for the treatment of warts, emollients and dressings, some were medically countersigned and half of them adjusted dithranol and phototherapy treatments according to standard protocols. Surgery was mainly in areas where there were no registrars. These nurses were not supported by other nurses and administrators. Resneck Jr and Kimball (2008) reported that among the dermatology workforce in the USA, 9% of NPs was involved in cosmetic dermatology, 12% in non-cosmetic surgery while the rest of the NPs practiced medical dermatology. A similar study of the training dermatology nurses on the job in surgery and prescribing was conducted in the Netherlands by (Norbart, 2015), who compared the role of a generalist nurse practitioner working in dermatology to that of a dermatology nurse specialist.

Data from a small survey of 18 NPs combined with in-depth interviews revealed that the following nursing care roles: evaluation of chronic patients' treatment; provision of information and guidance to these patients; therapeutic roles which comprised diagnosis and treatment of skin conditions; evaluation of complicated treatment; and minor surgery.

Of interest in this study, a nurse practitioner who is a generalist and who had been handpicked and trained on the job by a dermatologist had more prescribing powers than the dermatology nurses who were not authorised to prescribe.

In an analysis of time spent on in-patient and out-patient nursing activities in the United Kingdom, Ersser, Surrige, and Ryan (2005) monitored nursing care of in-patients and day-care patients for a period of 24 weeks. The data collection tool comprised a list of nursing activities in both in-patient and out-patient settings. The main roles identified were teaching patients, family and friends, patient care, support to family and friends and liaising with other health professionals within the department. The main reason these patients were referred was

for health education even though time spent was more than expected. In a later study, Ersser et al. (2011) described the contribution of DNPs worldwide, focusing on international networking, collaboration among countries and dermatologists and education. Roles noted were diagnoses and treatment of common skin care conditions, opening nurse-led day-care centres and symposia for other nurses.

The successful use of technology in dermatology nursing has speeded up diagnosis of skin conditions and improved access to dermatological services. DNPs, during the cancer screening survey in the USA, used technology such as dermatoscope, digital camera and smartphone in the screening of patients for skin cancer (Phelan & Heneghan, 2008). This reduced the time to diagnosis for patients and allowed more time for patient health education.

Another area in which DNPs utilised technology was in teledermatology. In teledermatology, digital images of the patient and information is taken and conveyed to the consultant through emails or a web-based platform and smartphones (Gaffney & Rao, 2015). In a longitudinal qualitative study of teledermatology in the UK, Finch et al. (2007) reported that nurses utilised teledermatology, and to a lesser extent made diagnoses or provided health education.

Good quality of wound care documentation by nurses and referrals to hospitals were noted in mobile teledermatology system trials (Berndt et al., 2012). In a study exploring e-health as a valuable and less costly service for management of atopic dermatitis, patients were diagnosed, and treatment ordered by a dermatologist. The dermatology nurse conducted self-management training for the patient and helped the patient to learn about atopic dermatitis through e-health, including treatment application. Psychosocial assessment and counselling were provided by the DNP. A dermatologist was consulted by DNPs when there was a need to do so.

In New Zealand in 2014 there were 54 registered members of the New Zealand Nurses Society (Ministry of Health Manatu Hauora, 2014). Three of them were hospital-based DNPs. DNPs are trained on the job with no job description and no formal career pathway exists. The main roles mentioned include patient care in phototherapy, patient education of patients in eczema clinics, routine nursing care in day-care hospitals, skin biopsies and monitoring systemic medication (Ministry of Health Manatu Hauora, 2014).

A comprehensive list of DNP roles was described in a study on optimising the role of a dermatology nurse in Canada (Andrew, 2017). The roles were based on the British Dermatology Nursing Group 2012 Competencies. The roles reported with detailed activities were caring for the patient, patient education, therapeutic interventions, dermatological assessment and investigations, and assessment of the psychological impact of living with a dermatological condition (Andrew, 2017). DNP roles as identified in the literature are presented in Table 4.

Table 4: Global DNP roles

DNP roles	References
<p>CARING FOR THE PATIENT WITH A DERMATOLOGICAL CONDITION</p> <ul style="list-style-type: none"> • Telephone triage and patient counselling • Monitoring symptoms and adverse events and the ability to make recommendations for treatment changes 	<p>(Ersser et al., 2005)</p>
<p>PATIENT EDUCATION</p> <ul style="list-style-type: none"> • Educating and counselling the patient in determining risks/ benefits of all treatment options, including complementary and behavioural therapies. • Ability to encourage empowerment and self-management. Educating in health promotion strategies and ability to develop, implement and evaluate strategies for health promotion with patients and the community <p>HEALTH PERSONNEL EDUCATION</p> <ul style="list-style-type: none"> • Teaching nurses and doctors • Organising symposia for nurses • Teaching nursing and medical students 	<p>(Andrew, 2017; Cloete, 2013; Ersser et al., 2005; Lindblad et al., 2006)</p>
<p>THERAPEUTIC INTERVENTIONS</p> <ul style="list-style-type: none"> • Proficient delivery of treatment (e.g. phototherapy, cryotherapy, intramuscular injections) according to medical directives • Using lasers • Prescriptions • Surgery • Cryotherapy • Curettage • Shaved, punched and incisional biopsies • Administration of intralesional steroids • Topical medication and dressings application • Support to patient, family and friends • Patient counselling • Burns debridement • Nail removal • Sebaceous cyst removal • Skin closer, staples, sutures and dermabond • Skin tags removal • Soft tissue aspiration • Subungual haematoma 	<p>(Andrew, 2017; N. H. Cox, 1999)</p>
<p>DERMATOLOGICAL ASSESSMENT AND INVESTIGATION</p> <ul style="list-style-type: none"> • Nurse-led clinics (having patient appointments and working independently to assess patients) 	<p>(Andrew, 2017; Cloete, 2013; Ersser et al., 2011)</p>

DNP roles	References
<ul style="list-style-type: none"> • Perform skin examinations and identification (e.g. benign vs. malignant lesions – skin cancer screening) • Evaluation of complicated treatment • Psychosocial patient assessment • Microscopy such as wet mount 	
<p>MANAGING DERMATOLOGY SPECIALISED CARE</p> <ul style="list-style-type: none"> • Running day-care centres in the tertiary hospital, • Nurse-led clinics in the community • Provision of mobile clinic services to surrounding farms • Facilitation of teledermatology services • Provision of child-friendly clinics in school. • Provision of ablution services to patients who do not have facilities at home and daily application of topical medication. • Education of personnel, medical and nursing students involved • Provision of placement area and mentorship for DNP • Liaison with other professionals in the department • International networking 	<p>(Cloete, 2013; Ersser, 2009; Finch, Mair, & May, 2007; Gaffney & Rao, 2015; Kelly, 2012)</p>
<p>RESEARCH</p> <ul style="list-style-type: none"> • Capturing of statistics • Conducting research 	<p>(Cloete, 2013; Finch et al., 2007; Gaffney & Rao, 2015)</p>

Table 4 shows DNP roles from the literature review, categorised according to various roles and relevant activities (Full table in appendix 1).

Even though research on the formal role of a DNP in South Africa was not found, (Cloete, 2013; Kelly, 2012) have reported personal experiences of DNPs in community and DNP in tertiary settings. Roles described include diagnosis and treatment of common skin conditions through running day-care centres in the tertiary hospital, nurse-led clinics in the community, provision of mobile clinic services to surrounding farms, facilitation of teledermatology services and provision of child-friendly clinics schools, provision of ablution services to patients who do not have facilities at home and daily application of topical medication. According to Cloete (2013), DNPs provided placement areas and mentorship for clinical education of medical and nursing students. They also provided education and mentorship for health professionals in various clinical areas. DNP organized symposia for professional nurses in South Africa (Ersser et al., 2011). Statistics of dermatology services were kept, although not specifically required for reporting (Cloete, 2013; Kelly, 2012).

2.5 Benefits of the DNP role

There is evidence of dermatology nurses' contribution to dermatology services. It is reported that the benefit of prescribing is more evident with dermatology nurse specialists compared to general nurses (Courtenay et al. 2009). The stakeholders who benefitted from the DNP role included patients, dermatologists, the DNP and the health system.

Benefits for the patients reported included reduction in the severity of skin conditions, increased adherence and access to medication, increased knowledge of skin conditions, reduced referrals to dermatologists and physicians, improved skin cancer detection and a significant fall in paediatric dermatology admissions (Lindblad et al., 2006; Phelan & Heneghan, 2008; Stenner, Carey, & Courtenay, 2009a; Usmani, Teasdale, & Clark, 2009). These studies, however, were limited in nature due to small samples, lack of control groups, sampling biases, and short follow-up periods.

More benefits of nurse prescribers were described by Courtenay, Carey, Stenner, Lawton, and Peters (2011) in the UK. Nurses were recruited through the British Dermatological Nursing Group to participate in a randomised control trial and qualitative interviews of patients regarding benefits of nurse prescribing. Thematic analysis of the results revealed the benefits as improved access to dermatological services as it was easier to access a nurse than a dermatologist. Furthermore, nurses were available telephonically in between appointments, and nurses worked independently and, therefore, could conclude a case without having to refer to the next level. Local treatment reduced anxiety related to hospital services. Nurses stimulated confidence and treatment adherence. Dermatologists displayed good knowledge but often did not spend adequate time with a patient (Courtenay et al., 2011).

In a study of costs and cost-effectiveness analysis of treatment in children with eczema, Schuttelaar, Vermeulen, and Coenraads (2011) conducted a randomised control trial comparing cost provided by NPs with those of dermatologists and reported that the services of NPs were cost saving compared to those of dermatologists and physicians. This was attributed to low consultation fees and lower salaries of the NPs. Nurses however ordered more tests and made more telephonic consultations in comparison with dermatologists. Cost related benefits of DNP services were also reported by Carey et al. (2013). It was noted that even though nurses prescribing in dermatology lacked specialist dermatology training, their contribution in the

health system was in improving access to dermatology services, improved quality of care and resultant cost saving.

The use of technology in dermatology nursing has improved quality of care, speeded up diagnosis of skin conditions and improved access to dermatological services.

Dermatology Nursing Association members, in the USA, who participated in a cancer screening survey reported that they used technology such as the dermatoscope, digital camera and telephone to call patients with results and health education (Phelan & Heneghan, 2008). The results revealed that the DNPs spent a greater part of their time screening for skin cancer, nursing and educating those patients who were affected by cancer than physician-guided treatment. Nurses demonstrated skills in the use of technology as well. Although the skin cancer early detection was beneficial, some barriers to screening, such as lack of skill and time constraints, were later reported by Andrew (2017).

In a literature review on the impact and effectiveness of nurse-led skin care in UK, (Courtenay & Carey, 2007) revealed that patient knowledge of treatment application and skin condition improved resulting in a decrease of the severity of the disease. Access to dermatology services was improved and there was a marked reduction of cases referred to dermatologists. DNPs in Southern Africa have contributed to the speciality through the opening of day-care centres in their provinces or countries (Kelly, 2012), the running of nurse-led mobile units (Cloete, 2013), the convening of dermatology nursing conferences and educating other nurses at facility level (Cloete, 2013; Ersser et al., 2011).

DNPs in South Africa have participated in the International Skin Care Group activities (Cloete, 2013; Ersser et al., 2011; Kelly, 2012; Stevens, 2013). The South African Dermatology Nursing Association (SADNA), a subgroup of the Dermatology Society of South Africa, was launched in 2013. This achievement brought about positive outcomes such as improved access to care, improved quality of life, improved treatment adherence and provision of quality patient care. Health workers' benefits included the provision of education and training opportunities, access to teledermatology and reduced workload for primary care nurses.

2.6 Challenges for the DNP role

The need and appreciation of advanced nursing roles is well described in the literature but equally visible are forces frustrating the success of these efforts. In a systematic review and

meta-analysis of role development and effective practice of specialist and advanced practice nurses' roles, (Jones, 2005) reported that the barriers to progress were from multiple sources. Characteristic examples were lack of experience and confidence and over-involvement with patients. Under professional and education issues, Jones (2005) noted the lack of regulation, the lack of career pathways and professional development, that education was not standardised or was irrelevant, and the lack of induction mentors or role models were barriers to role development. Managerial and organisational issues were characterised by a lack of support and inadequate resources, poor relationship with stakeholders, resistance and lack of support from nurses, doctors, and managers.

In an earlier study, Cox (1999) found that the expanding role of nurses in surgery and prescribing was supported by dermatologists in terms of the extension of the nurse's role, but resistance came from the nursing administration, departmental nurses, community nurses and GPs. There was inadequate funding for their training and this increased the risk of mismanagement and risk to patients.

According to Kleinpell et al. (2014), the advanced practice nursing role refers to professional nurses in advanced clinical roles whose positions are created to provide expert patient care. Despite having been in place for a long time, barriers to practice exist globally. In countries such as China, Saudi Arabia, Canada, Australia, USA, and Israel there are several barriers to the practice of advanced nursing, which include limited access to education, inadequate nursing education, loss of respect, ignorance of nursing roles and dominance of medical profession. Kleinpell et al. (2014) also identified further challenges for these nurses pertaining to practice, such as challenges regarding standardised education requirements, poorly defined scope of practice, lack of recognition of their roles, lack of regulation and autonomy to practise and prescriptive authority requirements. They suggested that stakeholders at institutional, national and international levels should address these issues.

In a study of stakeholders' views on the impact of nurses prescribing in dermatology services, Carey, Stenner, and Courtenay (2010) suggest that the DNPs could not take on more responsibilities due to lack of incentives. Lack of relief for specialist nurses frustrated their efforts because when they were absent, other nurses reverted to former practices. There were formulary restrictions on prescribing emollients and delayed approval for certain drugs. The lack of role preparation and lack of professional development were reported as barriers to

quality prescription as were an identified lack of support, inadequate resources and lack of understanding of the DNP role (Carey et al., 2013). Similar findings were reported earlier in a study on nurse prescribing in dermatology clinics in the UK, and doctors' and non-dermatology nurses' views (Stenner, Carey, & Courtenay, 2009b). The barriers identified were lack of insight of the DNP's role, professional power struggles over responsibilities, opposition and lack of standards in nurse prescribing.

The reports on DNP barriers in South Africa were reported in community dermatology narratives by two DNPs who ran referral dermatology clinics in their sub-regions. Identified as a serious challenge was a gradual decrease in the number of DNPs in the Western Cape due to failure to replace DNPs who are studying or leaving dermatology for other departments (Cloete, 2013; Stevens, 2013).

2.7 Framework of DNP roles derived from the literature

Groves Burns and Gray (2013) argue that concept synthesis helps to clarify, define new phenomena and facilitates the transformation of concepts from various fields and disciplines where none have existed. In this section, a conceptual framework that will guide description of parameters for emerging DNP roles is presented. Ridley (2008) states that a literature review is an on-going process that allows for adding of the latest information from the literature at any stage in a study. To understand how DNP roles were developed in other countries, and as a base for clarifying the research results, the literature was searched for a suitable conceptual framework to apply in this study. Some conceptual frameworks from various studies were evaluated and compared with the competencies for an Advanced Nurse Practitioner (ANP) and Primary Health Care Clinical Nurse Specialist in South Africa. None of the conceptual frameworks was adequate or comprehensive enough on its own. As a result, the researcher adapted those frameworks for the purpose of this study.

A noted contribution in the conceptualisation of expert nursing practice is the work of Benner "From Novice to Expert" (Benner, 1994). Benner's seven domains of expert nursing practice formed a basis for many competencies, roles and functions of advanced practice nurses (Tracy & O'Grady, 2019). Even though the development of a conceptual model was not the objective of this research, the key concepts of a conceptual model: human, nursing, health and environment helped the researcher to conceptualise the role of a DNP and was able to identify

which areas of DNP roles were less adequately addressed. Hamric's Integrative Model of Advanced Practice Nursing in the USA was also useful to conceptualise the framework. The advanced practice criteria in this include: graduate education, certification and practice focused on patient and family; central competency: direct clinical practice; core competencies; guidance and coaching, consultation, evidence-based practice, leadership, collaboration and ethical decision-making skills (Tracy & O'Grady, 2019).

In Australia, Gardner, Chang, Duffield, and Doubrovsky (2013) used a modification of Strong's Model of Advanced Practice delineation as a data collection tool in a survey that distinguished ANPs practice from those of other professional nurses.

The domains in the modified model were direct comprehensive care, support of systems, education, research and professional leadership. It appears the higher level of education set the ANP at a higher scale compared to other nurse clinicians with regard to autonomy in the clinical practice and recognition by other health professionals.

Two comparable clinical nursing categories in South Africa are the Primary Care Nurse Specialist and the Advanced Nurse Practitioner. "The Clinical Nurse Specialist is defined as a person having a qualification in the area of speciality, in-depth knowledge and expertise that enables her/him to focus on facility care and work closely with medical officers on a consultative basis" (South African Nursing Council, 2012, p. 1). The Primary Care Clinical Nurse Specialist is described as "an independent nurse specialist who ... conducts physical assessment, diagnoses illnesses, prescribes treatment, provides direct care to health care consumers and refers for further treatment" (South African Nursing Council, 2014, p. 1), while an Advanced Nurse Practitioner is defined as "a person who focuses on primary care, health assessment, diagnosis and treatment... can work with medical officers on a referral basis ... in addition to in-depth clinical specialisation knowledge has to acquire broader field dynamics at the master's level" (South African Nursing Council, 2012, p. 1).

The Advanced Nurse Practitioner and Primary Care Nurse Specialist are generalists who may undergo formal training in dermatology to practice as DNPs. The researcher searched the SANC data-base for the competencies of the advanced nursing role. The results revealed that the ANP competency framework is based on a Generic Competency Framework while for the Clinical Nurse Specialist's competency framework, the origin is not stated. Both competency frameworks are categorised into five main themes (nursing roles), namely: professional, ethical

and legal practice; clinical practice, involving health promotion and prevention, assessment, diagnosis, planning, implementation, evaluation, therapeutic communication and relationships; personal and quality care, comprising quality improvement, and continuing education; management and leadership; and research. The South African Nursing Council Competency Framework for PCNS has much in common with Strong's model described by Mick and Ackerman (2000), except for the self-development role of a nurse, which is missing in Strong's model. The role of support of systems and professional leadership overlapped, therefore management and leadership have been separated in the framework used in this study.

In an analysis of in-patient and out-patient nursing activities in the UK, Ersser et al. (2005) monitored nursing care of in-patient and day-care patients for a period of 24 weeks. The data collection tool comprised a list of nursing activities in both in-patient and out-patient settings, which were based on Stone's categories of dermatological nursing activities (Ersser et al., 2005). The main roles identified were teaching patients, family and friends, patient care, support of family and friends and liaison with other health professionals.

In the Netherlands, (Norbert, 2015) compared a role of a Nurse Practitioner (generalist) working in dermatology to that of a Dermatology Nurse Specialist. The small survey of 18 NPs, combined with in-depth interviews, focused on the nursing care and cure role. Of interest in this study is that a Nurse Practitioner, who is a generalist, had more prescribing powers than the dermatology nurses who were not authorised to prescribe.

A more comprehensive list of DNP roles was described in a study investigating optimising the role of a dermatology nurse in Canada (Andrew, 2017). The roles were based on the British Dermatology Nursing Group Competencies (2012), and for each, detailed activities were listed: caring for the patient, patient education, therapeutic interventions, dermatological assessment and investigations, and assessment of the psychological impact of living with a dermatological condition (Andrew, 2017).

It appears that globalisation of nursing activities and the efforts by the developed countries, through international nursing organisations such as ICN and ISNG, have led to standardised nursing roles. There is an overlap of the main themes in the studies discussed, especially between professional practice, management, leadership and quality improvement of care.

A president of the Dermatology Nursing Association in the USA confirmed this by saying:

“Talking to my colleagues helped me to understand that although our specialties are quite different in their nature and scope, nurses speak a universal language. We are all united in the pursuit of excellence in caring for our patients” (Boeck, 2006, p. 11).

The notable differences in the frameworks described above compared to the South African competencies are as follows: The Modified British Dermatology Nursing Group competencies do not include personal development, management, leadership, professional practice, quality improvement and research; however, these are vital competencies in nursing (South African Nursing Council, 2014). Strong’s Modified Model does not address personal development, quality improvement and professional practice. The Modified Stones categories emphasis teaching and patient care only while South African competencies combined management with leadership.

The lack of clarity about the concepts of leadership and management has been described in some of the management literature and there has been an attempt to clarify the difference (Bach & Ellis, 2015; Curtis, de Vries, & Sheerin, 2011; Sullivan, 2012). Leadership is not dependent on a specific role or position, but management is based on a formal position, a job title and a job description, while leadership may be one of the roles of a manager (Bach & Ellis, 2015). In this study, the two roles have been separated in the modified role framework. The separate and overlapping features of each of the role frameworks is illustrated in Figure 1, below.

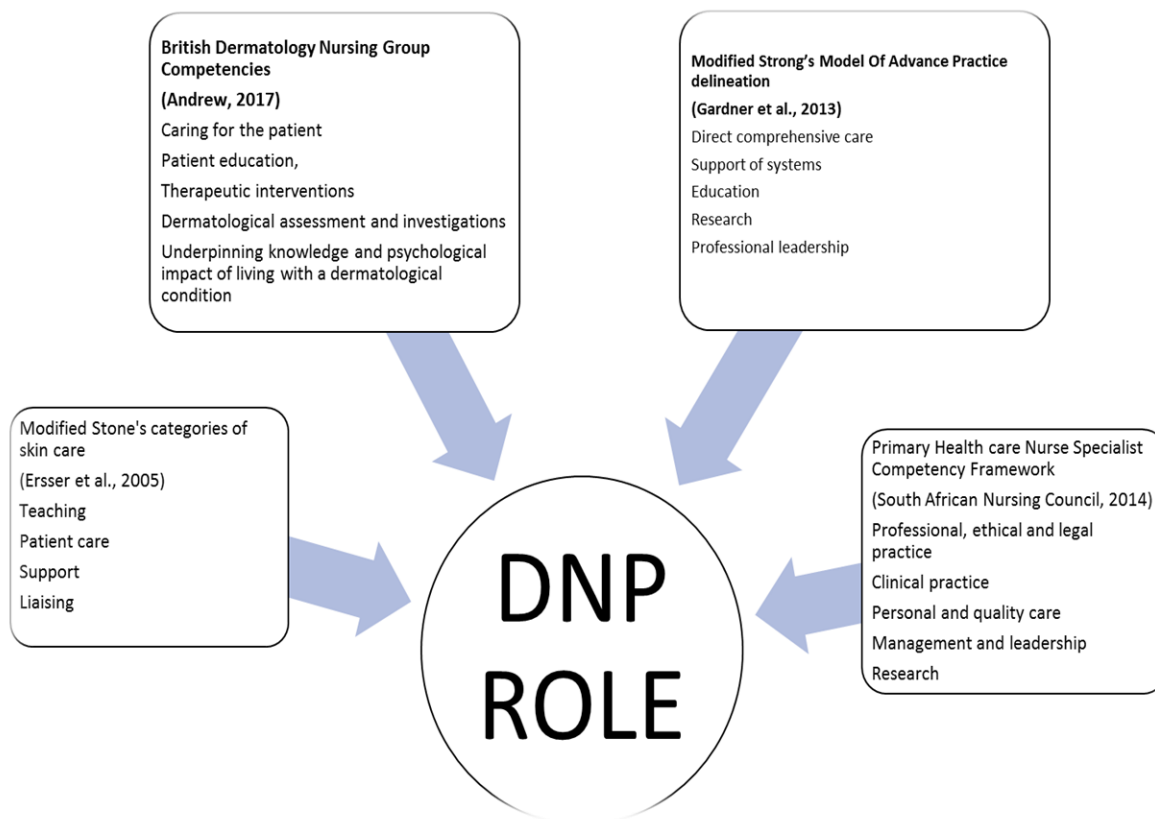


Figure 1: Showing a DNP role (table 5) framework from various sources (Andrew, 2017; Ersser et al., 2005; Gardner et al., 2013; South African Nursing Council, 2014).

Figure 1 is a synthesis of DNP roles from various studies from which a table of DNP roles and the related activities were developed, depicted in Table 5 below, on page 34.

2.7.1 DNP roles definitions (table 5)

2.7.1.1 Clinical practice

This is comprehensive direct or indirect care of a patient regardless of the nature of the illness and includes assessment, diagnosis, management and referral of the patient or support of significant others such as family and friends (South African Nursing Council, 2014).

Sub-categories include nursing care, laboratory investigations, assessments, therapeutics and support to the patient and significant others.

2.7.1.2 Education

Education is described as activities that enhance patient, public, student and health workers, learning related to health and illness (Mick & Ackerman, 2000) by “...communicating clear, consistent and accurate information, verbally or in written forms that fall within professional responsibility” (South African Nursing Council, 2014, p. 4).

2.7.1.3 Personal development

This refers to the DNP's activities to update self, regarding the latest information, skills and technology that pertain to assessment, diagnosis and management of skin disorders and other related illnesses; it is a SANC requirement for a registered nurse to update self on the latest legislation, policies and protocols governing the nursing practice (South African Nursing Council, 2014).

2.7.1.4 Management

It is a process of influencing employees to work towards the goals of an organization by integrating resources. It is about achieving the objective of the organization (Huber, 2014, p. 21) in which the manager is employed. The focus is on coordinating and integrating resources using planning, organizing, supervising, staffing, evaluating and negotiating (Sullivan, 2012, p. 41).

2.7.1.5 Leadership

"It is a process of influencing people to accomplish goals" of the organization by inspiring confidence and support among followers. Leaders believe and have confidence in their ability to achieve and succeed" (Huber, 2014, p. 4).

"It is described as using interpersonal skills to influence others to accomplish a specific goal by using personal behaviours and strategies. Its aim is to promote high levels of performance and outcomes. It relates to structure standards which is the physical environment, organization and its management; process standards involve delivery of care and outcomes standards which involve the end results" (Sullivan, 2012, p. 41).

2.7.1.6 Quality improvement

"Quality improvement means the combined and continuous efforts by health care providers, personnel and health establishments to make the changes that will lead to improved user outcomes and experience, performance and better health provider development" (*National Health act 61 of 2003*, p 21).

"It is a process whereby health organizations systematically seek ways to improve care and quality...a mind set to strive constantly for excellence" (Sullivan, 2012, p. 71)

2.7.1.7 Professional practice

“A professional is a specialist in a particular occupation or specialty” (Geyer, Mogotlane, & Young, 2016).

Professional practice or conduct is described as actions, behaviour and attitude of professionals registered with the South African Nursing Council, who are competent, providing with confidence, safe service to their communities (Geyer et al., 2016). (See Table 5 for the professional conduct of nurses).

2.7.1.8 Research

The Strong model describes research as a culture of nursing practice that challenges the status quo and seeks to improve patient care through scientific inquiry (Mick & Ackerman, 2000). The activities include keeping and sharing accurate statistics, conducting and presenting research and participating in journal clubs (South African Nursing Council, 2014).

2.7.2 DNP roles and activities

Table 5: Modified Framework for DNP roles and activities

Clinical practice	Education	Personal development	Management	Leadership	Quality management	Professional practice	Research
<p>1. Perform a comprehensive assessment of each client - history taking and examination; physically, psychosocial, cultural and religious assessment</p> <p>2. Identify relevant diagnostic tests</p> <p>3. Make a clinical diagnosis or differential diagnosis Draw up a management plan</p> <p>4. Identify a need for urgent referral</p> <p>5. Counsel appropriately</p> <p>6. Keep appropriate patient records</p> <p>7. Evaluate patient's response to management</p>	<p>1. Teach patient and significant others, regarding diagnosis and treatment</p> <p>2. Provide scientific information related to health and illness to the patient, caregivers, health workers and community</p> <p>3. Actively participating in development of educational material.</p>	<p>1. Identify own learning needs</p> <p>2. Upgrade self professionally, making use of opportunities and adhering to CPD requirements as directed by professional authorities; including formal education, workshops, conferences, journal clubs</p>	<p>1. Facilitate routine day to day running of the department</p> <p>2. Delegate duties to subordinates and supervise activities in the department</p> <p>3. Organize and manage resources accordingly including human resources</p> <p>4. Evaluate staff performance and provide opportunities for staff upgrading/learning</p> <p>6. Represent your department in strategic planning of the facility</p> <p>7. Communicate with the outsiders on behalf of the</p>	<p>1. Be a role model to others</p> <p>2. Actively participate and initiate activities developing your speciality or profession</p> <p>3. Represent your speciality in consultations with regulatory/ professional body or employer</p> <p>4. Advocate for your speciality or profession</p>	<p>1. Initiate or participate in quality management activities</p> <p>2. Actively participate in programmes improving patient care</p>	<p>1. Be ethically, legally and professionally accountable for own practice/ professional actions</p> <p>2. Maintain professional competency to render safe service</p> <p>3. Recognise own limitations and consult others as required</p> <p>4. Liaise with other stakeholders in a professional manner</p> <p>5. Observe professional code of conduct as stipulated by</p>	<p>1. Conduct or participate in clinical studies locally or internationally</p> <p>2. Source funding for research activities</p> <p>3. Collect and disseminate statistics as required</p> <p>4. Avail opportunities for others to participate in research Monitor disease trends by constantly interpreting collated statistics</p>

Clinical practice	Education	Personal development	Management	Leadership	Quality management	Professional practice	Research
<p>8. Perform relevant procedures</p> <p>9. Collaborate with other disciplines regarding patient care</p> <p>10. Channelling the patient through the healthcare system</p> <p>11. Provide specialist care in area of specialisation</p>			<p>department – liaison officer</p> <p>8. Collaborate with other departments or disciplines as required</p> <p>9. Foster and maintain good interpersonal relationships within the department</p> <p>10. Provide support to the team, students, patients and carers</p>			<p>the relevant bodies</p> <p>6. Consider policies when dealing with ethical or legal issues pertaining to patient care</p> <p>7. Keep abreast of any regulations or policies pertaining to nursing practice</p>	

2.8 Conclusion

Education and training of DNPs varied across countries with the highest level of education noted in literature being from developed countries. Key roles identified in the literature were clinical care, education, professional practice, leadership and research and nursing management, with nurse prescribing being the most globalised nursing role. This is in keeping with the basic roles of a registered nurse and the core competencies in the Hamric's model of advanced practice nursing. Critical environmental elements affecting APN are regulation and credentialing, business aspects, health policy, payment mechanism, outcome evaluation and performance, marketing and contracting an organizational structure and culture. Some of these elements are included in nursing management but because they are not clearly spelt out in the competencies tend to be neglected. DNPs who performed invasive procedures such as surgery were trained on the job by dermatologists. Globally, there are differences in training, titles, positioning in health care, regulation and governance and support of the DNPs.

Leadership is one of the domains in the competences for the nurses in advanced roles in South Africa. The expected roles include active participation in developing one's speciality or profession, representing the speciality in consultations with regulatory/professional bodies or employer and advocating for one's speciality or profession (South African Nursing Council, 2014). Woodruff (1993) stated that the leaders need to develop a zeal to be well informed and keep abreast of relevant local and international developments. The lack of promotion and recognition of dermatology nursing and limited research have limited the development of this specialty.

This chapter has described common barriers hindering progress for the APN and DNP roles, such as resistance from and lack of support by other stakeholders, lack of resources, lack of regulation, lack of standards, poor quality of training and education and ignorance of the DNP role. Most of the available literature emanated from the UK, and there have been a limited number of studies regarding the roles and functions of DNPs in the USA and Europe. The current study provides information about the South African context

CHAPTER 3

METHODOLOGY

3.1 Introduction

The study explores and describes the role of a DNP at primary and tertiary healthcare levels in the Western Cape Province, as perceived by dermatologists, medical officers, dermatology nurse practitioners, non-dermatology trained nurses and nurse managers, who work with dermatology nurses. The research design and methodology are presented. The study setting, participants, data collection and analysis, ethical considerations and trustworthiness are described.

3.2 The research design

Research design is “*the plan for conducting the study....it is the logical sequence that connect empirical data to study research question and conclusions*” (Creswell, 2013: 5, 49). There are many schools of thoughts in studying human life experiences. The philosophical perspective upon which the selection of a research approach, research methods used, and interpretation of data is based, takes into consideration the philosophical assumptions such as the nature of reality (ontology); how is the truth known or viewed, (epistemology); the role of values, (axiology) and how does the researcher approach the enquiry, (methodology) (Creswell, 2013). Linked to the assumptions are belief systems of inquiry, which are also known as qualitative research approaches, for example, phenomenology, grounded theory, ethnography, case studies and exploratory-descriptive qualitative research approach (Grove et al., 2013). The approach guides the researcher on the steps of the research process to be taken. This study followed an exploratory-descriptive, and contextual qualitative research approach to investigate and describe the role of a DNP in the Western Cape as perceived by the DNPs and other health workers.

3.2.1 Qualitative research is “*an emergent, inductive, interpretive and naturalistic approach to the study of people, cases, phenomena, social situations and processes in their natural settings in order to reveal in descriptive terms the meaning that the people attach to their experience of the world*” (Yilmaz, 2013:312). Qualitative research is said to be in context because it only applies to that setting and cannot be generalized to other settings.

3.2.2 Exploratory-descriptive, and contextual qualitative research

Descriptive studies in nursing are used to identify and understand a matter, discover new information, explore existing information and promote understanding of the information in a discipline (Groves et al., (2013). They are qualitative in nature without being specific and are conducted to deal with an issue or solve a problem (Groves et al., 2013). The associated epistemological beliefs are that the person living the experience is the source of information and meaning is created and maintained in context. The researcher therefore used the exploratory descriptive and contextual study to explore, identify and create understanding of the role of the DNP, as, despite this role having been an integral component of dermatology care in the Western Cape, the role has not been studied and described.

This approach was chosen because it has been used widely in medical research to describe participants' experiences and perceptions of the phenomenon being studied (Chandler, Reynolds, Palmer, & Hutchinson, 2013). It is also suitable for gaining insight into a poorly understood phenomenon. Qualitative research was appropriate to use in this study because the role of the DNP is poorly understood in the Western Cape. The method favours limited resources (Kim, Sefcik & Bradway, 2017). Small sample and limited study settings reduced the cost of travelling for the researcher and the participants. The study explores a phenomenon best described by the nurses in the dermatology services and by members of the health team. According to Willis, Sullivan-Bolyai, Knafl, and Cohen (2016), descriptive qualitative research design accommodates various data collection methods, including focus group and individual interviews, both of which have been selected as methods of inquiry for this study (see detailed description under data collection).

3.3 Study setting

This study setting was determined by the study objectives and health facilities which provided primary and tertiary dermatology services in the Western Cape. It comprised two tertiary hospitals and two primary care community health centres. All the institutions were in the Cape Town Metropole except one primary care community health centre which was in Overberg. The tertiary institutions were urban, one primary care clinic was peri-urban, and another clinic was rural. Participants who met the inclusion criteria were in the private sector as well as in public sector institutions.

According to *National Health act 61 of 2003* (2003), the health care services in South Africa are provided by the public sector (over 80% of the population), the private sector and non-governmental organizations (NGOs). These health services are provided at three levels of care. The primary care level is the first point of access for people who need health care. District hospitals, also known as level one or level two hospitals, are the next referral point for patients who require hospitalisation or more intensive care. Specialist care is provided at tertiary level facilities.

3.4 Population and Sampling

Participants for this study were selected using purposive sampling. According to Guest, Bunce, and Johnson (2006), purposive sampling requires that participants must have knowledge of the research topic. They must be selected according to a criterion which is based on the study objectives (Brink, van der Walt & van Rensburg, 2012). Participants were selected from a population of people who were either directly or indirectly involved in the provision of dermatology services. They were selected from primary and tertiary public institutions and the private sector to get a wide range of experiences from different areas of care. Snowball sampling was also used in which potential participants were asked to identify other people who met the study criteria, to ensure a diversity of participants (Hennink, Hutter, & Ajay, 2011). A total of 19 participants participated in the study.

3.4.1 Participants in individual interviews

The following health personnel was recruited from primary and tertiary care government facilities and private sector, to participate in individual interviews:

- **Professional nurses** who are not trained in dermatology but provide dermatology nursing services within the tertiary and primary health care institutions specialising in dermatological services; Professional nurses occasionally provide services to dermatology patients and only refer patients to a DNP or a medical officer when managing the patient is beyond their scope of practice. This working relationship makes them aware of the role of a DNP.
- **Nurse Managers**, in whose facilities dermatology nursing services are offered. It is a nurse manager who identifies a need for dermatology nursing services in a facility and subsequently recommends a post for a DNP. The managers are the direct line managers of DNPs and are assumed to have knowledge of the DNP's role.

- **General medical practitioners and dermatologists** who work with DNPs. They refer patients to the DNP and the DNP refers patients to them. It is assumed that this group will have insight into the activities of DNPs because of their interaction and working relationships.

3.4.2 Participants of the focus group

- DNPs who are professional nurses who have been trained in dermatology for not less than two months

3.4.3 Inclusion criteria

The specific inclusion criteria for individual interviews and the focus group were as follows

3.4.3.1 Individual interviews

Nurses, nurse managers, general medical doctors or dermatologists who:

- have worked in public or private sector healthcare facility in the Western Cape
- worked at primary or tertiary levels of care
- have worked for at least three months in health facilities in which dermatology services are provided. It is assumed that three months' experience would provide the participant with sufficient experience to be able to engage with the research questions
- able to communicate in English. This is the language of communication in the health facilities in the Western Cape and the study was conducted in English

3.4.3.2 Focus group

- Professional nurse
- formal education in dermatology of not less than two months
- has worked in public or private sector healthcare facility in the Western Cape
- worked at primary or tertiary levels of care
- has worked for at least three months in health facilities in which dermatology services are provided. It is assumed that three months' experience would provide the participant with sufficient experience to be able to engage with the research questions
- able to communicate in English. This is the language of communication in the health facilities in the Western Cape and the study was conducted in English

3.4.4 Exclusion criteria

Persons who met the above criteria but were not available due to work commitments, personal choice or not available at the time of the interview or focus group.

3.5 Sample size

Qualitative researchers agree that there is no stipulated sample size but guiding decisions, which include the method of data collection, research objectives, availability of resources and data saturation which help in determining the sample size (Marshall, Cardon, Poddar, & Fontenot, 2013; Fusch & Ness, 2015). In addition, Marshall et al. (2013) recommend following other qualitative researchers with similar studies and data saturation as justification for an adequate sample size in qualitative interviews (Reference). In order to obtain as diverse a group as possible, 12 participants for individual interviews and 7 participants for the focus group were approached. This is also in keeping with some researchers' recommendation of a small sample size (≤ 25) with saturation of information as a guide to adequate sample size for purposive sampling (Crouch & McKenzie, 2006; Gubrium, Holstein, Marvasti, & McKinney, 2012; Marshall et al., 2013). No new data, no new codes or new themes emerged during data analysis which indicated data saturation (Fusch & Ness, 2015; Marshall et al., 2013).

3.6 Gaining access to participants

After formal ethics approval had been obtained from the Health Research Ethics Committee of the Faculty of Health Sciences, REC: REF226/2015 (see Appendix 2 and Appendix 3 for extended study permission), e-mails were sent to the medical and nurse managers of the health facilities which provided dermatology services, to inform them about the study and seek permission to recruit participants for the study (see Appendix 6). They were provided with copies of the research protocol, information leaflets and consent forms (see Appendix 7 & 8).

After obtaining permission from the heads of departments, the health personnel who met the inclusion criteria for this study was recruited telephonically and through emails (purposive sampling). Snowballing recruitment was used whereby participants were asked to recommend other colleagues who met the study inclusion criteria. Those colleagues were then given information about the study (Hennink et al. 2011).

Consent forms and information leaflets were hand-delivered or emailed by the researcher to the potential participants (see Appendix 6 & 7). All the questions regarding the study were answered by the researcher.

3.7 Data Generation

Individual interviews and a focus group were the preferred tools for collection of data in this context in which little is known about the phenomenon (Neergaard et al., 2009). A role of a DNP is complex and not just a list of functions but has deeper layers. This role might be perceived from various angles by selected observers, hence, the semi-structured interviews and focus group included demographic data, qualifications, work period, and opinions regarding the role and function in dermatology services. New angles of looking at the role of a DNP were anticipated with the unfolding of data as suggested by (Silverman, 2010). The questions on the role looked at the function of the DNPs, other nurses and medical officers who perform the same functions as well as the value and challenges of the role of a DNP. The participants' perceptions of how to improve the DNP role were explored.

3.7.1 Data collecting tools

Focus group and individual interviews are preferred methods of inquiry which facilitate probing, open ended questions and interaction among individuals (Creswell, 2013). A combination of both methods facilitates comprehensive understanding of the topic and contributes to the enriching of data, comparison and confirmation of findings (Lambert & Loisel, 2007).

In order to explore the role of DNPs the researcher selected persons who were or had been DNPs to examine a range of opinions, feelings and beliefs about dermatology nursing and its needs in a focus group. Because they shared the same characteristics and professional experiences, they were likely to feel safer to share their experiences. Interacting with one another in a focus group may have helped help the DNPs to clarify their views (Grove, et al., 2013). A focus group is also suitable in balancing the study requirements with limited resources (Krueger & Casey, 2009).

In order to explore the perceptions of other health professionals about the role of the DNP, the decision was taken to interview the participants individually.

It was not practical to these in a focus group session due to place and time constraints. Individual interviews also provided privacy for those participants who may not have been comfortable to share opinions within a group.

3.7.1.1 The interview guide

The semi-structured interview guide which was used to collect data from non-dermatology nurses and doctors (see Appendix 8) is divided into two sections: a demographic information section (gender, qualifications, place of work, position held and years of experience in dermatology) and the second section comprises nine open-ended questions relating to the participant's perception of the roles of the DNP.

The interview guide was refined with the assistance of the research supervisor before submission to a dermatologist and an expert in the field of qualitative research. Comments and suggestions were incorporated in the tool.

3.7.1.2 The focus group guide

The focus group was used collect data from the DNPs. It is divided into two sections (see Appendix 9):

Section 1: demographic information (gender, qualifications, place of work, position held and years of experience in dermatology). Section 2: ten open-ended questions. This guide was submitted to an expert focus group moderator for comment and suggestions were included in the last version of the tool.

The interview guides were written in English because all the participants spoke English. Miles, Huberman, and Saldana (2014) suggest that trustworthiness of a data collecting tool largely depends on the skills of the researcher as an interviewer and not only on the interview guides. As a result, the researcher, as a novice, had to be trained in data collecting skills and used the interview guides in the pilot study.

3.7.2 Pilot Study

The interview guide (see Appendix 8) was piloted with a non-dermatology trained professional nurse, who did not participate in the study.

This integral part of the validation process is important as it allows the researcher to detect and address potential problems of data collection tools beforehand (Holloway, 2008). The pilot study helped the researcher to familiarise herself with interviewing, recording using an audio recorder and phone as a backup.

The pilot interview was transcribed and analysed to identify gaps in the interview guide, but the information was not used in the main study. A pilot focus group was not conducted as it posed a risk to obtaining an adequate number of participants due to the limited number of DNPs in the Western Cape. The focus group moderator was an experienced qualitative researcher and thus the focus group guide was not piloted.

3.7.3 Data collection process

Data was collected from interviews and a focus group using interview guides (see Appendices 9 &10). Individual interviews and focus groups are recommended as suitable data collection tools for qualitative description (Neergaard et al., 2009), a preferred tool for content analysis (Elo et al., 2014) and data saturation (Fusch & Ness, 2015).

3.7.3.1 *Individual Interviews*

The researcher aimed to obtain rich, in-depth individual experiences and perceptions of the DNP role. Doctors and nurses providing dermatology services interact with the DNPs, therefore their thoughts, knowledge, beliefs, and attitudes regarding the DNP role are important (Lambert & Loiselle, 2008). In individual interviews, the participants were afforded the opportunity to express themselves in their own words in a private and confidential space.

The appointments were made with individual participants for individual interviews, at the participants' choice of appropriate and convenient time and venue. The intention was to ensure privacy and minimise interference with participants' work schedules.

Interviews varied in length, but all were between 30- 60 minutes. All interviews were conducted in English, and audio-recorded using a voice recorder, a tape recorder and a smartphone for back up.

3.7.3.2 Focus group discussions

The main objective for using a focus group was to obtain depth and variation of perspectives as the participants were sharing and commenting on each other's experiences of their role and function (Lambert & Loiselle, 2008). The members of the focus group had common characteristics in that they were all DNPs and knew each other and consequently interaction was enhanced. (Coenen et al., 2012) support the view that group interaction generates rich information and that focus groups can generate more information as compared to individual interviews. The focus group was one session, therefore, saved time and travelling expenses and the researcher did not need extra personnel for individual interviews.

A focus group discussion was held with seven DNPs, using a semi-structured interview guide (see Appendix 10). Five participants were from primary health care and two participants were from tertiary health care. No participants in the focus group came from the private sector. (Miles, Hubberman, & Saldana, 2014) observed that the validity and reliability in qualitative research may be promoted by the good skills of the person observing, interviewing and recording during data collection.

The researcher, being a novice in conducting focus groups, solicited the services of a skilled facilitator to lead the discussion. The researcher is a DNP and is well known to the focus group participants, therefore the utilisation of an impartial, skilled focus group facilitator helped to avoid any perception of conflict of interest or undue persuasion. The researcher observed the focus group discussion and took process notes. The focus group discussion lasted two hours and was audio-recorded with a voice recorder and backed up with a cell phone and a tape recorder. Data was later transferred to a computer as a back-up. The participants were not remunerated for their participation in the study, but refreshments were served. Transport reimbursement was offered but all the participants declined this offer.

3.7.4 Data saturation

The researcher reached data saturation when no new data, no new codes or new themes emerged (Fusch & Ness, 2015). These authors recommend study designs with detailed descriptions of how data saturation is achieved.

They suggested interviews and focus groups as some of the methods that enhance data saturation and the researcher opted for these methods of collecting data. The use of various sources of information (methodological triangulation) was recommended as another method of ensuring data saturation.

3.7.5 Data Management and Analysis

The method of data analysis is explained in detail and systemically for the logic behind and is well understood.

Data for this study was extracted from interview transcripts and demographic information. The audio-recorded interviews and the focus group discussion were transcribed verbatim immediately after data were collected, in preparation for analysis (Holloway, 2008). Spoken words and nonverbal cues were captured.

The verbatim transcripts were checked for errors and completeness by replaying the recorded interviews to ensure quality data. Data was electronically stored; backup copies of files were made on an external memory device and data will be safely stored and destroyed after five years. Confidentiality was maintained by using codes instead of real names, for example, P1 for participant 1

3.8 Reporting of findings

The study report conformed to the principles of truthfulness, accuracy and transparency. Negative findings are reported alongside the positive ones. Copies of the report will be made available to participants and stakeholders on request, such as the Western Cape Department of health, Dermatology Society, South African Nursing Council and others. The researcher will ensure that the report is published in a language that is simple, clear and objective but scientific (de Vos et al., 2005). The findings of the study will be published in order to reach a wider audience.

3.9 Ethical considerations

According to (Christensen, Johnson, & Turner, 2014) three areas of ethical concern are the treatment of research participants, professional issues, and the relationship between society and science. This study conformed to the Ethical Principles for Medical Research involving Human Subjects as stated in the World Medical Association's Declaration of Helsinki (World Medical Association, 2013). As a member of the Democratic Nursing Organisation of South Africa (DENOSA), the study conformed to DENOSA's ethical standards for nursing researchers (Brink et al., 1912). Ethical clearance for the study was obtained from the UCT Faculty of Health Sciences Human Research Ethics Committee and additional permission to conduct the study was granted by relevant health institutions.

3.9.1 Autonomy

Autonomy is the right of an individual to choose to participate or not in a research study (Christensen et al., 2014). The participants in this study were not coerced in any way to participate in the study. They were informed of their right to voluntarily participate or withdraw from the study at any time without prejudice. An information letter was provided in English, detailing the purpose and methods of the study including audio-recording and data transcription (see Appendices 3 & 4). Adequate time was provided for the potential participant to reconsider the decision to participate in the study, and all concerns regarding the study were addressed. Written informed consent forms were issued and participants were reminded they can only participate in the study after signing the consent forms. The consent forms covered all aspects of the study, including audio-recording and data transcription.

3.9.2 Beneficence

Beneficence means to do good by maximising the benefits of participation for the research participants (Christensen et al., 2011). The participants were not paid for participation, but reimbursement of the transport fares was offered. The expected benefit was an opportunity to contribute to the appreciation and development of the DNP role. Participants were also informed that they would be provided with a copy of the study findings on request.

3.9.3 Non-maleficence

Non-maleficence means "doing no harm" (Christensen et al., 2014). Research participants may be considered vulnerable and protection is vital (World Medical Association, 2013).

There were minimal risks associated with this study, but precautions were taken to minimise possible risk.

Relationships at work: Recruiting research participants was done in consultation with the participants' employers to protect the participants from possible victimization at work as a result of participation in the study. Interviews and focus groups were conducted in non-patient care time to minimise risks to patients.

Self-esteem issues: Group discussions have a possibility for participants to undermine each other. Some topics may trigger unpleasant feelings. The researcher emphasised respect among participants (Speziale & Carpenter, 2007). To address self-esteem related harm the researcher proactively made provision for counselling services. This was not required.

Harm related to publicity: Revealing information about participants may have negative effects on the lives of participants. This harm will be discussed fully under the confidentiality section.

3.9.4 Justice

The moral principle of justice refers to receiving the benefits and carrying the burdens of the research (Christensen et al., 2011). The participants were treated equally and selected according to criteria set for the study (section 3.4.3 & 3.4.4). The researcher remained fully responsible for all aspects of the study. There was no untoward cost incurred by the participants. Participants who had used their own transport did not wish to be reimbursed.

3.9.5 Anonymity and confidentiality

Anonymity refers to keeping the identity of the research participant unknown (Christensen et al., 2011). The researcher used pseudonyms to identify participants and the data will not be linked to the participants. The researcher removed any information in the recordings which could identify the participants and used codes where necessary to conform to the rules of anonymity. The master list of the participants was separated from rest of the records and password protected. Qualitative researchers acknowledge lack of confidentiality and anonymity in qualitative studies, especially focus group studies (Hansen, 2006; Speziale & Carpenter, 2007). To address these ethical issues, members of the focus group were informed about the importance of maintaining confidentiality even though their commitment to the agreement cannot be guaranteed. Confidentiality is the agreement to protect the research information (Christensen et al., 2011).

The research information is protected and is accessible only to the researcher and study supervisor. The data will be kept for five years after which will be destroyed.

3.9.6 Researcher-participant relationships

The researcher is a professional nurse who underwent training in dermatology nursing and is a member of the dermatology community in the Western Cape. The researcher is also a nurse educator who worked as a convenor of the dermatology nursing programme at the university. Some of the participants in the study are colleagues and former students of the researcher. The researcher did not use any of the relationships described to coerce participants into joining the study, and the focus group discussions were facilitated by a skilled focus group moderator. During data analysis, the researcher put aside her own thoughts, feelings and perceptions about the data and reported the participants' views as accurately as possible (Speziale & Carpenter, 2007).

3.10 Trustworthiness

Trustworthiness in qualitative studies is enhanced using several strategies. This improves the accuracy and believability of findings. Trustworthiness strategies used in this study include credibility, conformability, dependability, transferability, and reflexivity (Houghton, Casey, Shaw, & Murphy, 2013; Shenton, 2004). In addition, continuous self-criticism in content analysis has been employed throughout the research process, as recommended by (Creswell, 2013; Elo et al., 2014).

3.10.1 Credibility

According to Elo et al. (2014), credibility is when findings address the research question and must be believable to the reader (Houghton et al., 2013; Shenton, 2004).

3.10.1.1 Preparation phase

To improve credibility, the researcher collated information from various sources and methods as recommended by Creswell (2013). The use of focus groups and individual interviews (method triangulation) was employed to ensure completeness of data and accuracy of information (Michael Curtin & Ellie Fossey, 2007, p. 89). Different informants such as nurses and medical officers provided data. As data saturation improves credibility of study findings, Fusch & Ness, (2015) recommend study designs with detailed description to ensure data saturation.

The researcher piloted the semi-structured interview guide and as a novice, employed the services of a focus group facilitator to ensure that the best possible information was obtained.

3.10.1.2 Organizational phase

Coding was guided by a criterion suggested by Vaismoradi, Turunen, and Bondas (2013). The codes were shared in a research support group and were checked by the research supervisor to ensure accuracy and to minimise overlap.

3.10.1.3 Reporting phase

To achieve credibility, study results must be believable to the reader (Houghton et al., 2013). The researcher ensured that participants were identified by category and described accurately while maintaining confidentiality. The researcher diligently reflected on the areas where there was a possibility that her own opinion had been expressed instead of that of the participants. The study was supervised by an experienced qualitative researcher who assisted the researcher to conform to the scientific principles of rigour in qualitative research.

3.10.2 Confirmability

The researcher remained neutral and presented the views of participants when reporting the study results. The researcher's potential influence on the findings was minimized through intentional screening and reflection on the research process and data for possible influence from the researcher's personality, educational background, and position (reflexivity, section 3.12). The research findings included quotations from the participants to express the views of the participants and not of the researcher. Methodology and processes that led to the interpretation of research findings were explained (audit trails) as proposed (Hansen, 2006; Houghton et al., 2013; Shenton, 2004). The interview transcripts, data analysis and report drafts were subjected to discussions with the postgraduate qualitative research support group before review by the research supervisor. The diagrams are used extensively in the report to demonstrate an audit trail (Shenton, 2004).

3.10.3 Dependability

To improve dependability the researcher has provided clear step by step explanations for the methods used and rationale behind each method. The researcher provided a table of codes to demonstrate decisions taken to reach the findings (Cope, 2014; Houghton et al., 2013). Participants were selected for their knowledge of the phenomenon.

Individual interviews and a focus group were chosen for the ability to obtain rich, in-depth individual experiences and perceptions of the DNP role, combined with interaction among participants in the focus group (Lambert & Loisel, 2008).

3.10.4 Transferability

The researcher has provided a detailed description of the research process and findings. It is up to the reader to make an informed judgement whether the research results are applicable to the reader's own experiences (Curtin & Fossey, 2007; Houghton et al., 2013; Speziale & Carpenter, 2007). The researcher described the study participants, methodology and study methods.

3.11 Reflexivity

Reflexivity is defined as a conscious self-reflection by the researcher to identify a potential influence on the study process (Hennink et al., 2011). The researcher monitored assumptions, preconceived ideas and relationship with participants throughout the research process to minimise the influence on the study results. In this section, as it is the reflective account, the researcher is writing in the first person. I described my relationship with the participants, how this relationship may have affected the study findings and the measures taken by the researcher to avoid potential biases. I had to be constantly aware and monitor myself to ensure the results represented the voice of participants and not my own (Berger, 2015). I have identified common areas of interest between myself and the study areas in which I could have been subjective as described by (Ahern, 1999; Berger, 2015; Mauthner & Doucet, 2003) Effective reflexivity may require one to take time, distance and detach one's self from the study to objectively identify areas of influence in the study.

I am a Dermatology Nurse Practitioner with 17 years of experience in dermatology and 17 years of teaching dermatology, mostly to nurses and other health workers. I am currently employed as a lecturer and clinical educator in the department of dermatology. As a master's student, it was suggested I study the role of a DNP. I accepted the assignment immediately because of my passion for my speciality and I saw it as an opportunity to represent the DNPs and showcase their work. I was not sure what other DNPs were doing, hence, I needed the evidence of what we do as DNPs. As I was preparing for the study the possibilities of a chance for dermatology nursing to be recognised as speciality in South Africa preoccupied my mind.

This was my stance. Even though I was aware of my experiences, how I perceived my role was irrelevant because I was not part of the study. This knowledge helped me to guard against bringing my own perception of the DNP role.

The circumstances and the reaction of the researcher may discourage or encourage participation in a study, according to Berger (2015). The researcher was perceived as an insider, therefore, it was easy to recruit study participants. I was known to most institutions that provided dermatology services due to my involvement in training nurses in dermatology. This could have influenced the study as potential participants might have participated in the study to impress me and consequently biased the results.

During data collection, I interviewed colleagues who knew me before the study. Because of the dermatology outreach activities in their institutions, I became aware of some of the internal challenges and I have recruited their nurses to train in dermatology. The semi-structured interview questions guided my questioning and prevented subjective interrogation of the participants based on preconceived ideas. I am aware that the relationship may have limited some participants from expressing their views because of assumptions I already knew the story or feared to be quoted in the future. To avoid influencing the focus group negatively, I solicited services of a focus group facilitator related how knowing the participants facilitated data collection but limiting the depth of the data because of the assumption that the researcher 'knows what we are talking about'. It occurred during probing that I was looking for what was not being said but I could not put words in their mouth. As I was sitting in the focus group, I felt some frustrations because they couldn't mention some of the roles I expected to hear. The external focus group facilitator did not have such preconceptions. During data analysis I made conscious attempts not to influence the findings with my own ideas.

3.12 Conclusion

This chapter described the methodology of the research process pertaining to the selection of study participants, data collection, data processing and reporting of findings. Ethical considerations and the process of ensuring rigour was described. The findings of the study will be discussed in chapter four.

CHAPTER 4

FINDINGS

4.1 Introduction

In this chapter, findings of the role, as perceived by DNPs, other nurses and doctors are presented. The chapter is divided into four themes: perceived role of the DNP, benefits of the DNP role, role challenges and possibilities and recommendations for future roles. In each theme, the responses to the research questions are reflected, substantiated with quotes from the participants. The results are summarised in a diagram (Figure 2), to make the findings more visible, providing a broader picture of the results and the relationships between the concepts (Hennink et al., 2011).

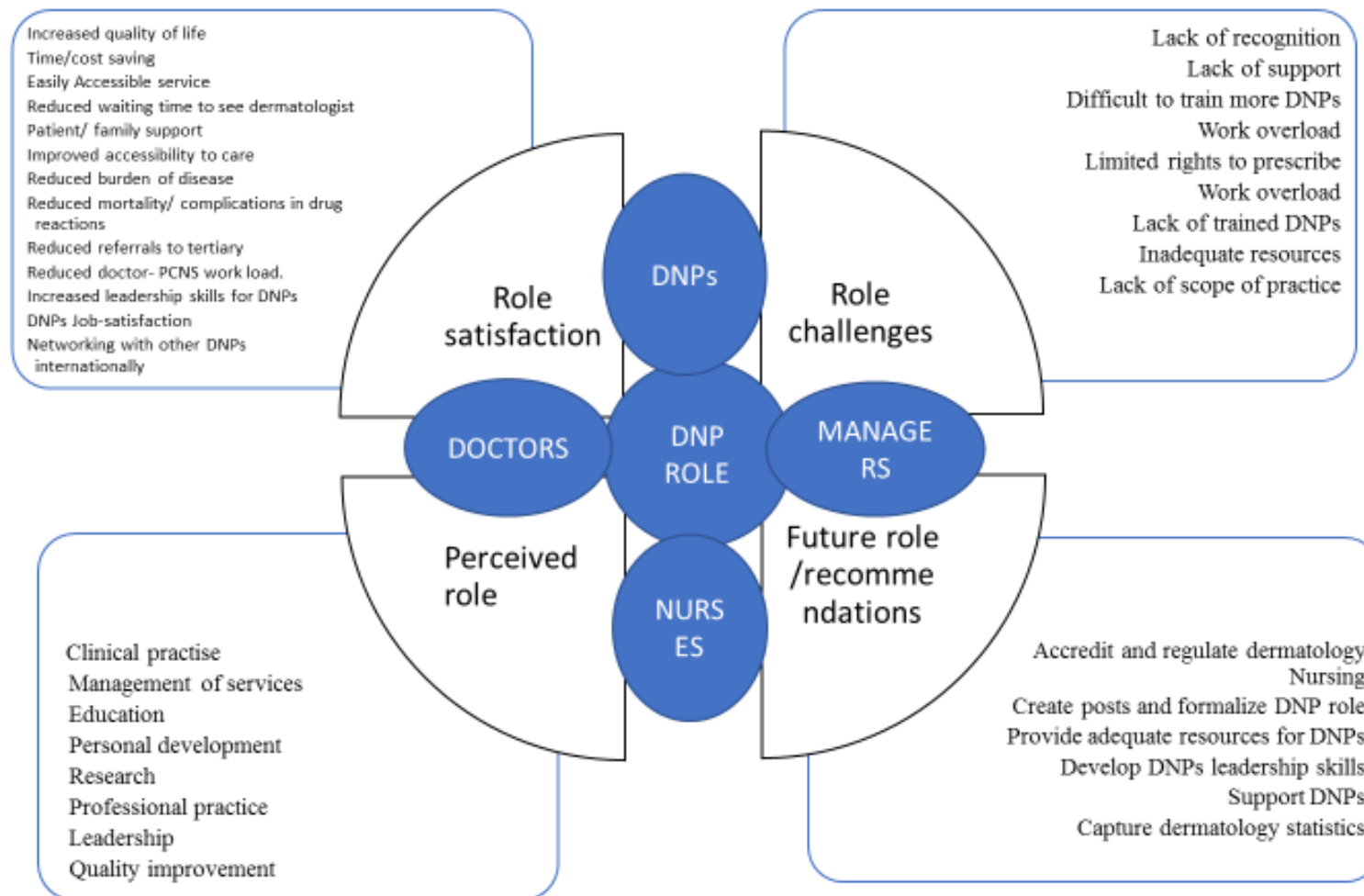


Figure 2: Diagrammatic portrayal of the findings

The diagram is a summary of the research findings which are discussed in this chapter.

4.2 Study Participants

4.2.1 Study participants' demographics

The participants who were interviewed were as follows: in primary care, two PCNSs, one family physician, one general practitioner, one medical manager, one primary care nurse manager and one facility manager (table 6). Practice locations from which participants were drawn were two Community Health Centres (day hospitals), a children's hospital and an adult tertiary hospital. Participants' practice locations are illustrated in Table 6.

Table 6: Demographics information of participants of the focus group

	PUBLIC	PRIVATE	PRIMARY	TERTIARY	TOTAL	POSITION
Professional nurses	3	0	2	1	3	1 professional nurse 2 PHCS
Nurse managers	3	0	3	0	3	1 Operational manager 1 Facility manager 1 Primary health care manager
General Medical practitioners	2	0	2	0	2	1 Medical manager 1 family physician 1 General practitioner
Dermatologists	3	1	0	3	4	1 Head of the unit 3 Consultants
TOTAL	11	1	7	4	12	

There were seven participants in the focus group most of whom worked or had worked in tertiary hospitals. Only two came from a primary level of care setting. Five were employed in the public sector and two had retired. Most of the participants had managerial experiences.

Table 7: Demographic information of focus group participants (DNPs)

	PUBLIC	PRIVATE	PRIMARY	TERTIARY	TOTAL	POSITION
DNPs	7	0	2	5	7	2 Operational managers 2 PCNS 1 Matron 1 Retired operational manager 1 Retired clinical educator
TOTAL	7	0	2	5	7	

4.2.2 Categories of DNPs and their activities

There were two broad categories of DNPs; DNPs who were trained in dermatology from recognised higher learning institutions, who were focus group participants and another group of professional nurses also called dermatology nurses because they learned dermatology on the job. Most professional nurses who practice dermatology were trained on the job by trained DNPs and dermatologists. No differences in the roles of the two DNP categories were described. At primary care levels, the DNPs are primary care nurse specialists who are trained in dermatology.

4.2.3. DNPs' practice settings

The practice setting influenced the type of care provided and the kind of a role they played. They provided services to patients with skin problems at primary and tertiary levels of care. Primary care patients were treated by DNPs at specialist dermatology clinics and outreach clinics where the patients were seen in locations other than dermatology clinics.

Of note was a special clinic in which DNPs treated school children after school, so that they did not miss classes, and ran eczema clinics for children. Patients at tertiary hospitals were seen in an out-patients department and some received care and treatment in the wards.

The DNP saw un-booked patients who had no prior arrangement with the DNP. These were patients who were either brought in by colleagues or came on their own (walk-ins). Booked patients were referred by nurses and doctors from various clinics. In the institutions where the DNP practiced, medical officers and nurses either booked their patients or personally took their patients directly to the DNP. The patients who were referred to DNPs included acute cases, for example, a drug reaction, or people with chronic skin conditions such as atopic dermatitis who needed follow-up and patients with skin conditions who required specialist care. The DNPs in return referred patients they could not manage to dermatologists at tertiary hospitals or when dermatologists visited the DNP-led clinic on outreach visits.

4.3. Theme 1: Perceived Role of the DNP

Some roles from data shared similar activities. For example, patient education could have been perceived as a clinical practice role or as an educational role. To resolve the overlap, the researcher used a framework from the literature to refine the DNP roles (Table 7). For example, patient education became a clinical practice role according to the framework. The major components of the role of the DNP identified were clinical practise, management of services, education, personal development, research, professional practice, leadership and quality improvement.

4.3.1 Clinical practice role

4.3.1.1 Patient care and treatment

In the primary care facilities which provided dermatology services, patient care providers were medical officers, occasionally professional nurses and enrolled nurses. The enrolled nurses and professional nurses helped with dressings and other general procedures. Medical officers, PCNSs and DNPs mainly conducted patient clinical assessment, ordered special investigations and prescribed patient medication.

DNPs and PCNSs were not permitted to prescribe doctor-initiated medication and general practitioners could not prescribe specialist-initiated medication according to the Practical Approach to Care KIT (PACK) (Cornick & Fairall, 2016-2017) and the Standard Treatment Guidelines and Essential Medicine List (Department of Health, 2014) treatment guidelines.

Data revealed that at the tertiary care level, health providers were dermatologists, DNPs, professional nurses, enrolled nurses and assistant enrolled nurses. Nurses executed care plans mainly while dermatologists developed care plans.

The overlapping roles among nurses were the application of topical medication, dressings, application of wet wraps, general nursing care, specialised nursing care of Toxic Epidermal Necrolysis patients (TEN), and health education to patients regarding use of medication.

DNPs supervised all nursing procedures. Experienced professional nurses and DNPs administered phototherapy. In addition, DNPs assessed patients who required wound care and advised dermatologists on the treatment. Patch tests were administered by trained DNPs. They were responsible for most of the patient care in the ward. One dermatologist expressed the opinion that good nursing care at the tertiary level may be responsible for the improved outcome (reduced mortality rate), seen in people with severe adverse drug reactions as explained in the following quote:

The nurse will carry her in a hoister chair..... Their mouths are clean, and they survive. And it's only because of nursing care. It's not because of doctorand those patients can get much better care because they will be looked after by someone who is trained you know. P16 (dermatologist)

In the dermatology unit of the children's hospital, there was not a DNP at the time of the study. However, the professional and enrolled nurses working in the unit were described as experienced by the operational manager as they had been trained 'on the job'. According to the operational manager of the dermatology unit, the dermatology nurses played an active role in treating dermatology patients by advising paediatricians and other doctors working in OPD regarding management of their patients suffering from skin disorders. It was reported that the presence of the DNP benefitted both the patients and dermatologists as the DNPs provided the expertise when there were no dermatologists. The DNPs provided specialised nursing care of patients in the out-patient and in-patient units.

They applied wet wraps to eczema patients and dressings in the day-care unit. They provided health education to patients, carers and health workers in the ward and the OPD. DNPs were not allowed to prescribe treatment.

The operational manager said that the doctors frequently consulted the nurses about how to treat skin conditions as there were seldom opportunities to consult a dermatologist. DNPs have a positive impact on the quality of life in patients suffering from atopic eczema and the families of such children. A dermatologist commented that a trained nurse practitioner can help both the child and the family to cope better with the condition.

4.3.1.2 Counselling

The DNPs provided counselling for the patient and or the patients' relatives regarding their health challenges, medication and sometimes psycho-social issues. Such counselling helped patients to understand their skin problems and the expected outcome of treatment, cope with their situation and contributed to improved quality of life. In tertiary institutions, DNPs counselled patients, when the social worker was not available while at DNP-led clinics they provided counselling related to dermatology issues when necessary. According to the focus group participants, DNPs were able to counsel and support patients with skin conditions because of their clinical knowledge. However, they experienced some situations difficult due to lack of counselling training. Social workers were trained in counselling but often did not have enough clinical background.

One dermatologist felt that counselling was one area where there was an overlap between nurse's role and doctor's role. She thought there was not enough emphasis on patient counselling, hence pointed out its importance in patient care and the need for doctors and nurses to be consistent in their counselling approach and in the information provided. She identified an overlap of roles of DNPs and dermatologists with respect to education and counselling.

4.3.1.3 Patient support

DNPs ran support groups for patients with chronic skin problems such as psoriasis. One of the DNPs was a president of the psoriasis support group for patients and she was an administrator of their WhatsApp group. She also ran a call-in service where patients with skin problems could call in for information and communicated with them in writing.

Many patients who attend public health services do not have easy access to water and private bathing facilities in their homes. One DNP provided ablution services for patients, in which patients came to the skin clinic in the mornings to shower and for application of topical medication without having to consult clinic staff:

Often, they don't even have water at home. This is one of the main objectives is to actually run, you don't need... you in a room like this, to manage a patient who can come and do their showering. They all live, not all, but I mean so many live in crowded accommodation etc... and they can't put their stuff the applications of the topical on with privacy. FGP (DNP)

DNPs played a vital role in facilitating the movement of patients from one therapeutic department to another, such as assisting patients to obtain their medical records, medication and other treatment supplies. DNPs also liaised with family members and other health workers and assist in problem solving.

DNP demonstrated a passion for their work and a caring attitude towards their patients as reported by a manager, recognising a change in a staff member who had attended a training course. A DNP stated: "... *We care a lot more*". (FGP).

4.3.1.4 Patient triage

A role that was noted by one DNP was that of triage in the outpatient department. She felt that she played a useful role, as she was able to assess the severity of the patient's condition and make appropriate decisions about whether the patient needed to be seen urgently or not:

I am the only person who is trained in dermatology in the unit, just assisting triaging the patients that just come, because the patients get seen by the doctors ... and also triaging patients that come in, you know, obviously coming to be seen or wait for the doctor depending whether they sick enough to come in and see the doctor. FGP (DNP)

4.3.1.5 Teledermatology

The nurses utilised their cell phones to take photographs of skin conditions for which they need specialist advice. They sent the pictures to the dermatologist for an opinion regarding patient diagnosis and management (teledermatology). DNPs also get consulted by other clinicians through teledermatology. A focus group participant reported that doctors are finding teledermatology useful, although good quality pictures are needed.

This referral system requires appropriate equipment such as a camera, computer or a smartphone, which the DNP organizes.

Teledermatology facilitates diagnosis and prompt treatment:

I have a patient that is difficult, I need to work with doctors from Tygerberg and Groote Schuur I still send pictures through obviously and they will send back if they have time. Some send immediately they give me feedback, some say they will get back to me ...I mean we deal with the most common skin conditions, and you get your unusual ones as well which could be this, could be that, could be the other thing. Take the pictures ... Then I just phone, then I say right, taking these pictures, quick history and as I am phoning you in five minutes. And then you get your reply and instead of that patient having to wait how many months to get into tertiary unit, they're treated there and then... instead of that patient having to wait how many months to get into tertiary unit, they're treated there and then. FGP (DNP).

Table 8: Example of the DNP's role and activities

Clinical role	Participants' definitions of the nursing role	Examples of quotations
Assessment	<ul style="list-style-type: none"> Physical and psychological assessment of patients Diagnostic procedures like patch test 	<i>"I think the PCNS is the one running clinical assessments". P15</i>
Therapeutic activities	<ul style="list-style-type: none"> Writing prescriptions Wound care Wet wraps application Administering phototherapy Application of topical medication Administration of systemic medication 	<p><i>"they are the much preferred in doing their topicals and giving medication".</i></p> <p><i>"it's not only skin care we do, we do wound care".</i></p> <p><i>"they are the people who are doing all the management like wet wraps...." P14.</i></p>
Nursing care	<ul style="list-style-type: none"> Specialised baths patients General patient care like vital signs, eye and mouth care, and administration of systemic medication Demonstration of wet wraps Demonstration of topical treatment application to patients Provision of counselling 	<i>"and they survive. And it's only because of nursing care. It's not because of doctors". P16.</i>
		<i>"... they are influencing the doctors in the prescription of the medication to treat these kids and ... the people who are doing all the management like wet wraps and educating</i>

	<ul style="list-style-type: none"> • Advocating for patients to get medication • Running support groups for dermatology patients 	<p><i>the parents of the kids how to treat these kids ... These nurses will go to the wards and educate the staff how to treat these kids". P14</i></p> <p><i>"so, fulfilling that role is really interacting with the patient, help to assist the patient to manage the condition if that is possible to trying to achieve a good outcome." P15</i></p>
--	--	--

4.3.2 Management of services role

4.3.2.1 Management of nurse-led services at primary care level

The DNPs at primary care level managed the day-to-day running of the nurse-led day-care centres under the supervision of the operational manager. They made independent clinical decisions regarding patient care and patient flow in consultation with their managers. One facility manager said that the DNP in her facility had been trained and was in contact with the specialists at a tertiary level facility. DNPs opened specialist clinics, such as child-friendly and outreach clinics.

They made decisions regarding various resources required for day-to-day running of the clinic. They include human resources, equipment such as a camera, a computer and ordering of pharmaceutical supplies. The experienced DNPs could discuss medication options for the patient with the pharmacist. In facilities where there were no pharmacists, DNPs are allowed to dispense medication provided they have attended the dispensing course. A DNP stated: *"I've run the pharmacies; would be the nurse in charge, the nursing manager, plus you have pharmacy, get on with that, so and then again with your dispensing course because I've done that as well". FGP (DNP).*

4.3.2.2 Management of services at tertiary care level

At tertiary care, DNPs who are also operational managers appeared to have more management responsibilities than clinical duties both in the out-patient department and in the ward. The DNPs at tertiary institutions managed all resources including staff, equipment and medication. According to a professional nurse, the ward DNP sometimes had to do her management work after hours. The DNP also monitored and evaluated staff performance as part of the management role.

4.3.2.3 Administration and clerical work

A significant amount of record keeping done by DNPs was described as clerical work or administration work, for example in this insert; *“most of the time she is doing her admin work even in late hours”*. P3 (professional nurse).

4.3.2.4 Providing staff support:

DNPs were described as members of a health team by one participant. They voluntarily saw dermatology patients in some clinics without being paid for their services. They also mentored and trained some nurses in order to build capacity in some institutions. One DNP was described as receptive and accommodative by a PCNS who worked with her. DNPs often assist in non-nursing roles such as counselling, which is usually the social worker’s responsibility, and dispensing patient medication in areas where there is no pharmacist. Participants were of the view that a DNP relieved much of the doctor’s load, be it in the ward or clinics. A unit manager who is a DNP stated *“we have to spend more time [with the patients]. We know the doctors don’t have the time. There’s not enough doctors and no dermatologists (DNP)*. Another participant concurred, saying that she felt that she could act as an extension to the doctor when there are not enough dermatologists.

4.3.2.5 Maintaining interpersonal relationships

Participants commented that the DNPs maintained good relationships with patients and health workers, including pharmacists and nursing staff. This made things easier and was appreciated by one manager who commented on support:

“... the community day centre used to support her very well. And she had a very good relationship with a difficult sister from hospital. I don’t think she ever complained to me about things she didn’t get. She put in her request for her goodies once a month. We will discuss it and send it through and we never really had a problem. I think one type of medication that she needed a signature for but ... usually sort it out.” P19 (nurse manager).

4.3.3 Education Role

The educator role is described under three categories, namely, teaching non-dermatology trained nurses and doctors, teaching undergraduate and post-graduate students, health education to patients and carers.

The role was described by one DNP participant as difficult as it required a skilled person because of distinct categories of clinicians rotating through dermatology. It was not only nurses teaching nurses but nurses teaching doctors in a specialised field, as nurses working with people with skin disorders develop specialised skills, not fully covered in the medical curriculum.

4.3.3.1 Patient education (health education)

Patient education is a central component of in-patient care. Some referred to it as counselling, patient education or health educations. On the first admission to the dermatology services, patients' illness was explained and they were shown how to apply topical medication.

When the patient returned, the DNPs checked if the patient had complied with the medication application protocol. Educating a patient on topical medication took a long time. The feeling was that people needed time to understand how to use treatment and that this time was ultimately well spent, as it reduced the need for the patient to make unnecessary subsequent visits.

4.3.3.2 Teaching students

Most DNPs worked in areas where they taught and allocated dermatology undergraduate medical and nursing students and post-graduate students as confirmed by nurses at primary and tertiary levels of care. The DNP education role, therefore, entailed teaching students and mentoring nurses and doctors.

4.3.3.3 Teaching non-dermatology trained doctors and nurses

Most DNPs were involved in training other nurses in dermatology to build capacity of other health professionals. One participant stated that she wanted the service to continue when she is not available. A DNP at primary care used the opportunity to teach PCNSs who brought patients to her for an opinion. She would ask them to stay with the patient and she showed them what needed to be done. Another primary care DNP observed that the HIV and infant-clinic nurses who referred patients to her had available medication to treat their patients but lacked the skill to be able to administer this, and she taught such nurses. DNPs also mentored nurses who have returned to practice after a break in service.

One DNP developed teaching programmes for the nurses in the ward. She taught them in the morning and would come back to evaluate their performance in the afternoon, according to one professional nurse in the inpatient wards. It was also revealed that due to unavailability of dermatologist in a paediatric tertiary hospital, DNPs guided some of the medical officers on the management children with dermatology problems and taught doctors in the wards:

They will go to the nurses for an advice and the nurse will give an advice how to treat these patients..., meaning they are making use of the nurses and the nurses are giving advice to the doctors, what to prescribe and how to treat the patients. P14 (Nurse Manager).

4.3.5 Self-development role

DNPs developed themselves by attending conferences. They also reported learning through caring for patients with complicated skin conditions and receiving feedback from the dermatologists.

4.3.6 Researcher Role

4.3.6.1 Active participation in research

Only a few DNPs described involvement in research. One participant is part of an international study called Regi Scar. In the research role, DNPs collected data and attended international and local conferences.

4.3.6.2 Capturing statistics

Capturing statistics is a component of a research role. Statistics related to skin conditions were collected, although not currently required for the provincial statistics in the Western Cape. The primary health care manager in one institution utilised the statistics because there was no other source of dermatology statistics. The opinion from one manager was that it was impossible to collect such information at the primary care level due to work overload. She said that every discipline would like to have statistics captured but the administrative staff could not cope with all the demands.

4.3.7 Professional practice role

4.3.7.1 Specialist/Consultancy

The DNPs were consulted by PCNS, generalist medical practitioners and paediatricians regarding patient diagnosis and management at primary and tertiary care levels. Dermatologists in the ward consulted DNPs regarding wound care. Different modalities for consultation were described such as taking a patient to the DNP, calling a DNP or sending photos of patient's conditions through smartphones or emails and obtaining feedback the same way.

A PCNS who referred patients to a DNP acknowledged that dermatology nursing was a highly specialist field with its own language, whereas PCNSs called every skin condition a rash without a specific diagnosis. She described the DNP as having a broader knowledge of dermatology compared to PCNSs and was of the opinion that the management of skin conditions was a specialised field. DNPs were regarded as nurse specialists but consulted dermatologists from time to time.

In some settings when the DNP was on leave, services closed because there were no dermatology trained nurses to relieve them. One manager disclosed that when their DNP transferred to another area they lost the expertise.

A dermatologist expressed how critical it was to have a dermatology nurse specialist in every area where there were dermatology patients saying that one can't really function without a nurse who has experience or training in dermatology. They felt that the expertise needed recognition, in order to attract good people. A similar view was expressed by another dermatologist who thought that it was not possible to manage severe skin conditions without trained DNPs. This applied to people with severe drug reactions but also to those with chronic skin conditions, such as psoriasis, to improve quality of life.

4.3.7.2 DNP as patient advocate

DNPs revealed that due to medication guideline restrictions, sometimes patients could not obtain prescribed medication and the DNPs found alternative measures to obtain medication for their patients. Despite tough drug regulations, the relationship between DNPs and pharmacists was described as good and supportive by participants. DNPs were able to advocate for their patient needs.

4.3.8 Leadership Role

DNPs managed and led dermatology services in the wards, tertiary hospitals outpatient departments, phototherapy units and various clinics including day-care centres and outreach clinics. There is evidence of some of the services being initiated by the DNPs such as collecting statistics, staff education programmes and others. DNPs facilitated patient support groups.

They were able to assist non-dermatology trained doctors regarding how to diagnose and manage skin conditions. It was clear that DNPs, through their knowledge, passion and commitment to the speciality, had emerged as leaders.

4.3.8.1 Voluntarism

DNPs were utilised by other departments either as volunteers or as part of work rotation. They were also asked to work in other departments when there was a need and the DNP was not busy with dermatology patients. The helping roles identified were clerical work, voluntary dermatology services, dispensing medication, patient and staff support, further discussed below.

4.3.8.2 Intersectoral collaboration

DNP voluntarily helped in departments outside dermatology to build relationships such as participating in building a resource hub as a meeting place between patients and health workers. They were occasionally assigned to help in other departments, for example, the immunization clinic and treating non-dermatology patients as PCNSs.

4.3.8.3 Mentoring

Teaching of students and mentoring of doctors and nurses to build capacity was a key role. DNPs visited other wards in order to educate staff about care of skin conditions.

4.3.8.4 Ambassador role

A DNP is a member of the health team representing dermatology nursing. DNPs were described as providing a unique skill, which was lost and could not be replaced when the DNP transferred to another area. One participant said that the clinic lost an essential service when the staff member was transferred. DNPs expressed a keen sense of responsibility to represent dermatology nursing. One DNP commented that she even advised people with skin problems whom she met in informal settings such as shopping malls.

4.3.9 Quality improvement

The aim of opening nurse-led dermatology clinics was to improve access and quality of care to people suffering from skin conditions. There was evidence of DNPs participating in quality improvement activities such as hospital improvement programmes. DNPs mentored other health workers to develop them to improve patient care. DNPs also facilitate the formation of patient support groups.

4.4. Theme 2: Benefits of the DNP Role

When the participants were asked about the benefit of the role of a DNP, they expressed appreciation of and valued the role.

Participants appreciated the positive outcomes of the role to the patients, the health system and the DNPs (Table 9). DNPs were perceived as experts who go out of their way to treat a patient, who were caring, diligent, and passionate about their work and who were always ready to give expert opinion. One participant observed that the trained DNP loved to assist in patient management and never complained about being disturbed.

4.4.1 Patient benefits

The role was revealed as central to patient care and a support system for patient families. It was described as critical and vital to patient survival. A participant related how she believed that DNPs reduced toxic epidermal necrolysis mortality rate to 9% and their role may be more important than that of the doctors. One doctor had this to say:

Those younger patients are also referred into dermatology clinic particularly after school hours and afternoon and its very important that we have somebody dedicated and knowledgeable and available to see them and manage those patients properly. P15 (doctor).

4.4.2 Health system benefits

Some of the health system benefits identified were the reduction of drug reaction-related mortality rate. The unnecessary referrals from primary care to tertiary care were reduced, consequently, the ambulance bookings were reduced and dermatologist appointment waiting time was reduced. The reduction of referrals and proper patient management resulted in less expenditure for the department of health and less inconvenience for the patient.

4.4.3 Personal (DNP) benefits

DNPs were passionate about their work and therefore had job-satisfaction because they saw results. The opportunity to represent dermatology nursing in the health team provided an opportunity for developing good leadership skills. The opportunity for self-development was achieved through attending conferences. They also learned more as they encountered new skin conditions. The benefits are summarised in Table 9.

Table 9: Perceived benefits for a DNP Role

Patient benefits	Health system benefits	DNP benefits
Satisfied with care	Improved accessibility to care	Increased leadership skills
Increased quality of life	Reduced burden of disease	Job-satisfaction
Time saving	Reduced mortality rate and complications for drug reaction patients	Self-development/learning on the job
Convenient service e.g. after school services	Reduced referrals to tertiary	Networking with other DNPs internationally
Easily Accessible service	Lower cost	
Money saving	Reduced doctor- PCNS workload.	
Reduced waiting time to see dermatologist		
Children spent more time at school than clinic		
Family support system		
Patient support		
Disease control		
Medication easily available		

4.5. Theme 3: Role Challenges

Even though the DNPs enjoy their work, their role had challenges. The main challenges included lack of accreditation by South African Nursing Council (SANC), lack of recognition of the specialist role, treatment guidelines restrictions, work overload, high patient turn-over and inadequate resources (Figure 3).

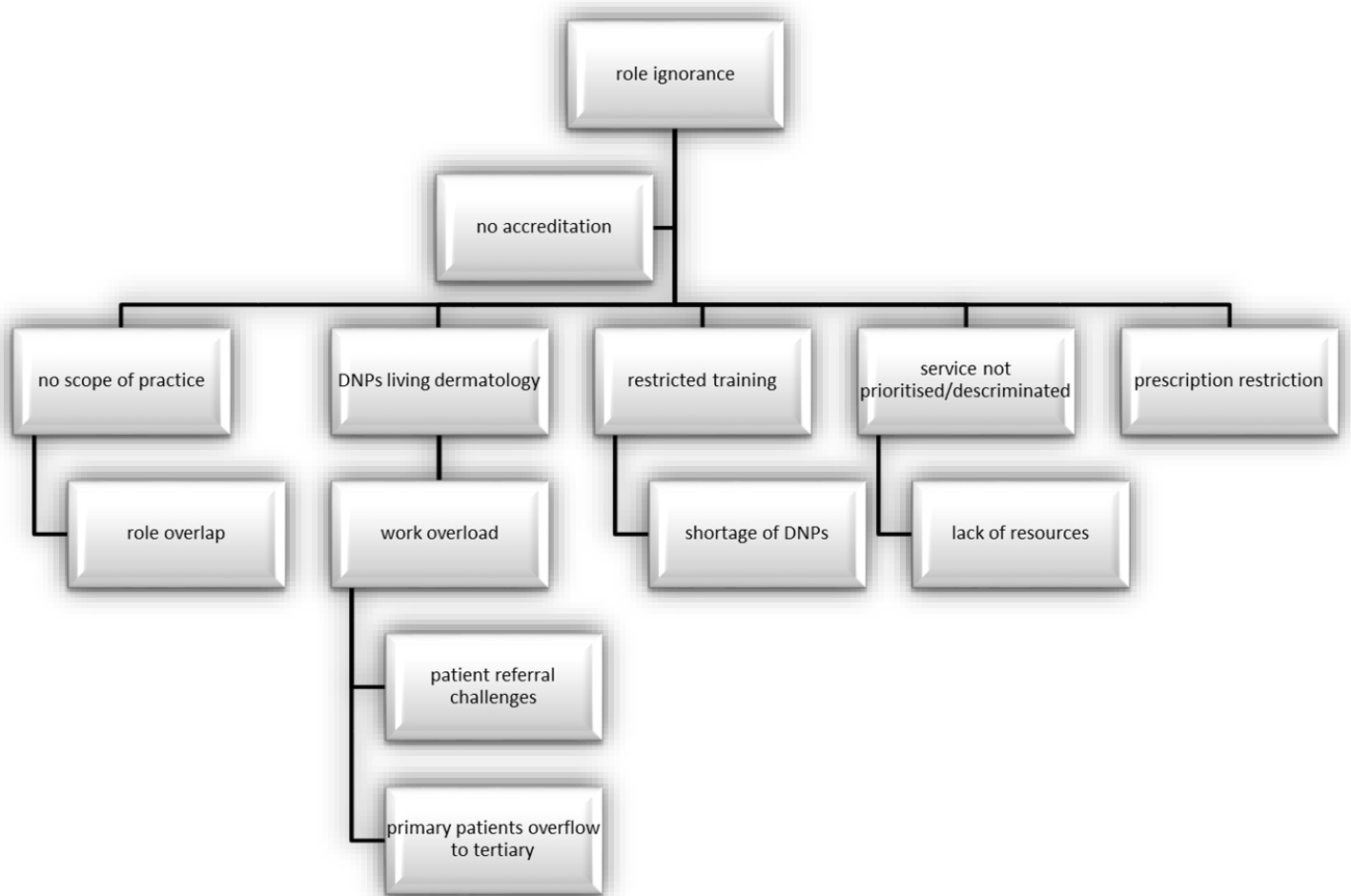


Figure 3: DNP challenges

4.5.1 Lack of resources

4.5.1.1 Human resources: Staffing constraints

The main challenges cited by DNPs were based on lack of resources such as human resources, medication, cameras and computers. DNPs felt that SANC lacked an understanding of the complexity of the field of dermatology and failed to appreciate the need for specialist training. Most dermatology clinics were staffed with one DNP. Some institutions did not have DNPs, consequently, patients were either booked for a visiting DNP, dermatologist or were seen by a generalist nurse or doctor. When the DNP asked for a relief nurse to run the dermatology clinic in the absence of a DNP, they were relieved by non-dermatology trained nurses. DNPs experienced this as an inconvenience because of the amount of time invested in training a new person on the job. Some of the relief nurses lacked interest in dermatology, hence they were difficult to work with.

There are challenges related to the support for training of DNPs, stimulating interest in a speciality in which the qualifications are not recognised or accredited by SANC. Some trained DNPs were not placed in dermatology after training and had to be mentored again when incorporated back into dermatology. One DNP worked in dermatology for three months after training only to be removed and replaced with an untrained person. She said: *“I think we battle a long time to get a nurse qualified in dermatology but sending the staff to do the course takes such a red tape”*. FGP.

There were skills in which DNPs felt less competent. Some DNPs felt they lack confidence in patient counselling, but they had to do it to treat a patient holistically. They acknowledged that the social worker is the qualified person to do counselling but lacked the necessary knowledge in dermatology. Some DNPs felt less skilled in taking photos for teledermatology and this affected interpretation of the photos by dermatologists.

4.5.1.2 Medication and prescribing restrictions

DNPs were frustrated by prescribing restrictions due to what was perceived as strict unwarranted treatment guidelines, which had an impact on patients obtaining medication. To obtain dermatology medication, some had to be initiated by a medical officer despite the DNP being trained in dermatology, and others were dermatologist initiated. As a result, dermatologists are used to writing scripts instead of seeing problem patients or patients are referred to a tertiary hospital for scripts. This situation was annoying for DNPs and caused inconvenience and unnecessary expense for the patient and the tertiary service. At the same time, tertiary DNPs reported an overflow of primary care patients into tertiary hospitals. The GPs were required to co-sign medication for skin conditions that the DNP knew how to manage, as attested by one DNP, who said that the doctors sometimes referred people to a tertiary hospital to collect creams, even though she knew what was needed. It cost the patient time and money, as well as adding to the work of the tertiary hospital staff. In addition, she said that doctors from specialist centres were sometimes irritated by having to write scripts when they attend primary care clinics run by DNPs, as was expressed below; *“... Now the patient must go from the clinic to Groote Schuur so that they can get the dovate or the outreach doctors (dermatologists) come to us ... they just re-write scripts and then they ask me, did I only come for this?”*. FGP.

4.5.1.3 Other resources

DNPs lacked good cameras for taking pictures with which to consult dermatologists. They used their phones which did not always produce photos of suitable quality and could potentially lead to an inaccurate diagnosis. Lack of access to computers or the internet in the primary care setting meant that DNPs used their own data to email photos of patient's conditions to dermatologists.

4.5.2 Dermatology nursing SANC accreditation

Most participants mentioned that dermatology nursing is not recognised as a speciality, so is not accredited by SANC. One dermatologist commented that they feel that the nursing council was letting down the trained nurses from this point of view.

4.5.3 Lack of recognition and support

A common view among participants was that the DNPs were not recognised as specialist services, hence were inadequately supported by stakeholders, including the Department of Health, dermatologists and SANC. One participant suggested that because there was a limited number of DNPs, they might easily be ignored. A few participants reported some support from pharmacists, dermatologists and some general practitioners, in particular, those working in a clinic supported by a team from the tertiary hospital.

4.5.4 Lack of statistics and leadership skills

One manager felt that due to a lack of information on skin diseases, there was no justification for their service and burden of disease. He claimed numbers is what made the service visible. It was felt that part of the cause of the problem was because dermatology nursing has no assertive "drivers" to create awareness of the programme and draw the attention to the facility managers. DNPs lacked representation at sub-district meetings. The manager felt that the dermatology programme which is responsible for training dermatology nurses in the Western Cape, did not support the DNPs. It was said some DNPs lacked leadership skills because they failed to advocate for their patients and demanded support from management. Dermatology services were not perceived as a priority by managers, unlike mental health. He also acknowledged that some managers were resistant to change.

Not all participants felt that collecting statistics would be beneficial as it implied more work for the nurses, who were already overworked. She also added that their priority was HIV, TB and mother and child health.

4.5.5 Referral system challenges

Some participants observed that the cause of patient overload and depleted resources was because DNPs saw unbooked patients (walk-ins). Numbers of patients booked were cut by half in one institution, consequently, some patients were lost in the follow-up process. Data revealed that DNPs in rural areas had more challenges referring patients to tertiary care compared to those in peri-urban settings but the nature of these challenges was not disclosed.

4.5.6 Work overload

Participants agreed that DNPs were overworked. Some reasons cited were that they were multitasking, seeing unbooked patients, that some PCNSs were unwilling to treat dermatology patients, shortage of DNPs, and the increasing need for the dermatology services. Some participants observed that skin care procedures took longer, and it was challenging to persuade a patient to use medication that they found unappealing, for example, due to its odour. One participant observed that DNPs did not have enough time to do administration work hence that had to be done after hours. Some participants felt that DNPs worked in the clinics more than doctors, including advising general practitioners, and yet remuneration was lower, and they received less recognition for their contribution.

Although they gave advice to some doctors at tertiary care regarding patient management, they were unable to prescribe treatment for patients.

4.5.7 Lack of a job description

While one participant pointed out lack of job description for DNPs, data revealed an overlap of roles between DNPs and other health workers. Examples of overlaps noted were counselling, patient assessment, prescribing medication, wound care and some nursing procedures. The DNPs perceived role challenges and their relationships are presented in Figure 4.

4.6 Theme 4: Future Role (Recommendations)

To address perceived challenges faced by DNPs in their roles, participants recommended certain changes directed to the dermatology community in the Western Cape, Department of

Health and SANC. Dermatology nursing is a component of the dermatology community in the Western Cape, therefore, the participants held the dermatology community responsible for the development of the dermatology nursing. A summary of the recommendations is presented in Figure 4.

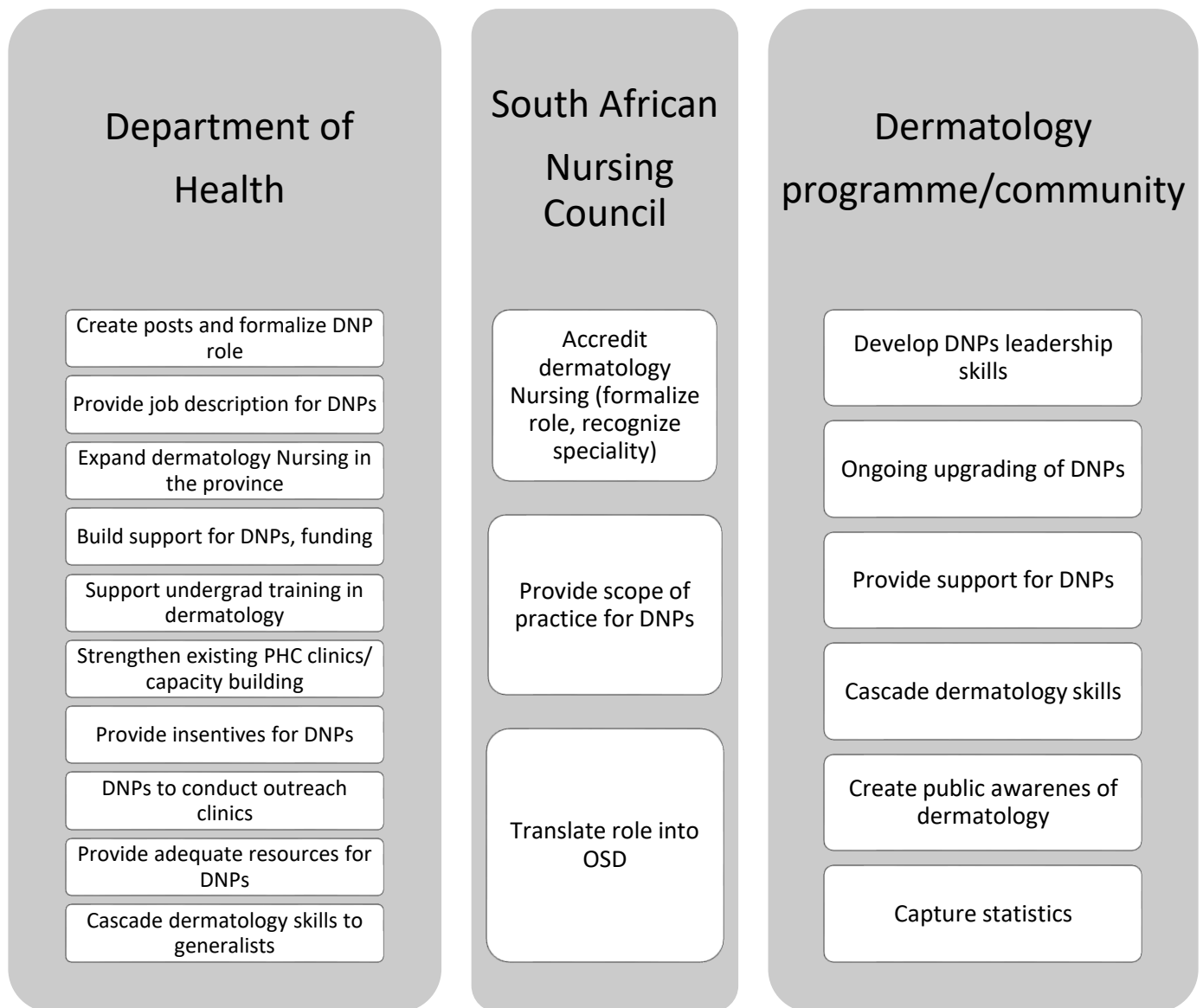


Figure 4: Recommendations for future DNP role

4.6.1 Recommendation for the Provincial Department of Health (DOH)

4.6.1.1 Increase the number of DNP posts

Participants indicated that the number of DNP had decreased, yet the demand for dermatology trained nurses has increased. The participants proposed the creation of DNP posts by the

Department of Health. Some participants recommended specialist posts which can translated into Occupational Staff Dispensation (OSD). It was suggested that the posts should be spread across primary, secondary and tertiary levels of care.

A conflicting view was expressed by a few participants who felt a combined post of dermatology with allergy or ophthalmology would be a better option. One primary care manager who had to prioritise the posts felt that the ARV programme was more in need of additional nurses than dermatology, hence the DNP post had been assigned to the ARV programme. The recommendation was for a dermatology-ophthalmology combined PCNS post:

Yes, if we can have posts we can solve a lot of problems. ... but we don't have the money... yes [I would have wanted a combination post]. As I said something about for dermatology and also combine that with something like eye care.... P19 (nurse manager.)

4.6.1.2 DNP job description

One participant observed that DNPs had better knowledge and skills in managing skin disorders compared to doctors who were not trained in dermatology. There was a need for DNPs to practice independently, with their own job descriptions, such as midwives. The participant believed that formalizing the DNP role would make DNPs accountable for their own practice, rather than prescribing through doctors at the tertiary level of care.

4.6.1.3 Eczema and psoriasis clinics at tertiary care

Some nurses and doctors at the tertiary care level believed that there is a need for DNPs to prescribe and to run clinics for common skin conditions, like psoriasis and eczema, at tertiary care.

A dermatologist perceived that DNPs need the autonomy to practice as in other specialties;

I also feel that dermatology nurse practitioner should be able to run clinics such as eczema clinics, providing care, providing teaching, ... first line care for our eczema patients our primary skin conditions which ... come to our tertiary institutions P1. (Dermatologist)

Like for instance here in the hospital that nurse is not practising freely...she must go according to the doctor's prescription and then she can't prescribe in the hospital setting of which if you can give more freedom to the nurses where they can prescribe and treat so it would save a trip of waiting for a doctor and an appointment which will take 2 to 3 months and I mean the skin problem that time is not getting better, is getting worse. P14 (Nurse Manager).

4.6.1.4 Expand dermatology nursing services in the Western Cape:

Some of the patients that were referred to dermatology were from other areas of the Western Cape Province. The participants recommended expanding dermatology services to cater for the whole province in the form of outreach clinics. The participant proposed that the Department of Health should provide the necessary resources for the outreach, like transport and security.

4.6.1.5 DNP training funding and support

The DNPs reported that professional nurses were reluctant to train in dermatology. The Department of Health should encourage them. Funding for this speciality was considered important, as well as recognition of the speciality and appropriate incentives. Some nurses who were not trained in dermatology proposed an increase in the DNP salary because of the scope and quality of services they provide:

Secondly, I think these nurses are doing a great job why wouldn't we look at the salary they are getting? Because if you look at these nurses, these nurses are seeing more patients than what these doctors are seeing. P14. (Nurse Manager).

4.6.1.6 Strengthen existing PHC clinics for capacity building

The participants recommended more training of DNPs to relieve the shortage of DNPs in the Western Cape.

One participant called for the cascading of dermatology services to non-dermatology areas to. Staff rotation in dermatology for general medical officers and PCNS was proposed to empower clinicians who were not trained in dermatology. It was observed that ongoing workshops for primary care clinicians are required to sustain capacity.

Of equal importance was strengthening the undergraduate medical and nursing students in dermatology for the new graduates to have a good foundation in dermatology.

4.6.2 Recommendations for the South African Nursing Council (SANC)

Participants recommended accreditation of dermatology nursing as a specialty and a directive for a scope of practice for DNPs to provide specialist practitioners with a career pathway and recognition of the specialty. One manager expressed her opinion in this regard:

Well, the other thing which I would have recommended, especially with this OSD of the Department of Health, why would these nurses not be treated as specialists? I mean create some posts which are part of nursing but on advanced trained nurse post which will actually make the nurse responsible for her acts and omissions, not relying on any? ... P14. (Nurse Manager).

4.6.3 Recommendations for the Dermatology training programmes

4.6.3.1 Develop DNPs leadership skills

One manager felt DNPs are not persistent enough when they request for resources from the managers. He claimed that nobody listens to DNPs because they are not assertive enough. The participant believed that DNPs should be represented at managerial meetings until their programme is well established and they should be taught leadership skills.

4.6.3.2 Provide support for DNPs

Participants felt that the dermatology community must provide support for DNPs by offering ongoing upgrading of DNPs' skills. There was a feeling that the DNP mentors should visit DNPs and offer support where it is required. It was suggested that the support for a DNP role must be encouraged at programme managerial level. Participants recommended more frequent visits by dermatologists at primary care level. DNPs requested support to approach DOH and SANC.

4.6.3.3 Capture statistics

According to one of the managers, DNPs need to provide statistics for the patients they have seen. The participant believes that for the dermatology statistics to be captured at primary care, it must be captured at secondary care in a form of ICDDM codes.

The manager emphasized the need to capture statistics as a tool that confirms a resource need for a health service so that managers can be properly informed.

4.7 Conclusion

This chapter described the perception of a DNP role by the DNPs, nurse managers, nurses not trained in dermatology and doctors. This was explored on a broader base, depicted in Figure 5 as perceived roles; role satisfaction, role challenges and future role. The roles emerged out of the data and reflected the themes of clinical practice, management of services, education, personal development, research, professional practice, leadership and quality improvement. The description included the role with its adherent activities. The benefits to the patient outweighed other benefits while the DNP benefited less.

Challenges of the role were also described, such as lack of support and inadequate resources. The participants recommended strategies by which the DNP role can be improved. On-going mentorship of the DNP was perceived as a responsibility of the dermatology nursing programme and dermatologists, while issues related to governance and regulation were recommended to the provincial government of the Western Cape and South African Nursing Council.

CHAPTER 5

DISCUSSION AND CONCLUSION

The aim of the study was to describe the role of a DNP in the Western Cape as perceived by nurses and doctors who worked with DNPs. Four emergent themes were presented in Chapter 4. The themes were the perceived DNP role, benefits of the role, perceived role challenges and recommended future DNP role. The role of the DNP is recognised internationally, and this discussion, therefore, engages with literature from other countries and settings. Included in this chapter are the limitations of this study and recommendations for policy, practice, education and further research.

5.1 Theme 1: DNP roles

From the study findings, the following domains of a DNP role emerged: clinical practice, management of services, education, personal development, research, professional practice, leadership and quality improvement. The researcher used a framework to refine DNP activities under various roles (Figure 1 and Table 5). DNPs focus on the diagnosis and treatment of common skin conditions. This was the most frequently mentioned role by the participants. Treatment of common skin conditions is a medical role that has been shifted from doctors to nurses (Kelly, 2012). The combination of this role with specialised nursing care distinguished the DNPs from general medical practitioners and PHCNS in the same institutions. Even though their speciality is not registered with the SANC, they are still recognised as specialists by the stakeholders and receive referrals from other nurses and medical officers and self-referred patients. Among nursing roles identified were patient education, patient counselling, patient and family support, wound care. However, there was no evidence of either a job description or a competency framework for DNPs to guide their practice. This suggests a need for DNPs to study possible barriers for the further development of their role. The level of health care in which the DNP practised emerged as the major determinant of the DNP key role. In an advanced nursing role study, Delamaire and Lafortune (2010) reported that in most developed countries, the roles of clinical nurse specialists include education, leadership, research and clinical practice.

5.1.1 Clinical practice role

The South African literature suggests that most of the DNPs who were trained returned to primary health care services because the motive behind the establishment of the DNP-led

clinics to improve the quality of skin care at primary level, improve access to dermatological services and consequently, reduce the influx of primary care referrals into tertiary hospitals (Cloete, 2013). DNPs, as specialists at the primary care level, represent the dermatologists hence they refer directly to the dermatologist. Therefore, it is important to investigate at which care level DNPs should be placed for maximum reach and patient benefit. The absence of a dermatology specialist at the secondary care level suggests that patients who are being referred to secondary hospitals for dermatology services are managed by generalists with inadequate training in dermatology (Kelly, 2012). However, in other countries such as the UK, the DNPs and the dermatologists are situated at different levels of health care; primary care (Ersser et al., 2005), intermediate, and secondary healthcare levels (Carey et al., 2013). They practise at any level in the USA, depending on whether they practice autonomously or under supervision, and if they work with dermatologists (Kimball & Resneck Jr, 2008). Prescription authority is either independent, collaborative or is guided by protocols (Kooienga & Wilkinson, 2017). The arrangement does not seem to cause any problems.

In this study, curative activities at tertiary care level were limited to phototherapy and wound care. Patient care activities were technical and more advanced. Nurses independently administered phototherapy in a day-care unit. Routine patient care such as specialised baths and dithranol application and patch testing suggested a more educational role because the DNP had to train nurses in the ward to carry out these procedures. The focus of the bulk of their role was in the facilitation of patient care because the majority of DNP at the tertiary care level were in management positions. Andrew (2017) reported similar findings in Canada among dermatology nurses who worked with dermatologists.

Although most of the nurses were aware of the DNPs' clinical care role, there was limited understanding of the curative component of the role by some of the dermatologists. It is interesting to note that one medical manager who approved a role of a DNP did not think this role made much impact in the area. However, in contrast, the nurses without dermatology training and a primary health care nurse manager who work directly with the DNP, appreciated their clinical care role.

The caring role of nursing has been highlighted by Brykczynski (2012) as a core nursing role. It differentiates the nurse and the doctor with respect to their individual roles. The care role manifests in education, counselling, support and caring for a patient which is unique to nursing.

The caring role focuses on the patient as a human and is less technical. Brykczynski (2012) portrayed nurse practitioners as independent professionals and not tools to be used to carry out medical roles. This culture of care is key to the nursing professional practice role.

5.1.2 Nursing professional practice role

According to the SANC, DNPs as professional nurses are required to practise legally and ethically as stipulated in the Code of Ethics for Nursing Practice in South Africa (South African Nursing Council, 2013) and within the legal framework regulating nursing practice. The study revealed that DNPs are described as advocates for their patients, building good relationships, eager to help and supportive of staff and patients. As much as DNPs uphold ethical principles, the lack of governance and regulation of their role impinges on the right of a dermatology nurse to practice legally and ethically. The caring ethical principle requires nurses to apply professional competencies (South African Nursing Council, 2013) and one can argue that despite the lack of specific regulation, a DNP must practice within the ethical and legal framework. However, the broad scope of practice of a nurse does not adequately cover the curative aspect of dermatology nursing. The lack of a legal framework for DNP practice disadvantages prescribing DNPs as they are often expected to prescribe according to treatment guidelines, which are designed for a generalist with more restrictions. For example, the Standard Treatment Guidelines and Essential Medicines List (Department of Health, 2014) and PACK (Cornick & Fairall, 2016-2017) treatment guidelines do not discriminate between a DNP who is a specialist in dermatology and a professional nurse who is not trained in dermatology. Both categories of nurses are required to use the same treatment protocol. Consequently, patients suffer, as these protocols state that a DNP must refer a patient to a medical officer who is a generalist and who may not be trained in dermatology.

5.1.3 Education role

DNPs teach patients and carers which methods and treatment are required for their skin problems to achieve positive outcomes.

The stakeholders appreciated how the education of patients and carers improved the quality of life for patients, especially children who suffered from eczema. By disseminating information and empowering health personnel, DNPs educated and mentored doctors, nurses and students.

According to Hong, Nguyen, and Prose (2013), patient education in dermatology is a skill that includes assessing the patient's level of understanding, communication skills using the right language, developing teaching aids and helping the patient to evaluate information from the internet. This task needs a health professional trained in dermatology.

The study participants recommended cascading of common skin conditions to generalist health professionals. While studying the nursing education reforms in South Africa, Blaauw et al. (2014) reported that nursing education used to be under medicine and was taught by medical officers. It was later taken out of medicine by SANC. Based on this information, South Africa needs qualified DNPs to teach dermatology to generalist nurses and doctors. Currently, the required qualification for most specialist roles in nursing registered with SANC is a postgraduate diploma, hence it is recommended for DNPs (Blaauw et al., 2014) in South Africa. Considering the expert knowledge required in dermatology and some skills in teaching, especially in the case of educating students and health professionals, the DNP role requires an educational background which is comparable to the international standards for nurses in advanced roles. In the UK, Chiang et al. (2011) reported that 28.7% of medical students are taught by dermatology nurse specialists. Furthermore, students who had been taught by dermatologists and dermatology nurse specialists are more confident in assessing patients with skin conditions compared to those who were taught by generalists.

In the study of nurses in advanced roles from developed countries, most nurses held master's degrees and the minimum requirement was an advanced diploma in the field of specialization (Delamaire & Lafortune, 2010). The standard of education among DNPs in South Africa appears to be lower compared to nurses in advanced roles in developed countries. Delamaire and Lafortune (2010) argued that advanced training is the key factor to the success of nurses in advanced roles and most developed countries encourage education and training for such nurses. Most nurses in advanced nursing roles in these countries hold a master's degree and a few have a doctoral qualification (Delamaire & Lafortune, 2010).

Effective leaders are required to be experts in their field (Gaylord & Grace, 2014), hence DNPs need a quality education to lead dermatology nursing services. Lack of quality education was perceived as a barrier against optimizing DNP roles in Canada (Andrew, 2017).

5.1.4 Management and leadership role

Pullen Jr (2016) emphasises the difference between management and leadership, stating that managers achieve objectives by controlling processes, making decisions and coordinating resources. According to the study results, the only DNPs who are employed as managers in the Western Cape are in tertiary hospitals. The management role was only reported by DNPs themselves while other stakeholders focused on the clinical practice role. Tertiary care DNPs who held management positions performed less clinical practice duties. Yet, at the primary care level, it appears that there is no balancing of the workload. DNPs at both primary and tertiary care levels managed dermatology services through leading the team, organising resources, planning services, delegating tasks and coordinating services.

Leaders achieve organizational objectives by influencing the attitudes, beliefs, feelings, and behaviour of others. Exemplary leaders model the way, inspire vision, challenge the status quo, facilitate the action of others and encourage others (Pullen Jr, 2016). Gaylord and Grace (2014) described leaders as the ones pointing out the goals to be met and then influencing people to follow that direction. As pioneers of dermatology nursing in their areas, DNPs initiated services such as support groups for the patients and training for other health workers to improve patients' quality of life. This role tended to be taken for granted and yet it impacted on the resources and activities of a DNP, especially at the primary care level. It is apparent that the leadership role is not well developed in dermatology nursing in South Africa. According to literature, DNPs and APNs in the UK have the power to develop their leadership skill at the county level, institutional level and practice area level as individuals and teams (Gaylord & Grace, 2014). Education has been described as the core in the development of individual leadership among nurse practitioners (Mackay, 2008). It is suggested that educators have a responsibility to mentor leadership, while individual nurses are urged to seek additional opportunities to develop their own leadership skills (Gaylord & Grace, 2014).

5.1.5 Research and self-development role

In this study, it appeared that only a few DNPs participated in research activities, usually by collecting data for other researchers. The research role is underdeveloped among DNPs and yet it informs resource allocation, best practice, and development of educational material.

Pullen Jr (2016) believes that research is a fundamental tool which can be used by committed nursing leaders to improve nursing care. Research is one of the functions of a clinical nurse specialist in South Africa (South African Nursing Council, 2014). With all these expectations, research is perceived to be one domain which is poorly met in nursing internationally (Gullick & West, 2016). To build research capacity among clinical nurse practitioners in Australia, CNPs formed research communities (support groups) where research was taught, modelled and shared among members of the same clinical field (Gullick & West, 2016). Even though skills and confidence grew gradually, skilled collaboration and leadership were core to the success of the community.

Statistics has been described as valuable for planning, provision and distribution of resources in dermatology (Dlova et al., 2015) and reporting the global burden of disease, especially regarding death and disabilities (Karimkhani et al., 2014). In primary care clinics, PCNSs are required to capture the statistics of the patients they have treated daily but dermatology is not among illnesses on the statistics form. One DNP captured dermatology statistics separately and one PHC manager utilised the statistics. The lack of statistics in dermatology has been reported generally (Cloete, 2013; Dlova et al., 2015; Karimkhani et al., 2014) as primary healthcare facilities lacked the capacity to capture all patients seen owing to workload. A medical manager in the current study suggested that due to the workload pressure dermatology statistics can only be captured at secondary and tertiary healthcare centres.

Despite the fact that DNPs attend workshops and conferences, the absence of an academic progression plan for them appears to hinder academic growth and retards skills development. Although there are limited learning opportunities, especially at the tertiary level, DNPs relieve each other to attend in-service education and conferences and there is access to clinical specialists, and interdepartmental meetings. DNPs at the primary care level are often denied permission to attend educational meetings due to lack of relief. The literature reveals that career development was found to be the number one motivator for health worker retention in the developing countries (Willis-Shattuck et al., 2008).

It is a responsibility of a nurse specialist in South Africa to update self, on the latest policies, procedures, protocols and technologies in that speciality (South African Nursing Council, 2014).

It is noteworthy that in South Africa, the DNP role is still medical dermatology-oriented with a marked lack of participation in areas such as surgery and cosmetic dermatology contrary to reports from other countries in which DNPs are involved in cancer screening, surgery and laser therapy (Cox, 1999; Resneck Jr & Kimball, 2008). Mackay (2008) argued that the lack of role development is associated with lack of identity and poor support of the non-traditional roles. Mackay (2008) reported that NPs in New Zealand failed to increase their scope of practice due to a lack of confidence in their ability to practice as autonomous practitioners and a lack of collaboration with other health professionals.

5.2 Theme 2: Benefits of the DNP role

According to Cloete (2013), the main purpose for creating the DNP role was to improve access to quality dermatology services for underserved communities and to reduce influx of dermatology primary health care cases into tertiary hospitals. The results of this study have shown that, in areas where there are DNPs, service has improved, as demonstrated by positive patient outcomes such as improved quality of life, easy access to services, reduced waiting time for dermatologist's services and provision of family support systems. The impact of the DNP role was appreciated by other health care professionals. Non-prescribing nurses appreciated enhanced service, efficiency and improved patient care by prescribing nurses (Stenner et al., 2009a).

Another success was the perceived reduction of primary care referrals to tertiary and PCNS-doctor caseloads; however, studies need to be conducted to verify this. Similar research findings were reported in South Africa and internationally. Cloete (2013) reported reduced referrals to tertiary hospitals in the Overberg region, Western Cape, following the introduction of a Nurse-led dermatology clinic. Employment of paediatric dermatology nurse specialists led to reduced hospital admissions of eczema patients and reduced waiting lists of patients referred to dermatologists (Usmani et al., 2009). Improved access to dermatology services, improved quality of patient care and reduced cost of dermatology services were reported among nurse prescribers in the UK (Carey et al., 2013).

5.3 Theme 3: The DNP role challenges

The problems of the DNP role appeared to be rooted in the failure to plan, initiate and develop the role properly. In order to improve shortage and maldistribution of health workers by 2030, the WHO recommended investment in planning, educating, financing, regulation and proper management of the health workforce (World Health Organization, 2016). Maten-Speksnijder, Grypdonck, Pool, Meurs, and Staa (2014) referred to the development of ethical, cognitive and practical routines for professional or role development to take place, which was found lacking in the initiation of a DNP role.

The South African Department of Health in the Western Cape perceived the needs of the patients suffering from skin problems and responded by providing nurse-led community dermatology facilities and dermatology-trained nurses. The aim was to improve access to quality dermatology services, reduce the burden of diseases on the Western Cape health system and reduce the influx of referrals from primary healthcare to tertiary health care institutions (Cloete, 2013). The day-care centres were established in the tertiary hospitals initially. Upon completion of the first training of DNPs, the posts were created by medical and nursing management according to information from the interviews. Some DNPs were placed in primary care centres and others at the tertiary care level (Cloete, 2013; Kelly, 2012; Stevens, 2013). The nursing roles were adapted and extended during the process of shifting some responsibilities from the dermatologist to the professional nurse. The medical and nursing models of care were combined (Kelly, 2012) and a DNP specialist role was created.

A nurse-led dermatology unit was opened at Mitchell's Plain Community Health Centre by the Minister of Health of the Western Cape, Mr Theuns Botha, in October 2011 (Stevens, 2013; Western Cape Government, 2011). Although this dermatology clinic is in the Cape Town Metropole, and about 27 km from Cape Town, it caters for a population of about 1.8 million people (Stevens, 2013). Other such nurse-led community dermatology clinics were opened in the Overberg region. The DNP catered for a rural population of about 247 684 people, a catchment area of which comprises 28 clinics, 14 mobile clinics, 4 satellite clinics and 4 district hospitals (Cloete, 2013). Currently, Overberg nurse-led dermatology services have ceased operation and the patients are seen by the generalist clinicians. Despite the need for such a post, funding is not available.

In 1997, a curriculum for a certificate in dermatology nursing was established. To date, the postgraduate diploma in dermatology nursing has not been accredited. DNP training is restricted because there is no career progression plan and the DNPs felt their role was not prioritised regarding resources. There is no scope of practice, hence role overlap with other health professionals occurs. Prescription restrictions and lack of support are common challenges experienced by nurse practitioners (Maier & Aiken, 2016b) and was confirmed in the current study. The study results show that DNPs who have moved to other health facilities or furthered their studies were not replaced which has also been reported by (Stevens, 2013). It emerged from the data that one DNP led clinic closed down and the post was allocated to another programme.

Lack of accreditation of dermatology nursing speciality in South Africa has led to a lack of development of the DNP role. Dall'Alba and Sandberg (2006) noted that the ways of developing the profession or a role included issues related to career path progression, staff recruitment, salary and performance appraisal. Doherty, Couper, and Fonn (2012) agree that the preparation for the smooth running of the role goes before the takeover of the role to ensure achievement of the expected outcomes. This was demonstrated in the development of the clinical associates (CA) programme in South Africa. When the need for appropriately trained health personnel was perceived, South Africa committed to developing this category of health workers (Doherty et al., 2012). Research was conducted to align the South African clinical associate scope of practice with CAs in other countries. The education and career progression were standardised with training supported by the South African government and medical schools. The scope of practice was in place before the first students graduated. An observation made by one medical manager in this current study was that DNPs lack programme drivers and were not assertive enough. This statement may explain why the DNPs and the dermatology community have not yet challenged the status quo.

Lack of incentives in dermatology nursing has been perceived as a discouragement which prevents professional nurses from specialising in this field. The World Health Organization. (2016) called for quality and optimization of the health worker performance by the provision of incentives, development of opportunities and interprofessional collaboration. A salary increase for DNPs was recommended by some participants.

In a systematic review of motivation and retention of health workers in developing countries in which South Africa participated, financial incentives motivated almost all health workers in developing countries (Willis-Shattuck et al., 2008). Nurses were found to be more motivated by salary increase as compared to doctors. Lack of educational opportunities, lack of support from different stakeholders and inadequate resources were reported by DNPs; these were identified as motivators in developing countries (Willis-Shattuck et al., 2008).

Despite challenges and limited incentives, the DNPs participants were committed to providing quality dermatology services and increased access to care. The findings show that the DNPs appeared to be driven by the need for self-actualisation, hence they were motivated by job satisfaction, learning on the job and an opportunity to drive the dermatology nurse-led services. This is in keeping with studies from developing countries on the motivation of health workers. In a systematic review of motivation and retention factors of health workers in developing countries, Willis-Shattuck et al. (2008) found that in addition to financial incentives, career development, possibilities of promotion, continuing education, work environment, availability of resources and a good relationship with management were valued. Similar findings were reported in a study of health worker motivation in Africa, including South Africa (Mathauer & Imhoff, 2006). Job satisfaction, healing patients, education, recognition by supervisors and community, availability of resources, good working environment, and financial incentives were identified motivating factors.

Clinical leadership was identified as one of the most important of the core roles of a nurse practitioner in New Zealand, (Carrier, Gardner, Dunn, & Gardner, 2007). Key to this role is the need to guide care delivery systems by being actively involved in the policy development of one's professional organization. An observation made by one medical manager in this study was that DNPs lack programme drivers and were not assertive enough. Lack of leadership and lack of involvement of DNPs in issues related to their practice limits development and recognition of the specialisation. Good knowledge of legal and ethical dimensions of a professional practice, policy directives, and best practice guidelines are recommended as key in leadership (Carrier et al., 2007; Elliott et al., 2013).

A system that regraded and increased remuneration for public health personnel according to the qualifications and years of service, the Occupation Specific Dispensation (OSD) was introduced in 2007.

The objectives included improvement of the conditions of service and remuneration for health professionals in South Africa (George & Rhodes, 2012). Dermatology nursing fell under the generalist stream, therefore was omitted from the list of specialist nurses. In this state system, a specialist nurse post in a state institution has more financial incentives than a generalist nurse position. DNPs are regarded as generalist nurses although they provide specialist care.

Despite the service being highly valued, the lack of registration with SANC has meant that there is no regulation of practice. Governance and regulation for nurses in advanced roles reveal that regulation does not guarantee support. Instead, when applied strictly, it is likely to create barriers to progress such as for prescribing powers (Maier, 2015). Regulation is required to protect the public and it is argued that Regulation of DNPs with the SANC will assist with standards of clinical practice, job parameters and standardised training from accredited schools.

5.4 Recommendations

5.4.1 Research

This study has described the perceived role of nurses in dermatology, which is comparable with other countries although there is scope for development. Evident pointers to lack of growth include a lack of studies on dermatology nursing in South Africa as compared to other countries. Recommended studies should include the impact of the DNP role, barriers to the development of the DNP and challenges faced by DNPs. Limitations such as lack of relief staff and lack of training and support hinder nurse led research. To encourage active participation of DNPs in research, it could be helpful to form support groups or research communities. Researchers learn, collaborate and support one another, including sharing of research projects. A formalised system for capturing of dermatology statistics and inclusion of these inappropriate reports may improve analysis and usage of the statistical data for health service planning.

5.4.2 Education and training

South Africa has become the home for people from many parts of the world, therefore, our patients have become global.

Nursing roles are changing to suit the global community as nurses and patients move around the world. Nursing education and nursing care standards must be benchmarked against global nursing standards. This includes the development of an evidence-based curriculum for dermatology nursing.

Participants suggested that provision of formal education and continuing educational opportunities for DNPs including CPD accreditation, conferences and workshops would be helpful. Mentoring of DNPs by specialist dermatologists could contribute in the development of confidence and improve skills among DNPs. This could include the collaborated development of educational material to teach patients, colleagues and students. Funding for education should be sought.

5.4.3 Practice

Development of the DNP competency framework, practice standards and a job description are seen as important to guide DNP practice. The ethical, safe and legal practice of a DNP is an obligation. DNPs have the duty to practice according to the Nurses Code of Ethics and it is the duty of the SANC to protect the patient. This means all the policies required to guide DNP practice should be adhered to. DNPs lack leaders, and the curriculum should include leadership training and mentoring of leadership, while individual nurses are urged to seek additional opportunities to develop their own leadership skills.

Participants in the study suggested that DNPs need to be encouraged to participate in issues related to their practice. Good knowledge of legal, ethical dimensions and policy directives and guidelines of DNP's professional practice should be encouraged.

DNPs often experience prescription restriction regarding the prescribing of patient medication due to certain medication guidelines. Recognition of the dermatology specialisation would facilitate the extension of prescribing powers for DNPs. Treatment guidelines should be flexible to allow specialists in that field to safely exercise their expertise.

DNPs should be able to practice within a flexible framework at all levels of care. For example, a nurse-led dermatology clinic could manage patients with eczema, psoriasis or wound care at the tertiary care level.

The placement of a DNP at either the primary, secondary or tertiary level should be carefully planned according to need, in order to improve access to services relieve the load of the dermatologist. A variety of DNP roles are described in the international literature but in South

Africa, the DNP role is more medical than nursing focused. There is scope for the development of the DNP in this country, particularly in the prevention of certain dermatological conditions. In this study, preventive management of dermatology patients by DNPs, was not identified, yet, leg ulcers provide an opportunity for DNPs to encourage prevention of ulceration in venous stasis.

Participants perceived that there were often inadequate resources for DNPs, including staffing, material, and space. The provision of adequate resources would improve service and morale among DNPs. Provision of incentives for nurses in advanced roles is a motivator and it encourages retention of nurses. This can be done in the form of good working conditions, financial incentives and opportunities to study and funding for example.

5.4.4 Regulation

The Department of Health should be encouraged to identify standards for task shifting and task sharing between health professionals in South Africa to facilitate the recognition of added responsibilities, particularly in the nursing profession. Good planning of new programmes and involvement of all the stakeholders will promote collaboration among the health team members. Commitment for support should be at the programme level, institutional, national or governmental level. Professional associations and councils should be involved at the developmental level of the role. Formal competences and standards of clinical practice are required for accreditation and regulation of the specialty.

5.5 Study strength and limitations

Due to the small sample size and limitation of the study geographical area, this study may not be generalisable to other South African settings. The researcher had difficulty in recruiting participants outside the metropolitan area, therefore the role of the DNP in a rural setting may be not adequately represented. The strength of the study lies in the contribution to the body of knowledge as this role has to date not been described in the South African context. The study could form a base for future studies.

The implications of this study for practice are that the involvement of the health team members in defining the role of a DNP and their position in the health team, could prevent role ambiguity and promote collaboration among team members.

The findings could guide integration into the roles of other health team members without duplicating them. The barriers to the development of the role have been identified by the stakeholders, therefore, there is hope that solutions will be handled in collaboration with the health team. The findings may inform the planning of the provision of human resources within the Department of Health. The findings of the study may serve as a basis for the dermatology nursing curriculum design and standardised DNP education and training. A description of the DNP role, which may serve as a foundation for a DNP competency framework, could lead to the development of the job description and a scope of practice for the DNP.

5.6 Conclusion

In this study, the perceived role of the DNP in the Western Cape was described. Dermatology nursing is recognised internationally and in South Africa. The South African Dermatology Nursing Association is a member of the International Skin Care Group and a society of dermatologists in South Africa. The role of DNPs is primarily medical dermatology and there is significant scope for the development of this role in line with developed countries.

The importance and usefulness of the DNP role has been shown in the literature and the findings from this study. Despite the lack of formal accreditation, the role is appreciated by patients, nursing and medical colleagues. Lack of formal regulation may impact on the role as DNPs may operate outside the scope of practice pertaining to general nurses, as there is no recognition of the speciality. This puts the nurse, patient and health services at risk. A notable impact of a DNP role that was appreciated by the stakeholders was the training and mentoring of other health professionals, including doctors. This function can only be performed by a skilled specialist.

The value of this role to the patient, the institutions and the Western Cape DOH is evident in this study. A challenge to the development and recognition of the DNP role is the lack of formal accreditation with the accrediting professional body. Formal job descriptions, roles and responsibilities need to be formulated for DNPs in order to guide practitioners and holds them accountable for their acts.

The sustainability of dermatology nursing in South Africa is at risk as formal training for the DNPs has been suspended until such time as there is a regulatory framework for the speciality.

The DNPS currently in practice have no succession plan and this challenge needs to be urgently addressed to secure the future of this valued service.

This study investigated the perceptions of DNPs, doctors and nurses regarding the role of a DNP in the Western Cape Province. The findings of the study added to the body of knowledge and understanding of the role of a DNP in the Western Cape. The information could provide the foundation for the development of a DNP competency framework, recognition and accreditation of the role of the DNP.

REFERENCES

- Ahern, K. J. (1999). Ten tips for reflexive bracketing. *Qualitative health research*, 9(3), 407-411.
- Andrew, K. R. (2017). *Optimizing the role of the dermatology nurse* (Doctoral dissertation).
- Armstrong, S. J., & Rispel, L. C. (2015). Social accountability and nursing education in South Africa. *Global health action*, 8(1), 27879.
- Bach, S., & Ellis, P. (2015). *Leadership, management & team working in nursing* (2nd ed.). Los Angeles: SAGE.
- Basra, M. K., & Shahrukh, M. (2009). Burden of skin diseases. *Expert review of pharmacoeconomics & outcomes research*, 9(3), 271-283.
- Benner, P. (1984). *From novice to expert : excellence and power in clinical nursing practice* . Menlo Park, Calif: Addison-Wesley.
- Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative research*, 15(2), 219-234.
- Berndt, R.-D., Takenga, M. C., Kuehn, S., Preik, P., Dubbermann, D., & Juenger, M. (2012). Development of a mobile teledermatology system. *Telemedicine and e-Health*, 18(9), 668-673.
- Blaauw, D., Ditlopo, P., & Rispel, L. C. (2014). Nursing education reform in South Africa—lessons from a policy analysis study. *Global health action*, 7(1), 26401.
- Boeck, C. (2006). DNA Joins Other Nursing Organizations in Pursuit of Excellence in Patient Care. *Dermatology Nursing*, 18(1), 11-11.
- Bolognia, J. L., Jorizzo, J. L., & Scaffer, J. V. (2012). *Dermatology* (3rd ed.): Elsevier Saunders.
- Bradley, E., Campbell, P., & Nolan, P. (2005). Nurse prescribers: who are they and how do they perceive their role? *Journal of advanced nursing*, 51(5), 439-448.
doi:10.1111/j.1365-2648.2005.03527.x
- Brink, H., Van, . W. C., & Van, R. G. H. (2012). *Fundamentals of research methodology for health care professionals*. Cape Town, South Africa: Juta.
- Bryant-Lukosius, D., & DiCenso, A. (2004). A framework for the introduction and evaluation of advanced practice nursing roles. *Journal of Advanced Nursing*, 48(5), 530-540.
- Brykczynski, K. (2012). Clarifying, affirming, and preserving the nurse in nurse practitioner education and practice. *Journal of the American Association of Nurse Practitioners*, 24(9), 554-564.

- Carey, N., Courtenay, M., & Burke, J. (2007). Supplementary nurse prescribing for patients with skin conditions: a national questionnaire survey. *Journal of Clinical Nursing*, 16(7), 1230-1237. doi:10.1111/j.1365-2702.2007.01641.x
- Carey, N., Courtenay, M., & Stenner, K. (2013). The prescribing practices of nurses who care for patients with skin conditions: a questionnaire survey. *Journal of Clinical Nursing*, 22(13-14), 2064-2076.
- Carey, N., Stenner, K., & Courtenay, M. (2010). Stakeholder views on the impact of nurse prescribing on dermatology services. *Journal of Clinical Nursing*, 19(3), 498-506. doi:10.1111/j.1365-2702.2009.02874.x
- Carey, N., Stenner, K., & Courtenay, M. (2014). An exploration of how nurse prescribing is being used for patients with respiratory conditions across the east of England. *BMC health services research*, 14(1), 27. <http://www.biomedcentral.com/1472-6963/14/27>
- Carryer, J., Gardner, G., Dunn, S., & Gardner, A. (2007). The core role of the nurse practitioner: practice, professionalism and clinical leadership. *Journal of Clinical Nursing*, 16(10), 1818-1825.
- Chandler, C. I., Reynolds, J., Palmer, J. J., & Hutchinson, E. (2013). ACT Consortium Guidance: Qualitative Methods for International Health Intervention Research. Retrieved from http://www.actconsortium.org/data/files/resources/72/ACTc-Guidance.-Qualitative-methods-for-international-health-intervention-research_Dec2013.pdf
- Chiang, Y. Z., Tan, K. T., Chiang, Y. N., Burge, S. M., Griffiths, C. E., & Verbov, J. L. (2011). Evaluation of educational methods in dermatology and confidence levels: a national survey of UK medical students. *International journal of dermatology*, 50(2), 198-202.
- Christensen, L. B., Johnson, B., & Turner, L. A. (2014). *Research Methods, Design, and Analysis* (11th ed.). Essex, England: pearson.
- Cloete, D. (2013). Dermatology nursing in a rural area - the Overberg experience. In (Vol. 31, pp. 254-258).
- Cope, D. G. (2014, 2014). *Methods and meanings: credibility and trustworthiness of qualitative research*. Paper presented at the Oncology nursing forum.
- Cornick, R., & Fairall, L. (2016-2017). *Practical Approach to Care Kit: Primary Care Guidelines for Adults 2016-2017*: Western Cape Government Health.

- Couper, I., & Hugo, J. (2014). Addressing the shortage of health professionals in South Africa through the development of a new cadre of health worker: the creation of Clinical Associates. *Rural Remote Health, 14*(3), 2874.
- Courtenay, M., & Carey, N. (2007). A review of the impact and effectiveness of nurse-led care in dermatology. *Journal of Clinical Nursing, 16*(1), 122-128.
- Courtenay, M., Carey, N., & Burke, J. (2007). Independent extended and supplementary nurse prescribing practice in the UK: a national questionnaire survey. *International Journal of Nursing studies 44*(7), 1093-1101. doi:10.1016/j.ijnurstu.2006.04.005
- Courtenay, M., Carey, N., & Stenner, K. (2009). Nurse prescriber-patient consultations: a case study in dermatology. *Journal of Advanced Nursing, 65*(6), 1207-1217. doi:10.1111/j.1365-2648.2009.04974.x
- Courtenay, M., Carey, N., Stenner, K., Lawton, S., & Peters, J. (2011). Patients' views of nurse prescribing: effects on care, concordance and medicine taking. *British Journal of Dermatology, 164*(2), 396-401.
- Courtenay, M., Carey, N., & Stenner, K. (2012). An overview of non medical prescribing across one strategic health authority: a questionnaire survey. *BMC Health Services Research, 12*(1), 138. <https://doi.org/10.1186/1472-6963-12-138>
- Cox, N. (1999). The expanding role of nurses in surgery and prescribing in British departments of dermatology. Therapy Guidelines and Audit Subcommittee of the British Association of Dermatologists. *The British Journal of Dermatology, 140*(4), 681-684.
- Cox, N. H., Jackson, K., & Bowman, J. (2003). The current status of nurse prescribing in dermatology. *Clinical & Experimental Dermatology, 28*(4), 440-446. doi:10.1046/j.1365-2230.2003.01314.x
- Creswell, J. W. (2013). *Qualitative inquiry & Research Design - Choosing among five approaches* (3rd ed.). Los Angeles: SAGE.
- Crouch, M., & McKenzie, H. (2006). The logic of small samples in interview-based qualitative research. *Social Science information, 45*(4), 483-499.
- Curtin, M., & Fossey, E. (2007). Appraising the trustworthiness of qualitative studies: Guidelines for occupational therapists. *Australian Occupational Therapy Journal, 54*(2), 88-94. doi:10.1111/j.1440-1630.2007.00661.x
- Curtis, E. A., de Vries, J., & Sheerin, F. K. (2011). Developing leadership in nursing: exploring core factors. *British Journal of Nursing, 20*(5), 306-309.

- Dall'Alba, G., & Sandberg, J. (2006). Unveiling professional development: A critical review of stage models. *Review of educational research*, 76(3), 383-412.
- Davis, A. C. (2012). Services available and their effectiveness. *Dermatologic clinics*, 30(1), 19. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=22117865&site=ehost-live>
- Delamaire, M. L. & Lafortune, G. (2010). Nurses in Advanced Roles: A Description and Evaluation of Experiences in 12 Developed Countries., *OECD Health Working Papers*, No. 54, Paris. OECD. <https://doi.org/10.1787/5kmbrcfms5g7-en>.
- Department of Health. (2011). Human Resources for Health South Africa 2030: Department of Health Pretoria. Retrieved from https://www.gov.za/sites/default/files/DoH_draftHRstrategy_Consultation.pdf
- de Vos, A. S., Strydom, H., Fouche, C. B., & Delpont, C. S. L. (2005). *Research at grass roots. For the social sciences and human service professions*. Pretoria: Van Schaik.
- Dlova, N. C., Mankahla, A., Madala, N., Grobler, A., Tsoka-Gwegweni, J., & Hift, R. J. (2015). The spectrum of skin diseases in a black population in D urban, K waZulu-Natal, S outh Africa. *International Journal of Dermatology*, 54(3), 279-285.
- Doherty, J., Couper, I., & Fonn, S. (2012). Will clinical associates be effective for South Africa?: forum-issues in medicine. *South African Medical Journal*, 102(11), 833-835.
- Ebbers, J. J., & Wijnberg, N. M. (2017). Betwixt and between: Role conflict, role ambiguity and role definition in project-based dual-leadership structures. *Human Relations*, 70(11) 1342–1365.
- Elliott, N., Higgins, A., Begley, C., Lalor, J., Sheerin, F., Coyne, I., & Murphy, K. (2013). The identification of clinical and professional leadership activities of advanced practitioners: findings from the Specialist Clinical and Advanced Practitioner Evaluation study in I reland. *Journal of Advanced Nursing*, 69(5), 1037-1050.
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *Sage Open*, 4(1), 2158244014522633.
- Ersser, S. J. (2009). Dermatology Nursing Literature: Our Scientific Heritage. *Dermatology Nursing*, 21(4), 209-210.
- Ersser, S. J., Kaur, V., Kelly, P., Langøen, A., Maguire, S. A., Nicol, N. H., . . . Ward, C. (2011). The contribution of the nursing service worldwide and its capacity to benefit

- within the dermatology field. *International Journal of Dermatology*, 50(5), 582-589.
doi:10.1111/j.1365-4632.2011.05008.x
- Ersser, S. J., SurrIDGE, H. R., & Ryan, T. J. (2005). An analysis of nursing activity in a day care and inpatient dermatology service. *Journal of dermatological treatment*, 16(4), 229-233.
- Finch, T., Mair, F., & May, C. (2007). Teledermatology in the UK: lessons in service innovation. *British Journal of Dermatology*, 156(3), 521-527.
- Fong, J., Buckley, T., & Cashin, A. (2015). Nurse practitioner prescribing: an international perspective. *Nursing: Research and Reviews*, 5, 99-108. DOI
<https://doi.org/10.2147/NRR.S56188>
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, 20(9), 1408.
- Gaffney, R., & Rao, B. (2015). Global teledermatology. *Global Dermatology*, 2, 209-214.
doi: 10.15761/GOD.1000156
- Gardner, G., Chang, A. M., Duffield, C., & Doubrovsky, A. (2013). Delineating the practice profile of advanced practice nursing: a cross-sectional survey using the modified strong model of advanced practice. *Journal of Advanced Nursing*, 69(9), 1931-1942.
- Gary, L. (2013). What do nurse practitioners do? Analysis of a skills survey of nurse practitioners. *Journal of the American Academy of Nurse Practitioners*, 25(1), 32-41.
doi:doi:10.1111/j.1745-7599.2012.00750.x
- Gaylord, N., & Grace, P. J. (2014). Ethical leadership by advanced practice nurses. *Nursing Ethics and Professional Responsibility in Advanced Practice*. 2nd ed. Burlington, MA: Jones and Bartlett, 175-195.
- George, G., & Rhodes, B. (2012). Is there really a pot of gold at the end of the rainbow? Has the Occupational Specific Dispensation, as a mechanism to attract and retain health workers in South Africa, leveled the playing field? *BMC Public Health*, 12(1), 613.
doi:http://dx.doi.org/10.1186/1471-2458-12-613
- Geyer, N., Mogotlane, S. M., & Young, A. (2016). *Juta's manual of nursing. Volume 1*. Lansdowne, South Africa: Juta.
- Geyer, N., Naude, S., & Sithole, G. (2002). Legislative issues impacting on the practice of the South African nurse practitioner. *Journal of the American Association of Nurse Practitioners*, 14(1), 11-15.
- Grove, S. K., Burns, N., & Gray, J. (2012). *The practice of nursing research: Appraisal, synthesis, and generation of evidence*. 7th ed. St. Louis: Elsevier .

- Gruen RL, Weeramanthri TS, Knight SS, Bailie RS. Specialist outreach clinics in primary care and rural hospital settings. (2003). *Cochrane Database of Systematic Reviews*, 4, Art. No.: CD003798. DOI: 10.1002/14651858.CD003798.pub2.
- Gubrium, J. P., Holstein, J. A., Marvasti, A. B., & McKinney, K. D. (2012). *The SAGE Handbook of Interview Research The Complexity of the Craft*. (2 ed.). London: SAGE.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, 18(1), 59-82.
- Gullick, J. G., & West, S. H. (2016). Building research capacity and productivity among advanced practice nurses: an evaluation of the Community of Practice model. *Journal of advanced nursing*, 72(3), 605-619. doi:doi:10.1111/jan.12850
- Hall, J. P. (2016). *Nurse practitioners' perceptions of their role and value in UK general practice*. Sheffield Hallam University (United Kingdom),
- Hansen, E. C. (2006). *Successful Qualitative Health research - A practical introduction* (1st ed.). Berkshire England: Open University Press.
- Hennink, M., Hutter, I., & Ajay, B. (2011). *Qualitative research method* (First ed.). London: SAGE.
- Ho, N., Pope, E., Weinstein, M., Greenberg, S., Webster, C., & Krafchik, B. (2011). A double-blind, randomized, placebo-controlled trial of topical tacrolimus 0· 1% vs. clobetasol propionate 0· 05% in childhood vitiligo. *British Journal of Dermatology*, 165(3), 626-632. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1365-2133.2011.10351.x>
- Hong, J., Nguyen, T. V., & Prose, N. S. (2013). Compassionate care: Enhancing physician–patient communication and education in dermatology: Part II: Patient education. *Journal of the American Academy of Dermatology*, 68(3), 364. e361-364. e310.
- Houghton, C., Casey, D., Shaw, D., & Murphy, K. (2013). Rigour in qualitative case-study research. *Nurse Researcher*, 20(4), 12-17.
- Huber, D. L. (2014). *Leadership & Nursing Care Management* (5th ed.). Iowa: Elsevier.
- Jessop, S., McKenzie, R., Milne, J., Rapp, S., & Sobey, G. (2002). Pattern of admissions to a tertiary dermatology unit in South Africa. *International journal of dermatology*, 41(9), 568-570. <https://onlinelibrary.wiley.com/doi/pdf/10.1046/j.1365-4362.2002.01586.x>

- Jones, M. L. (2005). Role development and effective practice in specialist and advanced practice roles in acute hospital settings: systematic review and meta-synthesis. *Journal of Advanced Nursing*, 49(2), 191-209.
- Kakande, B., Gumedze, F., Hlela, C., & Khumalo, N. P. (2016). Focus on the top ten diagnoses could reduce pediatric dermatology referrals. *Pediatric dermatology*, 33(1), 99-102.
- Karimkhani, C., Boyers, L. N., Prescott, L., Welch, V., Delamere, F. M., Nasser, M., . . . Murray, C. J. (2014). Global burden of skin disease as reflected in Cochrane Database of Systematic Reviews. *JAMA dermatology*, 150(9), 945-951.
- Katibi, O. S., Dlova, N. C., Chateau, A. V., & Mosam, A. (2016). The prevalence of paediatric skin conditions at a dermatology clinic in KwaZulu-Natal Province over a 3-month period. *South African Journal of Child Health*, 10(2), 121-125.
- Katibi, O. S., Ogunbiyi, A. O., Oladokun, R. E., Ernest, S. K., Osinusi, K., Brown, B. J., . . . Ojuawo, A. I. (2016). Mucocutaneous disorders of pediatric HIV in South West Nigeria: surrogates for immunologic and virologic indices. *Journal of the International Association of Providers of AIDS Care (JIAPAC)*, 15(5), 423-431.
- Kaur, V. (2012). Dermatology nursing in India: The journey thus far. *Indian Journal of Dermatology, Venereology, and Leprology*, 78(5), 527.
- Kelly, P. (2002). Dermatology nursing in primary health care. *Nursing Update*, 26(1), 36-37.
- Kelly, P. (2012). Community Dermatology - Nursing in Resource poor communities across Africa. *Journal of The Dermatology Nurses' Association*, 4(4), 244-248.
- Kerschenlohr, K., Darsow, U., Burgdorf, W. H., Ring, J., & Wollenberg, A. (2004). Lessons from atopy patch testing in atopic dermatitis. *Current Allergy and Asthma Reports*, 4(4), 285.
- Kim, H., Sefcik, J. S., & Bradway, C. (2017). Characteristics of qualitative descriptive studies: a systematic review. *Research in nursing & health*, 40(1), 23-42.
<https://onlinelibrary.wiley.com/doi/pdf/10.1002/nur.21768>
- Kimball, A. B., & Resneck Jr, J. S. (2008). The US dermatology workforce: A specialty remains in shortage. *Journal of the American Academy of Dermatology*, 59(5), 741-745. doi:10.1016/j.jaad.2008.06.037
- Kleinpell, R., Scanlon, A., Hibbert, D., Ganz, F., East, L., Fraser, D., . . . Beauchesne, M. (2014). Addressing issues impacting advanced nursing practice worldwide. *Online journal of issues in nursing*, 19(1), Art.5. DOI: 10.3912/OJIN.Vol19No02Man05
- Klem, M. (2016). [Updating DNP database. Personal communication emailed 10.04.207].

- Kooienga, S. & Wilkinson, J. (2017), RN Prescribing: An Expanded Role for Nursing. *Nursing Forum*, 52(1), 3-11. doi:10.1111/nuf.12159
- Kroezen, M., van Dijk, L., Groenewegen, P. P., & Francke, A. L. (2011). Nurse prescribing of medicines in Western European and Anglo-Saxon countries: a systematic review of the literature. *BMC Health Services Research*, 11(1), 127.
- Krueger, R., & Casey, M. (2009). *Focus groups : a practical guide for applied research* (4th ed.). Los Angeles: SAGE
- Lambert, S. D., & Loisel, C. G. (2008). Combining individual interviews and focus groups to enhance data richness. *Journal of Advanced Nursing*, 62(2), 228-237.
- Lehmann, U. (2008). Strengthening human resources for primary health care: primary health care: systems support. *South African Health review*, 2008(1), 163-177.
- Lindblad, A. K., Kjelgren, K. I., Ring, L., Maroti, M., & Serup, J. (2006). The Role of Dermatologists, Nurses and Pharmacists in Chronic Dermatological Treatment: Patient and Provider Views and Experiences. *Acta Dermato-Venereologica*, 86(3), 202-208. doi:10.2340/00015555-0065
- Lowe, S., Ferrand, R. A., Morris-Jones, R., Salisbury, J., Mangeya, N., Dimairo, M., . . . Corbett, E. L. (2010). Skin disease among human immunodeficiency virus-infected adolescents in Zimbabwe: a strong indicator of underlying HIV infection. *The Pediatric infectious disease journal*, 29(4), 346-351. doi:10.1097/INF.0b013e3181c15da4 [doi]
- Mackay, Bev J. (2008). Leadership strategies for role development in primary health care nursing. *Nursing & Health Journal Articles*. Paper 14. http://www.coda.ac.nz/northtec_nh_jo/14
- Maier, C. B. (2015). The role of governance in implementing task-shifting from physicians to nurses in advanced roles in Europe, US, Canada, New Zealand and Australia. *Health Policy*, 119(12), 1627-1635.
- Maier, C. B., & Aiken, L. H. (2016a). Expanding clinical roles for nurses to realign the global health workforce with population needs: a commentary. *Israel journal of health policy research*, 5(1), 21.
- Maier, C. B., & Aiken, L. H. (2016b). Task shifting from physicians to nurses in primary care in 39 countries: a cross-country comparative study. *European Journal of Public Health*, 26(6), 927-934. doi:10.1093/eurpub/ckw098

- Marshall, B., Cardon, P., Poddar, A., & Fontenot, R. (2013). Does sample size matter in qualitative research?: A review of qualitative interviews in IS research. *Journal of Computer Information Systems*, 54(1), 11-22.
- Maten-Speksnijder, A., Grypdonck, M., Pool, A., Meurs, P., & Staa, A. v. (2014). A literature review of the Dutch debate on the nurse practitioner role: efficiency vs. professional development. *International Nursing Review*, 61(1), 44-54.
- Mathauer, I., & Imhoff, I. (2006). Health worker motivation in Africa: the role of non-financial incentives and human resource management tools. *Human Resources for Health*, 4(1), 24.
- Mauthner, N. S., & Doucet, A. (2003). Reflexive accounts and accounts of reflexivity in qualitative data analysis. *Sociology*, 37(3), 413-431.
- McCarthy, C. F., Voss, J., Salmon, M. E., Gross, J. M., Kelley, M. A., & Riley, P. L. (2013). Nursing and midwifery regulatory reform in east, central, and southern Africa: a survey of key stakeholders. *Human Resources for Health*, 11(1), 29.
- Mick, D. J., & Ackerman, M. H. (2000). Advanced practice nursing role delineation in acute and critical care: Application of the strong model of advanced practice. *Heart & Lung: The Journal of Acute and Critical Care*, 29(3), 210-221.
- Miles, M. B., Hubberman, M. A., & Saldana, J. (2014). *Qualitative data Analysis A method sourcebook* (3 ed.). London: SAGE.
- Ministry of Health Manatu Hauora. (2014). *Dermatology Workforce Service Forecast: Health Workforce New Zealand*. Retrieved from <https://www.health.govt.nz/our-work/health-workforce/workforce-service-forecasts/dermatology-workforce-service-forecast>
- National Health Act 61 of 2003*. (2003). Retrieved from http://www.samed.org.za/Filemanager/userfiles/national-health-act-61-2003-norms-and-standards-regulations-applicable-to-different-categories-of-health-establishments_20170104-GGN-40539-00010.pdf.
- Neergaard, M. A., Olesen, F., Andersen, R. S., & Sondergaard, J. (2009). Qualitative description—The poor cousin of health research? *BMC Medical Research Methodology*, 9(1), 52. <https://doi.org/10.1186/1471-2288-9-52>
- Norbart, M. (2015). *The role of the Nurse Practitioner at the Dermatology outpatient clinic in the Netherlands. Nursing Act 33 of 2005*. Retrieved from <http://www.sanc.co.za/pdf/Nursing%20Act%202005.PDF>.

- Nuttall, D. (2018). Nurse prescribing in primary care: a metasynthesis of the literature. *Primary health care research & development*, 19(1), 7-22.
doi:10.1017/S1463423617000500
- Oelke, N. D., Besner, J., & Carter, R. (2014). The evolving role of nurses in primary care medical settings. *International journal of nursing practice*, 20(6), 629-635.
- Panya, M. F., Mgonda, Y. M., & Massawe, A. W. (2009). The pattern of mucocutaneous disorders in HIV–infected children attending care and treatment centres in Dar es Salaam, Tanzania. *BMC Public Health*, 9(1), 234.
- Pavlovic, M. D., Milenkovic, T., Dinic, M., Misovic, M., Dakovic, D., Todorovic, S., . . . Doder, R. (2007). The prevalence of cutaneous manifestations in young patients with type 1 diabetes. *Diabetes care*, 30(8), 1964-1967. doi:dc07-0267 [pii]
- Phelan, D. L., & Heneghan, M. (2008). A Survey of Skin Cancer Screening Practices Among Dermatology Nurses. *Dermatology Nursing*, 20(5), 357-365.
- Poot, B., Zonneveld, R., Nelson, K., & Weatherall, M. (2017). Prescribing by nurse practitioners: Insights from a New Zealand study. *Journal of the American Association of Nurse Practitioners*, 29(10), 581-590. doi: 10.1002/2327-6924.12493
- Practical Approach to Care Kit*. (2016). Cape Town: Western Cape Government, Department of Health.
- Pullen Jr, R. L. (2016). Leadership in nursing practice. *Nursing made Incredibly Easy*, 14(3), 26-31.
- Ramien, M. L., Ondrejchak, S., Gendron, R., Hatami, A., McCuaig, C. C., Powell, J., & Marcoux, D. (2014). Quality of life in pediatric patients before and after cosmetic camouflage of visible skin conditions. *Journal of the American Academy of Dermatology*, 71(5), 935-940. doi:<https://doi.org/10.1016/j.jaad.2014.07.029>
- Resneck Jr, J. S., & Kimball, A. B. (2008). Who else is providing care in dermatology practices? Trends in the use of nonphysician clinicians. *Journal of the American Academy of Dermatology*, 58(2), 211-216. doi:10.1016/j.jaad.2007.09.032
- Ridley, D. (2008). *The Literature Review A Step-by-step Guide for students* (first ed.). London: SAGE.
- Rossiter, D., University of Cape Town, & Division of Clinical Pharmacology. (2012). *South African Medicines Formulary*. Rondebosch, South Africa: Health and Medical Pub. Group.
- Royal College of Nursing. Policy and International Department. (2014). *RCN Factsheet: Specialist Nursing in the UK*. RCN.

- Ryan, T. J. (2000). Dermatology in the developing world: needs and solutions. *Dermatologic clinics*, 18(2), 201-210.
- Ryan, T. J., Ersser, S. J., & Fuller, L. C. (2012). The public health intervention of skin care for all: community dermatology. In *Public Health-Social and Behavioral Health: InTech*. DOI: 10.5772/36326
- Saxe, N., & Todd, G. (1995). Position paper on dermatology. *South African medical journal=Suid-Afrikaanse tydskrif vir geneeskunde*, 85(9), 845. Retrieved from [Http://search.ebscohost.com/login.aspx?direct=true&db=awn&AN=130336&site=ehost-live](http://search.ebscohost.com/login.aspx?direct=true&db=awn&AN=130336&site=ehost-live); <http://www.samedical.org>
- Schuttelaar, M., Vermeulen, K., & Coenraads, P. (2011). Costs and cost-effectiveness analysis of treatment in children with eczema by nurse practitioner vs. dermatologist: results of a randomized, controlled trial and a review of international costs. *British Journal of Dermatology*, 165(3), 600-611.
- Scrafton, J., McKinnon, J., & Kane, R. (2012). Exploring nurses' experiences of prescribing in secondary care: informing future education and practice. *Journal of Clinical Nursing*, 21(13-14), 2044-2053.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, 22(2), 63-75. DOI: 10.3233/EFI-2004-22201
- Silverman, D. (2010). *Doing qualitative research: a practical handbook*. London; (3rd ed.). Los Angeles: SAGE.
- South African Government. (2005). Nursing Act no 33 of 2005. *Pretoria: Government Printer*.
- South African Nursing Council. (2005). *Policies and Guidelines on Medicines: Section 22A (15) Permits*.
- South African Nursing Council. (2012). *Advanced Practice Nursing: SANC's Position Paper/Statement*. Retrieved from http://www.sanc.co.za/position_advanced_practice_nursing.htm
- South African Nursing Council. (2013). *Code of Ethics for Nursing Practitioners in South Africa: Excellence in Professionalism and Advocacy for Healthcare Users*. Retrieved from <http://www.sanc.co.za/pdf/Learner%20docs/SANC%20Code%20of%20Ethics%20for%20Nursing%20in%20South%20Africa.pdf>

- South African Nursing Council. (2014). *Competencies for Primary Care Nurse Specialist*. Retrieved from <http://www.sanc.co.za/pdf/Competencies/SANC%20Competencies-Primary%20Care%20Nurse%20Specialist%202014-05.pdf>
- South African Nursing Council. (2018). *South African Nursing Council*. Retrieved from <http://www.sanc.co.za/>
- South African Nursing Council Nursing Act 33 of 2005. (2005). The relationship between the scope of practice, practice standards and competencies. Retrieved from <http://www.sanc.co.za/pdf/Competencies/SANC%20Relationship%20between%20SO Ps,%20Practice%20Standards%20and%20Competencies.pdf>
- Speziale, H., & Carpenter, D. (2007). *Qualitative research in nursing* (4th ed.). Philadelphia: Lippincott Williams & Wilkins.
- Stenner, K., Carey, N., & Courtenay, M. (2009a). Nurse prescribing in dermatology: doctors' and non-prescribing nurses' views. *Journal of advanced nursing*, 65(4), 851-859. doi:10.1111/j.1365-2648.2008.04944.x
- Stenner, K., Carey, N., & Courtenay, M. (2009b). Nurse prescribing in dermatology: doctors' and non-prescribing nurses' views. *Journal of advanced nursing*, 65(4), 851-859.
- Stevens, J. (2013). Dermatology nursing in the community: The Mitchell's Plain experience. *Continuing Medical Education*, 31(7), 250-253.
- Sullivan, E. J. (2012). *Effective leadership and management in nursing*. Boston: Pearson.
- Tracy, M., & O'Grady, E. (2019). *Hamric and Hanson's advanced practice nursing: an integrative approach* (6th ed.). St. Louis, Missouri: Elsevier.
- Usmani, N., Teasdale, J., & Clark, S. M. (2009). An Audit of the Activities of the Pediatric Dermatology Nurse Specialist (PDNS). *Pediatric dermatology*, 26(2), 222-223. doi:10.1111/j.1525-1470.2009.00886.x
- Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & health Sciences*, 15(3), 398-405. doi:10.1111/nhs.12048
- Van Cott, A., & Kimball, A. B. (2009). Workforce characteristics of dermatology nurse practitioners. *Journal of the American Academy of Dermatology*, 61(5), 904-905. doi:10.1016/j.jaad.2009.02.026
- Willis-Shattuck, M., Bidwell, P., Thomas, S., Wyness, L., Blaauw, D., & Ditlopo, P. (2008). Motivation and retention of health workers in developing countries: a systematic review. *BMC Health Services Research*, 8(1), 247. doi:10.1186/1472-6963-8-247

- Willis, D. G., Sullivan-Bolyai, S., Knafl, K., & Cohen, M. Z. (2016). Distinguishing features and similarities between descriptive phenomenological and qualitative description research. *Western Journal of Nursing Research*, 38(9), 1185-1204.
- World Health Organization. (2004). *A glossary of terms for community health care and services for older persons*. Geneva. WHO.
- WHO Centre for Health Development (Kobe, Japan). (2004). A glossary of terms for community health care and services for older persons. Kobe, Japan : WHO Centre for Health Development. <http://www.who.int/iris/handle/10665/68896>
- World Health Organization. (2016). *Global strategy on human resources for health: workforce 2030*. Retrieved from <http://apps.who.int/iris/bitstream/handle/10665/250368/9789241511131-eng.pdf;jsessionid=DF9F6A6C31866DB78C593D6EF8AFA037?sequence=1>
- World Medical Association. (2013). World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. *JAMA*, 310(20), 2191-2194. doi:10.1001/jama.2013.281053 [doi]

Appendices

Appendix 1: Table 10: Depicting global DNP role, benefits and role challenges

DNP roles	Benefits of the role	Challenges of the role
<p>CARING FOR THE PATIENT WITH A DERMATOLOGICAL CONDITION</p> <ul style="list-style-type: none"> • Telephone triage and patient counselling • Monitoring symptoms and adverse events and the ability to make recommendations for treatment changes • 	<ul style="list-style-type: none"> • Reduction in severity of skin conditions • Increased adherence and access to medication, • Increased knowledge of skin condition, • Reduced referrals to dermatologists and physicians • Improved skin cancer detection • A significant fall in paediatric dermatology admissions • Improving access to dermatology services • Improved quality care 	<ul style="list-style-type: none"> • Resistance the nursing administration, departmental nurses, community nurses and GPs. • Inadequate funding for their training and limited training • DNPs overloaded • Lack of incentives. • Lack of relief for specialist nurses Drug restrictions • The lack of role preparation and lack of
<p>PATIENT EDUCATION</p> <ul style="list-style-type: none"> • Educating and counselling the patient in determining risks/ benefits of all treatment options, including complementary and behavioural therapies • Ability to encourage empowerment and self-management. Educating on health promotion strategies and ability to develop, implement and evaluate strategies for health promotion with patients and the community <p>HEALTH PERSONNEL EDUCATION</p>		


<ul style="list-style-type: none"> • Teaching nurses and doctors • Organising symposia for nurses • Teaching nursing and medical students 	<ul style="list-style-type: none"> • Provision of cost services. • Use of technology in dermatology nursing 	<p>professional development</p> <ul style="list-style-type: none"> • Lack of support,
<p>THERAPEUTIC INTERVENTIONS</p> <ul style="list-style-type: none"> • Proficient delivery of treatment (e.g. phototherapy, cryotherapy, intramuscular injections) according to medical directives • Using lasers • Prescriptions • Surgery • Cryotherapy • Curettage • Shaved, punched and incisional biopsies • Administration of intralesional steroids • Topical medication and dressings application • Support to patient, family and friends • Patient counselling • Burns debridement • Nail removal • Sebaceous cyst removal 	<ul style="list-style-type: none"> • Improved quality of care • Speeded up diagnosis of skin conditions • Opening of day-care centres in provinces or countries • Running of nurse-led mobile units • Convening of dermatology nursing conferences and educating of other nurses at facility level. • DNPs participation in the International skin care activities • Improved referral and follow-up services • Reduced workload for the generalist • Improved relationships in a multidisciplinary health team 	<ul style="list-style-type: none"> • Inadequate resources • Lack of insight of the DNP role • Professional power struggles over responsibilities • Opposition and lack of standards in nurse prescribing • Gradual decrease in the number of DNPs due to failure to replace DNPs who are studying or leaving dermatology for other departments


<ul style="list-style-type: none"> • Skin closer, staples, sutures and dermabond • Skin tags removal • Soft tissue aspiration • Subungual haematoma 	<ul style="list-style-type: none"> • Continuing medical training for DNP's • Job satisfaction for DNP's through patient satisfaction 	
<p>DERMATOLOGICAL ASSESSMENT AND INVESTIGATION</p>		
<ul style="list-style-type: none"> • Nurse-led clinics (having patient appointments and working independently to assess patients) • Perform skin examinations and identification (e.g. benign vs. malignant lesions – skin cancer screening) • Evaluation of complicated treatment • Psychosocial patient assessment • Microscopy such as wet mount 		
<p>MANAGING DERMATOLOGY SPECIALISED CARE</p>		
<ul style="list-style-type: none"> • Running day-care centres in the tertiary hospital, • Nurse-led clinics in the community • Provision of mobile clinics services to surrounding farms • Facilitation of teledermatology services • Provision of school child friendly clinics. • Provision of ablution services to patients who did not have facilities at home and daily application of topical 		

<p>medication. Education of personnel, medical and nursing students involved</p> <ul style="list-style-type: none"> • Provision of placement area and mentorship DNP • Liaison with other professional in the department • International networking 		
<p>RESEARC H</p> <ul style="list-style-type: none"> • Capturing of statistics 		

(Andrew, 2017; Cloete, 2013; Cox et al., 2003; Ersser et al., 2011; Ersser et al., 2005; Gary, 2013; Lindblad et al., 2006; Maier & Aiken, 2016a; Resneck Jr & Kimball, 2008) See chapter 2 for more detail.

Appendix 2: UCT ethical clearance

 **UNIVERSITY OF CAPE TOWN**
Faculty of Health Sciences
Human Research Ethics Committee



Room E52-24 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6492 • Facsimile [021] 406 6411
Email: Sumayah.ariefdien@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

02 June 2015

HREC/REF: 226/2015

A/Prof P Mayers
Nursing & Midwifery
Health & Rehab Sciences
F-45
OMB

Dear A/Prof Mayers

Project Title: THE ROLE OF THE DERMATOLOGY NURSE PRACTITIONER IN THE WESTERN CAPE AS PERCEIVED BY NURSES AND OTHER HEALTH CARE PRACTITIONERS (MSc candidate - Ms N Ndyenga)

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee (HREC) for review.

It is a pleasure to inform you that the HREC has **formally approved** the above mentioned study.

Approval is granted for one year until the 28 June 2016.


Please submit a progress form, using the standardised Annual Report Form, if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

We acknowledge that the following student:- Nomgcobo Ndyenga is also involved in this project.

Please note that the on-going ethical conduct of the study remains the responsibility of the principal investigator.

Please quote the HREC REF in all your correspondence.

Yours sincerely


PROFESSOR M BLOCKMAN
CHAIRPERSON, HSF HUMAN ETHICS

Federal Wide Assurance Number: FWA00001637.

Hrec/ref:226/2015

Appendix 3: UCT ethical clearance extension

	UNIVERSITY OF CAPE TOWN <small>UNIVERSITEIT VAN KAAPSTAD</small>	13 JUL 2017	FACULTY OF HEALTH SCIENCES Human Research Ethics Committee HEALTH SCIENCES FACULTY UNIVERSITY OF CAPE TOWN	
---	--	-------------	--	---

FHS016: Annual Progress Report / Renewal

HREC office use only (FWA00001637; IRB00001938)			
This serves as notification of annual approval, including any documentation described below.			
<input checked="" type="checkbox"/> Approved	Annual progress report	Approved until/next renewal date	30.7.2018
<input type="checkbox"/> Not approved	See attached comments		
Signature Chairperson of the HREC		Date Signed	13/7/2018

Comments to PI from the HREC

Principal Investigator to complete the following:

1. Protocol information

Date (when submitting this form)	12 July 2017		
HREC REF Number	226/2015	Current Ethics Approval was granted until	28 June 2016
Protocol title	The role of the dermatology nurse practitioner in the Western Cape as perceived by nurses and other health care practitioners		
Protocol number			

Appendix 4: Red Cross Children's Hospital ethical approval



Health

Email: Tony.Booyesen@westerncape.gov.za

Tel: +27 21 658 5788 fax: +27 21 658 5166

Sr A Ndyenga
Red Cross War Memorial Children's Hospital


Dear Sr A Ndyenga

APPROVAL OF RESEARCH

PROJECT TITLE: THE ROLE OF THE DERMATOLOGY NURSE PRACTITIONER IN THE WESTERN CAPE AS PERCEIVED BY NURSES AND OTHER HEALTH CARE PRACTITIONERS

It is a pleasure to inform you that approval is hereby granted to conduct the above-mentioned study at Red Cross War Memorial Children's Hospital.

Yours sincerely


Manager: Medical Services
Date: 22.04.16

Appendix 5: Grootte Schuur Hospital ethical approval



GROOTE SCHUUR HOSPITAL

Enquiries: Dr Bernadette Eick

E-mail : Bernadette.Eick@westerncape.gov.za

Associate Professor P. Mayers
Nursing & Midwifery
Health & Rehabilitation Sciences
F-Floor – Old Main Building

E-mail: anthiandyenga@gmail.com / na.ndyenga@uct.ac.za

Dear A/Professor Mayers

RESEARCH PROJECT: The Role Of The Dermatology Nurse Practioner In The Western Cape As Perceived By Nurses And Other Health Care Practitioners (MSc Candidate Ms. N. Ndyenga)

Your recent letter to the hospital refers.

You are hereby granted permission to proceed with your research subject to the approval of Mrs. M. Ross: Senior Manager: Nursing

Please note the following:

- a) Your research may not interfere with normal patient care.
- b) Hospital staff may not be asked to assist with the research.
- c) No hospital consumables and stationary may be used.

d) No medical follow-up may be requested from the nursing and midwifery staff.

Appendix 6: Permission letter to the facility manager

**A5 Jabulani Street
Mbekweni
Paarl
7655**

Dear Sir/Madam

RE: PERMISSION TO CONDUCT A STUDY ENTITLED “THE ROLE OF THE DERMATOLOGY NURSE PRACTITIONER IN THE WESTERN CAPE AS PERCEIVED BY NURSES AND OTHER HEALTH CARE PRACTITIONERS”

I am a postgraduate student doing Master’s Degree in Nursing (MSc Nursing) at the University of Cape Town, South Africa. I hereby request permission to conduct a study in your institution. The aim of the study is to explore and describe the role of a Dermatology Nurse Practitioner as perceived by dermatology nurse practitioners themselves, doctors and nurses who worked with them in Western Cape.

Ethical clearance has been obtained from the University of Cape Town Health Sciences Faculty Ethics Committee, REC: REF (Faculty of Health Sciences Research Ethics Committee, Room E52-24 Groote Schuur Hospital Old Main Building, Observatory 7925; telephone: 021 4066338. Permission has been granted by Western Cape Department of Health. The ethics approval and permission are attached.

Your institution is selected as one of the study sites in this research because according to records, it is one of the health institutions that provide dermatological health services to the community around. Once your permission has been granted, health professionals who meet the inclusion criteria will be given information about the study and invited to voluntarily participate. The dermatology nurses will be invited for a focus group discussion while other nurses, nurse managers and doctors will be interviewed individually. All the interviews will be audio-recorded.

The findings will be disseminated to the Dermatology society and other stakeholders by means of presentation in meetings and through publication.

If permission is granted, the study will be conducted in March-April 2015 on dates and times which suit the facility and participants.

If further information is required, please contact me or my supervisor; contact details are below.

Yours sincerely

Nomgcobo A. Ndyenga

(Student number: NDYNOM004)

Contact details

MS Nomgcobo Ndyenga: anthiandyenga@gmail.com; na.ndyenga@gmail.com; telephone 5269/3376

Associate Professor Pat Mayers: pat.mayers@uct.ac.za; telephone 021 406 6464

Appendix 7: Information sheet and consent for focus group (Dermatology Nurse Practitioners)

The role of the Dermatology Nurse Practitioner in the Western Cape as perceived by nurses and other health care practitioners

Dear Sir/Madam

Researcher: Nomgcobo A. Ndyenga

I am a post graduate MSc nursing student at the University of Cape Town. I am conducting a study into health professionals' perceptions and understandings of the role of the dermatology nurse practitioner. This research is in partial fulfilment of the requirements for Master's degree in Nursing.

The study has been approved by the Faculty of Health Sciences Human Research Ethics Committee in University of Cape Town (REC: REF 226/2015), Faculty of Health Sciences Research Ethics Committee; Room E52-24, Groote Schuur Hospital; Old Main Building; Observatory; 7925. Tel: (021) 4066338 and the Department of Health, Western Cape.

You are being invited to participate in the study based on the assumption that you have had an opportunity to be involved in services for patients suffering from skin problems. You will be informed of the date the time and the venue of the meeting should you choose to participate in the study.

The information is provided to assist you to make an informed decision whether you want to participate in this study.

The purpose of the study

The aim of the study is to explore and describe the role of a Dermatology Nurse Practitioner as perceived by dermatology nurse practitioners themselves, doctors and nurses who worked with them in Western Cape. The information generated by the study will provide information which could be used to formulate the scope of practice and a job description of a DNP. The research findings may help to illustrate how these roles may be integrated into the roles of other health team members without duplicating them. This information will guide the curriculum development of the DNP and may assist in determining the need for this specialty.

Description of the study

The study investigates the views of nurses and doctors regarding a role of a DNP. Nurses who are trained and practising in dermatology will be gathered to discuss their perceptions of this role. You are expected to participate in a group discussion of about 8 people. A facilitator will lead the discussions using a semi structured guide which comprises demographic data, qualifications, work period, role and opinions regarding the DNP's role in dermatology services.

The researcher will observe the group while taking notes and audio-recording the proceedings. If you have agreed to participate in the study, it would also mean you have agreed to be audio-recorded. The duration of the focus group will be 60-90 minutes. There will be no need to return unless there are outstanding issues that could not be discussed and an agreement has been made to do follow-up discussions.

The findings of the study will be communicated to you and the Department of Health in the Western Cape.

Confidentiality

The recordings of the discussions, their transcripts and the list of people who participated in the study will not be linked to you. Your identity will not be revealed at any stage of the research process including reporting and publication of findings. All the records will be locked in a safe place for 5 years before they are discarded. Only the researcher and supervisor will have access to them.

Benefits

The expected benefit is an opportunity to contribute in the development of roles for the health team of your province. The research results will be available for all to utilise if submitted for publication. There will be no remuneration for taking part in the study but any transport costs incurred through participation will be reimbursed by the researcher. You will be provided with refreshments

Risk involved

There are no known risks associated with participating in the group discussions. Counselling will be provided should you become emotionally affected during the discussions.

Voluntary participation

It is your choice whether you would like to participate in the study or not. If you have chosen not to participate now or later, you do not have to give reasons. You can withdraw from the study at any time and the decision will not affect your relationship with the researcher, University of Cape Town or the dermatology community.

Contact person for further discussion

If you need more information before or during the study feel free to contact me at 012 404 3376 or leave your contact details at 021 404 5269 and I will come back to you. I will be glad to answer all your questions. You may also contact the chairperson of the UCT Faculty of Health Sciences Human Research Ethics Committee: Tel: 27 21 4066492 Fax: 27 21 4066411 and research supervisor Associate Professor Pat Mayers: pat.mayers@uct.ac.za; telephone 021 406 6464.

Consent Form

STATEMENT OF INVESTIGATOR’S RESPONSIBILITY

I have discussed the information letter and the consent form with the participant. The participant has been given adequate time to read the information letter and think carefully about the decision to participate in this study. It is my opinion the participant understands the nature, purpose, procedures, risk, benefits, and obligations involved in this study. I have fully answered all the questions posed to me by the participant.

Researcher’s signature.....

Date and place.....

I Freely consent to participate in this study

I have read the information letter. This study and this consent have been explained to me. I have been given enough time to make the decision to participate in this study. The researcher has answered all my questions. I agreed to audio-recording and transcription of the discussions as part of the research process.

I understand that if I choose not to participate or withdraw from the study, now or later, I will not be penalised for that decision. I also understand the information I will give will remain confidential. I believe I understand what taking part in this study entails.

Participant signature.....

Date and time.....

Researcher's signature.....

Date and time.....

Appendix 8: Information sheet and consent form for individual interviews

The role of the Dermatology Nurse Practitioner in the Western Cape as perceived by nurses and other health care practitioners

Dear Sir/Madam

Researcher: Nomgcobo A. Ndyenga

I am a postgraduate MSc Nursing student at the University of Cape Town. I am conducting a study into health professionals' perceptions and understanding of the role of the dermatology nurse practitioner. This research is in partial fulfilment of the requirements for the Master's degree in nursing. The study has been approved by the Faculty of Health Sciences Human Research Ethics Committee in University of Cape Town (REC: REF226/2015), Faculty of Health Sciences Research Ethics Committee, Room E52-24 Groote Schuur Hospital Old Main Building, Observatory 7925, telephone: 021 4066338 and the Department of Health, Western Cape.

You are being invited to participate in the study based on the assumption that you have had an opportunity to be involved in services for patients suffering from skin problems. You will be informed of the date the time and the venue of the meeting should you choose to participate in the study.

The information is provided to assist you to make an informed decision whether you want to participate in this study.

The aim of the study

The aim of the study is to explore and describe the role of a Dermatology Nurse Practitioner as perceived by dermatology nurse practitioners themselves, doctors and nurses who worked with them in Western Cape. It also aims to describe whether the perceived role is reflected in the DNPs' job descriptions. The information generated by the study will provide information which could be used to formulate the scope of practice and a job description of a DNP. The research findings may help to illustrate how these roles may be integrated into the roles of other health team members without duplicating them. This information will guide the curriculum development of the DNP and may assist in determining the need for this specialty.

Description of the study

The study investigates the views of nurses and doctors regarding the role of a DNP. You will be interviewed using a semi structured interview guide. The semi-structured interview guide comprises demographic data, qualifications, work period, role and opinions regarding the DNP's role in dermatology services. The interview will be audio-recorded.

If you have agreed to participate in the study, you have also agreed to be audio-recorded during the interview. The session will take about one hour.

The findings of the study will be communicated to you and the Department of Health in Western Cape.

Confidentiality

The recordings of the interview, the transcript will not be linked to you. Your identity will not be revealed at any stage of the research process including reporting and publication of findings. All the records will be locked in a safe place and only the researcher and supervisor will have access to them.

Benefits

The expected benefit is an opportunity to contribute in the development of roles for the health team of your province. The research results will be available for all to utilise if submitted for publication. There will be no remuneration for taking part in the study but any transport costs incurred through participation will be reimbursed by the researcher.

Risk involved

There are no known risks associated with participating in the interviews. Counselling will be provided should you become emotionally affected during an interview.

Voluntary participation

It is your choice whether you would like to participate in the study or not. If you have chosen not to participate now or later, you do not have to give reasons. You can withdraw from the study at any time and the decision will not affect your relationship with the researcher, University of Cape Town or the dermatology community.

Contact person for further discussion

If you need more information before or during the study, feel free to contact me at 012 406 6160 or leave your contact details at 021 404 5269 and I will come back to you. I will be glad to answer all your questions. You may also contact the chairperson of the UCT Faculty of Health Sciences Human Research Ethics Committee: Tel: +27 21 4066492 Fax: +27 21 4066411 and research supervisor Associate Professor Pat Mayers: pat.mayers@uct.ac.za; telephone (021) 406 6464.

Consent Form

STATEMENT OF INVESTIGATOR’S RESPONSIBILITY

I have discussed the information letter and the consent form with the participant. The participant has been given adequate time to read the information letter and think carefully about the decision to participate in this study. It is my opinion the participant understands the nature, purpose, procedures, risk, benefits, and obligations involved in this study. I have fully answered all the questions posed to me by the participant.

Researcher’s signature.....

Date and place.....

Ifreely consent to participate in this study

I have read the information letter. This study and this consent have been explained to me. I have been given enough time to make the decision to participate in this study. The researcher has answered all my questions. I agreed to audio-recording and transcription of the discussions as part of the research process. I understand that if I choose not to participate or withdraw from the study, now or later, I will not be penalised for that decision. I also understand the information I will give will remain confidential. I believe I understand what taking part in this study entails.

Participant signature.....

Date and time.....

Researcher’s signature.....

Date and time.....

Appendix 9: Interview guide for Doctors and Professional Nurses

Date and time of the interview

Gender.....

Qualifications.....

Place of work

Position held years of involvement in dermatology.....

The purpose of this interview is to find out what do you perceive as a role of a Dermatology Nurse Practitioner

Opening question

1. Please tell me about your work and describe the nature of your involvement in dermatology services.

Introduction question

2. Please select the qualifications of the nurses working in dermatology in your facility

Nursing assistance	Staff nurses	Professional nurses	Dermatology trained nurses(DNP)
--------------------	--------------	---------------------	---------------------------------

Transition questions

3. Suppose a person with a skin problem is looking for help in your facility, who is likely to treat this person?
4. According to your knowledge if nurses are involved in treating the person, which role do they play? Please state role according to categories in question 2

Key questions

5. Please describe how you see the role of a DNP.
6. What do you see as the value of the services of a Dermatology Nurse Practitioner?
7. What do you see as challenges for DNPs in their practice?

Ending questions

8. If you had an opportunity to evaluate dermatology nursing services, what improvement would you have recommended to the Department of Health regarding the role of a DNP?
9. If there is anything that you wanted to say but you did not get a chance please say it now.

Appendix 10: Focus Group Guide

Date and time of the interview

Gender.....

Qualifications.....

Place of work

Position held years of involvement in dermatology.....

**The purpose of this interview is to find out what do you perceive as a role of a
Dermatology Nurse Practitioner**

Opening question

1. Please tell me about your work and describe the nature of your involvement in dermatology services.

Introduction question

2. Please describe the categories of nurses who work in dermatology in your facility

Nursing assistants	Staff nurses	Professional nurses	PCNS (PHC nurses)	Dermatology trained nurses(DNP)
--------------------	--------------	---------------------	-------------------	---------------------------------

Transition questions

3. Suppose a person with a skin problem is looking for help in your facility, who is likely to treat this person?
4. According to your knowledge, if nurses are involved in treating the person, which category of nurse is most likely to treat the patient?

Key questions

5. Please describe what you see as the role of a DNP.
6. Please explain the difference you have noted in the roles played by DNPs and non-dermatology trained professional nurses if any.
7. What do you see as the value of the services of a Dermatology Nurse Practitioner?
8. What do you see as challenges for DNPs in their practice?

Ending questions

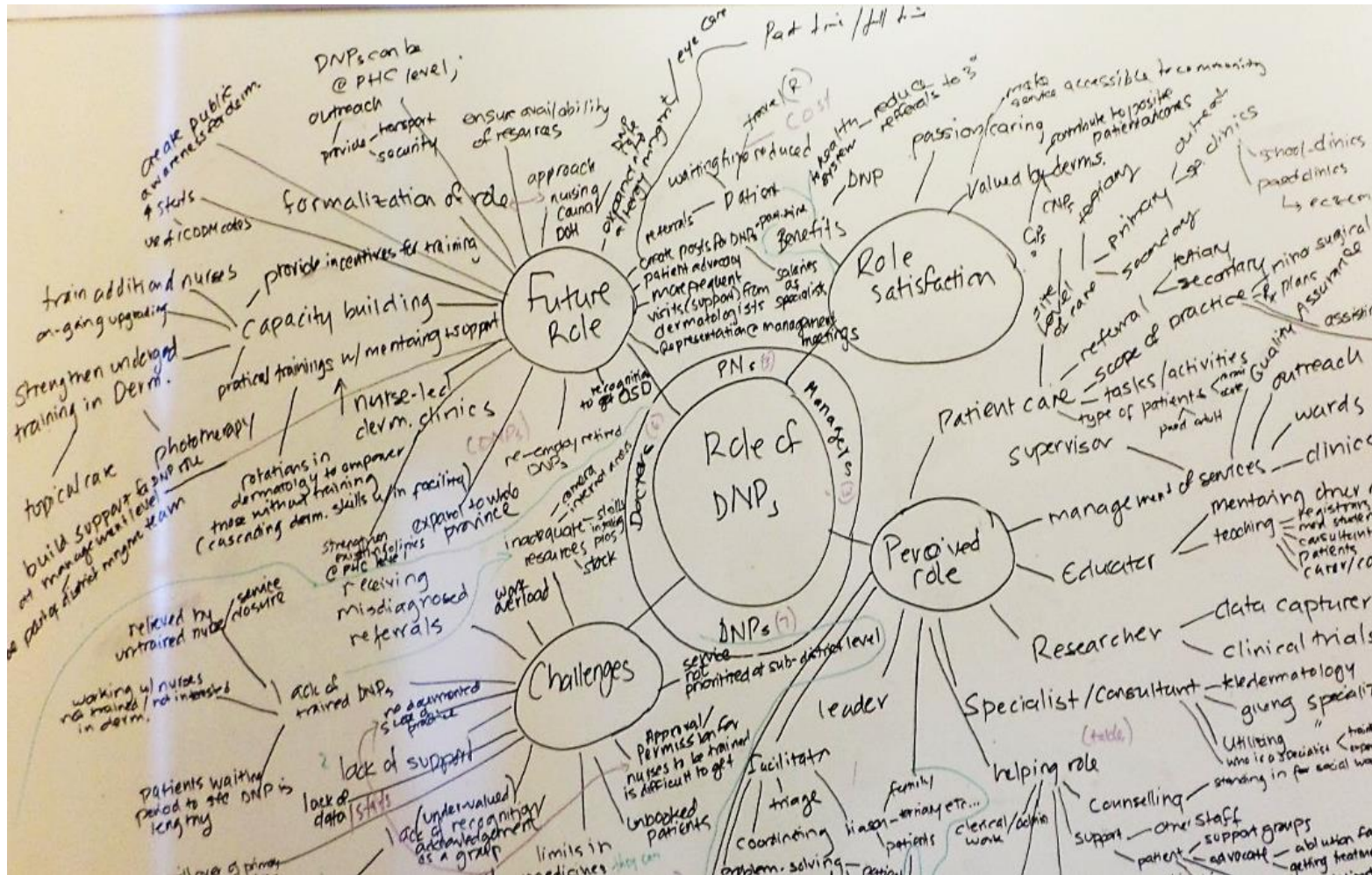
9. If you had an opportunity to evaluate dermatology nursing services, what improvements would you have recommended to the Department of Health regarding the role of a Dermatology Nurse?
10. If there is anything that you wanted to say but you did not get a chance, please say it now

Appendix 11: Table of codes sample

Participant quotes	P	Code explanation	Sub category	category
				Patient care role
<p>P1 P15 “And decides on some Treatments” P15 “So, I think all of that is PCNSs domain. Clinical interaction with patients as far as I understand.”</p>	<p>1, 15, 18 15 P3</p>	<p>Sees patients at primary care level – includes diagnosis treatment and follow-up Clinical interaction with patients They do patient care and treatment</p>	<p>Diagnose and treat (P)</p>	
<p>P1” they aren’t treating patients directly clinically in the ward except for our phototherapy sister and our sister in the</p>	<p>1,</p>	<p>Sees pts at specialist clinics</p>	<p>Diagnose and treat (T)</p>	

<p>dressing room for patients who are for dressing”</p>				
<p>FG “all the general practitioners in the area they refer patients to me as well”.</p> <p>P17 “whenever we had a client for dermatology, then we will ask her to see the people”.</p>	<p>FG</p> <p>FG, P3</p> <p>P17</p> <p>P19</p>	<p>Treat referrals from GPs</p> <p>See referrals from different clinics</p>	<p>Manage/treat patients referred by GPs and PCNSs</p>	
<p>FG” They come with their referral letters some without referral letters but those who came</p>	<p>FG, P3</p> <p>P19</p>	<p>I see walk-ins as well</p>	<p>Diagnose and treat unbooked pts / walk-ins</p>	
<p>P6</p>	<p>6</p>	<p>Do psychological assessment</p> <p>Do Clinical assessments</p>	<p>patient assessment</p>	

Appendix 12: Mind map of the analysis process



Appendix 13: Ethical approval from Department of Health, Caledon clinic



Western Cape
Government
Health

STRATEGY & HEALTH SUPPORT

Health.Research@westerncape.gov.za
tel: +27 21 483 6857; fax: +27 21 483 9895
5th Floor, Norton Rose House., 8 Riebeeck Street, Cape Town, 8001
www.capegateway.gov.za

REFERENCE: WC_2015RP13_905
ENQUIRIES: Ms Charlene Roderick

University of Cape Town

Rondebosch

Cape Town

7700

For attention: Nomgcobo Anthia Ndyenga

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact the **Ronell Zondo on 028 214 5800** to assist you with any further enquiries in accessing the following sites:

Caledon Clinic

Bredasdorp Clinic

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).

Appendix 14: Ethical approval from Department of Health, Mitchell's Plain Community Health Centre



STRATEGY & HEALTH SUPPORT

Health.Research@westerncape.gov.za
tel: +27 21 483 6857; fax: +27 21 483 9895
5th floor, Norton Rose House, 8 Riebeeck Street, Cape Town, 8001
www.capegateway.gov.za

REFERENCE: WC_2015RP13_905
ENQUIRIES: Ms Charlene Roderick

University of Cape Town
Anzio Road
Observatory
7935

For attention: **Nomgcobo Anthia Ndyenga**

Re: **THE ROLE OF THE DERMATOLOGY NURSE PRACTITIONER (DNPS) IN THE WESTERN CAPE AS PERCEIVED BY NURSES AND OTHER HEALTH CARE PRACTITIONERS.**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research. Please contact the following people to assist you with any further enquiries in accessing the following sites:

Mitchell's Plain CHC Zethu Xapile Contact No: 021 391 7991

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
3. In the event where the research project goes beyond the *estimated completion date* which was submitted, researchers are expected to complete and submit a progress report (**Annexure 8**) to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
4. The reference number above should be quoted in all future correspondence.

Yours sincerely

DR A HAWKRIJDE
DIRECTOR: HEALTH IMPACT ASSESSMENT
DATE: 11/2/16
CC: P OLCKES

DIRECTOR: KLIPFONTEIN/ MITCHELLS PLAIN