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STRENGTHENING THE EMERGENCY CARE SYSTEM AT A PRIMARY HEALTH CARE LEVEL USING A FRAMEWORK FOR POLICY ANALYSIS

Meghan Lavina Botes

A thesis submitted to the Faculty of Health Sciences, University of the Witwatersrand, in fulfilment of the requirements for the degree of Doctor of Philosophy.

Johannesburg, 2021

DECLARATION

I, Meghan Lavina Botes, declare that this thesis is my own, unaided work. It is being submitted for the Degree of Doctor of Philosophy at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



_____

__13__ day of __August__ 2021 in __Johannesburg__

DEDICATION

I dedicate all of my life and the work of my hands

to my Lord and Saviour Jesus Christ

PRESENTATIONS ARISING FROM THIS STUDY

Poster Presentation at the University of the Witwatersrand, School of Therapeutic Sciences Biennial Research Day held on Tuesday, 10 September 2019: “The Experiences of Health Care Practitioners Dealing with Emergencies at a Primary Health Care Level”.

Poster Presentation at the 31st International Nursing Research Congress of Sigma Theta Tau, held on the 22-24 July 2020: “The Experiences of Health Care Practitioners Dealing with Emergencies at a Primary Health Care Level”.

ABSTRACT

Health care systems, globally, have moved towards a focus on prevention and promotion; however strengthening emergency care at a primary health care level is vital for reducing overall mortality and disability (World Health Assembly, 2015). Emergency care exists within the broader system of health care and in order to understand and improve the system of emergency care an investigation that extracts insights from the various cogs in the system is needed.

The objectives of the study were to analyse the system of emergency care using Walt and Gilson's policy analysis framework, formulate evaluative conclusions, and to develop recommendations for strengthening the system of emergency care at a primary health care level.

A qualitative formative evaluation approach was used. The study was conducted in the Gauteng District Health System at various level one health care facilities. The first phase of the study focused on collecting data using semi structured interviews and analysis of data using qualitative content analysis. Using maximum variation sampling, participants (n=22) included health care practitioners, and health care facility managers. A document analysis of policies and guidelines that inform the district heath system was undertaken in conjunction with key informant interviews. The second phase included the formulation of recommendations by way of deductive reasoning and inviting key informants to validate the recommendations using the Delphi technique. Ethical considerations were applied.

Emergency care in the District Health Care system was described and evaluated based on findings from the three data sources identified in the framework for policy analysis. Triangulation of the data was achieved using the same framework for policy analysis and strengths and weaknesses in the system of emergency care were identified. Evaluative conclusions were formulated, and recommendations for strengthening emergency care in the District Health Care system were developed based on these.

Fourteen consensus-based recommendation statements were presented as the outcome of the research study. The recommendations proposed cover various aspects in need of improvement in the emergency care system including education and training, the role and placement of various actors, the need for leadership in emergency care and the need for a national plan for emergency care. Emergency care needs to become a priority in the National Health System.

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To my forever love, Kevin, thank you for your selfless love and support. God knew I needed you. I love you.

To my children, Christian and Luke, I do my best so that you will do better. You are capable of so much, but above all achievements and in all you do, I pray that you will humbly serve God and others.

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To Jesus, my Lord and my reason for serving in whatever capacity I find myself. Thank you for being my strength and my purpose. All the knowledge in the world does not compare with knowing You. One day I will lay all my crowns at your feet.

Philippians 3:8 (AMP) But more than that, I count everything as loss compared to the priceless privilege *and* supreme advantage of knowing Christ Jesus my Lord [and of growing more deeply and thoroughly acquainted with Him—a joy unequaled]. For His sake I have lost everything, and I consider it all garbage, so that I may gain Christ.

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LIST OF ABBREVIATIONS

EMS – Emergency Medical Services

WHO – World Health Organisation

PHC – Primary Health Care

APC – Adult Primary Care

LMIC – Low- and Middle-Income Earning Countries

AHA – American Heart Association

WBPHCOT – Ward based Primary Health Care Outreach Team

PREFACE

"Welcome to the jungle"
Amber Buyl

It was my first weekend as a community service nurse working in a community health care centre in the rural mountains of the North West province of South-Africa. Located in the middle of nowhere with nothing but mountains and open fields. Well, they warned me that weekends were not for the faint hearted, and they were not wrong.

It was me and another registered nurse on duty that weekend. The only other staff members on duty were our three security guards and our cleaner. The facility is one of two healthcare facilities in the community, with this facility being the only one offering 24-hour care including emergency and maternity services. Since it is a walk-in facility where any patient can come in at any time, the unexpected can be expected…

The facility however is the size of a shoebox with the "emergency room" being a small little office past the reception area, with one small bed against the wall, one cupboard, leaking sink and a broken desk and chair.

The Saturday, I worked harder than I have ever worked, with one patient leaving my office and another taking its place. I was overwhelmed to say the least but somehow, I was able to work through each one with a level head. That was until Sunday, 5pm rolled around, that is when it is safe to say, I kind of lost my level head and panic set in.

Three priority one patients walked in all at the same time… I didn't have enough hands to treat them.

A man walked in bleeding from his head with an axe stuck in it, another labouring woman fully dilated with a breech baby and a grandmother who came in screaming while holding a baby boy who was thrown against a wall by his drunk parents.

I remember throwing up my hands in the air and asking, "God help me?". As a nurse you are trained to triage but how do you deal with three priority one patients all at once and there are only two nurses to treat them. You are taught in school that you choose which ever has a better chance of survival. That is already difficult to navigate on paper during your university training, but I found this near impossible in practice.

As a person, I felt I wasn't God, how could I decide about who gets my attention and essentially gets to have a chance at living and who doesn't. Being fresh out of university, I felt so overwhelmed and didn't know where to start.

I remember screaming for help from one end of the clinic and my colleague screaming from the other end asking for the same kind of help.

The cleaner ended up assisting the other colleague on the one end of the clinic with the labouring woman, leaving me to deal with an unresponsive baby and a man with an axe stuck in his head, all by myself.

I told the patient with the axe to sit on a chair while throwing gauze in his direction and shouting at the security guard to tell the patient not to move or take the axe out of his head and apply pressure on parts where the bleeding was uncontrollable. All the while, I am running with the grandmother to a consultation room to assist the unresponsive baby.

The language barrier between me and the grandmother holding the baby was my next struggle, thank goodness the grandmother came accompanied by her fifteen-year-old granddaughter who assisted in the translation.

In times of fight and flight I tend to talk out loud to ground myself and think clearly. I just talked myself through the steps one by one. I took my guideline next to me and worked through each step by step. Eventually, I hit a roadblock and just was at a loss, once the baby started to become conscious, I called the doctor on call. Since none of the phones were working in the clinic, I had to use my personal cellphone. The doctor on the other end was excellent in instructing me and assisting me to work strategically. I immediately asked her how I could assist the other priority one patients. She was very good in giving clear and concise instructions and I was so grateful for her levelheaded structured advice on what I should do next.

After running back and forth between the front of the clinic and the back of the clinic, where my colleague was, giving her the doctors instructions on how to proceed, I remember struggling to switch my brain from maternity to trauma. It is a different way of thinking. In school these are separated in different learning blocks, bringing these together was more challenging than I would have imagined. It is like since you learn them in different stages in your training, you compartmentalise them.

After returning to the front of the clinic, other priority 2 and 3 patients kept filling up the waiting room, really making me feel helpless that I couldn't help them, and they would have

to wait. I then called EMRS to refer the patients to the nearest hospital, which is about 30-40 minutes away.

The target time for EMRS to respond to a call, is 3-4 hours… Now what do you do? That is what I asked myself as well. When they finally arrived sooner than expected, 2,5 hours after I called, I begged them to put more than one patient in the ambulance. I think that the tears in my eyes made them realise how desperate I was.

Once all the patients were transported, I looked at my colleague and I remember bursting into laughter along with her. She said to me: "welcome to the jungle!". The laughter helped release some of the emotions I was feeling. She hugged me and said something along the lines of: "You did good, all we have is each other, you won't be able to change the world, but you are able to treat one patient at the time, that is all you can do".

I was so grateful to have had a colleague like her, she was truly such an amazing teacher that without her support I would not have survived.

Finally, night staff arrived, and I left the clinic around 19:30 and made my journey home. The second wave of emotions came over me. So, is this what this whole year will be like? Am I supposed to just move on, as if nothing happened? Is this what every nurse goes through? Why are people so cruel and heartless? So, we are just supposed to brush this under the carpet and move on, without any debriefing, without a second thought? I had so many questions, yet no answer to any of them. That was the first cry in my car ride home, and it was one of many.

What this first weekend taught me is, that everyone at a clinic is essential part of the team. The security guards, the cleaner, the nurses and even the people accompanying the patients are a vital part of the team that treat the patient. No one is better than the other and each person is important.

I learned a tremendous amount during my time in this facility, emergency care, thinking on my feet, working with limited resources and many procedures one would never be able to do as a nurse in any other situation like insertion of chest drains, etc.

With that said I do not think I was ready or adequately prepared for this "wild ride" that I felt I was on while working in this facility. Since in society and academic world, nurses are not on the top of the hierarchy ladder in the medical field, one considers it not necessary to teach certain skills as there will be a doctor to take over or another specialist to solve the problem or

manage the patient. Hence, I struggled at times and was frustrated about the lack of skills I had and was eager to gain more skills to assist my patients better.

I will say the most important lesson learned would be how being put in a situation where you have no back-up or fancy equipment is confidence in myself but also how empowered I felt being a nurse, I was no longer "just a nurse or midwife", I was valued member of their community and was respected by my patients and colleagues.

Philosophical Assumptions

Amber Buyl was serving as a newly qualified, community service nurse in a rural community health care centre in the North West Province at the time of writing the above account. This personal reflection is a description of her reality which may be representative of the reality of many nurses and health care professionals dealing with emergencies in primary health care facilities. Reality is defined as "the state of things as they actually exist, as opposed to an idealistic or notional idea of them." (*Reality | Definition of Reality by Oxford Dictionary on Lexico.Com Also Meaning of Reality*, n.d.). A health care professional's reality is not always aligned with the imagined ideas of those who design the systems and policies which shape these realities.

This research uses qualitative evaluative inquiry built upon the philosophy of realism and pragmatism. Realism is an epistemological philosophy closely related to positivism and interpretivism which seeks to understand how and why a reality unfolds as it does in particular contexts (Patton, 2015; Saunders et al., 2009), while pragmatism seeks to develop a concrete understanding of experiences and outcomes with the aim of practical application of the lessons learned (Patton, 2015).

In understanding the realities played out in the context of emergency care in the district health care system, we hope to gain insights that will improve this system and better align the ideas of policy makers with the realities of the lived experiences of those accessing and working within the system of care.

Meghan Botes

Johannesburg

2021

CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 Introduction

In a South African consensus study that explored the scope of emergency care in a developing country emergency care as is defined as "any unscheduled episode of care sought by a patient with an acute health problem of all ages"(Hodkinson and Wallis, 2010:768). Emergency care is characterised by the time sensitive nature of the event. Early recognition and treatment of emergencies may assist in reducing the mortality and morbidity related to these common conditions (World Health Assembly, 2015). A goal of emergency care is to deliver immediate care to patients with life-threatening illness or injury (Hodkinson & Wallis, 2010). For emergency care to be effective there must be a system of interdependent sub-systems to ensure continuity of care from the point of recognition to reintegration into the community (Kironji et al., 2018; Kobusingye et al., 2005).

The key components of effective emergency care include early recognition, clinical decision making and action in order to stabilise patients and prevent further complications. Early recognition should start at the most basic level of community health care (Razzak & Kellermann, 2002; Reynolds et al., 2017). The prioritisation of emergency services at a Primary Health Care (PHC) level is deemed a highly cost-effective way to ease the overall burden of disease on the health care system (World Health Assembly, 2015). PHC practitioners should be equipped with basic emergency care skills, this is supported by the World Health Assembly as a critical factor in strengthening emergency and essential surgical care and anaesthesia (World Health Assembly, 2015). It is therefore important to consider the various aspects in the system of emergency care, including the role of health policy, and the stakeholders involved such as the primary health care practitioner (Khangura et al., 2012).

Emergency Medicine has advanced greatly in the developed world, as a specialty field of medical and nursing practice, focused on the full spectrum of emergency care. From a health care user perspective, an ideal system of care would include a single point of access or simplified access routes, with good communication as to the expected pathway of care and a sense that the network of service was interconnected and not disjointed (Ablard et al., 2020). A well-established emergency care system is defined by strong links in the care pathway which requires all stakeholders to be committed and connected to the same vision. The move toward

ensuring quality in emergency care systems in Africa has been highlighted, with the following aspects being identified as key aspects for improvement: Governance and Financing; Emergency Care Data and Quality Improvement; Scene Care, Transport and Transfer; Facility-Based Care, and Emergency Preparedness (Kannan et al., 2020).

Health Care systems in developing countries have focused their efforts on the move towards preventative and promotional health with a major focus on PHC. Emergency medicine, in low- and middle- income countries have only recently begun developing this specialty and have therefore been sluggish in adopting the advances made in higher income earning countries (Wolf et al., 2012). This is associated with challenges in convincing policy makers to adopt new systems due to a lack of evidence and poor monitoring systems (Obermeyer et al., 2015). This lack of political will to strengthen emergency care leaves health care professionals disempowered and reliant on their PHC knowledge to deal with health emergencies. As a result, Emergency Care at a PHC level has been neglected, which forms the basis of the recommendations to strengthen political will in addressing the need for efficient emergency care at this level (Razzak et al., 2008; World Health Organisation, 2019).

1.2 Background

The South African Public Health care system services 84% of the population (Naidoo, 2012; Statistics South Africa, 2011). The system is divided into levels of care or referral with each level offering a different package of services. Level one facilities include PHC clinics, community health care centers and district hospitals. PHC clinics focus on preventative and promotional health as well as management of chronic conditions. The Community Health Care centre offers a similar package of services but also offers a 24-hour maternity and emergency care facility with a short stay ward. District hospitals are the next line of referral from a PHC clinic or Community Health Care center and offer diagnostic and treatment facilities for a range of conditions as well as counseling and rehabilitation facilities with inpatient and outpatient services (Department of Health: Province Kwazulu-Natal, 2014). All level one facilities fall under the classification PHC and/or District Health Care services.

Emergency care is most advanced at level three and four institutions where different specialty services can provide definitive care for patients with acute injuries or illness. There is therefore a higher concentration of specialised emergency skills in these institutions as opposed to a level one facility.

Emergency care tends to become more advanced as the level of care increases as specialised emergency skills and emergency equipment are more readily available. The capacity to definitively treat a patient is also greater at higher level facilities. Terminology around emergency care, acute care, emergency medicine and emergency medical services are often used interchangeably by those not specifically familiar with the differences between the various terms. Defining these terms are of key importance in understanding the nuances of emergency care. The general principles and features across the spectrum of these concepts remain the same.

Although nurses comprise the majority of the health workforce and even more so in the PHC context, it is also worthwhile to note the difference in skills mix at the different levels of care. Internationally, PHC facility services are nurse-led with support from care workers, doctors, clinical associates and allied medical professionals (Baker & Dawson, 2014; Epping-Jordan et al., 2004). By law professional nurses, doctors and clinical associates in South Africa are responsible for providing emergency care. Globally this responsibility is often met with negative attitudes, uncertainty and a lack of confidence and skills. Literature on emergency care delivered by nurses which focused specifically on nurse led emergency care and resuscitation, and points to nurses' lack of confidence, anxiety and uncertainty of their roles during resuscitation attempts (Heng et al., 2011; Makinen et al., 2009; Sultan et al., 2020). These negative attitudes can lead to hesitancy and failure to act in an emergency situation (McHugh et al., 2015).

In a PHC context, nurses are often forced to practice independently and the effectiveness of emergency care in this setting depends on their skill and confidence to deal with emergency cases (Baker & Dawson, 2014; Jaeger et al., 2018). Similarly doctors in PHC and general practice expressed similar anxieties and hesitancy when it comes to emergency care despite the expectation for them to lead in an emergency situation (Hjortdahl et al., 2016; Ramanayake et al., 2014). Emergency care is not the focus of services delivered at this level and therefore may be overwhelming and unfamiliar for nurses in this context.

Generally, the nurse's role in the resuscitation team is another contentious issue as nurses are often assigned to the tasks that "aid" the team leader. Leading and decision making is presumed to be the role of a doctor and in rare circumstances, a specialist nurse (McHugh et al., 2015). At a PHC level, nurses are the frontline responders to emergency situations and a doctor,

specialist nurse or specialized team is not always available to take the lead. Nurses are not well prepared to lead an emergency care team and the care offered is compromised.

It is reported that in low- and middle- income countries (LMIC's), large numbers of patients present to PHC facilities seeking emergency care (Obermeyer et al., 2015). In 2011, Statistics South Africa reported that 61.2% of participants sought medical assistance first at a public PHC clinic. The capacity of a health care facility to respond to emergency situations is dependent on the availability of resources and the strength of support available in the referral system (Razzak & Kellermann, 2002; Reynolds et al., 2017). Specialised equipment, drugs and the training of staff as well as a clear referral system and efficient transfer transport facilities are effective but are costly models that have been implemented in higher income countries (Razzak & Kellermann, 2002; Reynolds et al., 2017). In resource-poor settings these measures are not always plausible. The National Health Care facilities audit of South Africa reported poor performance in the area of emergency services for both hospitals and Primary Health Care facilities with poor compliance to the availability and maintenance of essential emergency equipment and drugs (Reynolds et al., 2014; Visser et al., 2013).While PHC by nature with its focus on preventative medicine and management of chronic disease is distinctly different to that of emergency care, there exists some similarities where the two fields find common ground.

PHC in South Africa has adopted a syndromic management approach, which assists the primary health care practitioner to diagnose and treat uncomplicated conditions across the spectrum of acute and chronic illnesses. The Adult Primary Care (APC) guideline, previously referred to as the Primary Care 101 (PC101), is a comprehensive tool consisting of algorithms, which practitioners follow in order to diagnose and manage conditions of patients presenting at the clinic (Knowledge Translation Unit of University of Cape Town Lung Institute, 2016). The aim of this algorithmic approach is to standardise care and integrate evidence-based practice into PHC. It also bypasses the expensive and lengthy process of using investigative diagnostic approaches in a resource scarce setting (Bosu, 1999; Khalil et al., 2010). The APC Guideline comprehensively addresses common acute and chronic illnesses and also highlights signs indicative of a health or medical emergency and possible treatment actions that the primary health care worker can follow (Knowledge Translation Unit of University of Cape Town Lung Institute, 2016). This guideline aids in recognition, treatment and possible referral

for patients presenting with acute conditions. An algorithmic approach has been used in many fields of medicine but has had a significant impact on the field of emergency medicine.

The American Heart Association (AHA) has been a leading organisation in the field of training lay people and health care professionals for resuscitation and emergency management. The courses developed by the organisation aims at training multi-professionals in the recognition of a medical emergency and following the steps of an algorithm-based intervention pathway, creating a rapid response system (Soar et al., 2003; Søreide et al., 2013). The goal is to ensure a simple, easy to remember, standardized approach to emergency care which is associated with improved survival rates for patients with cardiac arrest and stroke (Sinz & Navarro, 2013). This systematic approach, which is a defining feature of emergency care, is used to assess and treat a patient in the order of prioritised needs and using an algorithmic process. Interventions are according to the level, skill and competence of the provider and aims to empower every member of the emergency care team (Sinz & Navarro, 2013).

A key attribute of effective emergency care is the use of a team approach. A team approach to resuscitation has been identified as an effective way to carry out emergency care with many different proposed team structures and methods for role assignment (Kellum, 2009; Nallamothu et al., 2018). Teamwork and leadership training are vital for improving the performance of teams rendering emergency care (Hyun et al., 2012). The AHA proposes the use of a multi-professional team and the assignment of non- professional specific roles and tasks. A functional team with a simple algorithmic approach is a key factor in successful emergency care. The need for a team leader in a resuscitation effort cannot be overemphasised (Saiboon et al., 2019). In the PHC setting where nurses are the first line responders, it would be vital to ensure that nurses are equipped and confident to lead a team in the emergency care process and collaborate with other team members successfully.

In a rubric developed by Curran et al. (2011) for assessing interprofessional collaboration, six competencies required for good team performance were identified. These include effective communication, collaborative working relationships, clear assignment of roles and responsibilities, collaboration with the patient and family, effective team member contributions and effective conflict management. The AHA describes similar concepts as the elements of effective team dynamics (Sinz & Navarro, 2013). The development of these skills requires ongoing training, support and exposure to emergency care. In a PHC context access to training

and exposure is limited and therefore the functionality of this key element in emergency care is left to question.

The successes found in these evidence-based models should become part of the services offered at a PHC level to improve the overall system of care (Obermeyer et al., 2015). A system of care involves a spectrum of services, interdependently linked to form a pathway of patient care (Stroul & Blau, 2010). A system of care is only as strong as its weakest link. The initial treatment must then be supported by a strong consultative and referral system. Consultation during the acute episode has been cited as a way to improve treatment and strengthen the links in the chain of collaboration. Transfer or referral to the next level of care is the next step in the system and this requires collaboration with other facilities as well as an efficient transport system (Higashida et al., 2013). These factors are important to support the efforts of the team dealing with medical emergencies at the PHC level. Mojaki et al. (2011) described the South African District Health Referral system as ineffective with patients bypassing the PHC system and flooding next level facilities. This study reported that a large majority of patients presenting at secondary facilities with acute conditions could have been managed at a Primary Health Care level. The consequences of a poor emergency care system include wasteful expenditure, and increased preventable death and disability (Committee on Military Trauma Care's Learning Health System and Its Translation to the Civilian Sector et al., 2016).

The factors for effective emergency care described here are core attributes of emergency care systems. Emergency care in the PHC context however is often an additional service and therefore not a focal point. The PHC system in many countries can be described as the frontline care for communities with specific emphasis on health promotion, prevention of disease and management of chronic and acute illness (World Health Organization & United Nations Children's Fund (UNICEF), 2018).

While the system of emergency care is the focus of this study it is important to understand where emergency care fits into the overarching district health care system and the policy processes that define its scope, goals and actions. Policy analysis has developed as field of research due its significance in shaping health care systems (de Leeuw et al., 2014). The goal of a policy is to problem solve (Bali et al., 2019) and therefore policy analysis involves investigation into how problems are defined, how priorities are included on an agenda, the process of policy formulation, the decision-making processes involved and how the policy is

implemented and evaluated (Gilson et al., 2018).

Policy analysis at a first glance may suggest the review of the policy content itself, however Walt and Gilson (1994) propose that a framework for policy analysis includes multiple stakeholders and viewpoints. By developing a rich understanding of the context, actors involved, processes for development and implementation and the content of the policy itself an effective evaluation of the policy and broader understanding the policy environment is achieved. In the field of health policy, the policy environment is the health care system.

The health system of each country is organised differently and has unique complexities, however the role of policy in health care is equally important across all systems (Tulchinsky & Varavikova, 2014). Systems of care are guided by various policies. Health policy is developed at a national level, and is a major driver for the agenda of the health care system and the foundation upon which it functions (Greer et al., 2017). Health policy defines the goals and actions of a health care system and thus in order to fully appreciate any system of care, an understanding of the policy processes and the complexities thereof are vital (de Leeuw et al., 2014). The priorities of a health system is reflected in its health policy and therefore health policy is vital in understanding and improving an emergency care system. In a consensus study by Hodkinson and Wallis (2010) on the scope of emergency care in developing countries, the need for strengthening of the system at the Primary Health Care level was identified.

1.3 Problem statement

The integration of effective emergency care into PHC directly reduces mortality and disability (World Health Assembly, 2015). Globally, there has been neglect in the area of emergency services offered at a PHC setting, with particular emphasis on low- and middle- income earning countries (Obermeyer et al., 2015). Various factors have led to this neglect, such as the perception that emergency care is a costly service, poor resource availability in low and middle income-earning countries (LMIC's) and the lack of data to motivate the need for improved emergency care (Reynolds et al., 2014). Within a PHC setting, emergency care is not considered to be a major part of the services offered with the focus on prevention and promotion of health. An effective emergency care system requires a strong network of support and a clear pathway from presentation to treatment (Reynolds et al., 2017). The South African PHC system has revealed weaknesses in the provision of emergency care (Mojaki et al., 2011; Visser et al.,

2013). These weaknesses relate to the capacity of facilities to deliver emergency care in terms of skill and resources as well as the dysfunction of the referral system exposed by Mojaki et al (2011). Specialised emergency skills and resources required to deliver this type of care are often not found in a PHC context, bringing into question the quality of emergency care rendered at this level. The capacity of a PHC facility to effectively respond to a patient who presents with a medical emergency, is determined by a range of factors. Little is known about these factors and how they shape the experiences and practices of health care practitioners dealing with medical emergencies in a PHC context.

Furthermore, emergency care at a PHC level is situated within a broader system of care. While the broader system of PHC is well defined, the availability of resources, consultative support and the effectiveness of the referral system specifically related to emergency care is not known. These aspects of any health service is usually defined in the relevant health policy. Health policy is responsible for giving direction to a health care system and therefore has a direct effect on the services offered. Health policy reflects the priorities of a health care system or service and its content often reflects the processes involved in its development. The process of development, implementation and evaluation of policy includes stakeholders from various platforms and therefore their perspectives are as important as the content of the policy itself. Emergency care has been mandated by the WHO as a national responsibility and therefore this priority should be reflected in national health care policy (World Health Assembly, 2015). Internationally, various strategies have been employed for the improvement of emergency care in different countries (Reynolds et al., 2017). It is important that strategies for improvement are contextually relevant and integrates functionally into the existing system of care. This can only be done effectively if the process is informed by a rich understanding of the broader context and the reality of the current state of emergency care in a PHC setting. To date, there has been no such evaluation of the system of emergency care at this level and therefore no strategy for improvement.

1.4 Purpose of the Study

The purpose of this study was two-fold: firstly, to analyse emergency care at a primary health care level by conducting a policy analysis of all emergency care related policy documents and policy processes and, secondly, to explore ways to strengthen the system of emergency care at a primary health care level.

1.5 Research questions

In order to gain a meaningful understanding of the system of emergency care at a primary health care level the following research questions are proposed:

- How would an analysis of the system of emergency care at a primary health care level through the use of a framework for policy analysis contribute to an improved understanding of its strengths and weaknesses?

  Sub-questions:

  - How do health care practitioners working in a primary health care facility deal with patients presenting with a medical emergency?
  - Are the policies which inform the district health care system sufficient in addressing emergency care at this level?
  - What systemic support is available to health care practitioners dealing with medical emergencies in a primary health care setting?
  - To what extent would recommendations derived from a policy analysis find consensus amongst a panel of experts in the field?

1.6 Research Objectives

The objectives of this study are therefore:

- To analyse the system of emergency care at a PHC level, using Walt and Gilson's policy analysis framework.
- To extrapolate from the findings, strengths and weaknesses/areas within the system of emergency care at a PHC level.
- To develop recommendations for remodelling of the system of emergency care at a PHC level that optimises strengths and minimizes weaknesses in the system.
- To validate the recommendations developed for remodelling of the system of emergency care at a PHC level that optimises strengths and minimizes weaknesses in the system.

1.7 Definition of terms

Primary Health Care: Primary Health Care includes all essential health care ranging across the spectrum of promotive, preventative, curative and rehabilitative services, made available at a community level, which encompasses the ideological underpinnings of sustainable community development. (Bryant & Richmond, 2017)

District Health Services: District Health services refer to all Level One facilities as defined by the National Department of Health. These include all District hospitals, Community Health Care centers and Primary Health Care Clinics. For the purpose of this study the term Primary Health Care refers to all District Health Services.

Health Care Practitioners: For the purpose of this study health care practitioners included those providers who are directly involved in the emergency management of patients at a primary health care level. This would include Professional Nurses, Doctors and Clinical Associates.

Professional Nurse: A professional nurse in this context is a person who has met the prescribed education requirements for registration as a professional nurse and midwife (Nursing Act, No 33 of 2005).

Doctor: A doctor is a person who has met the prescribed educational requirements for registration with the Health Professions Council of South Africa under the Health Professions Act 1974 (Act no 56 of 1974) under the category of Medical Practitioners (*Health Professions Act 1974 (Act No 56 of 1974)*, 1974).

Clinical Associate: A clinical associate is a person who has met the prescribed educational requirements for registration with the Health Professions Council of South Africa under the Health Professions Act 1974 (Act no 56 of 1974) under the category of Clinical Associates (*Health Professions Act 1974 (Act No 56 of 1974)*, 1974).

Health Care Facility Manager: For the purpose of this study a "Facility Manager" refers to a person in the role of clinical services management at a District Health Care facility. This includes management for nursing services as well as clinical medicine.

Emergency Care: "Any unscheduled episode of care sought by a patient with an acute health problem of all ages" (Gray et al., 2017).For the purpose of this research, the definition of emergency care will be explored not only from the patient /demand side perspective as is described by Gray et al (2017), but the concept will be explored from the Health Care Practitioner/supply side as well.

Emergency Medicine: "Emergency Medicine is the medical specialty with the principal mission of evaluating, managing, treating and preventing unexpected illness and injury." (Schneider et al., 1998, p 348.)

Definitive Care: "includes all the capabilities embedded in health support, plus extraordinary preventive, restorative, and rehabilitative capabilities not existent in lesser capabilities of care", further in this study definitive care refers to the point of care where a patient is managed conclusively (*Definitive Care | Legal Definition of Definitive Care by Law Insider*, n.d.).

Health Policy: "Health policy refers to decisions, plans, and actions that are undertaken to achieve specific health care goals within a society. An explicit health policy can achieve several things: it defines a vision for the future which in turn helps to establish targets and points of reference for the short and medium term. It outlines priorities and the expected roles of different groups; and it builds consensus and informs people." (*WHO | Health Policy*, n.d.)

1.8 Rationale for the study

The PHC System of South Africa forms the backbone of the entire health system servicing a large proportion of the population. As the frontline access to the health care system, for many communities the PHC system also serves as an access point for emergency care. Gauteng, the context for this study, is the most densely populated province, home to more than 25% of the country's population. Carrying a high burden of disease of the health system, emergency care in the Gauteng province would serve as a good indicator of the performance of emergency care in the rest of the country. Effective emergency care has the potential to decrease the rate of preventable deaths, and reduce the burden of disease caused by acute illness and injury. Increasing the capacity for emergency care at this level is strongly motivated by the positive outcomes seen in many countries where emergency care has been prioritized and strengthened. While recommendations have been proposed by the WHO and various other bodies including recommendations specifically relating to LMIC's, there is no strategy for the improvement of emergency care in South Africa. The rationale for this study would be to form a basis for developing such a strategy with the expectation that by strengthening the emergency care system we would be able to move closer toward the ideal of equitable access to health and specifically emergency care.

1.9 Significance of the study

The significance of this study is found in the contribution of knowledge in the description and understanding of the emergency care system at a primary health care level. There has been no evaluation of the system of emergency care at this level of care. Evaluation of emergency care on a national level is lacking and therefore attempts to improve this system of care would be unfounded. By defining and understanding the strengths and weaknesses of the system, it will be possible to make recommendations for interventions for improvement and pilot the recommendations made from the findings of the study. Improvement in the system of emergency care at a primary health care level would have a positive impact on death and disability of patients related to acute illness or injury. Similarly, to many lower and middle income earning countries the need to strengthen emergency care using contextually appropriate strategies is needed and therefore the insights gained in this study may contribute towards global move towards strengthening emergency care. The recommendations made would have significant implications for education in the field of emergency medicine and emergency nursing with a move towards the improved practice of emergency care at a primary health care level. The need for further research in this emerging field is also highlighted.

1.10 Research methods

1.10.1 Research Setting

According to the General Household Survey conducted by Statistics SA in 2016, Gauteng comprises a variety of community settings, which include urban and suburban communities, townships and informal settlements. This study was conducted in the District Health Care system of Gauteng. The District Health Care System is divided into various levels and five regions (City of Joburg, City of Tshwane/Metsweding, Ekurhuleni Metro, Sedibeng, and West Rand) with a total of 392 PHC facilities spread across the different regions.

1.10.2 Research Design and Methods

A Qualitative Formative Evaluation was conducted. This approach is a focused design for evaluating a specific programme, intervention or policy using multiple selected methods appropriate to achieve the study objectives. Both qualitative and quantitative methods were used in this study which was conducted in two phases. The first phase included the analysis of the emergency care system at PHC level using a framework for policy analysis while phase two entailed the development and validation of recommendations through the use of the Delphi

method. An overview of the research plan and the methods employed can be found in Table 1.1

1.10.3 Philosophical Assumptions

A Qualitative formative evaluation seeks to pragmatically assess the effectiveness of a certain programme, policy or service. In keeping with this type of research design, it is imperative that the underpinning philosophical assumptions align with the pragmatic nature of this type of research. This research study was approached from a realist, pragmatic philosophical view. Realism can be further described in three components: the empirical reality based on the experiences of those describing the reality, the actual reality based on the observed patterns of events and the real reality which considers the mechanisms creating those regular patterns of events (Pawson, 2013).

A realist evaluation goes beyond the description of a reality but seeks to explain the mechanisms behind the described reality (Patton, 2015). The real experiences of health care professionals dealing with emergency care in the district health care system is shaped by mechanisms which contribute the patterns of reality. Health care policy is an important mechanism designed by policy makers to ensure a certain reality is experienced by health care professionals and patients in health care facilities. Using a framework for policy analysis all the mechanisms involved in the construction of this reality is explored using various data sources.

The ontological foundation of realism is based on the idea that reality is not defined by perception but rather patterns and causal mechanisms can be studied and explored to define this reality.

Epistemological realism acknowledges that a reality can be known and either exists or does not exist (Epstein, 2012). This philosophy allows for the development of a certain research paradigm which frames an inquiry for both research and evaluation.

In approaching the study, the researcher acknowledged that the reality of emergency care in a PHC setting could be described and understood based on the realities offered by those who shared their insights. Patterns and mechanism within the system were identified and explored, enabled by the techniques employed by qualitative content analysis and triangulation of data sources.

Both realism and pragmatism find its roots in the philosophy of science. A pragmatic approach is used to synthesise the evaluation and answer the question: “what are the consequences and useful applications of what we can learn about this issue or problem” (Patton, 2015). Pragmatism is an underpinning philosophy for most mixed methods studies as it seeks to illicit information using various methods in order to develop a concrete understanding of the field of study and develop practical answers to the research questions (Patton, 2015). Similarly, to realism, a pragmatic approach focuses on the experiences and outcomes of an action. Shared beliefs and patterns are identified in order to develop recommendations. This philosophy values the use of various data sources and is flexible in the ability to allow the research plan and design to adapt as data emerges.

Table 1.1 Overview of Research Methods

Research Objectives	Data Collection	Sampling Method	Measures to ensure trustworthiness	Data analysis
Phase 1a) and b)- Policy Analysis				
To analyse the system of emergency care using Walt and Gilson's policy analysis framework.	a) Semi structured Interviews with clinicians and facility managers in the district health care system. b) Document analysis of key policies informing the District Health Care system. Semi structured interviews with key informants representing the cross-cutting fields of the study.	Random selection of facilities with Maximum Variation sampling technique for participant recruitment. Purposive sampling, snowball sampling. Purposive sampling, snowballing technique.	Graneheim & Lundman, (2004) 's model of trustworthiness ensured by: 1 Careful selection of participants. 2 Appropriate methods to align with the pragmatic nature of the research. 3 Systematic meaningful data analysis and continuous reflection. 4 In-depth description of context and population.	Qualitative content analysis using MAXQDA qualitative data analysis software. Qualitative content analysis – Directed approach using framework for pre-selection of themes (Nowell et al., 2017) using MAXQDA qualitative data analysis software. Qualitative content analysis using MAXQDA qualitative data analysis software.
To identify strengths and weaknesses/areas within the system of emergency care at a primary health care level.	Development of evaluative conclusions using an inductive approach to summarise key findings from 3 data sources.	Not applicable.		Inductive Reasoning.
Phase 2 – Development and Validation of Recommendations				
To develop recommendations for strengthening of the system of emergency care at a primary health care level that optimises strengths and minimizes weaknesses in the system.	Deductive reasoning approach to formulate recommendation statements. Delphi survey to achieve consensus on recommendations proposed.	Not applicable. Key informants from phase one invited to participate in the Delphi study.	Graneheim & Lundman, 2004's model of trustworthiness as stated above. • Internal consistency of instrument measured using Cronbach alpha reliability coefficient. • Parameters for consensus set at 80%.	Deductive reasoning. Descriptive Statistics using measures of central tendency. Latent semantic analysis of open-ended comments.

1.11 Trustworthiness

Trustworthiness as described by Graneheim and Lundman (2003) is a concept employed in qualitative research to ensure that the findings of a study are presented in a way that is a true representation of the data collected. While Morse (2015) presents the argument that scholarly work should revert to the terminology traditionally used such as rigor, reliability and validity, the principles of ensuring integrity of the findings presented remain the same and therefore the principles defined by Graneheim and Lundman were used (Morse, 2015). The findings should be analysed and presented in an unbiased manner allowing for the readers to formulate their own interpretation of the findings. Credibility refers to how well the study has addressed the research question of focus. Credibility can be ensured by selecting the participants with the appropriate experiences and characteristics required to answer the research question. Data collection methods and sampling should be appropriate to ensure that adequate data is collected to ensure rich description and analysis of data. All participants selected for participation in this study have either direct experience with management of medical emergencies at a primary health care level or have an influence in the policy decisions regarding the management of medical emergencies at a primary health care level. The method for data collection chosen is appropriate for the pragmatic nature of the research questions and was focused on the area of concern. During data analysis, the units of meaning were carefully considered when coding and categorizing data. The use of representative quotations from participants as well as ensuring confirmability by seeking agreement are ways to enhance credibility (Graneheim & Lundman, 2004). The use of multiple data sources and the process of triangulation were methods used in this study to ensure confirmability.

Dependability requires the acknowledgement that data is not stagnant but dynamic and analysis of the data should reflect these evolving concepts. This was ensured by taking into account any new insights, changes, or inconsistencies encountered during the data collection process and including in them discussion. Transferability refers to the extent to which the findings of the study may be generalized to another population or group. Transferability is only possible when a rich description of the context, culture and characteristics if the participants, methods of data collection and analysis are given. The context and nuanced circumstances of the study setting was explored in both the analysis and discussion of findings to ensure that the research remains relevant and contextualized, while still answering broad questions about the system at large (Graneheim & Lundman, 2004).

1.12 Ethical considerations

The following ethical requirements were taken into consideration. The protocol was submitted to the Faculty Postgraduate Studies Committee for assessment and approval to conduct the study (Annexure 1). Application was made to and granted by the Human Research Ethics Committee (Medical) of the University of the Witwatersrand (Annexure 2). Permission was sought from the Gauteng Department of Health and the District Research Councils within the province for data collection in the various District Health Facilities. Approval was granted for all districts and individual facilities (Annexure 3).

Written informed consent was obtained from participants for participation in the study (Annexure 8). Confidentiality and anonymity were maintained for the participants and institutions through allocating pseudonyms or numbers to the participants and transcripts. The identity of the author of the narrative included in the foreward of the study was used with permission. Non-maleficence was ensured by ensuring the participants that information received will be kept confidential regarding their individual practices during emergency management of patients. The information letter indicated that the participants have a choice to participate and can withdraw at any stage of the research process. The name and contact details of a counselor was provided for participants who may have needed support after an interviewing session. A separate written consent for digital recording of the interviews was also obtained from participants (Annexure 9). Data was secured digitally on a password protected device and backed up on a password protected cloud storage application.

1.13 Thesis outline

The format of this thesis in presented in a logical manner addressing each step in the research process:

Chapter 1 – Overview of the Study

Chapter 2 – Review of the Literature

Chapter 3 – Research Methods

Chapter 4 – Findings and Discussion: Phase 1 a) – Health Care Practitioners and Facility Managers

Chapter 5 – Findings and Discussion: Phase 1 b) – Document Analysis and Key Informant Interviews

Chapter 6 – Integration of Data: Presentation of Evaluative Conclusions and Recommendation Statements

Chapter 7 – Phase 2: Development and Validation of Recommendations - A Delphi Study

Chapter 8 – Evaluation, Recommendations and Conclusion

1.14 Summary

Strengthening emergency care in the District Health Care/PHC system is viewed as an effective means of decreasing mortality and morbidity caused by acute illness and injury. The District Health Care System's core function is to render primary health care, of which emergency care is not a central focus. Evidence suggests that emergency care is compromised at this level and therefore capacity of the system to provide emergency care must be strengthened. This research overview outlines the steps taken to analyse emergency care in the District Health Care system and identify the strengths and weaknesses of the service offered using a framework for policy analysis, and finally to develop consensus-based recommendations for the strengthening of emergency care at a Primary Health Care level.

The following chapter will elaborate on the literature and discuss the existing literature framing this research study.

CHAPTER TWO

A REVIEW OF THE LITERATURE

2.1 Introduction

While the background described in the previous chapter outlines the literature basis upon which the research questions were developed, this chapter explores and describes the literature defining the key concepts, which frame this study. In order to develop a full understanding of the context of evidence which this research is situated within, the researcher approached the body of literature using systems thinking (as defined below) as an underpinning concept and the WHO Emergency Care Framework Matrix as a conceptual framework to understand the variables and relationships between variables and important concepts (McGaghie et al., 2001).

The various elements of the framework informed the search strategy and a range of data bases were used. Literature dating back 20 years was included as important foundational work for the field of emergency care in the primary health care setting began in 2002. Boolean phrases were not used, however a wide search of the available data bases, including but not limited to PubMed, CINAHL, and Scopus was conducted.

Emergency care, although a system in itself, exists within the broader health system of any country. Health systems are guided by health policy (Hardee et al., 2012). In order to appreciate the emergency care system, its place within the broader health system and the effect of policy on this system of care must be explicated.

Once the place of emergency care within the health system is clarified, an in depth understanding of the actual emergency care system is needed.

Therefore, this chapter will begin by defining the concepts related to health systems and the place of emergency care within the broader system. Health policy can be described as the driver behind health care systems, setting the objectives and providing direction. Health policy is therefore identified as an essential variable in understanding any system of care.

The following conceptual diagram illustrates my approach to understanding the emergency care system in South Africa as a connected part of the broader system, influenced by health care policy; it depicts emergency care as a field of health care, which cuts across various levels and fields of health care practice (Figure 2.1)

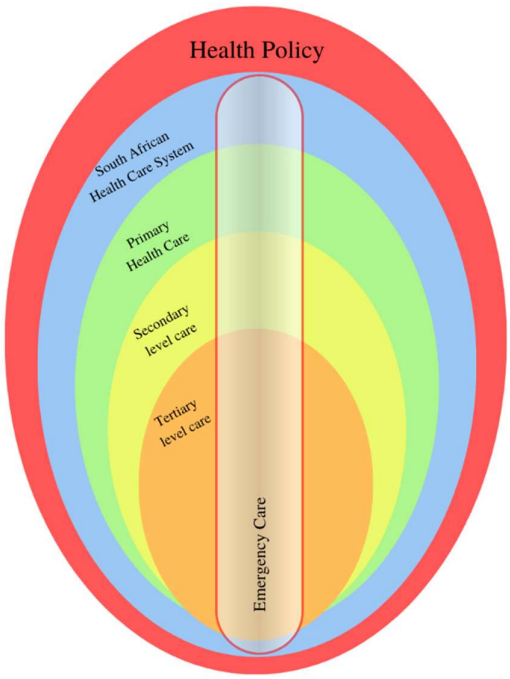

Figure 2.1 Context of the Emergency Care System in South Africa

Globally, countries have begun to recognize the importance of emergency care systems and have developed strategies for the strengthening of emergency services (Reynolds et al., 2017). Health systems, however, are unique and complex and therefore a tailored approach which is contextually relevant is called for (Gilson et al., 2018). In South Africa there is no existing national plan for emergency care and therefore this system of care finds its place as an addendum to programmes specifically aimed at addressing disease profiles. How emergency care integrates into the health system at various levels of care is not known and of particular concern is the quality of emergency care at the frontline access point to the Health System – The District Health Care System.

This review of the literature begins with the presentation of a broad understanding of health systems and health policy based on international literature and focus in on the emergency care system as a system of care within the broader health care system with a specific focus on the context of South Africa.

2.2 The systems approach

Hardee et al. (2012) link health outcomes and the functioning of health systems directly to health care policy. Health systems are complex in nature but their goal is universal. The goal

of every health system includes the promotion, restoration and maintenance of the health of a population (*WHO | Health Systems Strengthening Glossary*, n.d.). It includes all services related to health but is also not a system in isolation. The health system is often interrelated with various other social and educational systems, hence the complexity of its nature (Reynolds et al., 2014). A system of care is defined as a spectrum of services aimed at reaching a specific goal and specific target group of patients (Stroul & Blau, 2010).

The study of health systems through a systems thinking process, has enabled the development of a specific language and approach. Systems thinking involves the study of systems as a whole with specific analysis of all interrelated parts (Waters Foundation, 2018). This approach endeavours to understand a system from multiple perspectives in order to achieve successful evaluation and transformation of systems in need of change. Systems research in the field of health is particularly important for the improvement of health outcomes (Leslie et al., 2018). Emergency care should not be viewed as a system in isolation. A well-established emergency care system must be seamlessly integrated into the broader system in which it is situated, as well as with the interdependent systems and various platforms across which it spans.

Significant lessons learned from the field of systems research include the notion that relationships within systems are vital for its effective functioning, highlighting the importance of collaboration and fostering a shared vision to drive change. System performance as a driver of change must be evaluated, for the meaningful evaluation of system performance, useful indicators and measurements must be applied (Zurcher et al., 2018). The language and lessons learned from health systems research should be carefully considered and applied in the development or assessment of an emergency care system (Calvello et al., 2013). In keeping with this idea, the components identified by Zurcher et al. (2018) are also considered essential enablers for the development of the emergency care system according to the WHO framework for emergency care systems matrix and depicted in the cross-cutting elements of the system. In addressing these components, it is important that the national health system of the country is described as the context in which emergency care is situated.

2.3 The South African Health Care system

The South African Health Care System has a historical background of inequity and discrimination. Under the apartheid regime, access to efficient health services was granted based on race (Coovadia et al., 2009). The inequitable distribution of resources in favour of the

racial segregation enforced by the law still has its grip on the country even after 26 years of a new democracy (Malakoane et al., 2020). While the law has changed, the effects of this system are still entrenched in our health system, in which the roots of corruption and inequality have deepened in many ways (Koelble & Siddle, 2014). While health finance in South Africa surpasses that of many other LMIC'S, health outcomes remain poor (Malakoane et al., 2020). The unequitable distribution of resources and poor governance of finances in the health sector has a direct impact on access to and quality of care, with the brunt of the consequences felt at the most basic community level.

The health system in South Africa is divided into two sectors, namely, the private sector and the public sector. The Public sector is ultimately a competency of the national government and is governed by the various provincial health departments. It is a three-tiered system with primary, secondary and tertiary facilities responsible for the delivery of health care services in each defined region (Mahlathi & Dlamini, 2015). The District Health Care System forms the foundation of the system, as the umbrella under which Primary Health Care is delivered using disease specific programmes to address the health needs of each district (Malakoane et al., 2020).

There have been many improvements in the health system aimed at increasing access to health care, including the building and renovation of facilities and the introduction of free services (Coovadia et al., 2009). There have also been multiple initiatives for quality improvement in the health sector, however, these were found lacking in achieving the desired outcomes (Maphumulo & Bhengu, 2019). The intention behind these initiatives is often overshadowed by gross mismanagement of funds and ineffective planning resulting in poor outcomes. The consequences are felt directly by the poor and vulnerable who access these services while policy makers remain largely detached from the reality due to little or no monitoring and evaluation of outcomes, this is particularly emphasised in the area of emergency care. Reviews, reports and evaluations conducted in the health system are aligned to the priorities of the health policy in place and therefore, if an issue is not on the agenda of health policy, it cannot be evaluated effectively for improvement.

In a review of the literature some of the challenges plaguing the system are described by Maphumulo & Bhengu (2019). The unequal distribution of resources between the private and public sector with most of the country dependent on the public sector is a major cause of poor health service delivery. Urbanization, migration and the inability to fill health care posts leads

to a drain on an already constrained system. The lack of human resources for health with specific focus on the shortage of nurses has been highlighted in various research agendas since the inception of the democracy (Armstrong et al., 2019; Coovadia et al., 2009; Malakoane et al., 2020; Pretorius & Klopper, 2012). A management and leadership crisis has led to poor governance, and corruption. The burden of disease caused by HIV and AIDS, Tuberculosis and health associated infections is increasing faster than the progress in the restructuring of the health system. While the National Health Insurance remains a hope for many, the delay in implementation further highlights the poor progress of improvement of infrastructure and services particularly in the District Health Care System (Maphumulo & Bhengu, 2019).

Access to health in rural and under resourced areas is primarily via the District Health Care System, which serves as the main entry point into the health care system. Within a district however, the context of each facility varies greatly and even the definition of "rural' is not always clear, as within an urban area, townships and poorly resourced areas coexist with booming business districts and residential suburbs (Baker & Dawson, 2013). A poor understanding of the context leads to poor planning and the development of irrelevant programmes and policies and ultimately a waste of much needed resources.

With no existing national strategy for emergency care, the District Health Care system is the main access point for emergency care with definitive care offered at higher level facilities. It is noted that emergency care is included in the service packages of all District Health Care facilities and it is required that even facilities with the most basic package of services is able to provide emergency care with the goal of stabilization and referral (*Ideal Clinic Manual Version 18*, 2018). Although emergency care as a health service is required at all facilities, there is no evidence on an emergency care system, which covers the spectrum of care in South Africa. The disjointedness of the service is also highlighted in the fact that Emergency Medical Services is not included under the umbrella of the District Health Care system but is a provincial Department of Health competency and exists apart from emergency care offered as in-facility services.

The Ideal Clinic Framework is the underpinning policy which directs health service delivery in the District Health Care system. This framework outlines the standards and core principles under which district health care facilities are to operate (*Ideal Clinic Manual Version 18*, 2018). Within this framework the direction for emergency care is given. The referral system models an upwardly hierarchical approach with lower-level facilities referring up to higher level

facilities for cases beyond their capacity and scope. This referral system has been described as flawed and particularly problematic when dealing with emergency cases (Mojaki et al., 2011). The result is the overburdening of emergency departments in higher level facilities as people try to navigate around the flawed system. The health system is actioned by health care policy and therefore emergency care should find direction in the health care policy of the country.

2.4 Health policy

The responsibility for emergency care should be a national competency and the emergency care system should articulate effectively with the broader health care system (Taymour et al., 2018). The South African District Health Care system is the backbone of the broader health care system and therefore the emergency care system should integrate easily into this platform. The health care system of any country is defined and directed by its underpinning policy and therefore any analysis of the system or its services cannot be holistically achieved without an understanding of the fundamental policy directives. The objective of policy design is described as a "systematic effort to identify the most appropriate means to solve a problem" (Bali et al., 2019). Robust health care policy seeks to address problems in the health care system in the most efficient, contextually appropriate way using policy frameworks to give direction and policy tools designed to measure the effectiveness of the policy in reaching its desired goals (Bali et al., 2019).

In order for health policy to effectively address a problem, an issue must be presented and accepted as part of the policy agenda (Koduah et al., 2016). Agenda setting is an essential step in policy development where important issues are identified and included in the prioritization and goal setting. This process of prioritization for agenda setting is not always clear (Koduah et al., 2016). Policy makers are given the authority to decide on the issues which will be addressed and therefore to a large extent control the agenda setting process (Gilson et al., 2018).

Power dynamics have been highlighted in the policy development process as decision making and influence play an unavoidable role in how policy is designed, implemented and evaluated (Koduah et al., 2016). Emergency care exists as a service which cuts across various fields of medicine and levels of care. While this highlights its importance it also results in the emergency care system becoming an addendum to the dominating agenda of whichever umbrella it falls under. Emergency care as a system in itself therefore does not always make it to the agenda setting table.

The ability of a policy to achieve its stated objectives is known as implementation fidelity (Carroll et al., 2007). Objectives must be clearly outlined and the means to achieve it feasible. Measurement tools and performance indicators are key aspects of evaluation of policy effectiveness. Health policy is complex and exists within a complex system and therefore there are many proposed frameworks for the analysis of health care policy. Walt and Gilson (1994) proposed a framework for policy analysis that includes understanding of the process (policy development and implementation), actors (all stakeholders involved in the policy process), the actual written content of the policy and the context in which the policy will serve. The concept of outcomes has also been identified as a key aspect in policy analysis (Gilson et al., 2014). In order to form a rich understanding of the way a health care system is functioning; a policy analysis is vital. The complexities of interrelated systems and varying contexts and levels of care should be reflected in the policy to ensure the effectiveness of the policy.

The policies that direct the health care system will have their priorities and goals embedded in every part of the policy process and while there is no specific policy directing emergency care in South Africa, the extent to which it is prioritized and directed should be found in the key policies. The WHO resolution regarding emergency care systems mandates national authorities to prioritise emergency care in its health care policy and legislation (Anderson et al., 2012).

By placing emergency care on the policy agenda of a health system it not only gives direction for the improvement and achievement of set goals, but it also creates a mandate for accountability and evaluation of the service. Implementation and evaluation of the effectiveness of policy allows for governance structures to take account for the quality of care offered. The District Health Care System of South Africa is governed by the Ideal Clinic Framework, a policy designed to achieve the goals of Primary Health Care. Emergency Care is not considered an equal partner or platform and therefore its role and scope in the District Health Care system is not clearly defined.

2.5 Defining emergency care

In defining emergency care, it is important to consider the factors outlined by the framework for the assessment, development and strengthening of an emergency care system, as outlined by Reynolds et al. (2017), in the WHO matrix for emergency care systems (Fig 2.2). This framework has been adapted into a conceptual framework with which the researcher will approach the body of literature to situate the objectives of this study.

This conceptual framework illustrates within the emergency care system, the elements involved in the **spectrum of emergency care** as well as the **cross-cutting elements** across the spectrum. It identifies the **components** to be considered for each element.

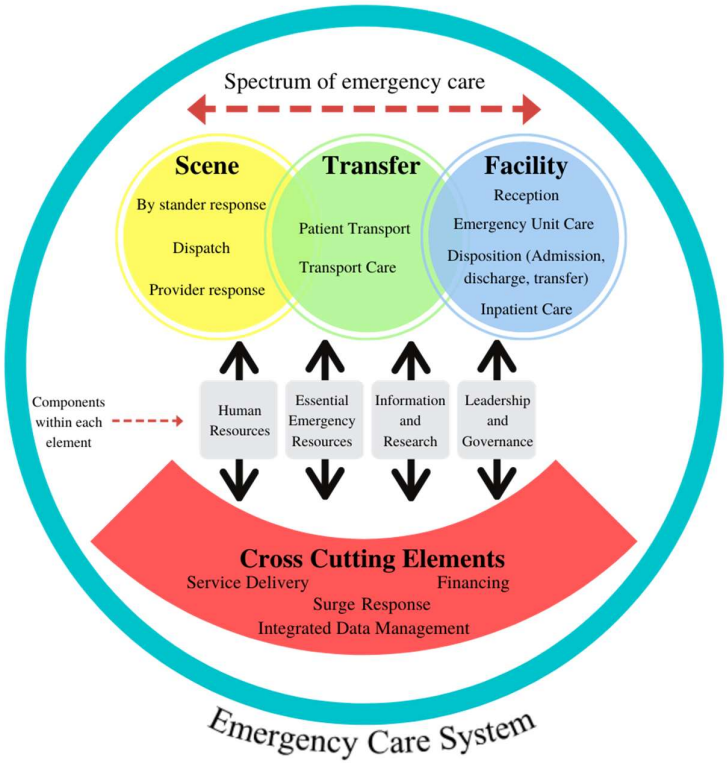

Figure 2.2 Conceptual Framework adapted from WHO matrix for Emergency Care Systems

Clarity in the use of various terminology used in the context of emergency care is often lacking as terms are sometimes used interchangeably (Calvello et al., 2013). While health practitioners working in the field of emergency care are more familiar with the jargon of the field, outsiders and lay people often lack the clarity in the distinctions between the various terms used. Acute care, emergency care, emergency care system, emergency services, Emergency medical services and emergency medicine are all important concepts in understanding emergency care as a whole and the parts comprising this system of care.

A health or medical emergency is defined as any unplanned for event requiring urgent medical intervention (Hodkinson & Wallis, 2010a). A medical emergency by nature, points to two defining attributes of emergency care – time sensitivity and acuity (Mehmood et al., 2018). The

need for rapid intervention regardless of disease specificity is essential in emergency care (Hirshon et al., 2013).

2.6 The Spectrum of Emergency Care

Emergency care, also used interchangeably with the term acute care, may be used as an umbrella term for the coordinated efforts of various services and providers whose goal is to provide urgent definitive care for patients in critical condition (Calvello et al., 2013). A health service may be described in terms of its attributes and its processes. Calvello et al (2013) describe the emergency care process, which is the goal of the emergency care system, as having three critical phases. The critical phases described by Calvello et al (2013) support the spectrum of care depicted in the WHO matrix for emergency care systems (Figure 2.2). The first phase involves the individual's decision to seek care. When a person becomes aware of the need to seek urgent care, the social determinants of health play a vital role in influencing the time it takes to first present to a medical facility. While these determinants, such as education, sociocultural factors and economic factors may affect the health seeking behavior of individuals, it highlights the importance of the concept of access to health care. This first phase relates directly to "scene" element in the emergency care system matrix (Figure 2.2), which articulates directly with the next phase. Access to emergency care is the second phase of the process and includes but is not limited to the availability of emergency transport, and efficient prehospital services. Once a person has presented to a medical facility, the third phase involves the prompt diagnosis and treatment of the condition (Calvello et al., 2013). The third phase relates to the care offered by a facility as depicted in the WHO matrix for emergency care systems.

The three phases described in the process of emergency care point toward the existence of a network of service providers. Various stakeholders are involved in each phase. This network of providers comprises the system of emergency care. Two key stakeholders are emergency medical services (EMS) and emergency medicine.

EMS can be defined as the provision of emergency care in a prehospital setting including acute stabilization and transportation of patients to a medical facility (Mehmood et al., 2018). EMS response is characterized by high risk and pressurized environments. Under its umbrella, EMS includes the processes of emergency referral networks and transportation as well as disaster preparedness and response (Calvello et al., 2013).

Emergency medicine refers to a specialty field of medical practice focused on the delivery of emergency care from the point of prehospital care to definitive treatment, including trauma care, acute medical care and acute surgery (Calvello et al., 2013). Emergency medicine is a provider of emergency care in partnership with emergency nursing. Emergency nursing refers to a qualified nursing professional who has received specialized education in the delivery of emergency nursing care. Jointly the two professions operate under the banner of emergency care with specific focus on (but not limited to) in-facility emergency care (Hodkinson & Wallis, 2010b; Schriver et al., 2003). This specialty field of emergency care practice allows for collaboration between various other disciplines including critical care and family medicine at different stages of the emergency care process (Hodkinson & Wallis, 2010).

The provision of emergency care, however, is not limited to specialist practitioners. In low- and middle-income earning countries (LMIC's) it is not uncommon for emergency care in various settings to be delivered by a range of practitioners including physicians, junior doctors, nurses, and paramedics. Emergency services in resource constrained contexts sometimes employ untrained drivers for the sole purpose of emergency transportation with no other trained provider on board (Suryanto et al., 2017).

Emergency care is often divided into a tiered system with varying levels of care. At its most basic level the expectation is for providers to be able to stabilize and refer patients with medical emergencies. Increasing complexity in care and the availability of definitive or curative treatment is often available at higher levels of care and therefore emergency specialist skills are often concentrated at higher level, and better resourced facilities (Reynolds et al., 2017).

In Primary Health Care settings, the primary provider of care is the nurse. A review of the literature of emergency care in rural settings revealed that nurses, independently were responsible for the definitive care of majority of emergency cases (Baker & Dawson, 2013). Nurses comprise the largest portion of the health workforce and in LMIC's including Sub Saharan Africa, are often the primary providers of emergency care across various settings (Nyhus & Kamara, 2017). This unique integration of non-specialist practitioners in a specialty field is an important feature of emergency care and the functioning of this system in all fields of the spectrum of care.

Within the spectrum of care the responsibility for surge response is included, which entails both disaster preparedness and response (Reynolds et al., 2017). A country's ability to respond to, navigate through and recover from a disaster is largely dependent on the emergency care

system and is not limited to the function found in Emergency Medical Services but integrates functionally with the health system (Raikes & McBean, 2016). This is especially important in a Primary Health Care setting as disasters place communities in vulnerable positions and therefore the response should be relevant for this level of care. An effective response to disasters encompasses the full spectrum of emergency care.

The understanding of these terms and roles within the system of emergency care is vital for any evaluation of the system, however, these terms are not always clear or correctly applied particularly in LMIC's. The decided use of terminology must be clearly defined and applied as it may have economic implications as it yields certain expectations. For example, the use of the terms acute care is often used in LMICs where Emergency Medicine specialists are scarce and resources are constrained instead of Emergency Medicine as the term may imply the obligation to employ specialists and create barriers to effective service delivery (Calvello et al., 2013). In sub–Saharan Africa, Emergency Medicine and Emergency Nursing are in the early stages of development and therefore clearly defined parameters are still lacking (Nyhus & Kamara, 2017). For the purpose of this study the term emergency care is used as it encompasses the concepts needed to adequately describe the system of emergency care (Hensher et al., 2006; Reynolds et al., 2017). In South Africa there is a further need to clearly define these concepts and these parameters as terms such as "Emergency Health services" are used to evaluate the system of emergency care without an accompanying delineation of the term (*South African Health Review 2018*, 2018). Terminology used in reports and policy documents vary.

Without clarity in defining emergency care, it becomes even more difficult to describe its role in the health system.

2.7 Components within each element in the emergency care system

The goal of an efficient emergency care system is to ensure that people with a medical emergency reach a health service provider who can either stabilize and refer to an appropriately resourced facility or treat the condition definitively, ensuring quality of care across the spectrum of emergency care (Glickman et al., 2010). The interdependence between various stages and stakeholders in the spectrum of emergency care points to the need for a systematic approach. This systematic approach to emergency care is built on the fundamental principles of acuity-based triage, early detection and resuscitation and basic stabilization and referral (Hensher et al., 2006; Thind et al., 2015). The system of emergency care is therefore the network of service providers from various platforms who deliver care at different stages in the

process of emergency care. Emergency care is considered a cross cutting field as it is an inevitable need in any field of medicine (Burkholder et al., 2019). A network of providers and services are harnessed to achieve the goals of rendering effective emergency care outlined in the principles described. This network is organised into a system of care using various models or approaches dependent on the context and existing health system.

Two examples of models of the emergency care system are described by Glickman et al (2010). These include the wheel and spoke model where the goal is to identify central emergency centres and strengthen the ability of the peripheral system in getting patients to these central emergency care centres. The second newer model is known as the nodal system where a facility with higher capacity for definitive emergency care is connected with various other health care facilities for the sharing of communication, resources and support for emergency care (Glickman et al., 2010).

The Gauteng province employs a similar model to the wheel and spoke approach in its cluster management system. The province has four central academic hospitals and three tertiary hospitals forming the two clusters in Johannesburg and Pretoria, respectively, which provide capacity for definitive emergency care (Gauteng Department of Health, 2017). The aim of these clusters is to increase support and relationship between hospitals and services at the various levels of the District Health System (Gauteng Department of Health, 2017).

Developing countries have recognized the need to develop a system that integrates well with their current health system and therefore their approaches differ from country to country while the principles of emergency care remain the same.

It is important to note, however, that most LMIC's have not developed an organized system for emergency care (Suryanto et al., 2017). In particular, emergency services are described as fragmented and limited to transportation with very little guidance or protocols and little or no articulation with receiving facilities (Mehmood et al., 2018). In South Africa, while there appears to be a semblance of a system of care due to the offering of emergency care services at all level facilities and the existence of a national office for Emergency Medical Services, there does not seem to be a coordinated plan or system designed to fit the context of the health system.

The importance of an emergency care system within the broader health care system is not often emphasized. This can be attributed to many factors related the health system of each country.

2.8 Cross-cutting elements: The place of an Emergency Care System within the broader National Health system

With the understanding of systems thinking, the emergency care system should articulate with and enjoy a functional relationship within the broader health system (Calvello et al., 2013).

The cross-cutting elements between the various elements in the WHO Framework Matrix for emergency care speaks to the factors that are addressed at a systemic level. Service delivery, surge response, integrated data management and financing of an emergency care system should be developed under the umbrella of the national health system and as a national health competency.

In many LMIC's the focus of the health system is narrowly placed on disease specific targets and a burden of disease approach is applied (Anderson et al., 2012; Burkholder et al., 2019). This is true in the South African context too where policy and programmes are often designed using a disease profile or burden of disease approach. Interestingly, emergency care has not been afforded the same platform given to specific disease profiles. There is a perception that while emergency care should be integrated into the health system, it is not viewed as a system to be developed as it may be costly and only beneficial to the few patients needing emergency care as opposed to the burden of disease caused by infectious and chronic disease in many LMIC's (Anderson et al., 2012). Increasingly the burden of disease caused by trauma, violence and injuries is being highlighted and the need for a change in the approach to emergency care is being recognized (Anderson et al., 2012; Coovadia et al., 2009; Reynolds et al., 2014). Emergency care has been identified as a tactic for secondary disease prevention, to reduce morbidity, mortality and the complications of acute illness or injury (Anderson et al., 2012). It is also a link for patients in need of emergency care to access the health system at various points to receive disease specific definitive care (Calvello et al., 2013). The benefits of a strong emergency care system are clearly depicted by the literature and by building capacity in this field the burden of disease on the health system is decreased.

The integration of an emergency care system within the broader health system is very dependent on the context of each health system. While the integration must take place at every level of care, it is important to start with the most common access point and ensure that at the most basic level of care, emergency care is prioritized and efficient. It is within this context that the need for the strengthening of emergency care in the District Health System is highlighted.

2.9 A global emphasis on strengthening emergency care

Internationally, there has been an acknowledgement of the importance of strengthening the emergency care system within the health system. An efficient and well-coordinated system has the ability to yield staggering improvements in mortality and morbidity and therefore alleviate strain on a health care system caused by preventable deaths, acute illness and the complications thereof (Chang et al., 2016; Thind et al., 2015). Emergency care has been identified as a strategy for assisting countries in meeting at least 12 of the World Health Organisation's (WHO) sustainable development goals (Reynolds et al., 2017).

Many efforts have been made to strengthen emergency care in South Africa including the increased drive for community members to become actively involved in the emergency care pathway. The South African initiative to equip community members with the ability to respond as first aiders has been adopted in various other LMIC's (Pigoga et al., 2017). South Africa has also innovated the South African Triage score, a validated scoring tool for emergency unit and prehospital triage (Rominski et al., 2014; Rosedale et al., 2011). The WHO in multiple and its most recent health assembly resolution, has emphasized this call (World Health Organisation, 2019). The African federation for emergency medicine is an organization at the forefront of emergency medicine contributing to practice through research and partnership. These developments have made a significant impact in the development of emergency medicine; however, there is still much room for improvement.

Access to emergency care is essential for the realization of universal health coverage (Thind et al., 2015), a process South Africa is about to embark on. With such a strong call for the improvement of emergency care, the need to examine the state of our own emergency care system cannot be ignored.

While the positive impact of an efficient emergency care system on patient outcomes is well recorded, and forms the basis of the need for strengthening emergency care, the right to

emergency care has also been raised. Burkholder et al. (2019) proposes that a national health care strategy is not complete without a clearly defined emergency care system to address the increasing need for basic emergency care and for preparedness of the system to respond to disasters and disease outbreaks. The components for strengthening emergency care identified within each element of the WHO Framework Matrix for emergency care include planning for human resources and procurement of essential emergency resources, development of a strategy for information and research and a structure for leadership and governance in emergency care. These components can only be facilitated if emergency care becomes a national priority. Advocacy for prioritization of emergency care is based on the legal and moral obligation of a country to provide access to emergency care. This constitutional obligation found in many countries requires a strategic plan for the development of a contextually appropriate and efficient system of emergency care (Burkholder et al., 2019).

The health care system of South Africa has developed in challenging circumstances with a history of injustice and corruption, stealing from the very people it is meant to serve. The right to good quality health care and in particular, the right to effective emergency care is at the centre of restoring dignity to a population who was robbed of it during the Apartheid era. Emergency care is a service often needed when people are most vulnerable, and their lives hang in the balance. By allowing sub-standard care when people are most desperate, we perpetuate the notion that lives are not important and inferior health care is acceptable – a narrative which defined our past. The motivation for improving emergency care based on human rights is by far the most important reason for embarking on a journey to understand and improve the current system of emergency care with the aim of changing the current and future narrative of our country's health system.

The WHO published a resolution on emergency care in 2012 outlining the importance and detailing various recommendations for developing an efficient system of emergency care. This resolution acknowledges that LMIC's are not always able to acquire the resources for a sophisticated emergency care system but recommends that strategy is used to optimize the existing system and infrastructure to improve access to effective emergency care (Anderson et al., 2012). The importance of contextualizing the strategies employed for improving emergency care is vital for its success.

Access to emergency care in many LMIC's is limited to an entry point to a facility without much focus on the process thereafter (Suryanto et al., 2017). The concept of access to

emergency care is further described using four distinct characteristics, namely availability, accessibility, acceptability and quality (Burkholder et al., 2019). The availability of resources for emergency care services including human resources and equipment are a necessity for ensuring equitable access to any health service. Accessibility requires that an emergency care system be well coordinated, and thought is given to the placement of resources and services to ensure maximum reach to communities. Emergency care services provided should be contextually appropriate and consider the cultural background, health profile and resource availability of a setting. Access to emergency care is not achieved without the assurance of the quality of the care provided (Burkholder et al., 2019). Hence, the conceptual framework of this study based on the WHO framework for emergency care systems matrix highlights the components of financing, service delivery, surge response and integrated data management as essential components to be improved on throughout the spectrum of care.

2.10 Evaluation of Emergency Care System Performance

The quality of an emergency care service can only be improved if data on performance indicators are available. Taymour et al (2018) identified measurement and oversight of emergency care services as a deficit in the literature. Data bases and record keeping are often poorly kept and not sufficient to yield the information needed to provide a meaningful assessment of the system of emergency care (Baker & Dawson, 2013; Taymour et al., 2018).

In South Africa emergency care is not measured in isolation but forms part of a broader assessment of health services. The ideal clinic standards for Primary Health Care facilities and the National Core standards for health establishments have been the drivers for health service performance measurement. While these measurement and accreditation standards have yielded important data on the health care services in South Africa, their specific contribution to the evaluation of emergency care is not clear.

The WHO has developed an Emergency Care System Assessment tool to assist countries in identifying deficiencies in their system and allow for the improvement of emergency care (Reynolds et al., 2017). This assessment requires a national effort to prioritise the need for a strengthened emergency care system. Mehmood et al (2018) conclude that there still exists a need for a tool for rapid assessment to assist policy makers in developing appropriate directives for the improvement of the system highlighting the need for evaluation of the system of emergency care at various levels including the PHC context.

2.11 Summary

The burden of disease caused by emergency conditions is on the increase while access to emergency care remains limited. The emergency care system in many LMCI's, similar to South Africa, is fragmented and lacks coordination. Health care systems find its directive in health care policy. It remains unknown whether emergency care is prioritized and sufficiently directed in the current health care policy in South Africa. In particular, the District Health Care System remains the primary access point of the health care system and therefore the main access point for all health services including emergency care.

Literature emphasizing the importance of strengthening emergency care systems exists as a solid base for development of contextualized strategies for different settings. It is also noted that the call to improve emergency care in PHC settings, is supported by evidence suggesting the overall improvement of health outcomes.

Quality improvement begins with analysis and evaluation. When the systems approach is used to understand how emergency care systems integrate and interrelate with other health systems and platforms it became clear that understanding the mechanisms that define and direct health systems is needed. The major mechanism identified in health systems research is health policy. The relationship between the concepts of emergency care within a broader health system as well as the direct effect of health policy on systems of emergency care is not clearly defined in the literature. These concepts, however, are vital for the development of a holistic view of the context in which an emergency care system is to be developed and strengthened.

An emergency care system is a network of services strategically coordinated to deliver emergency care at any level of care and should be integrated into the broader health care system. This can be achieved using a policy analysis – a method of evaluation not often employed in investigation into various health services and platforms.

Effective systems are directed by effective, relevant health care policy. Evaluation of any system of care must take into account the health policy. The next chapter will present an in-depth description of the research design and methods used to conduct the analysis of the emergency care system at a Primary Health Care level using a framework for policy analysis. The chapter will outline the process followed to develop consensus-based recommendations for strengthening emergency care at this level of care.

CHAPTER THREE

RESEARCH METHODS

3.1 Introduction

The research design and methods were carefully selected in alignment with not only the objectives of the study but also in alignment with the nature of the study and the philosophical assumptions which underpin the research. The design and method summarised in the overview of the study will be detailed in this chapter.

3.2 Research Setting

Gauteng is the most densely populated province in South Africa (Statistics South Africa, 2018). The District Health Services are divided into facilities at various levels, including District Hospitals, Community Health Care Centres and Primary Health Care Clinics; and five regions (City of Joburg, City of Tshwane/Metsweding, Ekurhuleni Metro, Sedibeng, and West Rand) with a total of 392 PHC facilities spread across the different regions. The process of defining the boundaries of these districts started in 1994 and has a history of constant change over the years due to various factors including the need to ensure equitable resource allocation under various municipalities and local authorities (Mkhize & Khanyile, 2020). The map below depicts the boundries of the five districts comprising the Gauteng Province, (Figure 3.1).



Figure 3.1 Geographical of Gauteng District demarcations (Gatticchi, 2020)

The Gauteng province hosts a range of diverse communities representative of the broader South Africa. The population of Gauteng is estimated at 14 104 252 with a population density of 790 persons per kilometer. Of the population, 24.6% are estimated to be covered by private health insurance and therefore the District Health System services 75.4% of the population of Gauteng (Massyn et al., 2020). Within the province different classifications of settings are found from including rural, urban and township areas surrounding a busy business city centre. Therefore this province as a research setting has the potential to provide a variety of insights from different contexts.

3.3 Research Design

An overarching Qualitative Formative Evaluation design was used to achieve the study purpose. This approach of qualitative research seeks to improve an intervention, programme or policy by identifying strengths and weaknesses and making recommendations for improvement (Patton, 2015). Formative evaluation is a research approach used particularly in the field of implementation science as a means of understanding health policy and can be defined as "a rigorous assessment process designed to identify potential and actual influences on the progress and effectiveness of implementation efforts" (Stetler et al., 2006, p.1). Data from this approach focus on elucidating the strengths and weaknesses of a policy in achieving its intended goal and provide insight on the change needed to achieve the set goals (Patton, 2015; Stetler et al., 2006). Being qualitative in nature, the design allows for the development of rich insights into a complex field of study while remaining pragmatic in approach in that it allows for the asking of very specific questions. The approach is flexible enough to allow the process to evolve and for data to emerge from the various sources used. A formative evaluation involves the selection of rigorous qualitative and/or quantitative methods to appropriately illicit information needed to achieve the specific objectives and therefore it retains its rigor as scientific research approach (Stetler et al., 2006). A qualitative formative evaluation was selected for this study as it aligns with the objectives and pragmatic nature of the enquiry.

This type of research has its foundation in the philosophical assumptions of realism and pragmatism. Realism acknowledges that truth is formulated within a specific context and the experience of a reality is independent of perception but rather can be explored, explained and described in order to gain an understanding of how the world works, and in this case, how a system of care works and is experienced (Patton, 2015). Pragmatism is based in the philosophy of science and a key assumption of this type of research is that people seek information to

improve what they are doing and therefore the desired outcome of the research is to develop recommendations for improvement (Patton, 2015). The study was conducted in two phases, to achieve triangulation of data and because each phase addressed specific objectives of the study. Based on these assumptions the following research methods were used.

The first phase of data collection involved the analysis of the system of emergency care using the framework for policy analysis and formulating evaluative conclusions. The second phase involved the development of recommendations and a Delphi technique to validate the recommendations proposed by building consensus amongst key informants from phase 1. An overview of the research plan is depicted in the research flow diagram below (Figure 3.2)

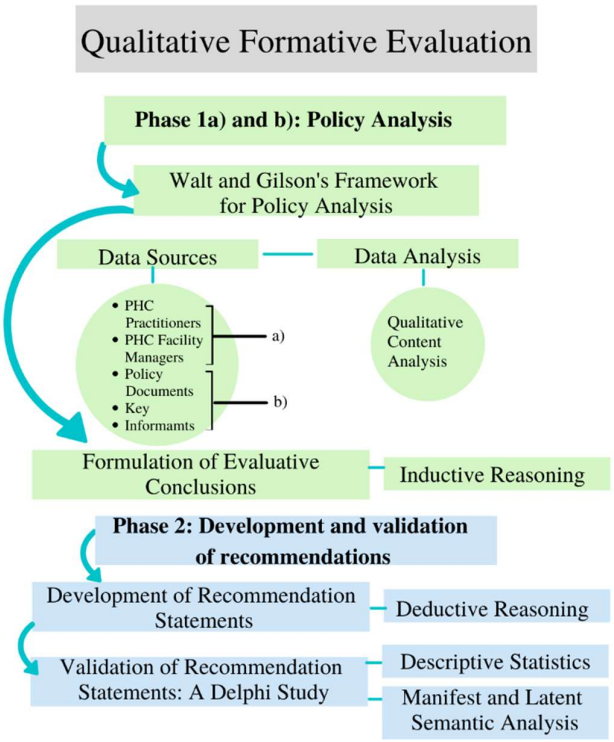

Figure 3.2 Research Flow Diagram

3.4 Methods

3.4.1 Phase 1: Policy Analysis

The District Health Care System is informed by various policies and directives but there is no specific policy for emergency care in the district health system. It was therefore necessary to

examine the various policies that inform the district health system and subsequently, emergency care within that system.

This research was conducted in the District Health Care system of Gauteng to analyse the system of emergency care using Walt and Gilson's policy analysis framework. Walt and Gilson, (1994) proposed a framework for the analysis of policy within a system. By using a simple analytical model, they propose that one can assess the need for policy reform or plan for effective implementation of policy. Walt (1998) describes this framework as focusing not only on the content of the policy but also on the context in which the policy is introduced (the policy environment), the process in which it is developed, implemented and evaluated and the actors who influence and are influenced by the policy of focus. It is recognised that policy is not static and therefore a dynamic approach to understanding policy is needed (Walt, 1998).

This policy analysis triangle (Figure 3.3) was used as a conceptual model for the analysis of the emergency care services at primary health care facilities.

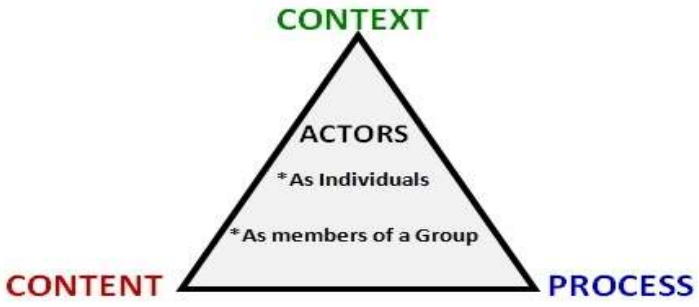

Figure 3.3 Walt and Gilson's policy analysis framework (Walt, 1998)

3.4.1.1 Approach to Policy Analysis

Analysis began with the **actors**, who for the purpose of this study included health care practitioners (doctors, professional nurses and clinical associates), facility managers and other multi-disciplinary team members working at a primary health care facility in the Gauteng province who would have a role in emergency care. The experiences, viewpoints, perceived competence and skills of the healthcare practitioners play a vital role in the success of emergency care in this setting as well as their ability to foster collaborative with other team members. Other stakeholders include the emergency medicine services (EMS) responders who operate within the transfer and referral system. The policy makers and those who are responsible at a management level for the implementation of policies in the district health

system, as well as experts in the field of emergency medicine were also included during the policy analysis phase.

The **content** of the policies and guidelines as well as the **processes** for the development and implementation of the guidelines and the approaches used are significant contributors to the effectiveness of the emergency care system. Policies in focus included all the policies and guidelines that inform the district health care system including any aspect of emergency care. These documents were carefully selected, and the content analysed.

The final aspect for consideration is the **context** of the service within the broader system of care. This included the resources available, the strength of the referral system between higher levels of care facilities and the availability of consultative support for the professional nurses working in this context.3.4.1.2 Sample and Sampling Methods

Policy analysis requires data collection from various sources, including the different actors and the policy documents as proposed by the framework for policy analysis. This includes actors involved in the development, implementation and evaluation of the policy, it also includes an analysis of the content of the policy. Actors identified in this study were grouped in two categories and data were collected separately for each category. These two groupings included health care practitioners and facility managers dealing with emergencies in District Health facilities; and secondly, key informants who were either policy makers, or experts in the two cross-cutting fields of family medicine and primary care as well as emergency care. These data sources would provide insight into the context of the policy as well as the processes involved.

Because various data sources were used, representation was needed from each data source. Purposive sampling was the method chosen as data sources had to be carefully selected to elicit the appropriate information (Patton, 2015). Sampling techniques varied according to the data source.

Maximum variation sampling was used to identify facilities for the recruitment of health care practitioners and managers working in district health care facilities in Gauteng. A random selection of facilities was used to select facilities; and the recruitment of participants was done using the technique of maximum variation sampling. Patton (2015) describes the technique of maximum variation sampling as a method of sampling, which allows for a variety of contexts to be represented while asking the same question. For the interviews with health care practitioners, (professional nurses, doctors, and clinical associates) working at all levels of

primary health care facilities as well as clinic managers of the selected facilities in Gauteng were invited to participate in the study. Inclusion variables were used to inform the maximum variation technique described below:

Variables included:

- Type of Health Care professional – as available (Professional Nurse, Doctor, Clinical Associate)
- Working in a District Hospital
- Working at a Community Health Care Center
- Working in a Primary Health Care Clinic

With four variables, a minimum number of participants would be 16 (4^4). Using the variables as a sampling framework, a random facility was selected from each level of care, and participants of all available categories of professions purposively selected from each facility. A total of 22 participants were interviewed for this phase of the study. Using an Excel spreadsheet listing the facilities at each level of care, a random selection of a facility from each level was done and prospective participants (health care practitioners working at the facility) were approached using a purposive sampling method. Purposive sampling was best suited to select participants according to their ability to provide the needed information (Gray et al., 2017) – in this case, information about their experiences in managing emergency care at district health facilities. Health care practitioners working at a primary health care facility dealing with emergency cases and those responsible for clinical governance at a facility level- the clinical managers and operational managers of the randomly selected facilities – were able to provide a rich description of their experiences in this field.

Interviews were also conducted with key informants in the broader system of care. Key informants were defined as either experts in the cross-cutting fields of practice, namely Emergency Care and Primary Health Care or involved in the policy development process of the policies of focus. Using a network sampling approach (also known as the snowballing method), key informants were identified. Snowball sampling uses insights from the social network of the key informants to identify other possible important sources of information. Figure 3.4 illustrates the categories from which key informants were drawn and the final sample from each category is depicted.

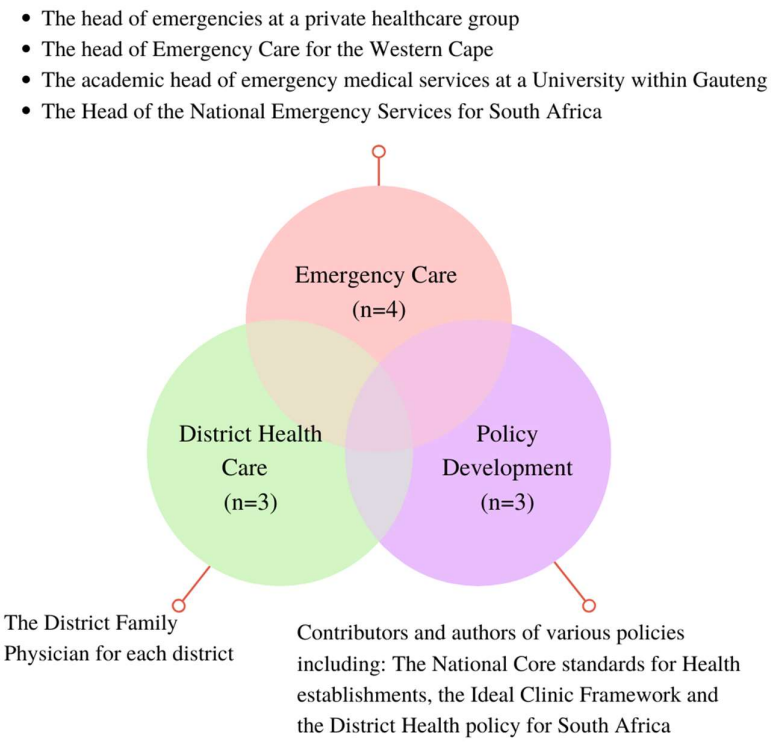

Figure 3.4 Categories for the selection of key informants (n = 10)

The policies selected for content analysis were chosen based on their inclusion of emergency care. Policies and documents suggested as key for giving directive for the district health care services were identified from participants during interviews and further documents identified using a snowballing technique. A list of policies, legislative documents and guidelines that have relevance or influence in the District Health Care system was generated. Using a rating key (Figure 3.5), each document identified for analysis, was rated according to its direct relevance to emergency care in the District Health Care system.

Rating Key:
1 - For Policy Analysis
2 - For review – Not for policy analysis
3 - For reference/supporting information in

Figure 3.5 Rating key for selection of documents for analysis

Analysis of the content found in the policy/policies of focus is required as part of the process of evaluation in a mainstream policy analysis (Browne et al., 2019). Table 3.1 illustrates the process of organising and categorising all documents (n=10) found to have relevance to emergency care in the primary health care system. This database of documents was considered the population from which a sample was drawn. The list was generated using a snowballing technique and specific documents were selected for analysis using a ranking scale for inclusion and exclusion. The inclusion criteria were based on the level of direct relevance and influence on emergency care in the primary health care setting. Documents that provided contextual insights but not directly relevant were reviewed and included in the discussion of the data while documents that provided supporting information were kept as a source of reference in further analysis and discussion.

Table 3.1. List of Policies, Guidelines and Legislation informing emergency care in the District Healthcare system

No	Name of Document	Source	Electronic	Policy Area	Date published	Analysed	Rating
1	Constitution of the Republic of South Africa	http://www.justice.gov.za/legislation/constitution/SAConstitution-web-eng-02.pdf	✓	Legislation	1996		3
2	National Health Act 12 of 2003, ammended 2013	https://www.gov.za/documents/national-health-act	✓	Legislation	2013	✓	1
3	National Core Standards for Health Establishments in South Africa	http://www.health.gov.za/	✓	Quality Assurance/ health facility monitoring	2011	✓	1
4	Provincial guidelines for the implementation of the three streams of PHC re-engineering	http://www.health.gov.za/	✓	PHC Re-engineering	Not dated	✓	1
5	A District Hospital Service Package for South Africa	http://www.health.gov.za/	✓	Package of services	2002	✓	1
6	National Emergency Care Education and Training Policy	http://www.health.gov.za/	✓	EMS	2017		3
7	Primary Health Care Supervision Manual: A guide to Primary Health Care Facility Supervision	http://www.health.gov.za/	✓	Facility Management	2009	✓	1
8	Staffing Norms for Primary Health Care in the context of PHC Re-engineering	http://www.mrc.ac.za/sites/default/files/files/2016-07-14/StaffingNorms.pdf (Medical Research Council)	✓	Facility Management	2012		2
9	Implementation Guideline of Health Workforce Normative Guides and Standards for Fixed Primary Health Care Facilities	http://www.samed.org.za/Filemanager/userfiles/National%20Health%20Act%2061-2003%20-%20Implementation%20Guideline%20for%20Health%20Workforce%20Normative%20(20151002-GGN-39244-00902).pdf DOH Gov Gazette No. 39244	✓	Quality Assurance/ health facility monitoring	2015		2
10	Adult Primary care Guideline Symptom-based integrated approach to the adult in primary care	https://www.knowledgehub.org.za/system/files/Adult%20Primary%20Care%20guide%2020216_2017%20%20Final%20for%20sign%20off%2012%20August%202016%20%28002%29_0.pdf	✓	Clinical Guidelines	2016		3

11	Standard Treatment Guidelines and Essential Medicines List for South Africa Primary Healthcare Level	http://www.health.gov.za/index.php/standard-treatment-guidelines-and-essential-medicines-list/category/285-phc	✓	Clinical Guidelines	2018		3
12	Policy Framework and Strategy for Ward Based Primary Healthcare Outreach Teams	https://rhap.org.za/wp-content/uploads/2018/04/Policy-WBPHCOT-4-April-2018-1.pdf	✓	WBOT	2018	✓	1
13	Final Ideal Clinic Framework - version 18 (26 July 2018).pdf	https://www.idealhealthfacility.org.za/	✓	Ideal Clinic	2018	✓	1
14	Final Ideal Clinic Manual - version 18 (26 July 2018).pdf	https://www.idealhealthfacility.org.za/	✓	Ideal Clinic	2018	✓	1
15	Ideal Hospital Realisation And Maintenance Framework Manual.pdf	https://www.idealhealthfacility.org.za/	✓	Ideal Clinic	2018		2
16	Integrated Clinical Services Management Manual 5th June FINAL.pdf	https://www.idealhealthfacility.org.za/	✓	Ideal Clinic	Not dated	✓	1
17	National Department of Health STRATEGIC PLAN 2015 – 2020	NDOH	✓	Strategic Plan	2014	✓	1
18	Second Edition National Health Act: A guide	Section 27	✓	Guide to NHA	2013		3
19	National health insurance bill, 2018 (Draft)	Government Gazette	✓	Legislation	2018		2
20	Evaluation of the Phase 1 Implementation of the Interventions in the National Health Insurance Pilot Districts in South Africa NDOH10/2017-2018 Final Evaluation Report	Genesis	✓	Evaluation report	2019		3

A total of 20 (N=20) documents were reviewed and sorted according to the ranking scale, and ten (n=10) documents were ranked with a score of 1 and included in the formal document analysis

3.4.1.3 Data Collection

Data collection was conducted by the researcher. Three data sources were used for data collection in this phase:

Table 3.2. Data Sources for Policy Analysis

Data Source 1	**Data Source 2**	**Data Source 3**
Interviews with Health care practitioners and Managers at District healthcare facilities	Document analysis of selected policies and related guidelines or legislation	Interviews with Key Informants

Individual, semi-structured interviews were conducted with various actors. Semi structured interviews were chosen as the nature of the interviews were pragmatic in nature, and therefore using a semi-structured interview guide would elicit information about practical issues regarding the policy of focus (Patton, 2015). Questions and sub questions were used to elicit information. Data were recorded via audio tape and transcribed verbatim. Information sheets were provided to participants detailing the information regarding the study and the expectations and rights of the participants (Annexure 6). Interviews with Health Care practitioners and facility managers were conducted on site during the period of June 2018 to July 2018, at the selected facility and an interview guide was used (Annexure 5). The interview guide was developed based on the Walt and Gilson Framework for Policy Analysis. The overarching question for these interviews was:

“What is your experience in dealing with medical emergencies at a primary health care level?”

Sub questions were formulated from the various elements within the policy framework, namely, actors, content, context and process.

Key informants were interviewed according to their convenience and availability, some via telephonic interviews during the period of March 2020 to July 2020. Using the same principle

as before, the interview guide was developed based on the policy analysis framework used to guide the study. No pretesting of the interview guide was done, however in keeping with qualitative inquiry, probing questions were adapted as data was analysed and as data saturation occurred. An interview guide was used (See Annexure 7) and the overarching question for these interviews was:

"What is your view on emergency management at primary health care facilities/at this primary health care facility?"

Further information was solicited using questions and probes relating to the policies of focus and questions were adapted as a result of simultaneous data analysis and the need to build on the emerging themes within the data.

The policies of focus were critically analysed and described. The relationship between various directive legislations, the National Health Act, as well as the guidelines and policies were described. The development process of the policies was also described in the discussion of the policy content and context. The process of policy analysis is not clearly defined in one particular format; therefore, Browne et al. (2019), in their collation of various orientations to policy analysis, describe three different positions, namely traditional, mainstream and interpretive. This study is orientated towards the mainstream position with a focus on actors and political rationality as opposed to the traditional approach. This approach seeks to identify possible solutions to problems while the traditional, interpretive approach that is focused on developing an interpretive framework for the problems identified and how policy relates and reflects the social context. Key questions in this type of policy analysis includes understanding the agenda setting process and identifying the voices being heard in relation to the experiences of those who are unheard. Using a policy triangle this orientation employs data sources such as interviews, document analysis and surveys (Browne et al., 2019). This study employed all three of the suggested data sources aligned with the mainstream orientation to policy analysis which also guides the data analysis process. Using the framework for policy analysis by Walt and Gilson (1994), the focus of data analysis is to "provide an integrated account of the interplay between policy content, context, process and actors for a particular policy issue" (Browne et al., 2019 p. 1036-1037).

3.4.1.4 Data Analysis

The selected policies and guidelines were imported into MAXQDA®, analysed qualitatively and described. The use of MAXQDA® was chosen as this software enables rigorous data management and allows for a visual and simple way of tracking analysis and identifying patterns or themes. General information about the document was extracted including, the purpose or intent of the document, contributors and authors, and interrelated policies, legislation or guidelines. Specific content related to emergency care was then analysed using a qualitative content analysis approach as defined by Hsieh and Shannon (2005). These data were then written up with the data collected from the key informants.

A rich understanding of the policy context and its implications were enabled using qualitative content analysis. This data analysis method is a broad, general set of methods for analysing the content of qualitative data and was used to develop meaningful postulations which support the argument being framed and identify important aspects of the content (Hsieh & Shannon, 2005). Qualitative content analysis may be applied using three approaches, namely, conventional, directed or summative. A key feature of directed content analysis is that analysis is based on existing theory or frameworks and therefore codes may be generated before and during analysis (Hsieh & Shannon, 2005). The proposed method of data collection for interviews would be to start with an open-ended question and use directed probing questions that answer specific questions. Therefore, analysis of the data would be directed and guided by the chosen framework. Where interviews are not used for data collection, the use of pre-existing codes can be used to organize and analyse documents or other forms of data (Hsieh & Shannon, 2005). Using this method an evaluation of the system of emergency care at this level was described.

A step-by-step approach, which includes organizing data from transcripts, notes, observations and the actual policy documents in an electronic data analysis software package (MAXQDA®) to pick up concepts and patterns was used (Patton, 2015). Ideas and concepts were organized according to frequently used words or phrases and these were coded and categorized and overarching themes in the data were built. Themes identified from interviews with health care practitioners and facility managers were generated inductively and later triangulated within the framework of policy analysis (Nowell et al., 2017). Themes were named with the aim of capturing the essence of the data it related to (Braun & Clarke, 2006).

Interviews with health care practitioners were transcribed, cleaned and imported into MAXQDA®, a qualitative data analysis software package. The first draft of transcribed interviews was checked against the voice recording; grammar, typos and inaudible speech was corrected in the process of cleaning the transcripts. The cleaned interview transcripts were then imported into MAXQDA®, for analysis using qualitative content analysis.

Analysis of the policy documents and key informant interviews was written up concurrently, using the framework for policy analysis as an overarching structure. Some themes were inductively identified from the data while other themes were deductively generated before analysis began (Nowell et al., 2017). This directed approach uses theoretical underpinning as guide for generating codes and themes (Nowell et al., 2017).

Walt and Gilson's policy analysis triangle was used as the theoretical underpinning and therefore the elements of the triangle were used as the framework for data analysis. These elements, namely, actors, content, context and process were used as pre-selected themes under which the data were analysed and sub themes were developed (Hsieh & Shannon, 2005). Data were analysed with the purpose of seeking out information based on the pre-selected themes. The themes were populated with the relevant information from each policy and further subthemes were developed.

The pre-selection of a framework assumed that the themes were concrete ideas that needed to be explored within the data in order to fully evaluate the policy system. Therefore, the themes were in essence very factual and practical as opposed to the intuitive nature of qualitative analysis. This method of data analysis is justified in its alignment with the philosophical assumptions and chosen design of formative evaluation (Patton, 2015). Themes such as Policy Intention, Interrelated policies and important terminology were additional concepts used in the pre-selected framework when coding the data in the document analysis.
The findings of the document analysis and key informant interviews were presented and discussed simultaneously to build a valid argument using literature to critically construct meaning with merit (Nowell et al., 2017).

3.4.1.5 Integration of the Data

Triangulation of data sources is done to increase the credibility of the findings and to build a rich understanding of the concept in question by verifying and comparing the viewpoints and

information offered by different sources (Shenton, 2004). The process of triangulation is used to holistically represent the findings from each data source and enables the researcher to formulate evaluative conclusions that are well supported by the findings of the research (Patton, 2015).

Using Walt and Gilson's policy analysis framework the data from the three data sources were integrated to analyse the various elements which comprise the policy analysis triangle including the actors, context, content and process. Figure 3.6 illustrates which data sources were integrated into each element of the framework:

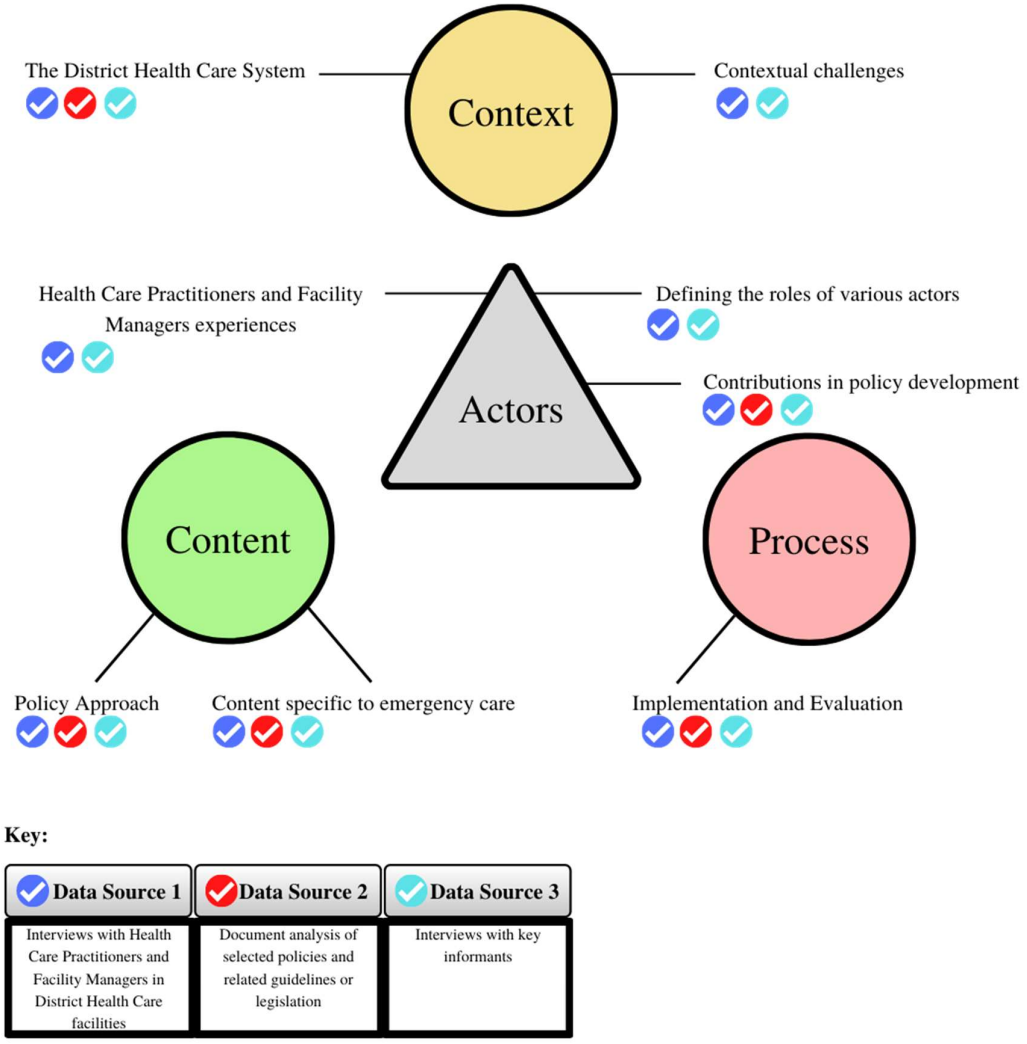

Figure 3.6 Triangulation of Data Sources

Triangulation of data sources was necessary to build a holistic depiction of the findings. The process of triangulation (Patton, 2015) ensures the credibility of the findings unearthed by a combination of methods.

A summary of the major findings of the triangulated data sources were presented as evaluative conclusions which described strengths and weaknesses in the emergency care system at a District Health Care level. Inductive analysis suggests that meaning in the data is created from the patterns that emerge from the data. In this evaluative inquiry, the nature of emergency care in the district health system was understood from the direct content of the policies as well as the interviews with participants and broad evaluative conclusions were developed based on these findings (Patton, 2015).

3.4.2 Phase 2: Development of validation of recommendations

Following triangulation and integration of the data, deductive reasoning was used to formulate evaluative conclusions about the strengths and weaknesses of the emergency care system at a primary health care level. Using deductive reasoning, the general major findings from all data sources were presented and then synthesized to form evaluative conclusions about the system of emergency care at a district healthcare level (Gray et al., 2017). A summary of the major findings from all data sources were presented as one coherent narrative in chapter six and evaluative conclusions were identified. Based on this, recommendations for a remodeling of the current approach to emergency management at a primary health care level was developed using an deductive approach. Deductive thinking involves the formulation of insights and concepts from the data using a narrowing approach from the broad to the specific. From the findings, the researcher identified the abstract themes or concepts and made recommendations accordingly (Gray et al., 2017). 14 recommendation statements were developed from the major findings of the triangulated data sources. The next step of phase two of the study, involved the validation of recommendations formulated using the process of consensus building in a Delphi technique.

3.4.2.1 The Delphi Technique

The Delphi method is a common approach used in qualitative research designed for the purposes of practice theory building. It used in qualitative studies for policy making, decision making and to inform direct practices (Brady, 2015). The Delphi method is founded on the philosophical assumption of pragmatism where the aim of research is to inform real-world

practice (Brady, 2015). This method was chosen for this study as it not only aligns with the philosophical underpinning of the study but it also lends itself to the pragmatic nature of the research questions and study design.

The Delphi technique was used to develop a list of consensus-based recommendations for strengthening emergency care in the District Health Care System. The Delphi technique allowed a variety of experts to express opinions and provide feedback for the purpose of decision making, assessing priorities or making forecasts (Gray et al., 2017). This method is used to identify the expert opinion on recommendations for the improvement of emergency care in the district health care setting (de Meyrick Julian, 2003). A Delphi method is a group facilitation technique used to determine consensus about a topic. It is an iterative process involving multiple rounds. The objective of the Delphi technique employed for this study was to present the findings and develop consensus amongst the expert panel (Brady, 2015). The inclusion of experts in the field of policy making in the District Health Care system, as well experts in PHC, Emergency Medicine and EMS, ensured that a wide range of expertise and knowledge is consulted and allows those who are most influential in these fields to participate in decision-making, increasing their sense of ownership in the recommendations proposed (Brady, 2015; Hasson et al., 2000)

The modified Delphi method allows for alterations particularly in the first round of data collection (Keeney et al., 2006). Walt and Gilson's framework for policy analysis was used to collect and triangulate data from various sources. Data were analysed using qualitative content analysis and inductively triangulated to formulate evaluative conclusions about emergency care in the District Health Care system. From these evaluations, recommendations were deduced which form the basis of the questionnaire used in subsequent rounds of the Delphi method. The questionnaire included the option for participants to include open ended comments regarding each item or include additional recommendations. These were analysed using quantitative content analysis and used for modification of recommendations, which were then assessed for consensus in the final round of the Delphi study.

The final recommendations were presented by including the literature and findings from the Delphi study as rationale for the inclusion or exclusion of the recommendations proposed.

3.4.2.2 Sample and Sampling Methods

Key informants identified in the Phase 1 of the study were invited to participate in the Delphi study. The use of a panel of experts or individuals who have key knowledge and insight into the field of study are preferred candidates for participation in a Delphi survey (Brady, 2015). Participants were therefore intentionally selected using a purposive sampling technique.

A total of ten key informants were invited to participate in the Delphi study. The key informants were included in the first round of data collection. There is no documented exact number required for the consensus of a Delphi study; however, the concept of ensuring a representative collection of judgements from various experts in the field was employed (Keeney et al., 2006). A response rate of 70% is recommended (Keeney et al., 2006).

Due to the nature of the Delphi technique, quasi anonymity was ensured. Complete anonymity is not possible as researchers must track and link responses for subsequent rounds (Keeney et al., 2006).

Round one of the study had nine participants (n=9), resulting in a 90% response rate. In the second round of the Delphi study, the same ten participants were invited to participate in the study. All participants were invited again due to their contribution to the development of the recommendations in the previous phase of the study. For round two a response rate of 90% was achieved with nine participants (n=9) responding.

3.4.2.3 Data Collection

The Delphi process involves an iterative feedback process of determining consensus about the recommendations put forward. Although key informants' names and positions were known, their judgments expressed in the questionnaires was kept confidential, making it quasi-anonymous (Schneider & Whitehead, 2014). The process involves formulation of the questions/statements, rating of statements, analysis and iteration (Schneider & Whitehead, 2014). The aim is to determine a narrow list of consensus-based recommendations. Fourteen recommendations statements were developed and put forward for consensus. An agree or disagree rating scale was used. Consensus was set at 80% in keeping with expert recommendations (Schneider & Whitehead, 2014).

The online questionnaire was developed using RedCap (Research Electronic Data Capture) (Annexure 18), an online survey platform and the link sent to each key informant via email and

text message. The first part of the instrument requested participants to disclose demographic data and select a pseudonym that would be linked to their responses. “Agreement among panel members is determined by consensus, voting or through mathematical averaging” (Keeney et al., 2006, p. 206). The instrument made use of a four- point Likert scale, justified by its ability to produce stable scores in a Delphi study (Akins et al., 2005). Participants were asked to rate their level of agreement with each statement as either “Strongly agree”, “Agree”, “Disagree” or “Strongly Disagree”. Study data were collected and managed using RedCap electronic data capture tools hosted at the University of the Witwatersrand (Harris et al., 2009; Patridge & Bardyn, 2018). Data were exported to and cleaned in Excel. Data were checked for duplicates, errors in coding and missing values. Two rounds of the survey were conducted.

3.4.2.4 Data Analysis

The objectives of data analysis were**:**

- To determine the demographic characteristics of the study participants;
- To determine consensus among study participants in respect of the recommendations to strengthen emergency care;
- To report the reliability of the Delphi study scale;
- To analyse and report on open-ended comments.

Data analysis was carried out in Stata version 15.0. Demographic variables and participant responses on recommendations to strengthen emergency care in a District Health Care system were described as proportions and percentages. Consensus was set at 80% of participants answering either “agree or strongly agree” or “disagree or strongly disagree”. To determine the central tendency measures i.e., mean/median responses of the study participants to the recommendations, the Shapiro Wilk test or normality was computed to determine the distribution of each recommendation (Razali & Wah, 2011). Mean and median responses indicated general agreement with individual recommendations and in totality. For the Shapiro Wilk test, a p-value of <0.05, data were concluded to be skewed and presented as medians and interquartile ranges (IQR); for a p-value of >0.05, data were found to be normally distributed and presented as means and standard deviations.

The internal consistency reliability of the recommendations that make up the Delphi study scale was calculated using a Cronbach alpha test (Brown, 2002). A Cronbach alpha test was computed to determine whether there was internal consistency of participant responses.

Open-ended comments were analysed per recommendation using manifest and latent semantic analysis. This method of analysis is a form of qualitative content analysis often employed for analysis of textual data (Dooley, 2016). For manifest analysis, a cluster approach was used in order to identify patterns and trends in comments relating to each recommendation statement. Where no patterns were apparent, latent analysis was used to interpret the meaning of the comments and were included in the discussion of each recommendation statement (Dooley, 2016; Evangelopoulos et al., 2012). The comments were considered for review for the next round of consensus building and used to substantiate the discussion of each recommendation unless a suggestion for the change, addition or removal of a recommendation was noted. There was no suggestion to add or remove any of the original recommendations; however, open-ended comments provided a richer context and understanding of each recommendation. Based on the insights gained from the open-ended questions, the recommendations were modified and a survey with the modified recommendations was sent out in Round two. Findings from analysis of open ended comments are presented in a tabular format highlighting apparent clusters and key aspects for discussion or review. Consensus was reached with an overall consensus level of 98.21%. Once consensus was reached, the results of the survey were discussed and presented as the final outcome of the study.

3.4.3 Trustworthiness and Rigor

Rigor can be defined as the measures put in place to ensure accuracy in the development of knowledge in qualitative research. It is proposed that there are three aspects of rigor to be considered, including conceptual rigor, methodological rigor and empirical rigor (Gnyawali & Song, 2016).

Conceptual rigor refers to the theoretical underpinning and logic base of a study. This includes the identification and clear definition of key concepts which frame the study (Gnyawali & Song, 2016). This study used Walt and Gilson's framework for policy analysis. A detailed description of how the framework was applied for data collection, data analysis and integration of the data is provided. The framework selected proved appropriate for the nature of the research and the type of data required to answer the research questions.

Methodological rigor was ensured by ensuring that the research plan was comprehensively reported, and that methods were carefully selected to align with the study design and philosophical assumptions. Data collection and data analysis methods employed in the study were pragmatic and directed, seeking to align with the nature of a formative evaluation design.

The use of a qualitative data analysis software package, MAXQDA®, assisted in ensuring good data management and organization. A clear audit trail is kept in an electronic format and the methods of analysis are transparent (Ryan, 2009).

Empirical rigor emphasizes the importance of careful analysis and integrity of reporting of findings (Gnyawali & Song, 2016). Analytical methods and procedures are explained in detail and findings presented with the aim of representing accurately, the data that were collected. Transparency in the analysis process allows for the integrity of the report to be scrutinized and evaluated. In the Delphi method, the iterative process of data collection is also seen as a form of member checking as participants are given the opportunity to reflect on how the data have been interpreted and presented.

Trustworthiness in qualitative research refers to the measures used to ensure that research is conducted and reported with veracity and openness (Macmillan, 2005). Three concepts form the basis of trustworthiness: Credibility, dependability and transferability (Graneheim & Lundman, 2004).

Credibility is ensured in the selection of data sources and participants (Graneheim & Lundman, 2004). By using a framework for policy analysis, a broad selection of stakeholders, and documents were selected. A holistic view of the context was achieved by engaging with "actors" involved in both the development, implementation and oversight of the health policies of focus. The document analysis provided insight into the detail of the content guiding the emergency care system, and through integration of the data sources, a comprehensive view of the emergency care system at a District Health Care level was described. The use of MAXQDA®, also allowed for transparency in the coding system and provides evidence of the analysis process (Goble et al., 2012).

Dependability refers to the extent to which a researcher is able to acknowledge, reflect on and report changes in data, processes and analysis as it unfolds (Graneheim & Lundman, 2004). The nature of this study allowed emerging data to inform the processes. Sampling methods, such as snowballing allowed for a broader and more dynamic inclusion of participants and simultaneous data analysis constantly informed the next round of data collection.

By including a rich description of the participants and directing questions, which sought to describe the specific context of each participant, transferability was ensured.

3.5 Summary

This chapter presented the blueprint for the study design and the methods deployed. The study was conducted in two phases in order to achieve the study objectives. In the first phase of the study, emergency care in the District Health Care system was analysed using a framework for policy analysis. Phase one addressed the study objectives: to analyse the system of emergency care using Walt and Gilson's policy analysis framework to identify strengths and weaknesses/areas within the system of emergency care at a primary health care level. Data were collected from three sources in phase one, namely, health care practitioners and facility manager at District Health Care facilities, key informants deemed experts due to their experience or contribution towards Policy making, the field of Family Medicine in the District Health Care system and Emergency Care. The methods included semi-structured interviews with health care practitioners and facility managers as well key informants. A document analysis of all emergency related policy and legislation was also conducted. Data were analysed using qualitative content analysis. Themes and subthemes were presented and discussed. An inductive reasoning approach was used to triangulate the data sources, summarise the key findings of phase 1 and develop evaluative conclusions about emergency care in the district health care system. Based on the evaluative conclusions, recommendations were deductively formulated. Phase 2 addressed the third and final objective of the study: to develop and validate recommendations for remodeling of the system of emergency care at a primary health care level that optimises strengths and minimizes weaknesses in the system. The 14 recommendation statements developed were validated by means of consensus building using a modified Delphi technique. The key informants from phase 1 were invited to participate in a Delphi study where they were asked to rank their level of agreement with each statement. Consensus was set at 80% and results were analysed using measures of central tendency. In round one consensus was achieved, however, open-ended comments provided suggestions for modification of 7 of the recommendations. These statements were modified and sent out for consensus ranking in round two. Consensus was achieved once again and the final list of 14 recommendations were discussed and presented.

The following chapter presents the findings of the semi-structured interviews conducted with health care practitioners and facility managers in district Health Care facilities.

CHAPTER FOUR

FINDINGS AND DISCUSSION: PHASE 1a) – HEALTH CARE PRACTITIONERS AND FACILITY MANAGERS

4.1 Introduction

The first objective of this research was to analyse the system of emergency care at a PHC level, using Walt and Gilson's policy analysis framework. The policy analysis process included both the interviews with health care practitioners and facility managers presented in this chapter as well as key informants and a document analysis presented in chapter 5. Phase one of the study involved the collection of data from the actors involved in emergency care at a district health level. Health care practitioners and facility managers are at the coalface of emergency care in this setting and their experiences paint a rich background upon which the findings of this study will be drawn. The implementation and effectiveness of policy is best described by those who are tasked with rendering and managing the service that the policy provides for. The findings will later be integrated with other data sources to create a holistic view of emergency care in the District Health Care System.

Health care practitioners who deal with emergency care at district health facilities as well as clinical managers were invited to share the experiences and views on emergency care in their practice context. A total of 22 participants were interviewed. The findings will be presented and discussed in this chapter.

4.2 Demographic profile of participants

While nursing has a large female representation, the inclusion of facility managers in this sample accounted for the larger representation of males with 77.27% (n=17) being male and 22.72% (n=5) female, this is finding is supported by a study exploring leadership in health care in South Africa and the effects of gender in this field, where leadership positions are mostly occupied by males (Shung-King et al., 2018).

In keeping with the demographics of the South African population, the largest representation was from the Black race (72.72%; n=16), followed by 9.09% (n=2) Coloured, 4.54% (n=1) Indian and 4.54% (n=1) were White. The latest population demographics show that Blacks account for 80.7% of the population, followed by Coloureds at 8.8%, Whites 7.9% and Indian 2.7% (Stats SA, 2019). Two participants (n=2) did not identify with any race.

Of the participants, 63.63% (n=14) were doctors and 36.36% (n=8) were nurses. While the District Health Care system is largely staffed by nurses, clinical management positions in Community Health Care centres and district hospitals were held largely by doctors. This accounts for the disproportion in representation from the two professions, however the findings showed largely, agreement between the perceptions and experiences of both professions and therefore the disproportion was not found to distort the findings.

A good representation from the clinical staff was recruited for these interviews with non-management accounting for 54.54% (n=12) of the sample and 45.45 % (n=10) accounting for management (facility managers). It was interesting to note that although participants held different levels of position, the views and challenges described were similar. Table 4.1 summarises the demographic characteristics of the participants.

Table 4.1 Demographic characteristics of participants (n=22)

	Frequency (n)	Percentage (%)
Gender		
Female	5	22.72
Male	17	77.27
Race		
Black	16	72.72
White	1	4.54
Indian	1	4.54
Coloured	2	9.09
Other	2	9.09
Profession		
Nurse	8	36.36
Doctor	14	63.63
Field of expertise		
Management	12	54.54
Non - Management	10	45.45

The years of experience working in the current facility and within the district health services ranged greatly and increased in participants who held management positions. This ensured that the experiences shared covered a vast range of professionals from the most junior to those who have had many years of experience.

Of concern is the absence of updated emergency skills training amongst these professionals. 50% (n=11) have had no emergency training since their basic qualification, while 13.6% (n=3) last received training over five years ago. Current recommendations are that emergency training should be updated at least every two years to reduce the loss of skill over time (Ameh et al., 2018). Only 36.6% (n=8) of the participants had training less than five years ago as depicted in table 4.1 below.

Table 4.2 Years of experience and last emergency training of participants (n=22)

	Frequency (n)	Percentage (%)
Years since last training in emergency management		
5 or less	8	36.36
6 – 10 years	1	0.05
11 or more years	2	0.09
No training	11	50
Years working in facility		
5 or less	11	50
6 to 10	4	18.18
11 to 20	3	13.63
21 or more	1	4.54
Undefined	3	13.36
Years working in district health services		
5 or less	6	27.27
6 to 10	4	18.18
11 to 20	4	18.18
21 to 30	4	18.18
31 or more	1	4.54
Undefined	3	13.36

The demographics of the participants provide insight into the data that will be presented as familiarisation with the context and the actors is realised.

4.3 Presentation and discussion of findings

The interviews were transcribed and analysed using qualitative content analysis. Transcripts were imported for analysis into MAXQDA®. The data were coded, and then organised into themes and subthemes. Seven major themes and 17 subthemes were identified and organized

within the Walt and Gilson Policy Analysis Framework, Table 4.3 below is a summary of the themes and subthemes.

Table 4.3 Themes from Health Care practitioner and Facility manager interviews

Policy Analysis Framework Descriptor	**Themes**	**Subthemes**
Actors	Personal Experience in Managing Emergencies at a District Health Care level	Presentation of emergencies at a PHC level
		Perception of competence
		Independence vs Isolation
	The Emergency Management Team	Team performance
		The roles of team members
	Regular and rigorous training	Call for training
Context	Emergency care challenges at PHC level	Stretching of services
		Shortages of the essentials
		Management - *"Up there, wherever, whoever is there."*
Content	Ideal Clinic	Status of the facility
		Policy requirements
Process	Referral System	Poor understanding of the referral pathway
		Ambulance and Transport systems
		Non – cooperative relationship between facilities at different levels
		Time delays
	Emergency Care Process	Approach to emergency care
		Triage system

4.3.1 Actors

Policy analysis theory and research has placed emphasis on understanding the power and influence involved in the decision-making process when policy is developed (Gilson et al., 2018). For this reason, the actors involved in policy development are considered to have valuable insight into policy analysis. Walt and Gilson (1998), however, also assert that multiple actors from various levels including those who are responsible for implementing policy at ground level should be invited to share in the process of policy analysis and the development of policy. Health care practitioners and facility managers are important actors in the process of this analysis. Their experiences have been described in the following themes, the participants' direct quotes are presented in *italics*.

4.3.1.1 Theme 1: Personal Experience in managing emergencies

Participants were asked to describe their personal experiences in managing emergencies at a primary health care facility. The participants expressed their feelings of confidence or a lack thereof and described the types and frequencies of emergencies presenting to their facilities.

Presentation of emergencies at a PHC level

At a Primary Health care level, health care providers are likely to encounter a broad range of emergency conditions (Baker & Dawson, 2014). Patients may present with deteriorating or complicated chronic illness or sudden traumatic life-threatening events.

In this study participants described treating conditions including traumatic injuries, medical emergencies, complicated chronic illness and even maternity emergencies. Like the study by Obermeyer et al., (2015), the profiles of patients include young people free of chronic disease, presenting with acute illness or injury (Obermeyer et al., 2015), as well as very sick patients who have complicated illnesses, and delayed health-seeking behavior has led to delayed presentation to a health facility.

Participant 19:

"Usually, it will be a very sick patient, maybe was very ill at home for a long time and then come here very sick."

The types of emergencies also paint the picture of the context of the facility as more urban settings are more likely to report violence-related injury while rural areas deal with work-related injuries.

Participant 21 (Urban setting):

"There is a lot of trauma in this area. We usually spend even the weekends and the weekdays the whole day treating emergency, trauma, stabbing, people assaulted everything."

Participant 17 (Semi-rural setting):

"most of our patients they get injured while working the tractors, with the tractors,"

Although the experiences of the participants varied greatly, the common thread was the need to be prepared for any possibility to deliver emergency care to a patient with acute illness or injury and even unexpected obstetric emergencies.

Participant 7:

"We've got a delivery pack ready for in case of emergency we have, the mom comes in fully dilated, because they say they keep on phoning that side, the ambulance doesn't come, but they don't. They come straight here because they think, I'll rather deliver at the clinic because I know the sisters are going to help me."

In 2015, the top four leading causes of death in low-middle income countries were, respectively, Lower Respiratory Tract Infections, Diarrheal Disease, Cerebrovascular Disease (Stroke) and Ischaemic Heart Disease (World Health Organisation, 2015). In the same year, in South Africa, the leading causes of death were reported to be Tuberculosis, Diabetes Mellitus and Cerebrovascular Disease (Statistics South Africa, 2015). Most of these conditions can be classified as lifestyle or chronic conditions and therefore prevention and promotion efforts play a major role in reducing mortality and morbidity related to these conditions. However, death and disability occur when these conditions deteriorate into acute illness leading to an emergency. Early recognition and treatment of these medical emergencies may assist in reducing the mortality and morbidity related to these common conditions (World Health Assembly, 2015). The range of emergencies seen at primary level facilities indicates the need for health care practitioners to be prepared with the ability and capacity to deal with various unpredictable events.

The frequency of emergencies differed across facilities but the occurrence of emergencies whether frequent or rare was common amongst all facilities. This relied heavily on the level of the facility and the setting, with lower-level clinics not receiving as many emergencies.

Participant 15:

"We don't have serious emergencies because we are local authority clinics."

The context of the facilities varied greatly. This included remote rural-like settings to central urban health centres. The experiences, types and frequencies of emergencies therefore differed as vastly as the variation in contexts. The geographical locations in relation to densely populated communities, resources and distance to higher level facilities are important factors affecting not only the experiences of the participants but also the capacity of the facility to respond to emergency cases (Anderson et al., 2012). These nuances are important considerations when analyzing the ability of a policy to give direction in varying contexts.

Perception of competence

Study participants described a range of emotions from being confident and appreciating the learning opportunity that emergencies present to being discouraged and unheard.

There was an emergent conflict between participants regarding their personal confidence in managing emergencies. An equal split saw half of the participants feeling confident and enjoying the opportunity to treat emergency cases while the other half described themselves as not confident, untrained and not well capacitated.

Participant 15:

"I love trauma and emergency, so I feel competent. I love emergencies."

Participant 20:

"I don't feel confident and then even the management, I think we need some training, in-service training to bring the confidence back, because we are not confident, because now we are compromising some of the things, so we don't feel confident."

Globally the responsibility of emergency management is often met with negative attitudes, uncertainty and a lack of confidence and skills. Literature has focused specifically on nurse initiated cardiopulmonary resuscitation and the results have shown that nurses lack confidence,

and experience anxiety and uncertainty of their roles during resuscitation (Makinen et al., 2009). These negative attitudes can lead to hesitancy and failure to act in an emergency (McHugh et al., 2015).

Participants also discussed their frustrations with not having the capacity to deal with emergencies and the effect that their lack of capacity has on them as individuals and the effect it has on the patients:

Participant 2:

"I sometimes feel like we are not well capacitated."

Participant 10:

"You become so stressed in such a way that at times you think that, you know what, I don't want even to wake up to come to this facility because I'm going to be mad, you see, and then, even the staff, then they become very frustrated too."

Emergency situations are high pressured and demanding and require specialised skills. Health care practitioners are sometimes placed in positions where they are required to deal with situations beyond their scope and ability (Jaeger et al., 2018). The feeling of disempowerment is a direct assault on the confidence needed to act decisively in an emergency. Health care practitioners need to be supported and empowered to deliver effective emergency care at this level (Dufourq et al., 2017). In the context of PHC this can be more prevalent as health care practitioners are not continuously exposed or trained in the management of emergencies. The consequences of poorly trained health care practitioners without the confidence and resources to deal with emergencies are directly felt by the patient in need of emergency care.

Independence vs Isolation

All level one facilities fall under the umbrella of PHC or District Health Care services. Emergency care is most advanced at level three and four institutions where different specialty services can provide definitive care for patients with acute injuries or illness. There is therefore a higher concentration of specialised emergency skills in these institutions as opposed to the level one facility. Like many other primary health care facilities in Africa, professional nurses are often the highest level of health care practitioner available at PHC level, with the periodic availability of doctors, and therefore need to function autonomously (Jaeger et al., 2018).

Participant 14:

"I'm basically here just as a nurse. You are at the top of the chain. So, you need to function independently in a way."

Participant 17:

"we are on our own, the doctors are not here. So, we have to be more knowledgeable."

However, the forced independence and exposure to dealing with emergencies is also seen as an opportunity to gain knowledge and expertise. A study conducted in Chad echoed this as it identified the opportunities for nurses found in the need to function independently, such as the gaining of skills, knowledge and experience (Jaeger et al., 2018). The challenge of autonomous practice forces nurses to maximise the use of their skills and critical thinking ability (Jaeger et al., 2018).

Participant 17:

"we gain a lot of knowledge."

Participant 13:

"So, I think it's a bit of a learning experience for everybody but like I said at times it goes quite smoothly; other times, not so well."

The perception of independence is dependent on the how well the practitioner is empowered and supported. Providing support in terms of collaborative effort between disciplines, mentoring and ongoing training are ways of capacitating staff, particularly junior staff, to improve emergency care at a district health care level (Sullivan-Bentz et al., 2010). Without this support, the opportunity for autonomy becomes a negative sense of isolation or abandonment when dealing with the multiple challenges facing emergency care in the district healthcare system. Although independent practice is highlighted in this theme, the need for team support in managing emergencies is still very important.

4.3.1.2 Theme 2: The Emergency Management Team

A team approach to emergency care has proven its efficacy over decades of research (Kellum, 2009). Various organisations have dedicated research efforts towards refining the structure and process of the emergency management team. The American Heart Association (AHA)

proposes a multi-professional team with roles assigned that are not profession specific (Sinz & Navarro, 2013). This approach works well in a context where there is not always a doctor or specialist available as it allows for any health care professional to function at their level of expertise. In a primary health care setting, nurses are often in the majority within the team, and often, would be forced to take the lead as a doctor is not always available. Participants were asked to describe their experiences in their team approach to dealing with emergencies at a PHC level.

Team Performance

Participants expressed a general positive perception about the team performance and functioning within the facility. They expressed their dependence on the team of health care practitioners and the importance of the team approach in dealing with emergencies. They also expressed their satisfaction about how the team worked together in the event of an emergency.

Participant 3:

"We are so supportive, we support each other like this, all of us, we work very well."

Participant 1:

"We rely on each other."

One participant cited the lack of teamwork and the expectation that emergencies are dealt with by doctors on their own:

Participant 24:

"There's no team. At least if they can do that (training) it will give them the idea that this is supposed to be done as a team and not just a doctor alone."

In their development of a tool to measure performance of emergency teams, Van der Haar et al., (2013), described the attitudinal aspects of team performance as the most important; this includes team satisfaction, commitment, and trust in management. For the team to function optimally there must be trust and commitment from all members. Trust in other team members ability and knowledge is also important (Van der Haar et al., 2013). The functional ability of any team depends on clear role allocation and trust between members to fulfil their responsibilities. Open communication and honesty allow for members of the team to express their hesitance in performing certain tasks and confidently accept those for which they feel

confident in performing. This also allows for the identification of gaps where education and training may assist in improvement. When team members are not able to identify their own knowledge gaps, they then depend on team members to constructively assist them in identifying deficiencies in their knowledge and skills base. When the environment is judgmental, this collaboration is often not possible. From participants' responses it is clear that open communication and role clarification are areas of weakness.

Participants raised concerns about the level of competency of members of the team:

Participant 15:

"It's easier to manage emergencies when you're the [inaudible] and when you have a team that is competent whenever an emergency comes everybody knows where they are running and what they are doing but when you have an emergency, and the level of incompetency is just; I don't know."

Participant 2:

"they are not yet competent or confident enough to can (sic) manage that."

The lack of confidence in team members' competency and skills leads to frustration and a sense of isolation as the team becomes fragmented.

Participants also shared experiences of the support available to the team during emergencies. Some participants described the availability of support from outside structures such as consultants and doctors from higher-level facilities, while others struggled to get support from colleagues within the facility as well as from other facilities.

Participant 8:

"Ja, there's good support as long as you call, they will always give you advice especially if you say you are stuck, ja."

Participant 17:

"I call the doctor in hospital and seek further advice."

The availability of consultative support, whether internally or remotely is a vital part of supporting health care practitioners in these contexts. It requires the strength of a network or

partnership between facilities and specialists. A study conducted by Greenwood-Ericksen et al. (2017) proposed a model of care for rural America where a partnership between Emergency Medicine and Primary Health Care would be established to support health care practitioners dealing with emergencies at a primary health care level. The aim is to reduce mortality and morbidity related to acute illness and injury. The other important objective is to ensure the safe practice of health care practitioners who may find themselves alone and overwhelmed by the situation.

Participant 18:

"There is actually no one to consult with. You can call a doctor in Mamelodi and say look this is my problem what can I do but you try to avoid that because it takes a lot of time to get somebody on call or the registrar or somebody to say look, I need to talk to you about this. If it's an emergency, it's very difficult to get these people. There's no one that's sitting at the other end of the telephone just waiting for you to call. So, you try to avoid that and just do your best under the circumstances."

Participant 24:

"Ja, the thing is there is no one else who can really help because we've got the [inaudible]; we've got the physios; we've got the psych here and we've got the TB people; those are the peripherals. So, you can't really get help from those people."

Facilities with 24-hour emergency care services struggled even more with support, particularly at night. Health care practitioners are left vulnerable and isolated in dealing with emergencies at night.

Participant 5:

"But sometimes it is in the middle of the night and no one answers their phone then you just manage the patient as far as you can and try to transfer them and during the day, we actually have more support..."

The first emergency response is a defining event for the patient and the rest of the system. The initial treatment must be supported by a strong consultative and referral system. Consultation during the acute episode has been cited as a way to improve treatment and strengthen the links in the chain of collaboration (Higashida et al., 2013). Health care practitioners dealing with

emergencies at a primary health care level are not always equipped with the knowledge and skill to intervene decisively during an emergency, and therefore in order to improve the first response, there should be a shift in expectation. Instead of expecting the health care practitioner to be able to deal with any emergency independently, there should be a drive to support the first line response.

The support available to health care practitioners during emergencies is a vital part of the entire system. Innovative ways of providing support must be considered, such as formal telephonic triage and consultation for patients and practitioners (Adeniji & Mabuza, 2018).

The roles of team members

An effective team approach includes clear role description and allocation. In describing the roles of the health care practitioners in the team dealing with emergencies at a PHC level, the efficiency of the team and functional ability to effectively manage emergencies may also be extrapolated. Participants' description of roles was interchangeable with task allocation. They described how members of the team would be assigned tasks either at the beginning of the day or as the emergency care was being rendered.

Participant 3:

"At times I do timekeeping, at times I give medication, whatever the doctor wants, and then I give to the patient. You see, it depends on that day what role you are given."

Participant 9:

"we've got Sister no 1, Sister no 2, Sister no 3 or this number. Sister no 1 has got to focus on the airway, Sister no 2 is going to be assisting the doctor with breathing, Sister no 3 is going to be circulation and then after that they're going to have one person running for them, like a runner".

Participant 20:

"Unfortunately, it's not like in the hospital. They actually have nurse 1, nurse 2, like in the hospital in the emergency room. Here, like here in our department, we are only three registered nurses for all these departments. When the emergency come, it means we have to divide ourselves and go in there, that this one is going to help the doctor with the resuscitate

(sic), this one is going, is the one that is going to give us the drugs when we call, this one is going to phone for an ambulance or whatever".

Inter-professional collaborative practice is a defining feature of emergency care. Core competencies involved in effective collaborative practice include the understanding of roles and responsibilities as well as good communication (Suter et al., 2009). Effective collaboration enhances team performance. The concept of roles is often associated with the idea of task allocation however the definition of a role is broader than the tasks assigned. In this study however, role allocation was considered synonymous with task allocation. In nursing it includes the broad responsibilities for coordination of care, advocacy and caring, as defined by the International Council of nurses (*Definition of Nursing*, 2002). The role of the health care professional therefore encompasses all the skills and tasks necessary to fulfill the broad requirement of care. While tasks are an important part of defining a role, the role should include a broader understanding of what is expected of each team member, whether it be in a leadership or supportive role. In the allocation of roles, it is important to consider the level of qualification, skill and scope of practice for each team member.

It is therefore important to highlight the difference in skills mix at the different levels of care. At a primary healthcare facility services are nurse-led with support from care workers, doctors and allied medical professionals (Epping-Jordan et al., 2004). The allocation of tasks and roles would be based on the level of skill available at the time.

In a PHC setting, care is largely nurse led and therefore independent practice and autonomy is the norm. This, however, is not the case when dealing with emergencies at this level. The nurse's role in the resuscitation team is debated as nurses are often assigned to the tasks that "aid" the team leader. Leading and decision-making is presumed to be the role of a doctor and in rare circumstances, a specialist nurse (McHugh et al., 2015). The role of the nurse in the team varied according to the level of care. At the more basic primary care facilities, nurses are expected to take the lead. For the purpose of clarity in the narrative, participants' profession was highlighted when quoting.

Participant 14 (nurse):

"I am the one who has to take charge of everything that is happening there."

Nurses described their leadership role and independence, however, when a multidisciplinary team is available, the lead role changes:

Participant 20 (nurse):

"When an emergency come, we call the doctor and then the doctor will come to emergency room and see what he can do for the patient."

The nurses were described to be involved in assessment and some interventions needed in emergency care in most of the facilities. This varied according to the level of care and the level of training of the nurses. At district hospital level, nurses were involved in decision making and interventions during emergency care, while at primary care facilities nurses relied more on the doctors.

Participant 9 (nurse):

"Yes, we are supposed to tube, you can intubate the patient, ventilate the patient, put in drips, give whatever we think, the patient needs resuscitative fluids and all that".

Participant 14 (doctor):

"You are at the top of the chain. So, you need to function independently in a way. You need to take decisions. So, I'd say the role basically is to lead the team".

This is an interesting finding as in lower-level facilities it would be expected that nurses are equipped and able to lead the decision making and intervention process while in higher level facilities this should decrease in the presence of support from doctors and other multidisciplinary team members. The contrast is clear in the following participants' responses:

Participant 10 (doctor):

"The registered nurses' roles, they're just to carry out orders, like to give medication or to put up drips, ja, like, but they can't examine a patient or help".

Participant 25 (nurse):

"The doctor will do the vitals and other doctor can see the patient has been seen; then the doctor will say do the dressing or he will do the suturing as he is doing now."

In the Primary Health Care setting, regardless of the level, where nurses are the first line responders, it would be vital to ensure that nurses are equipped and confident to lead a team in the emergency care process. Nurses are capable of and expected to be able to assess and intervene in a patient's presenting health problems, which involves critical thinking and problem solving. The nurses, therefore, should be doing more than just taking orders from the doctor. According to the scope of practice, nurses are considered autonomous practitioners responsible for the total health of their patients (Nursing Act, 2005 (Act No. 33 of 2005) Regulations Regarding the Scope of Practice for Nurses and Midwives, 2020). To build on their capacity to manage emergencies, education is necessary. The WHO guidelines for essential trauma care highlights the need for continuous education and training in emergency skills (Mock et al., 2004). There is a clear conflict in understanding of roles and the expectation of competency in certain skills in the various settings. Even more concerning is the doctor's perceptions of the lack of competence and the ability of the nurses.

Participant 21 (doctor):

"The challenge the majority of the time is the equipment and even the abilities of the nurses, because usually there are three to four nurses working, but only one of them is able to do…to take a line, to do sutures."

Participant 16 (doctor):

"My views on emergency management at a primary level is I don't think nurses are that much equipped to deal with certain emergencies, you know."

Legally, all professional nurses are required to be able to provide emergency care to patients in need and ensure that they remain competent in the skills required to do so (*Nursing Act, 2005 (Act No. 33 of 2005) Regulations regarding the scope of practice for nurses and midwives*, 2020). It is therefore imperative that emergency care be emphasised as a part of the nurse's role and that continuous training is provided. If a legal obligation is placed on their practice, there is an obligation for the nurses themselves to be continuously updating their skills and knowledge to meet the legal requirement. There should also be an institutional drive to support the nurses in meeting this requirement – from facility management up until national health. This drive should look at ways to increase the nurses' capacity to manage emergencies by increasing opportunities for education and training as well as ensuring that there is a system of support available to them at this level of care.

Although doctors are not permanently available at many of the primary health care clinics, it is often assumed that when the doctor is available, she/he should assume the leadership role during emergency management.

Participant 8 (Doctor):

"Yes, obviously I am the leader of the team."

Participant 24: (Doctor)

"In the emergency it's myself because it's one doctor and three nurses and basically the doctor does everything."

In many settings a medical emergency team is often recruited and led by a medical doctor (McHugh et al., 2015). While it is common practice for the professional with the highest qualification to take the leadership role, it is also important to understand the need to develop the leadership skills of the nurses, who inevitably lead the team when the doctor is not around. This would require nurses to be mentored and developed for this role and to be given the opportunity to practice the skill when the doctor is around as a way of ensuring that safety is maintained while supervision and role-taking takes place. An appreciation of the context of the different level facilities is needed in order to provide contextually relevant guidance and direction for health care practitioners in the various settings. The objective of training and education should be in alignment with the context and common practice of the facility and health care practitioners' qualifications.

4.3.1.3 Theme 3: Regular and rigorous training

Call for training

All participants interviewed emphasised the need for training. Every health care practitioner interviewed, described their need and desire for training in emergency care. PHC practitioners are often considered frontline health care workers as they serve at a community level, which is most accessible to the public. PHC practitioners deliver emergency care daily, often without prior formal training and professional no access to continuous professional development regarding emergency care (Tenner et al., 2019). All PHC practitioners require training in emergency care. Participants in this study expressed their need for and desire to be equipped with the knowledge and skills to deal with emergencies at a PHC level.

Participant 18:

"I think more regular training definitely for all staff members; for all staff members not only, doctors and sisters but also the assistants so that everybody has at their level regular training that everybody is up to scratch because you don't know when an emergency is going to happen. I think that would be my biggest…my biggest recommendation."

Participant 12:

"So, my take is that we should actually subject our personnel to rigorous adequate training."

The World Health Assembly for 2015 highlighted the need for emergency care training at a primary health care level as a method for strengthening emergency and essential surgical care and anaesthesia (World Health Assembly, 2015). The lack of specialized training for primary health care practitioners dealing with medical emergencies has been highlighted (Khangura et al., 2012; Tenner et al., 2019). This is a serious indictment, as without the availability of education that is tailored for the empowerment of health care practitioners dealing with emergencies at a PHC level, we can expect poor patient outcomes and a weakened system of care.

In this context, there was an overwhelming emphasis from health care practitioners on the need for Basic Life Support training as required by the Ideal Clinic Status policy:

Participant 10:

"No, it's not adequate. It's not adequate, and I can tell you that because now ne, we, there's this basic life support, which we usually do for the emergency people, ne, and you'll find that they'll only tell you that you only enrol one. I don't know per what, it's only one, maybe per, if ever they've decided to give us money to do that course and it's after maybe, like now, they've done this year, ne, and for 2016, 2016/2017 we didn't do basic life support. We have started 2018 again to do it, because now the ideal clinic is on our neck, because every time we are getting ready for that. So now they've taken one, here one, there one, there, so that they can, and still it's not enough because we are 85% in the clinic must be trained for".

Participant 24:

"That would definitely help because they don't even know that they're supposed to be a team because when you do BLS they tell you that you have to work as a team. There's a team leader and everybody has a role in the team, but it doesn't happen".

The provision and availability of formal training courses such Basic and Advanced Life support has been a source of debate. While health professionals are required and encouraged to maintain competency and continuously update their skills, there is an expectation that courses must be provided for and funded by the Department of Health. As it is a requirement of the Ideal Clinic Framework, many expect that the Department of Health should provide the training. While this is not an unprecedented expectation, it has stopped many professionals from intrinsically aspiring to their own upskilling. Some leadership, however, found innovative ways of providing training for their facility staff:

Participant 22:

"So, and then the department does allocate money for training. Right now, we're opening an accredited BLS, you know, and then basically we are running it with our own money, you know. We're already training about 50 something, in the last two or three months, in BLS. You know we are trying to improve but the department doesn't, doesn't help after all. The budget they put for training every year disappear just like that, I mean, nobody goes for training or for this and that, you know, it's a mess-up like that."

Other facilities relied on the Department of Health to provide training, and it was noted that many practitioners were not willing to take initiative to pay for their own training.

Participant 6:

"So, you rely on the clinic to provide training."

The participants described their facility methods of in-service training and informal emergency acre updates, which they rely on to keep themselves updated.

Participant 15:

"Ag, we don't have like specialised training. The trainings that I give the Sisters is just informal but then we take our self for training."

Participant 13:

"if they can help us maybe with general meeting every Friday or something."

The need for training is evident in the findings presented. The mode of training and responsibility for providing it is not clear. While the Ideal Clinic Framework stipulated that certified training is required, the process and responsibility is not clear to those implementing the policy as they are unsure about how to achieve this requirement. Training is essential for the strengthening of emergency care at the PHC level, but it must be contextually relevant and take into consideration the factors described in these findings, such as the responsibility, innovations in sourcing training and encouraging health care practitioners to take responsibility for continuous professional development. While formal Basic Life Support courses are ideal, they require certified instructors and specific training equipment and material (Tenner et al., 2019). These requirements extend beyond the reach of many facilities and therefore a contextualised approach must be considered. In response to the lack of access to these courses, the WHO has developed an open access basic emergency course with the aim of improving reach to frontline health care practitioners. Trainers are identified by facilities and larger hospitals are sometimes partnered with lower-level facilities to offer training. The example provided by the WHO, emphasises the importance of ensuring that an emergency care training strategy should be contextually relevant and accessible to ensure effectiveness.

4.3.2 Context

The contextual realities of the health care practitioners provide a window into the practical implementation of the policies and their effectiveness. The participants described many challenges related to their specific settings.

4.3.2.1 Theme 4: Emergency care challenges at PHC level

There were various challenges identified by participants as barriers to providing emergency care to patients in need. Some participants felt generally overwhelmed by the increasing number of challenges they were faced with in providing emergency care.

Stretching of services

Many of the health care practitioners expressed the perception that the services offered at the facility were overloaded. They described the overburdening of the facility with patient loads beyond their capacity and resources. Resource and allocation for each facility in the district is

based on the expected patient load for the demarcated area or zone for which the facility is responsible. Factors described by the nurses as contributing to the "stretching of services" included the unplanned for burden of patients using the incorrect facilities as per the zoning system and undocumented migrants in the areas.

Participant 12:

"You know, to be honest with you, I can say, is sort of stretched."

Participant 20:

"That is why now we are running short of most of the things, because we're catering for whole Soweto."

The Treatment Action Campaign is a health activist group focused mainly on the prevention and treatment of Tuberculosis. As a result, they have a close monitoring system in the district health services. In the 2018 Gauteng State of Health Report, it was cited that although Gauteng receives a large percentage of provincial funding, the needs of the Gauteng province are often underestimated due to rapid urbanization, increased numbers of migrants and difficulty in obtaining accurate census statistics in order to plan for services adequately (*Treatment Action Campaign Gauteng State of Health Report*, 2018). In this report, poor planning and under-resourcing underpins the concept of the "stretching of services".

Shortages of the essentials:

The participants identified resource shortages as a major challenge in the delivery of effective emergency care services. Resource shortages were described in terms of staff shortages, malfunctioning or lack of equipment, and medication or consumable shortages. One of the fundamental goals of the health system and the Ideal Clinic Framework respectively, is to ensure the equitable distribution of health resources. The goal of the ideal Clinic Framework is to ensure that various standards for staffing, resources and equipment are met at every facility. The emphasis on the need for these resources is not misplaced as it is vital for the operation of any facility or health service.

Twelve of the clinicians interviewed identified staff shortages as a challenge and barrier in service delivery of emergency care.

Participant 2:

"but now, like I said, with a lot of staff that have resigned, I'm still struggling."

Participant 4:

"The only resources that is not enough is human resource."

Participant 10:

"When they opened the emergency, they didn't add the staff. Ja, we had to use the same staff that we had before the emergency was opened, so that is the problem that we have here".

Participant 12:

"So that also impacts negatively on, you know, there's a shortage not only on material and other resources, also human resource. Human resources are a very major role, plays a major role in the managing of any area."

Planning for the staffing of emergency care areas was not evident, each facility has devised their own plan for the staffing of this area using the existing staff compliment. This indicates that there was an expansion of the services without staffing plans. At the time of data collection, there were also political factors influencing the ability of these facilities to acquire new staff such as the moratorium on posts due to the provincial Department of Health being placed under administration. This was identified by some of the facility managers as a constraining barrier in trying to address the shortages of staff which placed a burden on the entire package of services offered by the facilities. This affected various districts.

Participant 4:

"Because even now we are having this challenge with our Department of Health; they've blocked all the posts, so we are no longer replacing. Let's say if somebody resigns, you can't replace".

Participant 11:

"June/July, where we tried to replace those who left, but could not and this process that we are supposed to follow of replacing them, so we can't. Out of those (more than twenty posts lost), we are only going to employ I think it's four professional nurses, two staff nurses".

Participant 23:

"When it comes to human resource, it's a problem. Ja, and now I think, I'm sure you are aware there's a moratorium of posts."

Of the 73 237 funded posts available in Gauteng Department of Health in 2017, 60 343 were filled, leaving a shortfall of 6 100 vacant posts in the province, which were not filled due to a moratorium on posts (*Treatment Action Campaign Gauteng State of Health Report*, 2018).

The issue of staff shortages is not easily addressed. A global crisis in human resources for health has been identified and various frameworks have been developed and proposed for addressing this issue (Mahlathi & Dlamini, 2015). South Africa is faced with a complex network of problems including the inequitable distribution of human resources. Other factors include skills deficits, inequitable skills mixes in the workforce, poor managerial and supervisory capacity, the poor health of the workforce and lastly a lack of leadership (van Rensburg, 2014).

The perception that there is a staff shortage is also perpetuated by the lack of information needed to determine standards and norms for staffing ratios. Traditionally, human resource capacity is measured in terms of supply versus demand. This is most commonly calculated as simple ratios such as provider to population ratios, if it can be assumed that all providers function at the same level in terms of skill and productivity (Uys & Klopper, 2013). However, with the change in dispensation in 1994, came various policy changes, that did not consider changes in the disease profile and profile of the community. Therefore, historical staffing plans were used to determine current ratios (Littlejohn et al., 2012). Therefore, while these factors influence staffing capacity, the norm for measuring capacity remains nurse: population ratio (Armstrong et al., 2019), which makes the perception of staff shortages, difficult to interpret and even more difficult to address.

The South African Health Review (2016. p. 186) states that "there are low staffing levels in emergency departments, which are often served by the most junior doctors; insufficient basic resuscitation facilities; and limited imaging facilities at clinics and district hospitals, especially after normal hours, which is when most trauma incidents occur". This along with poor access to surgical facilities for the performance of minor procedures leads to delays in initial care and definitive care, resulting in more complications and the need for an escalated level of care. It

was also highlighted that there is a deficit of emergency nurses specifically trained to manage trauma and emergency cases (*South African Health Review 2016*, 2016).

The availability of resources needed to render emergency care services differed between the various districts. Facilities, particularly within the Tshwane district, reported having well stocked emergency areas and trolleys and very little issues with equipment and medication or consumables.

Participant 3:

"We've got enough, we've got enough, we used to struggle but we've got enough, they're trying a lot, we've got the machines and we've got the [inaudible], we've got material, we don't struggle".

Participant 2:

"We've got your ECG, we've got your defibrillator, we've got, it's there, even the oxygen, we've got two cylinders per clinic, even if one is finished, if I phone them and tell them that I need the oxygen, they'll bring it. So, we don't have any challenges around it."

This was not the case in the other districts. Many of the other facilities were described as poorly resourced, specifically in terms of emergency equipment and consumable stock used in emergency care. Medication shortages were not identified as often as consumables. The lack of emergency drugs and emergency blood was also identified by participants:

Participant 20:

"We don't have the right instruments and equipment to perform a resuscitation."

Participant 13:

"You know, those patients deteriorate very quickly, and we don't have drugs to treat them."

Participant 11:

"the only problem that we sometimes have is when we need emergency blood."

The lack of needed resources can be extremely frustrating. In an emergency, even if the health care practitioner is equipped with the knowledge and skill to deal with emergencies, the lack of resources can be debilitating and detrimental to the outcome of the patient.

Participant 15:

"When we talk about resources you feel like staying at home because there's nothing that you are going to do. You have plans in place; you know what you want to do but there's nothing to, you know, there's no tool to help you. We always have shortages of drugs; we have shortages of this and that and it makes it quite difficult and most of the things are not within our control".

The national health care facilities audit of South Africa reported poor performance in the area of emergency services for both hospitals and primary health care facilities with poor compliance to the availability and maintenance of essential emergency equipment and drugs (Visser et al., 2013). The differences in the availability of resources and functional capacity of facilities between districts were stark. Political changes may be an attributing factor to these changes. The National Department of Health implemented a pilot National Health Insurance (NHI) programme in specific districts in South Africa. In Gauteng, the Tshwane District was selected (Wolmarans et al., 2018). Tshwane health facilities may have benefited from the extra support, which came with this initiative; however, the need for equitable distribution of this support in terms of resources, is emphasised when the plight of the other districts is highlighted by participants' concerns.

Challenges in availability of resources and equipment are also directly related to supply chain barriers. Participants both in management positions as well as those working as clinicians cited the need to review supply chain processes. They also discussed their frustration with the lack of transparency and consultation with the service providers during the procurement processes.

Participant 9:

"Most of the time you find that they are not on stock in the hospital. Basically, there's no budget or I don't know what challenges, but most of the time we don't have stock".

A common cause for lack of resources was that suppliers had not been paid:

Participant 12:

"Some, some distributors will tell you no supplies, they'll tell you no, I won't supply you for the simple reason that I haven't been paid, you know, 30 days have long passed and I'm still sitting here with an order that was supposed to be paid say maybe 90 days or 60 days ago".

Participant 10:

"It's my own view, because if you have a, let me, there's a person up there who doesn't see importance of paying the suppliers who'll be giving us this thing, and then they owe the suppliers and then the suppliers decide to stop having to issue things".

At the Presidential Health Summit held in October 2018, supply chain challenges were cited as a major barrier to service delivery. Supply chain management skills, inadequate monitoring and governance on available systems; corruption; tedious and cumbersome supply chain management processes; inadequate information systems; suppliers not being paid on time; poor procurement systems and processes that are not standardised, no quality regulation, and non-adherence to a national catalogue of products for medical consumables, were cited as reasons for poor supply chain processes (*Presidential Health Summit 2018 Report*, 2018). The direct impact of these issues is seen in the participants' expressions of frustration with the unavailability of resources specifically for delivering emergency care.

A similar finding was reported in KwaZulu Natal where the various districts reported "54% of district facilities having inadequate resuscitation-area facilities, none having in-house CT-scanners, only 62.5% having emergency mobile X-ray units, and 58% not having access to an emergency operating room (a requirement of the District care-package). Only 25% of district hospitals had an emergency observation ward, despite the need to accommodate many patients awaiting transfer to a higher level of care." (Hardcastle et al., 2013). The acquisition and maintenance of emergency equipment, resources and drugs is a major responsibility of facility management.

Management - "Up there, wherever, whoever is there."

Interviewees described a range of ideas related to management. This included their opinions on the roles of management as well as expressing their satisfaction or dissatisfaction with the existing management structures. The nuances in their responses indicate a feeling of being out of touch with management and uncertainty about the roles of higher-level management. They described some of the responsibilities of managers to include ensuring that there are sufficient resources for dealing with emergencies, supervision and encouragement of staff, and ensuring accountability of the health care practitioners.

Participant 16:

"I think the manager also needs to be the driving force, because now these things are now available, ensure that you order a drip bag, the drugs are available, make sure that they are there, ne, emergency drugs are there, ARVs again, that is your duty, right."

Participant 2:

"you make people feel accountable, you are continuously reminding them that you know when you come to work you must know and understand."

The participants described the desire to be a part of the decision-making processes during policy development and formulation of strategies and supply chain processes.

Participant 16:

"you must always include your team, ne. When I talk of a team, the very people are working here, give them ownership."

The participants often referred to "someone up there" as the responsible structure for decision making. This vague understanding of who is involved in decision making indicates a lack of transparency and a lack of trust in the management structures that govern the facilities. This "faceless" governance structure not only leads to mistrust but also a lack of accountability from management and to management.

Participant 10:

"Up there, wherever, whoever is there."

In describing the human resource for health crises, Van Rensburg (2014) cited management capacity as the second major challenge. Managers were said to be incompetent in efficiently managing the health workforce and motivating optimum use of human resources. Managers were recommended by the Department of Health to employ strategies to motivate health care practitioners to achieve their personal, professional and organisational goals. As a result of poor management, quality assurance of services delivered is therefore compromised (van Rensburg, 2014).

The different levels of management also create conflict as facility managers describe the decision-making process as being above them and not within their control. Some facility managers shared their experiences of attempting to order equipment but only to have decisions

taken by an upper-level management in a process they are not involved in and do not understand.

Participant 22:

"somebody's sitting there at the head office, the one that will approve, and they don't know what's the situation here, you know".

This lack of contribution from facility management and staff within the facilities leads to poor implementation of policies and poor service delivery.

Poor implementation of governance policies and lack of policy clarity between national, provincial and institutional authority and poorly aligned roles and responsibilities across levels of system are also cited as reasons for poor governance in health facilities (*Presidential Health Summit 2018 Report*, 2018). Political interference and corruption constantly create conflict between the strategic plan for improvement and the implementation thereof. Training for clinicians on leadership, ethics and governance and for management on patient-centred care is poor (*Presidential Health Summit 2018 Report*, 2018). The result is a concerning poverty in leadership in health care facilities and key responsibilities such as the maintenance and procurement of essential equipment and resources are not fulfilled.

Strong leadership in the governance of these facilities, and specific direction for emergency care would lead to improved capacity for the delivery of efficient emergency care.

4.3.3 Content

4.3.3.1 Theme 5: Ideal Clinic

The participants were also asked about the Ideal Clinic Framework policy with specific regard to the requirements for emergency care. South Africa is moving towards the implementation of an NHI strategy, and therefore there have been many initiatives geared towards reforming the current health system in preparation for the NHI. The Ideal Clinic programme is one of the initiatives that began in July 2013 (*Ideal Clinic*, n.d.). The goal of the programme is to ensure optimal functioning of the PHC facilities.

The Ideal Clinic Status requirements for emergency care are catered for under various domains. It covers the supply of emergency drugs, allocation of an emergency area with functional basic emergency equipment, maintenance and restocking of emergency trolleys, requirements for

disaster preparedness and the emergency response including the emergency medical services and the referral pathway (*Ideal Clinic Definitions, Components and Checklists*, 2017).

Status of the facility

The participants were asked about their facility's ability to meet the Ideal Clinic status requirements for emergency care. This included requirements for the availability of a well-maintained and appropriately stocked emergency trolley and emergency care area, the evidence of a disaster plan and various other physical resource requirements. The standards also include the requirement for staff to have valid Basic Life Support certification. Some facilities were confident that they had met all the requirements.

Participant 4:

"We have reached that because even the national core standard there is that emergency preparedness. So, meaning that now if they talk about emergency preparedness you should have your trollies, your emergency trollies up to date. So, we do have the checklists that guides us that in an emergency trolley you are supposed to have the following items."

Participant 2:

"We are ideal, we are compliant with the first standards, we are meeting all."

While others cited the various challenges that directly affected their ability to meet the requirements:

Participant 12:

"I need to be treated in an area where there are adequate supplies, adequate equipment, main equipment, with staff that is going to be stressed out because of overloading of work, you know, so I need to be having friendly staff that would be meeting me there and working on me with a friendly face, and that would actually be an ideal situation, which we are all striving for, but we cannot because of."

Participant 22: *"We are in the middle, you know, we are in the middle you know. Yes, that we got well, very good writing but when it comes to implementing it's a problem."*

Operation Phakisa for health aimed at fast tracking of monitoring and implementation of this programme, was launched by President Jacob Zuma on the 18th of November 2015.

The National Health Council gave a directive that all PHC facilities must be Ideal within the next three years, starting in April 2015 (*Ideal Clinic*, n.d.). In August 2015, compliance with the Ideal Clinics standards was assessed in 962 out of 1 139 facilities. There was reported compliance in specific areas but only one facility achieved gold status and three facilities obtained silver status with the rest of the facilities not achieving ideal clinic status (*South African Health Review 2016*, 2016).

Policy Requirements

When asked about the Ideal Clinic Status requirements, the participants described a range of opinions about the policy, stating that it positively forces the facility to improve its standard of care and that it required close monitoring.

Participant 22:

"You see like, we improve our emergency room, we improve, we improve. It's not like before but there still we are far from where we're supposed to be."

Participant 16:

"Because now we've got the ideal clinic that wants us to have things in place that are okay, you know, because it's not only for the people who are sick or for the clients, even for the nurses, anybody can collapse. We need to be equipped. It's very...it's much better, you know, with the national core standards and the ideal clinic, I think there's a lot of improvement in terms of having our resuscitation rooms equipped."

A positive outcome of the policy content regarding emergency equipment is the increased awareness of what is required and the motivation to improve the capacity of the facility to deal with emergencies. The accreditation process also provides the facilities and staff with incentive to improve the availability and maintenance of the resources available for emergency care. The inconsistency of requirements over time, however, makes for the constant "moving of the goal posts". The changing requirements and inconsistencies provided challenges for achieving the gold status.

Participant 23:

"Ideal clinic, the document changes every year. It's not consistent and inconsistency causes a lot of problems. It affects compliance."

Successful policy implementation requires stakeholders to have been involved in the development of the policy to ensure buy-in and understanding. It would also mitigate against any unrealistic expectations or requirements that are not relevant to the context (Sheikh & Porter, 2010).

4.3.4 Process

4.3.4.1 Theme 6: The Referral System

A major contributor to the optimum functioning of the District Health services, is a well-organised and functional referral system. All participants interviewed, cited the referral system as a challenge in delivering emergency care. In the Tshwane district, health care practitioners were satisfied with the overall functioning of the referral system but cited specific challenges within the system such as transport and ambulance services.

Some participants praised aspects of the current system:

Participant 23:

"It is working and we do have a referral system algorithm in a way to say, you see, Soweto is big or should I say, Jo'burg District is big and then each and every clinic has got their own referral hospital. The smaller clinics, they refer to the CHCs within their demarcation. The CHCs, they refer to the hospital and in terms of our referral, say for instance you have an emergency, we have the doctors on call, the doctors' numbers to say, or, we also have the numbers of the referring hospital to say, I'm bringing an emergency, this ja, just, you can give an overview report from this side before the patient comes, so that they know what going on."

Participant 18:

"Look it works fairly well. It has improved enormously. I've been working in District health now since 2004 and it has improved enormously."

However, most participants' responses were largely negative, and the specific challenges will be described further.

Participant 9:

"Yoh, bad, it's so bad and time consuming."

The specific factors attributing to the negative perception of the referral system include a lack of clarity and understanding on how it works.

Poor understanding of the referral pathway

Participants were frustrated with stakeholders' lack of understanding and adherence to the referral pathway. This included clinicians at other facilities as well as patients, community members and politicians releasing media statements. Patients' lack of understanding and preferences result in incorrect referrals.

The following diagram illustrates the various stakeholders in the referral system:

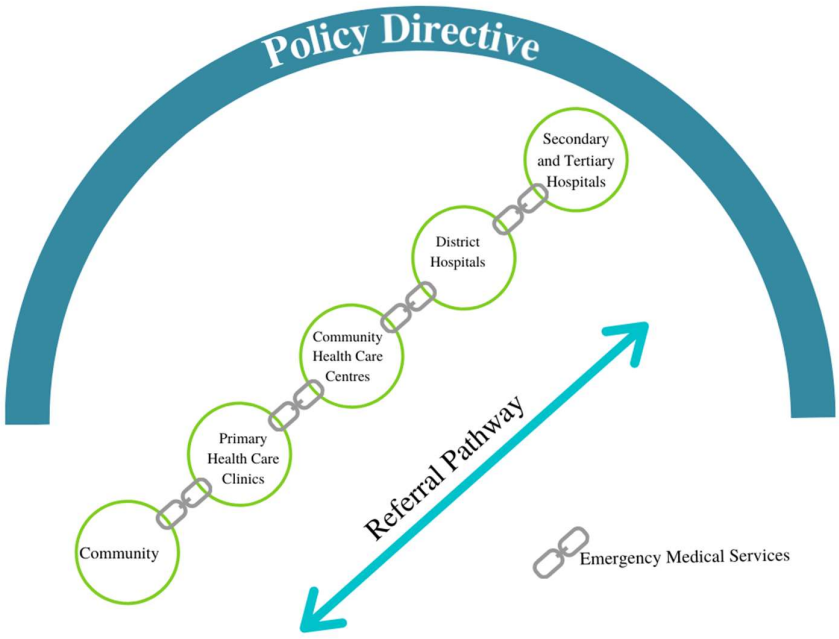

Figure 4.1 Illustration depicting stakeholders in referral pathway.

It is important that each stakeholder in the system understands and adheres to the policy directive and that everyone practices in alignment with this directive. The upward pathway indicates the increasing level of care and capacity to manage emergencies definitively.

-Often this pathway is sidestepped. Patients enter the system at district hospitals or second and third level facilities due to preference, lack of understanding or mistrust in the capacity of lower-level facilities to manage their acute illness or injury. Similarly, participants also describe how patients do not know when it is suitable to go directly to a higher-level facility and end up having to wade through the protracted system while in need of immediate emergency care.

Participant 3:

"you see, so that they become comfortable in here (District hospital), so that's why they prefer coming in here."

Participant 22:

"Even though we keep on giving the health talk to the patient but if you have been stabbed, if you have been bleeding profusely, you don't need a letter to go via the clinic, go straight to hospital, the patients still come to the clinics."

Participant 23:

"but you'll find that the patient, they come here, if an emergency, a serious emergency that needs the doctor, that needs immediate maybe theatre for instance, but the patient they end up here and some of them they don't survive."

Mixed messages from community leaders and politicians add to the lack of understanding in the community.

Participant 22:

"those community leaders, it was okay there, I mean a politician says come and see, the clinic is open 24 hours, you can walk in anytime, what, what, what is going on, you know, they are not speaking with the same language. They are not speaking with the same language, they are just killing the whole system."

The literature emphasises two contrasting views: often during emergencies patients go inappropriately to the primary care level instead of directly to an institution that can provide definitive care (*South African Health Review 2016*, 2016). On the opposite end of the spectrum, patients with minor injuries and medical issues also inappropriately seek care at higher level facilities instead of going to the PHC facilities where they can be managed effectively (Mojaki

et al., 2011). Both findings, however, indicate a lack of understanding of the referral pathway by the community. Other reasons for bypassing of the referral system include patient preferences due to their belief that they would receive better care at a higher-level facility, as well as accessibility constraints due to clinic hours and lack of transport (Becker et al., 2012; Mojaki et al., 2011). Educational drives and campaigns within communities are needed, however, patients also need to be able to trust the referral pathway and therefore other issues within the system first need to be addressed. If patients have the confidence that their emergency need would be cared for appropriately at the primary level facility, they will not need to bypass the system. As care improves, the community will trust that the referral system works, and they can confidently follow the suggested pathway beginning at the primary level facility. This emphasises the need for the improvement of emergency care services offered at lower-level facilities.

Ambulance and Transport services

Emergency medical services play a pivotal role in linking the various levels of the referral pathway. By providing on scene and out-of-hospital care as well as emergency transport for patient referred to next level facilities their role cannot be understated.

The most commonly reported challenge in these interviews, was about the ambulance and transport services for patients needing a transfer to another facility. Participants at all levels of care within the district health system, as well as in every selected district, described long delays associated with the ambulance services.

Participant 13:

"but the issue is the waiting time for the ambulance. It takes up to four hours for the ambulance to arrive meaning further critical patient during that time can deteriorate very quickly."

Participant 9:

"So, it becomes frustrating because you've got somebody for 12 hours who are waiting for an ambulance."

Participant 2:

"The ambulance service is too irresponsible, put it that way, it's irresponsible completely."

Only a few facilities did not have similar problems. This was due to the facility having their own in facility patient transport and the option to source private services or the facility being situated far away from other facilities and within a small residential area, therefore the dedicated ambulances for that area were not difficult to secure for patient transfer.

Participant 15:

"Fortunately for us, if the ambulance is taking long, we are able to use private facilities."

Participant 2:

"the Gauteng one, it's forever not available. So, we end up calling the privates, of which is not cost-effective."

However even if transport is available at the facility, it is usually in the form of a designated ordinary car or vehicle, not suited for transporting patients in need of ongoing care and monitoring. Therefore, when a patient is unstable the challenge with transferring a patient still exists:

Participant 20:

"At the end of the day we end up taking a general car, put in a cylinder, a doctor and a nurse in a small car trying to take the patient to the hospital. With ambulance we've got a big, big challenge. Otherwise, we end up losing them whilst waiting for an ambulance."

Participants also expressed their frustration with the poor triaging skills of ambulance personnel and their poor understanding of the referral pathway.

Participant 22:

"So, the ambulance people must be trained in the triage system."

Participant 21:

"Even with the paramedics, these things happen always. The paramedic will bring a patient from the community to the clinic, they come in anytime, because the patient phone the paramedics and they're supposed to take the patient, but they are bringing the patient early in the morning for nothing, body pains two weeks, what am I supposed to do with the patient two o' clock, three o' clock in the morning for body pain."

The emergency medical services are provided by the provincial government. This in itself may be a cause for disjointedness as they are not formally a part of the district health care system and therefore their integration into this system has been poor.

The Gauteng province faces similar challenges to the Free State where increased waiting times and inconsistency has been reported (*Treatment Action Campaign Gauteng State of Health Report*, 2018). The Treatment Action Campaign describes how patients are forced to source their own transport in the event of emergencies or must wait for hours for an ambulance to arrive (*Treatment Action Campaign Gauteng State of Health Report*, 2018). This is the same at facility level where health care practitioners are forced to either source their own transport (using private services at the cost of the facility budget) or wait for hours for an ambulance to arrive. This puts the health care practitioner in a compromising position needing to provide extended care beyond the facility capacity.

Participant 5:

"So, you make it a mini-ICU. You just manage them."

Participant 12:

"It's so wrong, because at the end of day you end up sitting with a patient who you don't know what to do with".

The 2016 Health Review for South Africa reported the insufficiency of available ambulances as well as the poor level of training for ambulance staff, particularly in the areas of triage and basic intervention for emergency cases (*South African Health Review 2016*, 2016).

The transport and ambulance services are a crucial link in the district health system referral pathway but also in the chain of survival for patients presenting with a life-threatening or emergency illness or injury (Higashida et al., 2013).

Non – cooperative relationship between facilities at different levels

The participants highlighted that there were barriers to transferring a patient when dealing with the higher-level facilities. There was a general sense that many of the receiving facilities were obstructive and created unnecessary barriers to accept a patient whom the transferring facility could not manage appropriately.

Participant 11:

"we're delayed to get a doctor that side because you do not transfer without discussing the patient with the receiving doctor that side. They will say, have you done one, have you done two, have you done three, and you would say yes, yes, yes, I have done it, and then they will say, I don't have availability. So sometimes we are stuck with the patient here, or they will keep on saying, do one, you do one, and give them the results, they say give, do two, you do two, you give them the results and it's only then that they will say, okay, you can send the patient down."

Participant 7:

"The doctor will like to give us lot of orders. You phone, because we have to. You know, before you refer, the other thing, you phone ambulance and then you refer, you phone the doctor that you are referring the patient to. If you phone the doctor, the doctor will start saying, check the situation point of this, do this and this, do this and this."

Participant 15:

"Sometimes they will even turn back the patient with a letter that patients must be booked, and you look at the patient and like this was an emergency. Even though we stabilised the patient; the patient still needed continuing medical care."

"Poor planning, incompetent budgeting and dysfunctional administration" (Bateman, 2011) are some of the challenges facing our hospitals. Higher level facilities facing their own challenges are also carrying a significant burden of the health care system. A lack of available beds and resources may force health care practitioners to develop an obstructive attitude towards lower-level facilities. As a result, the synergy between the various levels of health care is compromised. Lower-level facilities are then left unsupported and forced to function beyond their capacity. There is a need for a supportive network between facilities and stakeholders involved in emergency care (Calvello et al., 2013).

The higher-level facilities also face their own challenges. Higher level facilities often find their emergency care services overwhelmed by patients needing lower-level care (Becker et al., 2012). The emergency facilities within the district hospitals receive inappropriate referrals.

Participant 5:

"Then into that one doctor is outside doing all the minor clinic cases because we're not really allowed to show anybody away. So, even if you come with your three months back pain we're going to see you whereas we're sitting with a full casualty inside; emergencies."

Participant 13:

"We're not allowed to turn anyone away which is a bit frustrating because you have clinic patients, you know, clogging the system, creating bottlenecks."

(Mojaki et al., 2011) also found that the district hospitals were overburdened with patients that could have received definitive care at the PHC clinics. He concluded that the referral system proved ineffective and that PHC facilities were failing to attract community members appropriate to the zone and level of care.

Time delays

Emergency care is characterized by being time sensitive in nature. In a system that is known for time delays this can have devastating outcomes for patients in need of emergency care. Participants in this study voiced their concerns regarding the frustrating time delays caused by inefficiencies in the referral system.

Participant 9:

"By sending them through, it takes longer because, to start with, you need to arrange that side with the doctors, they need to accept or refuse, or they say wait until they get the results. The result takes longer if it's after hours, you can even wait six hours for results. So, at the end of the day it's challenging just because patients were here, and we don't have the facilities to help them."

Participant 5:

"it's just that most of our patients we resus them and we get them back and they end up dying here because they're waiting for a bed."

The South African Health review describes the referral system as protracted, which subsequently leads to time delays in patients receiving definitive care in emergency situations (*South African Health Review 2016*, 2016). The process of referral in emergency cases includes

stabilising of the patient, transfer (which includes obtaining acceptance from the receiving facility) and transporting of the patient. From the responses of the participants, it is clear that there are challenges with each step of the referral process. The result is time delays which in turn leads to increased morbidity and mortality and poorer patient outcomes. The various departments of health have also seen a rise in litigation as a result of time delays in emergency care (*South African Health Review 2016*, 2016).

Due to litigation, the South African Courts have set a precedent based on a judgement given on a case in 2015. The courts have emphasised that health care facilities at all levels must offer emergency care and that any bureaucracy and protocols should not hinder lifesaving interventions (*Constitutional Court of South Africa. Oppelt vs Head: : Western Cape. CCT 185/14, Judgement Dated 14 October 2015.*, 2015). The bureaucracy of the referral system and the various challenges described by the participants can be identified as a barrier to emergency care.

4.3.4.2 Theme 7: Emergency Care Process

Approach to Emergency Care

The Adult Primary Care Guideline comprehensively addresses common acute and chronic illnesses and also highlights signs indicative of an emergency in red blocks above the algorithms or as a separate page. This is accompanied by possible treatment actions that the primary health care worker can follow (Knowledge Translation Unit of University of Cape Town Lung Institute, 2016). It aids in recognition, treatment and possible referral for patients presenting with medical emergencies. An algorithmic approach has been used in many fields of medicine but has a significant impact on the field of emergency medicine. By streamlining. the process of diagnosis and intervention, algorithms assist health care practitioners, in following a step-by-step approach in dealing with emergencies. This is important as emergencies are highly stressful events and practitioners may become overwhelmed and are more likely to misdiagnose or omit important steps in the process. The goal of algorithmic management is to ensure rapid, appropriate care is delivered in a standardized manner (Lockey et al., 2013). The health care practitioners' use of the algorithms varied from facility to facility.

Participant 17:

"Yes, yes, we do have an algorithm thing, it stays there in the emergency room. We refer to it for most of our cases…because sometimes you'll find yourself alone not knowing what to do but when you refer to it, then you'll know what to do."

Participant 16:

"Ja, we use guidelines, we don't just do anything anyhow and because we are primary healthcare trained, we also use our APC manuals and EDLs, you know, for the drugs. So, we are being guided, we use our protocols and like that."

Many did not use the algorithms or stated that they were not readily available for use during an emergency.

Participant 18:

"I'd be honest I just do it out of my head, out of experience; what needs to be done basically. To be honest if there's an emergency I don't…I'm not going to stop and sit and look for algorithms [inaudible] get on with it, you know, just to do the emergency and stabilise the patient."

Participant 20:

"Especially with the doctors, we don't have guidelines, but we use the knowledge that we have, that if this happens, this what, that's how we're supposed to do, what are we supposed to do, so we work hand in hand with the doctors to remind each other"

The goal of algorithmic care is to ensure a simple, easy to remember, standardized approach to emergency care, which is associated with improved survival rates for patients with cardiac arrest and stroke (Sinz & Navarro, 2013). Similarly, the APC Guideline uses multiple algorithms as well as a generic primary survey algorithm to deal with different patient presentations. This is not always easy to remember, and access is dependent on availability of the guideline at the time of the emergency.

Triage System

The triage process for most of the facilities started at the administration desk where the clerk or help desk assistant would be expected to triage patients for emergencies. Triage entails the

prompt sorting of patients according to the acuity of their condition, which determines the level of urgency needed in addressing the problem (Cheema et al., 2013). It requires the ability to quickly assess a patient and determine the need for care and may be considered the first step in emergency care. Different strategies and tools for triaging are used in different settings. The process of triaging is described by participants below:

Participant 7:

"we've got somebody on the information desk, she just screamed "Sister Mpho, I've got a patient bleeding", then they take the patient there, rush her straight into the emergency. So that's the clerks and everybody will do the register and they'll follow up the patient in there".

Participant 19:

"Immediately the patient comes there, and the nurse say the person who is at the help desk she allocate us and then that sister will go to emergency room with the patient and the staff nurse."

Triage is an important process for the effective management of emergencies. The first response is a defining event for the patient and the rest of the system(Higashida et al., 2013). The factors affecting effectiveness of triage include the skills and capacity of the practitioner performing triage (Andersson et al., 2006). This assumes that triage is performed by a qualified health care practitioner (FitzGerald et al., 2010). The use of administrative assistants for triaging is concerning.

The participants described their concerns about the poor triaging system.

Participant 5:

"There's no proper, ja, so where I worked before the nurse would triage the patient as they walk in. So, here they walk in and they either go sit in male or female where the sister takes the vitals but then they write the vitals down and just put it in. The file is already at the bottom… Everyone is kind of on their own mission sorting out their own patients, but new patients walk in that generally is actually a P2 but end up being seen in the P3 box seven hours later because they were fine."

Participant 24:

"No, the thing is they get triage somewhere and they will just go and use it as the case presents."

It is emphasised in the literature that the registration of vital signs is not a sufficient method of triaging patients, and a five-level system that is performed by a qualified health care professional, particularly a nurse or doctor is recommended for effective triaging to take place (Christ et al., 2010; FitzGerald et al., 2010; Göransson et al., 2020). Effective triage, rapid referral, a team approach, and the use of algorithmic care are key components of emergency care and strengthening in these areas should be considered. The South African Triage score is a validated triage tool developed to suit the context of emergency care in South Africa. This tool emphasizes the need for a standardised triage system and the need for accurate triage throughout the emergency care pathway (Rosedale et al., 2011). In a PHC setting, the ideal form of triage is to ensure that triaging is performed by the professional nurse. This allows for visual and immediate assessment of the patient and rapid identification of patients in need of emergency care (Göransson et al., 2020). In a qualitative study conducted in Sweden, professional nurses performing triage at a PHC level described their experiences of triaging in this context as challenging as it required a broad knowledge base due to the variety of patients conditions encountered. The need for collegial support and consultative support was a fundamental aspect of effective triaging at a PHC level highlighted in this study (Göransson et al., 2020). Guidelines for triage processes in PHC facilities should incorporate the specificity of role allocation for triage, and guidelines for consultative support and continuous training. As a vital part of the process of emergency care, triage should be considered as the first step in the clinical care process and not merely administrative task, carried out by non-health care workers.

4.4 Summary

There are numerous factors that hinder the ability of health care practitioners to provide effective emergency care at a PHC level. A lack of emphasis of this aspect of the services is seen in the poorly resourced emergency areas, lack of emergency care training for staff and poorly allocated resources for emergency transport and transfers. Particular emphasis was placed on the experience of staff shortages in PHC facilities.

These findings highlighted the various problems within the system of emergency care, including an unclear referral pathway and obstructions within the pathway for escalating emergency patients to appropriate facilities. The focus of PHC is indeed health promotion; however, health care practitioners are left vulnerable when support to offer emergency care is lacking. The context of the District Health Care system is best understood from the perspective of the health care practitioners working at the coalface and therefore their experiences must be considered when policy is developed.

The challenges are vast but so are the opportunities to empower the health work force to improve patient outcomes and the quality of care. There is a need to investigate the policies and guidelines influencing and directing emergency care at the PHC level to establish inefficiencies and to make recommendations for addressing the specific challenges within the system of care.

The chapter that follows will present the findings of the policy analysis process, which involved the interviewing of key informants in the policy process as well as a document analysis of policies influencing emergency care in the District Health Care system.

CHAPTER FIVE

FINDINGS AND DISCUSSION: PHASE 1b) – DOCUMENT ANALYSIS AND KEY INFORMANT INTERVIEWS

5.1 Introduction

Policy analysis requires the use of various data sources, while the previous chapter reported on the findings from one data source, this chapter presents and discusses the findings of data collected from both the document analysis and key informant interviews. A policy document analysis requires not only in-depth scrutiny of the document itself but information regarding the development, intention and implications that are required to develop a rich understanding of the policy of focus. Key informants provided additional insight into the policy context with specific focus on the detail and impact on emergency care within the district health care system. The findings are presented in an integrated manner, combining the findings of the key informant interviews and the document analysis. Data were integrated and presented using the Walt and Gilson Policy Analysis Framework.

5.2 Demographic profile of participants

Interviews were conducted with various stakeholders from the three interrelated spheres of Emergency Medicine (n=4), District Health Care (n=3) and Policy Development (n=3).

By describing and discussing the demographics of the key informants, there is the opportunity to sketch the background upon which their insights are formed. Rich insights into the District Health Care system, which are shared by the key informants are drawn from their own experiences and history.

Males represented the larger population in this sample 80% (n=8). Globally, health care management and policy making is largely represented by males. In South Africa, our cultural background leans towards a patriarchal society and therefore, male leadership is more prominent (Shung-King et al., 2018). These demographics speak to the history of our health system and governance structures and provide insight into the policy approaches discussed later.

The majority of the key informants, 60% (n=6), fell into the age bracket of 50-59. Their management positions and multiple qualifications accounts for the large representation in this age group. It also highlights the insight of those who are retired and who were the forerunners

in the development of the District Health Care system in the early post-apartheid era. Only 10% (n=1) of the key informants sorted into each of the other age brackets. Younger professionals in health care management roles are rare accounting for the poor representation in age; however, their recent clinical experience in the district health care system added immense value in understanding the current context.

In an attempt to realise transformation and redress for past discrimination, transformation policies emphasise equitable access to leadership positions (Shung-King et al., 2018); however, white male professionals still tend to be the dominant demographic in health care management. Equally, 40% (n=4) of participants identified as Black, and 40% (n=4) of participants identified as White. Representation from the Indian and Coloured race constituted 10% (n=1) of the sample.

Of key informants, 60% (n=6) had medical degrees as their basic clinical qualification. The sample included (n=1) professional nurse, (n=1) dentist and (n=2) paramedics. In additional qualifications, all participants (n=10) possessed at least one postgraduate certificate or diploma, 60% of participants (n=6) were masters prepared while 20% (n=2) held doctoral degrees.

Half of the key informants, (n=5) have had between 10-20 years of experience in their current field, with 20% of participants (n=2) retired and still consulting in the Department of Health. The institutional memory and experiential knowledge shared by the participants has created a broad base upon which to build recommendations; 20% of participants (n=2) had 20-30 years' experience in their current field while the youngest participant (n=1) reported 5-10 years' experience. Table 5.1 summarises the demographic profile of the participants.

Table 5.1 Demographic characteristics of participants

	Frequency (n)	Percentage (%)
Gender		
Female	2	20
Male	8	80
Race		
Black	4	40
White	4	40
Indian	1	10
Coloured	1	10
Age		
30-39	1	10
40-49	1	10
50-59	6	60
60-69	1	10
70-79	1	10
Undergraduate qualifications		
Bachelor of Medicine and Surgery	6	60
Bachelor of Nursing	1	10
Bachelor of Dentistry	1	10
Post graduate Qualification		
Post Graduate Certificates/Diplomas	10	100
Masters Degree	6	60
Doctoral Degree	2	20
Number of years working in current field		
5-10 years	1	10
10-20 years	5	50
20-30 years	2	20
Currently retired	2	20

The interviews were transcribed and analysed using qualitative content analysis. The data were coded, and then organized into themes and subthemes. Major themes were identified and organized within the Walt and Gilson Policy Analysis Framework, the table below is a summary of the themes and subthemes.

5.3 Presentation and discussion of findings

For the document analysis, the information was organized and analysed under the headings that constitute the policy analysis framework. These included: Policy Dynamics, Actors, Context and Content. In applying the method of directed content analysis, a -existing theory or framework is used to predetermine codes or themes (Hsieh & Shannon, 2005). Themes were predetermined based on Walt and Gilson's framework for policy analysis. Under each heading, various codes were created, which were then built into the overarching themes and subthemes as illustrated in Table 5.2.

Table 5.2 Table of themes from Document Analysis

Policy Analysis Framework Descriptor	**Theme**	**Subthemes**
Policy Dynamics	Interrelated Policies	A matter of articulation
Actors	Defining the Actors	Governance and authority -who makes the decisions?
Context	Understanding the District Health Care System	Different levels of care within the District Health Care System
Content	Ideal Clinic Status	Defining the Ideal Clinic
	Detail of policy related to Emergency Care	Requirements for Emergency Transport
		Ensuring adequate Staffing/human resources
		Standards for availability of Emergency equipment, infrastructure and drugs
		Evidence of Disaster Planning
		Requirements for staff training
Process	Emergency care pathway	Process of Triage
		Referral pathway and transfers

Key informant interviews were transcribed and analysed using directed qualitative content analysis. This method of analysis allows for the emergence of themes during analysis as well as the predetermination of themes based on the selected framework (Hsieh & Shannon, 2005).

For the key informant interviews no predetermined themes were used. Themes and sub themes which emerged during the data analysis process were organised under the policy analysis

framework to allow for integration of the two data sources. Table 5.3 is a summary of themes and subthemes identified from interviews with key informants.

Table 5.3 Table of themes from Key Informant Interviews

Policy Analysis Framework Descriptor	**Theme**	**Subthemes**
Policy Dynamics	Policy intention	Objectives of the policy
	Policy Approach	A Standards vs Process – have we gone down the wrong road?
		Access and Quality – two sides of the coin
	Policy Appropriateness	Trade-off between high flying policy and contextual relevance
Actors	Defining the Actors	Who makes the decisions?
		Roles in the policy development process
		Voice of emergency medicine in policy process
	Towards an Emergency Care Network	Stakeholders in the emergency care network
		Systems and silos
		Need for multi-level integrated system
	Mixing Politics with essential services	Governance and authority – the authoritative voice
		No political will to emphasise emergency care
		Champion for emergency medicine
Context	Understanding the District Health System	Emergency care as a means to an end
	Contextual challenges - Coming to terms with who we are	Ironing out the kinks in the referral system
		Make or break basics
		Manpower for the emergency care system – who, what and where?
Content	Lack of emphasis on emergency care	Focus on standards and equipment
Process	Supervision and evaluation	Poor data to provide feedback

The findings of the two data sources will be presented using the Walt and Gilson framework for policy analysis and discussed simultaneously. All themes related to each heading from both the document analysis and the key informant interviews will be presented and discussed as an integrated whole.

5.3.1 Policy Dynamics

Policy dynamics is a concept that refers to the environment and interlinking factors, which inhabit the policy space. Policies exist within complex systems with various influential factors (Bardach & Goodin, 2011). It is a continuously evolving process in which feedback and change must be incorporated. Health care policy exists within an overly complex system and articulation between policies is vital. To understand the drivers behind health care service delivery it is important to first understand the policy at play within the system. The historical legacy of a country leading up to its current national political and legal system play a key role in defining the policy context (Gilson et al., 2018).

In the post-apartheid era, policies play a vital role in directing the health care system towards the goals of the country. From the beginning of the South African democracy in 1994 there was a shift in policy to ensure that redress for the previously disadvantaged communities is affected. The goals highlighted in the policies from 1994 include improving access to healthcare. Free healthcare has been on the agenda of the South African government since the Government of national unity was elected.

The Clinic Upgrading and building programme led by President Nelson Mandela began this initiative in 1994 and this goal is evident as a thread throughout all healthcare policies to follow including the Policy for the development of the district health system of South Africa, which was reviewed and implemented by the end of 1995. By 1998, 460 new clinics were built and 175 renovated. Curative services were introduced at a District Health Care level and integration between municipality and local government facilities was initiated but not successful.

The Policy Timeline below (Figure 5.1) highlights the evolution of the District Health Care system, from the District Hospital Service Package, to the establishment of the national core standards and establishment of the office of health standards compliance to the current major policy informing the district health care system – The Ideal Clinic Framework. The Ideal Clinic Framework is ideally meant to articulate with the implementation of the National Health Insurance Act promulgated in 2017.

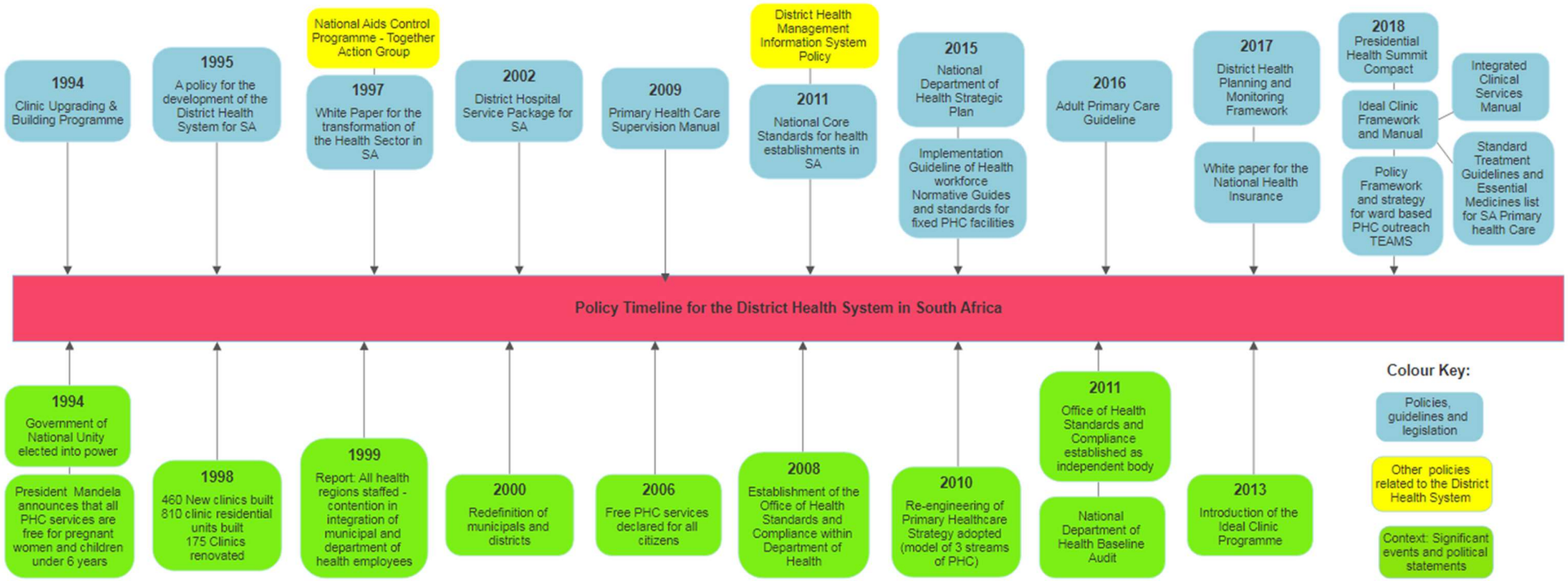

Figure 5.1 Policy Timeline

The District Health Care System is currently directed and informed by the Ideal Clinic Framework – Realisation and Maintenance Programme. The national core standards for health establishments preceded this policy, however, the approach and principles of the two policies are similar and therefore, information regarding both policies would add value in understanding the current policy context. When asked to identify the guiding policies for the District Health Care system, key informants identified the Ideal Clinic Framework as the succeeding policy from the National Core standards for Health Establishments.

Key informant 4

"ideal clinic would be sort of guiding structure" … "that guide is a narrow replacement for the National Core Standards which was the guide for the last few years."

Key Informant 6

"main one is the ideal clinic, which we are using to try and develop a foundation for the upcoming NHI implementation."

These policies are general guidelines for health service delivery at a district health care level, there are no policies specifically related to emergency care at a national, provincial or district level and therefore these documents were analysed with the aim of extracting the relevant information related to emergency care.

5.3.1.1 Theme 1: Interrelated Policies

Interrelated policies, guidelines and legislation were identified from the document analysis as well as those suggested by key informants:

Table 5.4 List of interrelated policies

Policies	Guidelines	Legislation
• The Primary Health Care Package for South Africa: a set of norms and standards • The Quality Assurance policy • Strategic Health Care Programme Policies & Guidelines • Clinic Supervision Manual • A Policy on Quality in Health Care for South Africa, National Department of Health • Draft Patient Referral Policy, National Department of Health • A District Hospital Service Package for South Africa	• The vision and mission of the Department of Health • Standard Treatment Guidelines and Essential Medicine List (EDL) • National Department of Health Strategic Plan 2015-2020 • Clinical Guidelines National Department of Health • Provincial guidelines for the implementation of the three streams of PHC re-engineering • Guidelines for Ward Based Outeach teams • Primary Health Care Supervision Manual: A guide to Primary Health Care Facility Supervision • Integrated Clinical Services Management Manual 5th June FINAL.pdf	• The Constitution of the Republic of South Africa (section 27) • The National Health Act, 2003 (No. 61 of 2003) • White Paper on Transformation of Health Services • The National Health Insurance Policy

A matter of articulation

Health policy is not the only source of direction and guidance for health systems. Health policy exists along-side and in conjunction with various other policies, legislation and guidelines. Key informants identified some of the listed documents as key drivers for the way in which service delivery occurs in the District Health Care system:

Key Informant 9

"the district health service and has a package the package of services."

"the PHC re-engineering document is a recent one it's uh implemented with the hope of addressing the poor health performance of the country."

Key Informant 1

"we built this ideal clinic on the back of what was called the clinic supervision manual."

Articulation between policies, guidelines and legislation is imperative for a well-functioning system. Health policies are embedded within a complex system and interrelation between all facets of the system can be challenging (Mueller, 2019). Often this may lead to the failure of public policy.

While analysis of the major policies such as the Ideal Clinic Framework give direct insight into the theoretical requirements for emergency care in district health facilities, documents that precede, and articulate with this policy were used to form a broader view of the policy context. Mueller proposes that public policy exists in a complex system of changing dynamics (Mueller, 2019). This is true in health care as many complexities in governance and varying contexts present diverse challenges for policy makers. Policies are created to address specific needs, and while the process of development may be theoretically correct, the relevance of the policy and its ability to be functionally implemented depends on its ability to articulate with existing policies and structures (Mueller, 2019).

Generally, the policies have similar objectives and align with the National Department of Health Strategic plan. These focus on improving access to care and equitable distribution of resources. The functional articulation of these policies will be discussed as the evaluation and implementation process is analysed.

Emergency care in the District Health Care system is set within the broader context of the health policies discussed here. There is no single policy directly informing emergency care but rather it is found as an integrated part of the system and within the policies. However, the extent to which emergency care is emphasised and directed, is questionable - this will be discussed when the content of these documents is unpacked further.

5.3.1.2 Theme 2: Policy Intention

The intention or purpose of a policy is important in evaluating its effectiveness. Its intended outcomes versus its measured outcomes is known as the fidelity of the policy (Carroll et al., 2007). The purpose of the policy must be clearly defined along with its performance indicators and measures of effectiveness.

While the intentions of the policies and documents analysed are broad and not specific to emergency care, the broad purpose should be evident in the micro detail of the document including aspects related to emergency care.

The National Department of Health Strategic plan 2015-2020 outlined its 5-year goals as follows:

- Prevent disease and reduce its burden, and promote health;
- Make progress towards universal health coverage through the development of the National Health Insurance scheme, and improve the readiness of health facilities for its

implementation;

• Re-engineer primary healthcare by: increasing the number of ward based outreach teams, contracting general practitioners, and district specialist teams; and expanding school health services;

• Improve health facility planning by implementing norms and standards;

• Improve financial management by improving capacity, contract management, revenue collection and supply chain management reforms. (*Department of Health Strategic Plan 2015-2020*, 2015, p. 5)

These goals are the foundation upon which the purpose of the policies of focus are built. In the statement of intention of each health policy, the national health goals should be reflected.

Objectives of the policy

The objectives of each policy are outlined at the start of the content in order to set the scene and build the rest of the content on the set objectives. The National Core Standards for health establishments sought to:

- Develop a common definition of quality care which should be found in all health establishments in South Africa, as a guide to the public and to managers and staff at all levels;"
- Establish a benchmark against which health establishments can be assessed, gaps identified, and strengths appraised;"
- Provide for the national certification of compliance of health establishments with mandatory standards (National Department of Health, 2011a, p. 8)

Key informants involved in the development process elaborated on the intention of the health policies identified:

Key Informant 7:

"They were intended to provide a basic framework of obligatory requirements a regulatory framework of obligatory requirements at an individual facility as to what the platform the service delivered delivery platform needed to have what needed to be in place in order to provide quality health services".

The National Core standards for health establishments preceded the current major policy, the Ideal Clinic Framework. The goal of this framework, similar to the National Core Standards,

set out the requirements for accreditation of facilities by developing the Ideal Clinic Manual, which states:

"The Ideal Clinic manual has been developed to assist managers at various levels of healthcare service provision to correctly interpret and understand the requirement for achieving the elements as depicted in the Ideal Clinic dashboard. It can therefore be regarded as a reference document, which guides the managers to determine the status of Ideal Clinic dashboard elements in a facility" (*Ideal Clinic Manual Version 18*, 2018, p.2)

Key Informant 1:

"The overall intention of the policy was to improve the quality of healthcare services at the level of primary health care and the bulk of your primary health care is delivered in the clinics hence the name ideal clinic realisation but we called it in full it's called the ideal clinic framework realisation and maintenance now we wanted to improve that quality of care so that every clinic must realise their ideal state almost like it must achieve it but once it has realised it that state that level of of ideal must be maintained"

A common thread found in the policy goals and objectives, which aligns with the national strategic plan is the overall intention of improving access to health care and enforcing norms and standards to ensure equitable distribution and availability of resources. Although the intention is clearly emphasised in the documents, the District Health Care system remains poorly resourced with unsatisfactory access to health care as perceived by patients (Bresick et al., 2019). Access to emergency care at this level remains questionable as patients still prefer higher level emergency centres as their first point of access. This may be due to the low level of training and poor resourcing found at this level of care (Bresick et al., 2019). While the intention of the policy appears noble, the policy approach does not seem to facilitate the realisation of these goals.

5.3.1.3 Theme 3: Policy Approach

The intention of the policy also reveals the approach that has been adopted to achieve the set goals. The intention of these policies highlights a standards-based approach, which emphasised the importance of facility-based criteria for health service delivery.

Standards are established to benchmark the minimum requirements for satisfactory performance and also set expectations for the norm for healthcare organisations (Institute of Medicine (US) Committee on Quality of Health Care in America, 2000). A standards approach

was intended to address inequitable facility norms; however, the focus on equitable distribution of resources and equipment may have left processes and models of care wanting.

The National Core Standards for health establishments define a standard as "a statement of an expected level of quality delivery. Standards reflect the ideal performance level of a health establishment in providing quality care." (National Department of Health, 2011, p. 9)

Standards vs Process – have we gone down the wrong road?

Key Informant 7:

"It was a standards approach" ... "actually an approach which I think is necessary but completely insufficient you know where I'm working at the moment, I'm working process approvals."...
"although I accept that you need to have Basics, but I think it's completely insufficient and my personal opinion is that South Africa went down the wrong path in in thinking that was going to solve everything I really, I really think that was a big mistake".

While standards are essential for planning, the approach does not emphasise the process of health care delivery and also lacks an emphasis on the outcomes of the health care services delivered at this level. In keeping with findings in the first phase of the study, the requirements for achievement of ideal clinic status are considered a time-consuming paper-based exercise with little data to prove that there is an improvement in health outcomes or service delivery.

Key Informant 5:

"Essentially it's an essential difference in approach my approach is totally different to theirs I mean I you know in terms of a planning situation the fundamental shift in planning for the last ten years they've moved towards what we call an outcomes-based approach, so it is fundamentally different to your usual planning process."

Standards for the procurement and maintenance of emergency equipment is vital for the functioning of the service, however, the nature of emergency care requires that processes are clearly defined and streamlined to ensure efficiency in this very time sensitive context (Glickman et al., 2010). Effective emergency care systems must be ready in terms of availability and responsiveness to the unpredictable nature of emergencies. Ensuring standards without defining processes may lead to questionable quality of care.

Access and Quality – two sides of the coin

A key focus and goal of the National Department of Health from the inception of the democracy, which is found as a thread throughout all its policies, is the desire to improve access to healthcare for all citizens. Equitable access to services is a major driver behind the standards approach to policies. The belief is that all citizens should have access to the same services with the same resources and facility standards.

In defining quality in health care Campbell (2000) describes two important concepts. Access to care and effectiveness of the care are two important and interlinked factors for ensuring good quality health care (Campbell et al., 2000). Health care can be understood in three domains, including the structure of the health service, the processes involved, and the outcomes or feedback system as depicted in the figure:

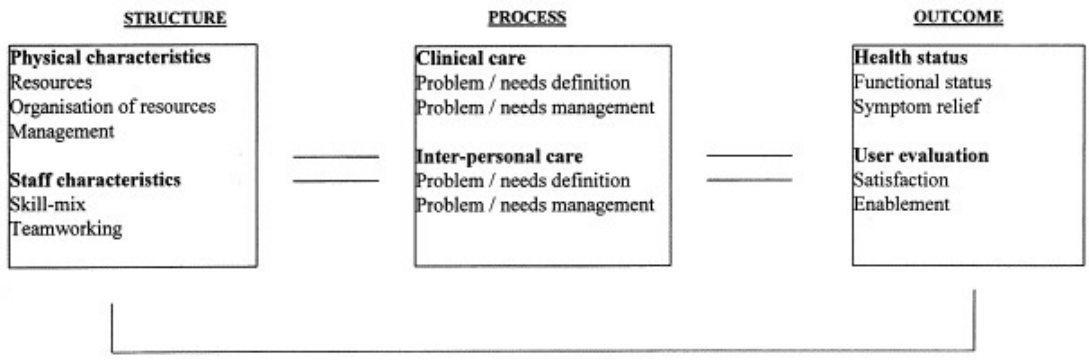

Figure 5.2 A systems-based model for assessing care. (Campbell et al., 2000)

Structural improvement is a key focus within the documents analysed. While this is important it neglects the other domains necessary for improvement of quality in health care. A standards approach focuses on ensuring that the structural requirements are in place does not allow for feedback related to the outcomes of service delivery and neglects the importance of learning and adapting of processes. Feedback and learning systems must be in place for quality improvement to be a continuous part of the policy environment (Ann et al., 2012).

Key informants raised the question of the benefit of improving access without improving quality. Through the lens of a systematic approach, quality of care requires a range of interventions and measures to be put in place. When focus dominates in one area, the result is poor outcomes and compromised quality.

Key Informant 5:

"There's a fundamental misunderstanding in terms of quality that you only focus on access. You cannot provide access if you cannot provide appropriate treatment."

The District Health Care system with PHC clinics at the most basic level are seen as the frontline of the system and therefore the most accessible to communities. Access in this context is limited to the availability of the service. This is true for emergency care services. Although doors are open for emergency care at various district health centres, the capacity to offer appropriate care is not always guaranteed.

Key Informant 2:

"because these are their facilities that are in the communities and will serve as frontline emergency care providers whether it's a primary health care nurse with that level of training with resuscitation as part of it."

The need for improved emergency care at this level has thus been highlighted as they serve as frontline access points to emergency care.

Key Informant 2:

"I think it's an essential and critical component that should be further strengthened if not anything, within the district itself."

Key Informant 4:

"And I think we need a change in that sort of dynamic because if you can get the care right at the front door, whether it's in a clinic or in a hospital, we can really impact the length of stay and the cost of care in the outcome for the patient."

There is a need for policy to move beyond structural improvements towards process improvement and the development of meaningful feedback mechanisms, this will assist in ensuring that policy is effective and appropriate.

5.3.1.4 Theme 4: Policy Appropriateness

The appropriateness of the policies has been questioned by the key informants. In an effort to standardise facilities and resources, the context of the setting has been ignored. This leaves PHC facilities with requirements that they are unable to fulfil and the expectation of service delivery that is beyond their capacity.

Trade-off between high flying policy and contextual relevance

Key Informant 5:

"insists all the rural clinics must be 24-hour service, I said 'for what? What do you want to do at 12 o'clock at night in a rural clinic if someone comes in with someone having sliced open his abdomen, you know, and the bowels are hanging outside?' What's she going to do?"

The re-engineering of the PHC System was introduced as a borrowed concept from the Brazilian Health Care system, upon which the Ideal Clinic Framework has been built. The context of our own rural communities and urban clinics differs greatly and therefore a "one-size fits all" approach has not been welcomed. The effectiveness of a policy is determined by the appropriateness of its design to meet the desired objectives and ensure a "good fit" for its intended context (Bali et al., 2019). This requires that policy should anticipate not only the end objectives or desired state but also be cognoscente of the current environment (Bali et al., 2019).

Key Informant 7:

"and that's the issue at the moment I mean I personally do think that South Africa has to come to terms with who we actually are, you know I think that's an argument that politically we've never been able to have you know because politically South Africans deserve the best of everything.
Which is obviously true you know the problem is we don't have the kind of resource base to give South African every South Africans what we would like them to have and it's that trade-off that people not prepared to engage with a politically they are not prepared to engage with".

Key Informant 8:

"Policy just comes in very very high standard that we can't achieve, and we're blamed because of that. We (sic) not working we can't achieve ideal clinics. You know something that I think it's also important is to accept, that the economy is quite difficult I don't, I don't see people accepting that, you know that if we accept it, you say guys let's work with the little that we are having, with that we can achieve."

While benchmarking to determine best practices is vital for developing robust policy, application of borrowed ideas may not suit the nuances of our own context. Even though the

focus of this study is on emergency care offered at a District Health Care level, the broader context of the system and the policy directives have a significant influence on how emergency care services are rendered at facilities. A systemic approach to understanding the capacity of the primary level facilities to offer emergency care is vital in order to make appropriate recommendations. Emergency care at the PHC level is seated within a complex system driven by a specific policy approach. These dynamics have been highlighted and discussed as a foundation for unpacking of the policies using the Walt and Gilson Policy Analysis Framework.

5.3.2 Actors

For effective policy analysis to be achieved it is important to appreciate the people who contribute to the development, implementation and evaluation of the policy process. The dynamics of power and influence and the effect of contextual factors on agenda setting and decision making is vital in understanding the thought behind the policy design, processes and implementation (Gilson et al., 2018).

5.3.2.1 Theme 5: Defining the Actors

It is often found that agenda setting in health policy formulation is determined by those in authority. Stakeholders or actors from other arenas including the public arena and those with expertise in the field are often involved in a consultative capacity (Koduah et al., 2016). Exploring the process of policy development and those involved in agenda setting are vital for defining the role players and determining agency amongst the actors involved.

Who makes the decisions?

The document analysis revealed various levels of contribution towards the development of policy. On a government level, policy receives its mandate from the National Department of Health and further directive is given for each tier of the health care system, namely at provincial and then district level.

Example taken from the Ward Based Outreach Team Policy Framework:

> **6.1 National level**
>
> The national level will provide strategic direction for implementation and will, in cooperation with provincial departments of health, monitor and evaluate the implementation of the WBPHCOT policy framework and strategy. Progress will be

tracked in the National District Health Systems Committee (NDHSC) meetings and reported to the Technical Advisory Committee of the National Health Council to obtain further advice and direction. The national Department of Health, together with provinces, will do and report on an outcome and impact analysis of the WBPHCOT programme every five years.

6.2 Provincial level

Provincial health departments should have dedicated human resources tasked with ensuring the establishment and functioning of WBPHCOTs within the districts. Progress must be reported in the NDHSC on a quarterly basis.

6.3 District level

District health management must ensure that finance for required human resources, equipment and process implementation is available.

6.4 PHC facility level

PHC facilities must ensure that WBPHCOTs perform their duty as required through training and supervision. (National Department of Health, 2018, p.19)

As proposed by Koduah (2016), the agenda is set at a National Leadership level. The main directive comes from the Minister of Health for that policy time period. All micro policy at the various tiers of the system must be aligned with the directive and goals set by the minister of health. The lack of input in the agenda setting phase from other actors may lead to tensions at later stages of development and implementation (Koduah et al., 2016).

Roles in the policy development process

The process of policy development includes deliberation, consultation, advocacy, lobbying and negotiation, as well as the generation of policy alternatives and drafting policy and implementation guidance. The actors involved in directing these processes include governmental authorities, civil society, commissioners, and nongovernmental organizations (Gilson et al., 2018).

The broader vision and goals were outlined in the National Health Strategic plan, and therefore the Ideal Clinic Framework was developed in alignment. The process of development for the Ideal Clinic Framework was described as an iterative process involving many stakeholders:

Key Informant 1:

"the development of this concept was highly iterative we… we went through a highly iterative process. We consulted the Frontline workers as people that are working with these services that are delivering the services at the coalface what we did we then consulted them at that level and different categories cleaners health promoters nurses doctors inspectors you name it we consulted those people we also set up our consultation at the level of the District by the district I'm in the District according to the municipality we consulted people at that level also we then consulted the provincial people as the sphere of government that is responsible for policy coordination and implementation we consulted in the national Department of Health."

After the initial consultation process a workshop was held with various stakeholders to further delineate the concept. The workshop included representation from various fields and departments, with the aim of ensuring a broad base of consultation. The objective of the workshop was to develop the various streams that would form the Ideal Clinic Framework.

Emergency medicine was not included in the process of developing this policy and no submissions were made in contribution towards its development. Doctors with basic undergraduate qualifications who were chosen as representatives from various clinic clusters were considered to have sufficient knowledge to guide input for the aspects related to emergency care. Although stakeholders from various other service platforms such maternal and child health, non-communicable disease management and mental health were represented, this aspect was considered to be a generalised field and therefore no specialist input was sought.

Voice of emergency medicine in policy process

In explaining the development process, key informant responses reveal a lack of contribution from emergency medicine as the expert in this field, this is despite the attempt to make submissions and recommendations from specialists within the field. Key informants involved in the policy development process describe the stakeholders involved, and specific representation from emergency medicine was not sought. On the other hand, key informants from emergency medicine, describe their efforts to make contributions which were not considered. The voice of emergency medicine has not been solicited or heard.

Key Informant 4:

"Yeah, I've given inputs into this before with the district services, so again this is not and I'm not saying the Western Cape has got the right solution, we just have a different model to the rest of the country and we've moved away from it, now it's kind of evolved…"
"as I said, there's huge gaps there and there would be, you know, inevitably I report to the minister, I had like 190 recommendations."

However, there has been some input from emergency medical services about inter-facility transfer and primary response to emergencies, however it seems that these consultations are not highly regarded, and input is accommodated rather than valued:

Key Informant 7:

"we run a lot of a key stakeholder processes at District level and the emergency care people are always so grateful they actually invited and then they get hammered by everybody you know that's fine they get hammered but they're grateful they've actually been recognised as health professionals. You know so to me, and once again that was a political accommodation".

Which voices are heard, and which factors are prioritised in the process of policy development, is an area of debate and misunderstanding particularly in low- and middle- income earning countries (Koduah et al., 2016). Ensuring that the right voices are heard during this process is important. Policy makers who are the level of government have looked to external advice for the designing of the PHC system.

The re-engineered PHC system model was based upon the Brazilian model for PHC. In Brazil, a large cross-sectional study revealed that the PHC setting was not adequately prepared to deal with emergency care which resulted in inappropriate use of emergency centres and bypassing of PHC facilities which theoretically should have been able to effectively manage the patient's condition (Carret et al., 2007).
As we model a similar system to Brazil, we need to mitigate against the challenges they face in the same system. The need for a review of how emergency care is appreciated and included at this level is therefore highlighted.

Key Informant 10:

"policies will only start happening when you start putting in people who are interested in emergency care and prepared to put their policies in place so at the moment, I'm not surprised that there's nothing anything."

5.3.2.2 Theme 6: Towards an Emergency Care Network

A network is defined as "a particular network is a system of things which are connected, and which operate together"(*Network Definition and Meaning | Collins English Dictionary*, n.d.). An emergency care network is comprised of all stakeholders and service providers involved in the full spectrum of emergency care. From the entry point at scene, encompassing transfer and including the in-facility care received by a patient in need of emergency care (*World Heath Organisation Emergency Care System Framework*, n.d.). The roles of the various stakeholders in this network are explored in this theme.

Stakeholders in the emergency care network

Emergency care can be delivered from two different service platforms. Emergency Medical Services refer to emergency care provided to patients in the pre-hospital or out-of-hospital environment (Mehmood et al., 2018). This includes primary response to emergencies in the community as well as inter-facility transfer of patients.

Emergency medical services are provided by a range of trained practitioners under the category of emergency personnel who receive their qualifications at various levels. In providing a backdrop for understanding the role of emergency medical services, the participants also described the various levels of training and the challenges faced as a result. The training and level of professionalism of this category of health care practitioner has come under question from the key informants in this study.

Key Informant 3:

"quite a broad range of people you know everybody from a 4-week course through to a degree".

Key Informant 1:

"Because there can't be training for few weeks and two months and then they become professionals. You can't become a professional like that".

Historically, qualification in this field included various courses offered at different levels and for different durations, according to the Emergency Care Qualifications Framework (ECQF). These were not all aligned to the National Qualifications Framework (NQF). In 2017 a directive from National Health included the move to standardise and align training to the NQF. The way forward was to create a clear pathway for education and training:

> Similar to other health professions, the three tiers of the ECQF consist of an entry- level qualification, a mid-level qualification and a professional degree allowing access to further postgraduate qualifications. All qualifications and emergency care education and training providers are required to be registered and accredited with the necessary regulatory bodies. (*National Emergency Care Education and Training Policy*, 2017, p. 1)

The objective of aligning the qualifications was to address the contrast between the role of being a transport service versus a clinical care service:

Key Informant 4:

"given the level of resourcing of the staff and their skill levels, (they) are a transport service …the health care professionals are so few and far between that in fact they're drivers that's all they are".

These observations are concerning as emergency medical services play a vital role in the emergency care system.

Key Informant 5:

"You should rather increase the quality of your transport, emergency transport or even ordinary additional transport but you need to get those patients to a proper centre as a matter of urgency."

Key informants cited numerous challenges with emergency medical service, as illustrated by the excerpt below:

Key Informant 8:

"You tried to call the call centre and no one answer you so the doctor will have to send me texts a WhatsApp text say that - guys I need an ambulance for a child in clinic B - and I'm gonna (sic) have to send to take the message, send it to the ambulance manager who is gonna

(sic) call the call centre and organise an ambulance and he's happy that he has helped me but he's not really helping me because we should have a system where it's easy to call the ambulance and to have the ambulance; not ask me when the ambulance will come even if they got the message you can wait for 4 hours."

Key Informant 9:

"sometimes takes longer to get an ambulance for example if you have emergency like fetal distress or a baby born that requires an ICU or somebody that is being rushed in maybe stroke sometimes the ambulance is delayed come very late."

Emergency services link providers within the chain of survival. Their role in the emergency community cannot be understated. This role, however, cannot be seen in isolation. Emergency care within the facilities and out of hospital emergency services must work in support of one another. A contextually suitable network of emergency care is needed to ensure improvement of this service (Glickman et al., 2010).

Emergency Medicine is defined by the International Federation of Emergency Medicine as a field of practice focusing on prevention, diagnosis and management of acute and urgent aspects of illness and injury and encompasses practice within and pre-hospital settings (Suter, 2012). These are specialist health care professionals who have been registered with their regulatory body as specialists in the field of emergency care. In South Africa this would include emergency physicians and emergency nurses. Both categories of professional require a post basic training qualification in order to be registered as a specialist in the field of emergency care. Emergency care can be defined as the addressing of emergent health conditions that present sudden or unexpected threats to life or limb (Calvello et al., 2013).

Key Informant 10:

" So, you've got you've got access to healthcare then you've got to resuscitation or primary care and then you've got definitive care which is admission to the admission so emergency care could mean for surgical, acute surgical so it's the management of all acute presentations. Whether it be acute surgical, acute maternity, acute respiratory acute paediatrics whatever it is so that would fall under emergency system I think.

Key Informant 4:

"I think the national department sees emergency care as resuscitation, CPR, whereas actually the overwhelming bulk of it really is acute primary care or unscheduled primary care or there is abdominal pain when you don't know how sick they really are, probably 5% of actual emergency care work really is that high-end big drama stuff, but that seems to be the only thing that people think about when you say emergency care at national or trauma or CPR."

The definitions provided by the key informants highlight the fact that emergency care is broad and by nature presents itself at various levels of care including that of PHC. This gives rise to the question of where emergency medicine's role is best situated.

The role of emergency medicine in the general health care system has been debated as emergency care was previously seen as a generalized skill, which spans across any field of medicine. The specialty has developed globally over the last 50 years. It is noted; however, that South Africa's accredited emergency medicine field was only registered in 2003 (Wallis et al., 2008). As an emerging specialty field of practice, the integration of the role of this specialty in the broader health system has not yet been established, even though emergency care has become an increasingly important priority at all levels of health care.

Key Informant 2:

"Where we see emergency care as a continuum... So, it is picking up an emergency patient from the point of injury or illness right up until they see the backdoor of the emergency centre"

This field of medicine boasts specialised skills and knowledge in the effective delivery of emergency care and therefore should have input and a voice at various levels in keeping with the scope of the need for this care (Wallis et al., 2008). A drive towards prioritising emergency care is needed to co-ordinate an integrated network of support. Emergency care needs a voice:

Key Informant 4:

"you know, it has some sort of say or control or leadership over community-based care, ambulance response, inter-facility transfer and then the primary care platform emergency care provision, you know, it has to have fingers into every part of the health service because emergency care happens at every part of the health field."

Ensuring that the skills and knowledge of the field are well represented will result in a functional emergency care system that allows for articulation between various levels of care without the delay of a protracted referral system.

Key Informant 9:

"we should have a system where somebody uh if I have you know an emergency patient and if I refer to Charlotte Maxeke or Tambo or Bara there should be a seamless process where I can call somebody and describe the patient and he can say no send the patient you know we struggle a lot we phone here and there just it takes some time to refer a simple emergency case from clinic to level two hospitals."

Emergency medicine should therefore be included in the development of health policy and health strategy as informants suggest that they:

Key Informant 10:

"through the emergency medicine Society is a facilitated meeting between the head of all the emergency colleges…and these are the guys that are teaching emergency care and what they're trying to do is put position statements together and put policies and procedures and come up with a manual that will direct care in the in the district sectors."

The role of Emergency Medicine as the expert in emergency care should be highlighted. The power dynamics within policy agenda and policy development must be explored as a factor which may either facilitate or disempower the voices of the experts in the field.

Systems and silos

While emergency medicine includes pre-hospital care within its scope, emergency medical services set in-facility care as its boundary, and therefore the two fields of practice remain separate. In the South African context this is very evident.

Key Informant 2:

"Now, remember emergency care is a facility or is a provision of healthcare, a type of healthcare within a health establishment. EMS is separate, it is a health establishment on its own, but you can also use the counter argument and you can say trauma needs to be managed across the spectrum and it is what we have been working with emergency medicine."

Key Informant 4:

"So, the National Department has an EMS directorate which is covered under the ambulance services and disaster management or disaster medicine but doesn't in any way touch on facility-based emergency care".

Key Informant 3:

"I think you know that they've evolved separately I mean emergency medicine and by that I mean what's happening inside the hospital is a quite a young Specialty and profession I mean it only really got off the ground in about 10 years ago so I think EMS as a kind of an organised entity quite far predated emergency medicine so there was quite an organised and I'm going way way back quite an organised, at provincial level EMS systems, personnel and vehicles and that type of thing."

The national office for emergencies represents emergency medical services only, referring to primary response and inter-facility patient transport. The two platforms have, therefore, often been conflated by politicians and emergency care has not been given a platform of its own.

Key Informant 7:

"I think is a big problem because it's regarded it sets it as a kind of a transport system rather than a care system…"

"I think the problem is that it's never had a home it's never been an integral part of services."

Recognising specialist emergency medicine practitioners, in both emergency medicine and emergency nursing, as an important actor in the contribution to policies and services delivered at the District Health Level is regarded as a vital part of improving care at this level. The fostering of a partnership between primary health care and emergency care which encompasses both emergency medical services and emergency medicine is proposed to improve health outcomes and quality of care (Greenwood-Ericksen et al., 2017). This partnership can only be realized when the role of emergency medicine is acknowledged.

Key Informant 7:

"I think that they would need to have a platform similar to the district health services that would help if they were to be seen as the essential link in the platform which is the way in the

work that I'm doing at the moment we do see them, but I do think that one of the problems is that the are they a transport service or are they a clinical care service."

Key Informant 4:

"We absolutely have to have an emergency care office and an EMS office."

The need for collaboration between these two specialised systems is therefore highlighted:

Key Informant 2:

"Now, there is not always that there is a dichotomous relationship between the clinic staff and the hospital staff and the EMS personnel. I think there needs to be a more, a fostering of that relationship."

Key Informant 3:

"certainly, the integration of emergency medicine and EMS, or not integration but better connection and communication and and (sic) kind of like certainly at a policy level to have them Singing off the same hymn sheet would be helpful as well."

A defining feature of emergency care is the emphasis of a team approach. At a clinical level this is vital, and is just as important for the functioning of the entire emergency care system (Kilner & Sheppard, 2010*)*. Emergency care systems include a well-integrated network of service providers including prehospital, in-facility care and inter-facility transport. For the system to function optimally it is vital that all stakeholders in this chain of survival are working together (Glickman et al., 2010). Defining the network is of utmost importance – this includes defining the stakeholders, the level of care and the geographical reach of the network. A network approach to emergency care ensures that a patient receives timely effective care from the onset of illness or injury until discharge. A disjointed or protracted system leads to decreased patient outcomes (Glickman et al., 2010).

Opportunities for collaboration and multidisciplinary learning must be emphasised as the way forward:

Key Informant 2:

"Now, when you look at emergency medicine conferences and that you are learning, you learn emergency learning, you learn prehospital, emergency medical care, in the prehospital

environment you will have the emergency medicine guys and so on. It will take you forward like that."

Key Informant 10:

"The emergency community is all of us that provide emergency care okay we all have to create a web of support."

The view of emergency care in this context has been that of a service provided within the package of services for facilities. A much broader view is required – emergency care should be seen as a system or network of services working towards the common goal of managing acute illness or injury. This perspective needs to change at a leadership level in order for the system to be established and strengthened.

The services provided by emergency medical services and emergency medicine also need to find better integration with the District Health System. Integration with the system allows for better evaluation of the service and allows for better collection and analysis of data (Glickman et al., 2010). Emergency care currently is based in various offices at different levels, making coordination very difficult.

Key Informant 2:

"The provision of ambulance services is a provincial responsibility."

Key Informant 3:

"EMS is really, people working in that system it's almost a separate compartment and it doesn't I think in their minds I don't think they understand how it integrates with the bigger system."

Key Informant 4:

"So, if EMS isn't speaking to the issues that they have both at primary care and in district hospitals, then you get all sorts of backlogs and bottlenecks".

Prehospital and inter-facility transport is a key component in providing effective care in rural and primary health care settings (Reynolds et al., 2017). The service platform should articulate with the District Health system a clear and functional way.

Similarly, Emergency Medicine has evolved in a hospital setting, with the density of emergency specialists at higher level facilities (Suter, 2012). This has led to a lack of integration with the health system at this primary level. This extended scope of emergency

medicine has been proposed as a method for improving patient outcomes and decreasing the burden of disease related to acute care (Greenwood-Ericksen et al., 2017).

Key Informant 2:

"I think it's an essential and critical component that should be further strengthened if not if anything within the district itself."

Key Informant 4:

"And I think we need a change in that sort of dynamic because if you can get the care right at the front door, whether it's in a clinic or in a hospital, we can really impact the length of stay and the cost of care in the outcome for the patient."

Need for multi-level integrated system

Emergency medicine spans across every field of health and every level of healthcare. An emergency system that integrates with every level of care is needed.

Key Informant 4:

"*you know, it has some sort of say or control or leadership over community-based care, ambulance response, inter-facility transfer and then the primary care platform emergency care provision, you know, it has to have fingers into every part of the health service because emergency care happens at every part of the health field."*

Key Informant 1:

"I think as we develop, we need to also develop emergency medicine from the primary level up to the tertiary level depending on the complexity of the cases we managing."

Key Informant 10:

"But that's the whole thing is you can't run a system up here without having a system down here and say whatever you mirror for the system up here should actually be filtered out on and down to the bottom - recognition as in your top tier hospitals so if you working from your District health Care".

A coordinated effort is required to develop a well-functioning emergency system that accessible for all health care users from the primary care level and up (Greenwood-Ericksen et al., 2017). An effective emergency care system is comprised of a collaborative effort between service providers, health care practitioners and facilities coordinated with the goal of emergency care in mind (Calvello et al., 2013). The goal of offering effective emergency care in patients with acute illness or injury should drive the entire system toward better quality care.

5.3.2.3 Theme 7: Mixing Politics with Essential Services

In development of the policy analysis framework, Walt (1994) explores the nature of power and influence in the process of policy development. The actors involved in the policy process are influenced by and have influence over various factors. Power is a dynamic within the relationships between actors, which refers to the ability to exert authority or have influence (Sheikh & Porter, 2010). The disjuncture between policy development and policy implementation often occurs when key actors are disempowered (Sheikh & Porter, 2010). Health care professionals even at management level who should have some ability to influence policy, have resigned themselves as unable to speak out.

Key Informant 3:

"I think there's a difference between what top-down policy-makers, what their sort of vision is and what they want and what actually what actually happens you know."

Key Informant 8:

"we don't get a chance to speak about it you know you go to manager who have just look on you and keep you quiet "don't raise that in this meeting" because I'm here."

The distribution of power appears to be a top-heavy approach. Although collaboration and consultation occur, the directive is influenced solely by the minister of health who sets the agenda for the national health plan. Key actors are left feeling as though they are unable to access the minister or get him to "hear". Opportunities for the exchange of ideas and presentation of knowledge is not always made available (Sheikh & Porter, 2010).

Key Informant 6:

"Who should do this who should drive this? It should be the Minister but how do we get to him maybe we should speak maybe we should be vocal you know you should once you have the

results, I don't know what the other guys think once you have your results, I hope we all think the same thing. How do you get them to hear you I don't know but ja I think the minister is that the one person"?

Governance and authority – the authoritative voice

Health care is a complex system and governance within the health care system is a multidimensional challenge all over the world, which is attributed to the dynamic relationship between policy makers, users, providers and health care financing structures (Ramesh et al., 2013). The South African political system has its own complexities including multiparty governance over regions resulting in difficulty in uniting goals and political agendas.

Key Informant 10:

"how are you supposed to create a system, a trauma system, an emergency system, any healthcare system when there's such disparity around what's required and who actually controls it? Does the government control it? Does the province control it? Does the ANC (African National Congress) control it? Does the DA (Democratic Alliance) control in this area?"

Key Informant 9:

"10% of the facility's our provincial facilities while 90% are local authority facilities by local authority I mean local government in Ekurhuleni they control 90% of the facilities a lot of the emergency rooms under those facilities are not functional."

With such variation in governance, finding a common goal and a united voice with which to drive policy in a certain direction is difficult. It leads to the disempowerment of those on the ground. As governance varies, the levels of authority become more complex and finding the right channel to voice concerns becomes increasingly difficult.

Key Informant 5:

"it also proposes the governance structure it's supposed to be the district health council which is not happening in this country".

The need for a champion for the cause of emergency care has emerged but his/her authority would need to be defined to avoid the bureaucracy of the multi-layered governance structures.

Key Informant 10:

"it would be somebody who takes the central coordination role in his given the given the authority to actually do without clearing it with DG (Director General) and the DDG (Deputy Director General (and the D D D D G (sic) and the vice DDG and then the ANC (African National Congress) and then the IFP (Inkatha Freedom Party) and then the PEP (sic) and then everybody else by the time you want it implemented you dead."

The bureaucratic voices are often the most prominent and a need for a sharing of influence and power is needed in order to reprioritise emergency care (Sheikh & Porter, 2010).

No political-will to emphasise emergency care

Koduah et al., (2016) described two areas of power and influence when it comes to policy agenda setting. The bureaucratic arena refers to the authority vested in state officials who are often the key decision makers. The second area refers to the public arena where a range of stakeholders and actors are involved in the process. The process of deciding the emphasis and priorities for policy is not always clear (Koduah et al., 2016).

In South Africa, the agenda setting for health policy is largely a bureaucratic function and rests with the Minister of Health and his advisory committee. Policy development generally follows the agenda of the minister and although collaboration and consultation are considered, from the outset the agenda is set by the Minster of Health. Changing the priority of public health policy becomes very difficult.

Key Informant 6:

"there's always a difficulty of mixing politics with essential services. Ja I've said it you know that's always a problem because then politicians always have to think about what is making the news what's driving these things newspapers and all that stuff so they need to cover that number 1, number 2, when you do audits to be honest you know can you say HIV is not a priority absolutely not, patient satisfaction for example it's one of the MEC's priorities you know that that's an important thing,"

Key Informant 4:

"the department doesn't seem to have the appetite for it because I think the only voice saying this at the national department is a paramedic and XXX is an absolute superstar and he has my full backing…"

Advocacy for the prioritization of emergency care is not being heard at a national authority level. Political will determines not only the agenda but also the approach used in health care policy. The current standards approach does not advance the improvement of care and therefore the motive behind certain approaches then comes in to question when policy is analysed:

Key Informant 7:

"there's a strong international lobby for the standards and certification approach and I think it's quite popular with politicians because it gives them something concrete and it gives them a hammer to hit people with."

"So, it was the only way to exercise some sort of control over provinces who were determined to do their own thing so that is why it was necessary to go down a regulatory path because it gave some kind of power to the National Department however unfortunately that was never followed through in fact the office in effect does not have any power, so it is merely a kind of a paper tiger."

"it was a direct political order we had to make it common standards, okay I think that they needed to be, the application needed to be much more different you could have common standards but there was no way that we should have had common measurement tools."

The value of contextual awareness and the ability to exercise discretion as opposed to a standardized approach was the very aspect of contestation in a study conducted in India which highlighted the disempowerment of health care professionals in the policy development process (Sheikh & Porter, 2010). In these situations, the politician's motive and objective comes into contrast with the health professional. Key informants also noted that change is slow and therefore the need to have a clear directive from the inception of policy is vital, rather than the invitation for ad hock consultation later in the process of development.

Key Informant 6:

"a lot of power is given to the ministers and if you talk about policies your PhD is addressing policies where do policies get discussed and how long does it take for them to be adopted into our our (sic) constitution/systems etc takes a long time."

Key Informants stressed the need for a platform to be able to collaborate in decision making, not only at a policy level but also in the micro-detail which mostly affects day to day service provision.

Key Informant 8:

"instead of it being kept somewhere and you just receive stuff coming this month with you know a lot of medication is okay but the next month you don't have the other items and things just change like that and my feeling is people who are not medical health now it's everybody must participate accountings people doing the budget we have to do it together."

Champion for emergency medicine

Emergency Medicine as part of the network of emergency care, is a custodian of emergency care. They play a vital role in the rendering and continuous improvement of emergency care offered at any level of health care. Emergency care has become an addendum to the services offered at District Health Care level. The need for a national office or leadership position has been recommended in the past and this need has been echoed in the findings of this study (Calvello et al., 2013). Recognition at a national governance level ensures that the system receives the support it needs to be effective (Osei-Ampofo et al., 2013).

Key Informant 9:

"*emergency care under the district health system is really not well appreciated.*"

Key Informant 5:

"there's a massive vacuum at national about emergency care."

A leader or champion for the cause of emergency care would assist in driving the service platform forward and receiving the emphasis it requires. An exciting example of how prioritization of the emergency care system can lead to development of an effective system is

seen in the evolution of emergency care in Ghana where contextually appropriate solutions have been implemented with tangible positive results (Osei-Ampofo et al., 2013). This is made possible because there has been acknowledgement of the needs for emergency care to be prioritized and a move towards implementing a national plan.

Key Informant 5:

"it's embarrassing that we do not have a national leader you know for emergency care in this country."

Key informant 10:

"There's nobody centrally-controlling emergency care."
"Effectively what you need if you need someone who's prepared to take emergency care head it up and drive it through every sector because you can't just drive primary health care if you're not driving your second tier your third tier and your fourth tier… And then this whole emergency system in the state sector has no leadership, nobody's been appointed as the head of emergency care in South Africa who can then formulate a strategy, who can then implement the strategy and then he doesn't have to play political games."

Key Informant 9:

"so, if we have somebody who can champion both from central office down to the district Health Service it would be quite good, and we will be able to achieve all this and put in place emergency care within our PHC facilities within the District Health Service."

5.3.3 Context

In their review of the factors contributing to the gap between theoretical policy development and implementation, Gilson et al., (2014) highlighted the importance of understanding contextual factors in a policy environment. Contextual factors include the national political system, the socio-political context, as well as the administrative capacity of the system to implement the policy (Gilson et al., 2018).

5.3.3.1 Theme 8: Understanding the District Health Care System

Different levels of care within the District Health Care System

The South African District Health is a tiered system which all falls under the umbrella of Primary Health Care. Facilities range from Primary Health care clinics, to Community Healthcare Centres and District hospitals, each with a designated package of services (Department of Health: Province Kwazulu-Natal, 2014).

Key Informant 9:

"South Africa has a three-tier system the primary secondary and tertiary.
The primary is about providing PHC services. In Gauteng the province is divided into Five districts so that is five District health systems each of the district's is tasked with providing PHC services so the district health system is supposed to provide primary health care services so it's a policy directive from national with regards to the tiers of healthcare system which leads to the creation of the district health system, so district health system is guided by the national policy of health"

In the guidelines for the implementation of the new PHC strategy proposed and adopted in 2011, the model for District Health Care specialist teams and ward-based outreach teams was depicted as follows:

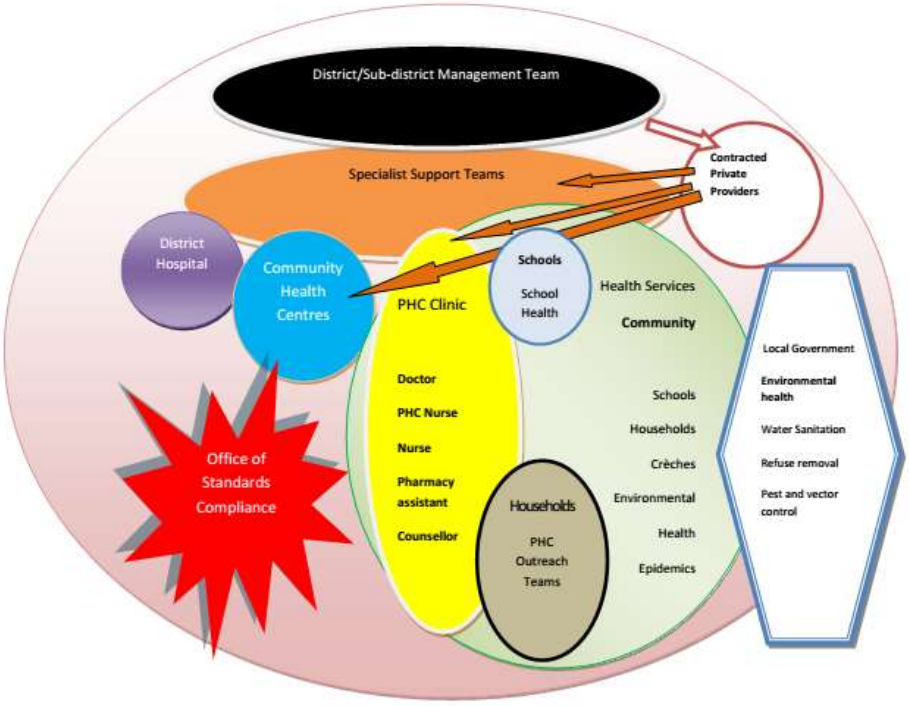

Figure 5.3 Proposed PHC model (*Provincial Guidelines for the Implementation of the Three Streams of PHC Re-Engineering*, 2011)

The model depicts the PHC clinic as the frontline facility in the community with Community Health Care centres and District hospitals as next level referral facilities. All these facilities fall under the District or Primary Health Care system, with an overarching specialist team offering support and consultation. It is expected that in the different levels within the district health care system, there should be capacity to stabilize patients needing emergency care and refer to next level facilities as necessary.

Key Informant 6:

"Ok so when you talk about Primary Health Care we have to differentiate between clinical and district-level hospital, so I've had experience in working in both District level and clinic level and of course Doing a bit of management at both levels. At Clinic level you are supposed to have patients who who (sic) are not really Umm Knocking on Heaven's Door if I can put it that way…at the clinic level to be able to stabilize and then refer to a higher higher (sic) centre for care at a district-level which would be a hospital that's where you should be able to deal with P1 (priority 1), P2 (priority 2), P3 (priority 3)"

Acute or emergency care is a proven way to decrease mortality and morbidity, and the ability to stabilize and refer is needed at all levels of care (Reynolds et al., 2014). Emergency care cuts across various fields of medicine and across the various tiers in the health system including Primary Healthcare.

Emergency care as "a means to an end"

The focus of PHC remains largely focused on preventative medicine, while the curative package of services ranges from chronic disease management to child and maternal health care.

Key Informant 9:

"the first one is health promotion and disease prevention package… the second package of services is curative services which we in that package we manage all the non-communicable diseases like uh hypertension diabetes uh epilepsy and so on and so forth then the third package of service is the rehabilitation services where we deal with the your uh issues of the allied care service provided by the allied care services the allied care team."

Emergency care is not seen as a service on its own but is rather considered as an integrated part of the services offered at the various facilities. This means that emergency care does not exist as a service platform or system on its own, and instead of being integrated as a vital part of the system, it has become an addendum. The context of PHC lends itself toward a different focus, and emergency care has not been a priority at this level.

Key Informant 7:

"depending on what approach you going to take if you go with the burden of disease approach then emergency services become a means to an end you know if you are going to take the approach of service platforms then it's a service platform on its own but South Africa uses the burden of disease approach the know which means that emergency services becomes a critical way to do things not a means they not an end in itself they are a means to an end"

With a generalized view of emergency care within the policies, it is difficult to ensure its effectiveness in various settings. The capacity of the different levels of care to provide emergency care varies, depending on resource availability, staffing and geographical position in relation to a higher-level facility. The standards within the policy, however, remain identical

for every clinic. The policy requirements therefore do not always align with the capacity of the facility offering the service and do not cater for the nuances in varying contexts.

Key Informant 8:

"the policies are good. But maybe they're not appropriate for us."

Key Informant 7:

"you know so we should have had common standards and then measured them with a different …bars or instruments according to the context".

Because the policies are not contextually appropriate, they do not fulfil the objective of improving care, but instead, are seen as an administrative burden and an impossible target for the facilities that are not able to reach the set standards. The focus shifts from patient care processes to administrative accreditation of the facility.

Key Informant 8:

"We can't comply with to (sic) those policies."

Key Informant 5:

"When is the poor woman going to work? As you say the ideal clinic alone has more than 200 ticks that they want to have on a regular report, when the hell is the women going to work if she has to tick 200 things on a report? Then she must report compliance with 7 domains that she must tick which is probably another 200 things that she must report on. I mean it's ridiculous man."

5.3.3.2 Theme 9: Contextual Challenges – Coming to terms with who we are

The geographical context of the South African District Health care system is classified in regions. Across the provinces these regions vary in infrastructure, resource availability and urban-rural classification. Gauteng is divided into 5 regions including two districts and 3 metropolitan regions. Within each region it is possible to find a purely urban context as well as a semi-rural or rural area. The needs in these different areas differ greatly as do the challenges.

"Ironing out the kinks in the referral system"

The referral system in general, throughout the Gauteng district was described as unclear, with many obstacles which delay the ability to ensure rapid referral and transfer of patient needing emergency care. The referral system has many "kinks" in the chain (Mojaki et al., 2011). This is concerning in the context of acute care as the chain of survival depends on a well-coordinated system.

Key Informant 9:

"…so, clarity in terms of referral route needs to be ironed out and response rate of ambulances needs to be improved in some instances it's delayed and then of course uhm the accepting emergency conditions by the referral hospital you know to refer an emergency patient from a clinic or a District Hospital to level 2 or level 3 will take the next two to three hours because to get hold of the consultant and for the consultant to accept the patient takes quite some time so that also needs to be improved"

Key Informant 6:

"If you want to refer a patient how exactly do you move from A to Z? If there's a stumbling block here, what's the next step? What can I do? What are my options? Umm who can I call etc etc? …those processes are not properly detailed."

There is a need for lower-level facilities to be able to activate an emergency response system after stabilizing a patient and performing emergency care to the capacity of the facility. At its most basic level, a health care facility should be able to stabilize and refer, this is not only a policy requirement, but it is also the legislated right for patients to have access to emergency care and this should be available at any health establishment (Burkholder et al., 2019).

Key Informant 5:

"Clinics should just do basic and have a system of rapid referral to wherever, to what I call where stabilisation and proper treatment can happen."

The ability to rapidly refer becomes imperative at lower-level facilities in clinics with less resources and lower capacity for emergency care as they depend on the support offered by the referral system. The WHO depicts this process in the emergency care system framework in the following way:

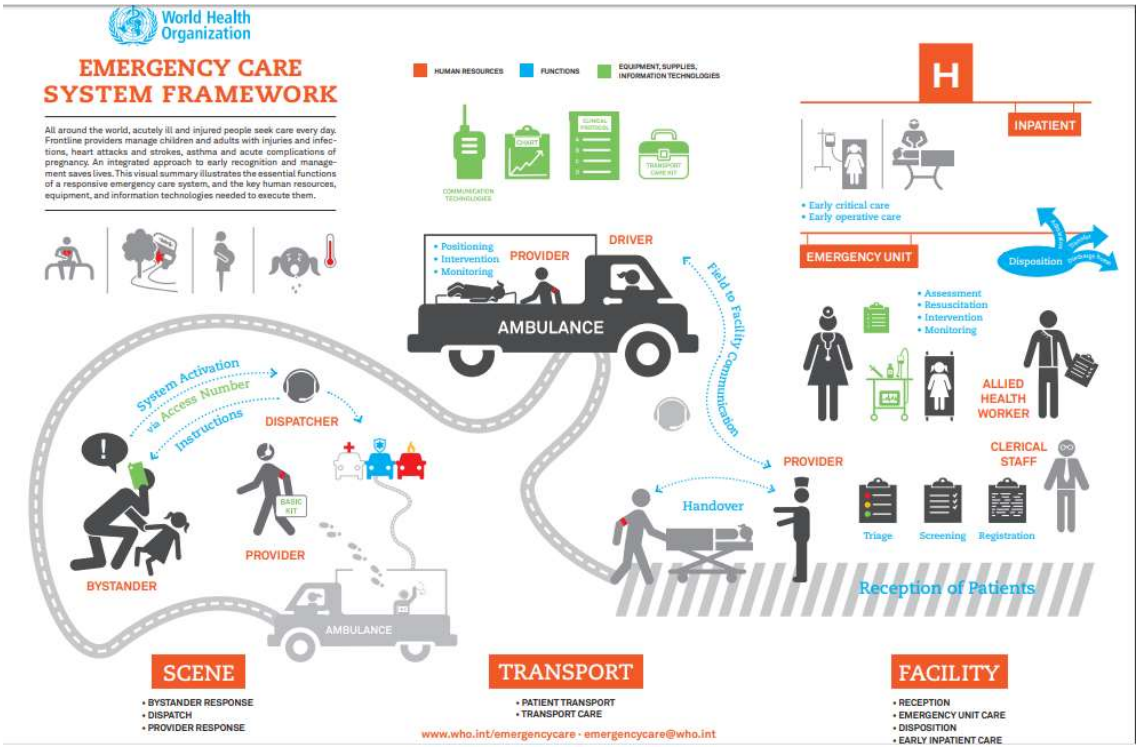

Figure 5.4 WHO Emergency Care System Framework Infographic (WHO, 2018)

This framework is a comprehensive illustration of the stakeholders involved in the full spectrum of emergency care. It proposes the ideal emergency care system with a strong network of providers and stakeholders all working together to achieve the goal of early definitive care for patients presenting with emergencies. The critique of this framework, however, is that it excludes PHC facilities and does not depict the scenario where a patient may present to a lower-level facility (as these are often more accessible) and therefore the importance of a good referral system is not captured in the infographic. The very important role that PHC facilities may play in the system is underestimated as the opportunity to stabilize and refer may assist in mitigating the challenges with immediate access to higher-level facilities. In comparison with our existing emergency care system, it can be noted that a major challenge in the system lies with patient transport and transport care. The result is delayed or even failure in facilitating access to definitive care at an appropriate facility. An integral part of the framework is the need for efficient emergency transport services at various points in the system.

Key Informant 8:

"Transportation is Big One transportation is, emergency ambulance is it it's (sic) it's so important."

Key Informant 9:

"sometimes takes longer to get an ambulance for example if you have emergency like fetal distress or a baby born that requires an ICU or somebody that is being rushed in maybe stroke sometimes the ambulance is delayed come very late."

A clear understanding and agreement between facilities, is also vital as facilities with a higher capacity for emergency cases need to take on a supportive role for lower-level facilities. This requires the emphasis on "systems thinking" as opposed to focusing on facilities working in silos. When facility management and staff understand their role in the system, they are more likely to offer the support needed at lower-level facilities (Hensher et al., 2006; Reynolds et al., 2017). A supportive relationship between facilities is not evident as higher-level facilities have been described as obstructive or apathetic in accepting referral cases.

Key Informant 9:

"you know we struggle a lot we phone here and there it just it takes some time to refer a simple emergency case from clinic to level two hospitals."

Higher level facilities can be overloaded with cases that should be managed at lower-level facilities which perpetuates a cycle of inappropriate referrals (Carret et al., 2007). A coordinated effort is required to ensure that all levels of care work in support of each other (Reynolds et al., 2017). The WHO emergency care system framework highlights this process as essential for improving health care outcomes with specific emphasis on primary health care settings (WHO, 2018).

Make or break basics

Similar to the findings presented from phase 1a), the key informants described the overwhelming challenges related to resource shortages. Resources and equipment needed to deliver care is imperative for health care professionals to function optimally. The core of the Ideal Clinic Framework and the National Core standards was to ensure that facilities had the

basic resources and equipment required to deliver the package of services designated to the District Health Care system. The basic requirements for equipment are seen as a positive step in the direction towards quality improvement.

Key Informant 9:

"So, we don't have a lot of this emergency equipment and we are now beginning to appreciate that we need to get some of it like defibrillator ECG machine you know we are beginning to procure them now because of the this current program of the current program of Us getting ready for NHI and this so-called ideal clinic so we are beginning to acquire some of those emergency equipment for clinics."

The resource requirement is standardized across all facilities, while the distribution of resources is not. A lack of resources is not only demoralizing but also places the health care professional in a precarious position when caring for cases beyond the resource capacity of the facility (Jaeger et al., 2018).

Key Informant 1:

"in the prioritisation of resource allocation but we do know that a critical component of the health system will certainly make-or-break is the infrastructure of the clinics that we operate in even though nurses are desirable they have a Desire that desire in implementing this policy some of them are failed by the infrastructure that is not there or conducive to do the work."

Key Informant 10:

"physical buildings, some of these District health centres that have water they don't have lights they don't have a telephone they don't have cleaners they don't have medical waste have no drugs they've got no basic equipment."

If the planning of the infrastructure in its inception did not accommodate the types of services that the facility is now expected to render, care becomes compromised (Jaeger et al., 2018). Planning for a service also ensures the prioritization in resource allocation and funding.

Key Informant 8:

"Yes, funding is a huge problem it's a huge problem when you planning policy plan about the funding plan about the structure, if structure is going to be needed if human resources are gonna be needed just plan about it don't just bring your policy."

Manpower for the emergency care system – who, what and where?

An efficient emergency care system must have a clear definition of who provides emergency care, what level of training is required at various levels, and where specialist practitioners can be positioned to strengthen the system.

Staffing of PHC facilities accounts for more than 60% of total expenditure in the National Health budget (Blecher et al., 2017). Even with a large proportion of the budget dedicated to health care personnel, the perception of staff shortages still arises as a major challenge cited by health care workers and facility management. The overburdening of the health care professionals in under resourced facilities is a common problem in many other low-to middle-income earning countries. A study conducted in Chad explored the problems of task shifting and forcing nurses to practice beyond their scope and training because of the scarcity of doctors (Jaeger et al., 2018). Nurses are the Primary Health Care providers in the District health care system in South Africa and are often faced with similar challenges. In emergency care this is particularly worrying as acute situations are often highly pressured and demanding of the practitioner (Jaeger et al., 2018). It is therefore necessary not only to consider the numbers of staff available but the capability of the practitioners to deal with emergency cases. This highlights once again the tension between access/quantity versus the quality of the care offered.

Key Informant 1:

"The second one is being the most important resource in the Healthcare sector which is human resource again the distribution of human resource because it's skewed between rural and urban in informal and formal settlements in Suburbs and townships then you sit there with your well-functioning emergency trolley or well-equipped emergency trolley but you don't have staff to run it because when this emergency occurs one sister who's there is still progressing a pregnant woman and yet there's somebody with anaphylactic shock who a junior nurse was trying to give some some(sic) atropine some penicillin right so you see there's those kinds of challenges".

Staffing is not just about filling posts, it is also about acquiring the correct skills mix and level of training appropriate for the services delivered at the facility (Armstrong et al., 2019). While there are various categories of nurses, these categories are not well distinguished and considered when planning for staffing is done. Nurse to patient ratios do not distinguish the level of training or registration of the nurse leaving a vague understanding of the specific skills inherent in each category (Armstrong et al., 2019). The assumption that all health care workers are equipped for emergency care is therefore a questionable one. The level of competence in emergency care skills in general health care professionals in district health care facilities was highlighted as concerning with the need for training emphasised. It was assumed that all basic health care professionals have some level of training in emergency care and that this should be emphasised in the exit level assessments of health professional graduates:

Key Informant 2:

"I would have to assume that some of the skills are already inherent by virtue of their qualification."

Key Informant 1:

"when the examination is set for a health professional, you must do emergency method. For me it was that. That is the only time that we can then, when a person gets out the university, college whatever institution, we know that they are wired to deliver emergency medicine."

The emphasis of ensuring basic emergency skills for all health care graduates is essential, but this must be viewed with the knowledge that the loss of these skills over time is well documented in the literature indicating a need for continuous training and education (Ameh et al., 2018). Health care practitioners who participated in interviews all explicitly stated their need and desire for emergency care training, as presented in chapter four. A South African study investigating the competence of doctors in emergency skills specifically highlighted this need despite the professionals' perceived confidence in their skills (Dufourq et al., 2017). Key informants described their concern for the inadequacy and lack of training in emergency care.

Key Informant 9:

"when you talk about the skills of healthcare workers because you know one of the things that happen is that any skill that a Healthcare worker acquires when that skill is not put into use after a long time, he loses them."

The recommendation of various emergency care courses from basic life support to advanced life support and more contextual rural emergency skills training was emphasised by key informants, this is in keeping with recommendations from various studies and resuscitation bodies (Ameh et al., 2018; Dufourq et al., 2017). Although the Ideal Clinic Framework emphasises the need for certification in these courses, it is very rarely realized.

Key Informant 9:

"you have a situation where not up to 1% of health workers have a valid BLS even talk of ACLS less than 1% will have a valid ACLS certificate and if you paediatric emergency not even to uh half of that will have it so that says a lot about how we value emergency medicine within the district Health Service."

Key Informant 10:

"Rural skills training that would give her the opportunity to do things where she wouldn't be doing that in normal settings."

Limited availability of certified instructors and learning material makes this an unrealistic goal and therefore a contextually appropriate model for emergency care training should be developed. While training for all health care professionals in basic emergency care is needed, there is a need to relook at the distribution of emergency specialist practitioners. The aim should not be to upskill every PHC practitioner to the level of a specialist emergency care practitioner, but rather to ensure their competency and strengthen the system of support available to them. Specialist emergency practitioners such as emergency physicians and emergency nurses may have a valuable place in the district health care system, however these specialists are scarce in number and therefore, strategic partnerships and consultative networks should be considered (Reynolds et al., 2014).

Key Informant 10:

"Because there aren't any emergency nurses, we have 200 in the country".

Key Informant 8:

"maybe the provincial level you can have someone in a strategic level who look at emergency problems you know but emergency practitioners are already a scarce skill to find."

Emergency nurses are expected to provide emergency care in a variety of settings across the spectrum of all levels of health care, including the PHC level, and therefore their practice is not limited to higher level facilities (SANC - Competencies for Emergency Nursing, 2020). Their contribution to emergency care in a PHC setting may prove to be of great value.

Key Informant 5:

"I think emergency nurses are in any case some of the nurses are better than our doctors in an emergency situation. You are now calling them emergency nurses, they used to be called trauma you know or casualty, they are brilliant. They can do more than most of these doctors or new guys they put in these hospitals."

Key Informant 5:

"I think many of these smaller centres as you say, you know the community health centres they should definitely have emergency practitioners or nurses there I mean."

In a consensus-based study focusing on emergency care in Sub Saharan Africa, the need for increasing training of emergency training is needed, and the strategic placement and purpose of these specialists within the district health care system is needed to strengthen emergency care at this level (Reynolds et al., 2014). A suggested approach to realizing this goal is to identify and create designated emergency care centres within the District Health Care System. These centres will provide support to facilities with lesser capacity for emergency care and a platform for specialist emergency care practitioners to function optimally in this context. A focused development of these facilities will mitigate the overwhelming task and financial burden of trying to adapt every PHC clinic to an emergency care centre.

"there needs to be a massive consolidation of emergency centres in geographical areas, and they need to be minimized not increased… Not only a centre with staff but properly equipped. And you cannot have multiple centres with that level of equipment because the levels of equipment are extensive you know in terms of your [inaudible] you know that the defibrillators, you need a whole range of people who have resuscitation capacity. You can't have that in 40 clinics."

The District Specialist teams program was proposed in 2011 with the objective of improving the health outcomes of the district health care system. A ministerial task team report recommended that the composition of the team should comprise of the following:

> A DCST should be located in each district of South Africa and consist of a family physician, a primary health care nurse, an obstetrician and gynaecologist, an advanced midwife, a paediatrician and a paediatric nurse. An anaesthetist should be included in a role that is expanded to oversee emergency medical and perioperative care. (District Clinical Specialist Teams in South Africa Ministerial Task Team Report to the Honourable Minister of Health, 2014, p. ii)

It is highlighted that responsibility for representation for emergency care on the district specialist team is given to an anaesthetist and not a specialist emergency care practitioner. The inclusion of an emergency care practitioner on this team may be a way of putting emergency care on the agenda of the District Health Service platform.

Key Informant 4:

"The district specialists' team didn't have an emergency medicine person in, and I honestly want to say that I don't care whether it was a doctor or nurse, just someone who knows what they're talking about from an emergency unit point of view, you know, has an understanding of EMS and so on."

The District Health care system has also introduced a new programme for monitoring and evaluation of the Ideal Clinic Framework. The District Perfect Permanent Team for Ideal Clinic Realisation and Maintenance (PPTICRM) is responsible for site visitations within the district.

> District PPTICRM visits all facilities at least once a year and those targeted to be Ideal in the specific year at least twice a year to ensure that weaknesses have been corrected and to record the Ideal Clinic Realisation status for the end of year report (Ideal Clinic Definitions, Components and Checklists, 2017, p.118)

Another recommendation suggested that emergency care should be scripted into the portfolio of the PPTICRM monitoring team.

Key Informant 1:

"Mark my words so I think what we need to do, going forward you may in your study I mean I'm already taking up this recommendation to myself. We may then need to move towards introducing this as an additional activities basically being scripted in the job description."

The concept of the PPTICRM has not yet been fully achieved as the annual report for the Gauteng Department of Health has reported. Their function was hindered by the closure of many clinics for structural improvement and a clear audit on the function was not presented (Gauteng Department of Health, 2019). The suggestion should be considered carefully as this would not ensure that emergency care is adequately represented or championed if emergency care practitioners are not consulted or included in the process.

The training and placement of emergency trained practitioners must be strategically considered, against the backdrop of contextual awareness and appropriateness, to develop an effective and sustainable model of care (Greenwood-Ericksen et al., 2017)

5.3.4 Content

The content of the analysed documents overlap greatly with the context described in the previous section. While themes may overlap it is important to look at the specific content from the policies related to each of the themes. It is important to understand the definition of the Ideal Clinic and its defining features:

5.3.4.1 Theme 10: Ideal Clinic Status

The content of the policies revolves largely around the weighting, requirements and criteria for achieving "Ideal Clinic Status". Emergency care requirements included in the framework have been identified and analysed.

Defining the Ideal Clinic

The purpose of a health facility is to promote health and to prevent illness and further complications through early detection, treatment and appropriate referral. To achieve this, a clinic should function optimally thus requiring a combination of elements to be present in order to render it an "Ideal Clinic". An Ideal Clinic is a clinic with good infrastructure, adequate staff, adequate medicine and supplies, good administrative processes and sufficient bulk supplies, that uses applicable clinical policies, protocols, guidelines as well as partner and stakeholder support, to ensure the provision of quality health services to the community. An Ideal Clinic will cooperate with other government departments as well as with the private sector and non-governmental organisations to address the social determinants of health. PHC facilities

must be maintained to function optimally and remain in a condition that can be described as the “Ideal Clinic” (Ideal Clinic Definitions, Components and Checklists, 2017).

Criteria for achieving Ideal Clinic status are weighted differently, allowing for prioritization of certain standards. Weighting is classified as follows:

> **Vital**
>
> Extremely important (vital) elements that require immediate and full correction. These are elements that affect direct service delivery to and clinical care of patients and without which there may be immediate and long-term adverse effects on the health of the population.
>
> **Essential**
>
> Very necessary (essential) elements that require resolution within a given time period. These are process and structural elements that indirectly affect the quality of clinical care given to patients.
>
> **Important**
>
> Significant (important) elements that require resolution within a given time period. These are process and structural elements that affect the quality of the environment in which healthcare is given to patients. (Ideal Clinic Definitions, Components and Checklists, 2017, p. 7)

These definitions encapsulate the nature of the documents – focused on improving the facility services within the District Health Care system. Emergency care related criteria is classified as vital and is therefore a priority for achieving Ideal Clinic Status. Key words relating to emergency care requirements within the policy include the objective of ensuring early detection, treatment and appropriate referral with an underpinning aim of reducing time delays and protractions within the system.

5.3.4.2 Theme 11: Detail of the Policy related to Emergency care

The content of the documents specifically related to emergency care were largely focused on the physical requirements for offering an emergency care service.

Requirements for Emergency Transport:

The PHC supervisory manual stipulates the need for "Reliable emergency transport at all times.". This is echoed in the commitment of the Ideal Clinic Framework to achieve good response times from emergency medical services. This requires the monitoring of ambulance turnaround times against a predetermined time, and the open display of the referral processes and contact numbers.

The requirements within the framework stipulate the physical requirements for access to emergency medical services, however none of the documents allude to any collaboration or fostering of an understanding of the interlinking roles between the facility and the emergency medical services. Inter-facility transport of patients is a very important link in the chain of survival for emergency care. The Ideal Clinic requirements are placed as a responsibility of the facility management; however, emergency transport services are not within their scope of control. Emergency medical services do not operate at a facility level or even under the umbrella of the district healthcare system and therefore the requirement at a facility level becomes impossible. Emergency medical services are a distinct service separate to the district healthcare system.

Key Informant 3:

"it's only quite recently probably in bout the last 7 or 8 years there's been an emphasis on teaching on the interhospital transfer part of the system which is actually from the district healthcare system and the broader health care system is probably really important component you know in terms of who's moving patients from which facilities to which how that whole system works how they get activated and what kind of care they need so you know."

Effective policy should ensure that the policy goals or requirements be contextualized to the reach of the organisation and the means with which to meet those objectives (Bali et al., 2019). The requirements related to emergency transport and response times are not within the reach of the facility management due to the non-collaboration with emergency medical services.

Ensuring adequate Staffing/Human Resources

While the content of the documents related to staffing were not directed towards the ability to provide emergency care, the assumption is that within the recommended skills mix the capacity for emergency care would be ensured. By ensuring adequate staffing it is assumed that the

requirement for basic emergency care skills and competencies would be fulfilled. The commitment for adequate staffing is defined below:

"Commitment for Ideal Clinic elements 112 - 114
The facility has adequate number of staff in place with the correct skills mix for the services provided." (Ideal Clinic Manual Version 18, 2018, p. 67)

The staffing commitment for Ideal Clinic status goes further than numbers and an attempt to ensure an appropriate skills mix is seen in the recommendation for categories of staff:

- Facility manager
- Clinical Nurse Practitioners
- Professional nurses
- Enrolled nurses
- Enrolled nursing assistants
- Medical Practitioner
- Pharmacist
- Pharmacist assistants
- Administrative officers
- Cleaners
- Grounds men (Ideal Clinic Manual Version 18, 2018, p. 248)

It is assumed that the health care practitioners within the staff complement are equipped to deal with emergencies, however the capacity of the service often falls short as health care practitioners are required to multitask and manage numerous service platforms at the same time. Direction on how to adequately staff each service including emergency care is not clearly given. The lack of direction in terms of staffing for emergency care has led to a decrease in the efficacy of this service as it is then cross delegated to staff with multiple other tasks, and it does not make any requirement for the level or qualification of the health care professional assigned. The focus of the content remains largely on the physical requirements for offering emergency care.

Standards for the availability of Emergency Equipment, Infrastructure and Drugs

Based on the Ideal Clinic Commitments, the following emergency standards were set:

- Commitment 104 To manage minor injuries at Primary Health Care facilities (Ideal Clinic Manual Version 18, 2018, p. 60)
- Commitment 168 - 171 Facilities must be able to successfully resuscitate patients as the need arise (Ideal Clinic Manual Version 18, 2018, p. 101)
- Commitment 164 Staff are trained on the use of essential equipment (Ideal Clinic Manual Version 18, 2018, p. 99)

These standards are important for ensuring that emergency care is planned for in the services offered by the PHC facility. In this way, the policy has achieved the objective of raising awareness about the importance of procuring the necessary equipment needed to deliver emergency care. Key informants, similar to participants in phase 1a) interviews described their appreciation for the policy content creating a directive for the provision of emergency care and the ability to use it as a motivation to improve in the procurement of emergency equipment.

Key Informant 9:

"So, we don't have a lot of this emergency equipment and we are now beginning to appreciate that we need to get some of it like defibrillator ECG machine you know we are beginning to procure them now because of the this current program of the current program of Us getting ready for NHI and this so-called ideal clinic so we are beginning to acquire some of those emergency equipment for clinics".

The Ideal Clinic Framework also requires that all PHC facilities have an emergency room as one of the clinical service areas. Clear signage and the availability of all the required equipment and drugs should be checked and maintained in order to meet the standard (*Ideal Clinic Definitions, Components and Checklists*, 2017).

The National Core Standards for health establishments, The Ideal clinic Framework and The package of services for District Hospitals classify emergency drugs as essential medicine, including in its criteria the supply of oxygen and blood for transfusion. The Ideal Clinic standard requires *that the facility is to* "Ensure consistent availability of essential PHC medicines" at 90% and above (*Ideal Clinic Definitions, Components and Checklists*, 2017).

However, many facilities struggle to procure the equipment required in the checklists and therefore lose out on this aspect of the scoring for accreditation (Blecher et al., 2017).
The appropriateness of the requirements also come into question as all contexts are measured with the same standard.

Key Informant 8:

"yes we struggling, we had we had I'm gonna (sic) tell you a lot of lot of stories you know we had clinics where they say okay we coming today to at 2 to check if you ready for Ideal clinic and the sister will run to the next clinic next door and go and borrow stuff…Borrow equipment bring it to the clinic so when the team come and say ok good tick the box, tick the box and they give the status, the next day we'll take it back to the other clinic. What are we achieving? We Ideal clinic but…"

Key Informant 1:

"The last one is the regular delivery of consumables and medicines which go into the emergency trolley themselves including the safety of the supply of oxygen and the concomitant consumables around the oxygen masks your gauges and stuff but critical and what we've been back to in recent times has been the safety of and availability of oxygen and medical gas in our facilities and half the time clinics are given the short end of the Stick because the supply must always go to the hospital first and only then will they go to the clinic so that has been our lowest level."

The wording used in the commitments relate directly to ability to manage emergency cases however the standards set as criterion to fulfill this commitment relate only to the procurement, maintenance and checking of emergency equipment. This includes checklists for emergency areas, emergency trolleys and resuscitation bays. (A District Hospital Service Package for South Africa. A Set of Norms and Standards, 2002; Ideal Clinic Definitions, Components and Checklists, 2017). As depicted by the participants' comments, these checklists may be presenting an inaccurate picture of the status of facilities as managers "bend" the rules or find loopholes to ensure compliance. This points to either a lack of understanding of the importance of the standards or the redundancy of the requirements as clinics continue to function having only fulfilled the requirements as a "paper-exercise."

Key Informant 1:

"a chapter in the in the whole policy policy (sic) framework that focuses on emergency trolley we then decided that in the risk rating of our scoring which is rated from important which is the lower category to the one is essential and the last one is vital the vital the chief among the least of the vitals is the readiness of the emergency trolley".

Key Informant 8:

"Yeah, some of them speak about emergencies look the thing of emergency trolley is it we can make a song about emergency trolley but I'm yet to see a clinic who has managed to have a proper emergency trolley. We check it every week or every day but…Never never appropriate we never have everything together everything on."

The focus on structural aspects of the quality of the service are clearly unbalanced as the processes required are largely left unaccounted for in the policy documents. This imbalance results in decreased quality of the care offered (Campbell et al., 2000).

Evidence of Disaster Planning

One of the streams of the re-engineering of the PHC system require that at a community level health care facility should be able to "Render emergency health services during disasters and disease outbreaks" (*Provincial Guidelines for the Implementation of the Three Streams of PHC Re-Engineering*, 2011). The Ideal Clinic Framework commits to the following:

> Commitment for Ideal Clinic element 152 -155
> The clinic is at ready for emergency evacuation all times.
>
> - 152 Evacuation plan is displayed in the manager's office and the main entrance.
> - 153 Contact numbers of healthcare personnel required in emergencies are available in the management offices and at reception.
> - 154 Emergency evacuation procedure is practiced annually.
> - 155 Deficiencies identified during the practice of the emergency evacuation drill (*Ideal Clinic Manual Version 18*, 2018, p. 93)

Disaster management at a facility level as well as the ability to manage surges and outbreaks are important contributions that emergency care at a PHC level make to the overall emergency preparedness of the community. This responsibility is highlighted in the commitment below:

"Commitment for Ideal Clinic element 156
The facility staff is prepared to manage outbreaks effectively.

- Standard Operating Procedure for outbreak notification and response are available" (Ideal Clinic Manual Version 18, 2018)

Strengthening disaster and outbreak management at the community level is considered an effective way of achieving better outcomes and community resilience. This area of policy should be more detailed, and the process should by nature involve stakeholders at the community level. This is not clear in the policy requirements. The apparent gaps lie in the detail involved in the processes in development of disaster planning and integration of disaster plans between facilities and surrounding communities.

Key Informant 4:

"Even the standards, I think they are very minimalistic and some of them I fundamentally disagree with, but ya, I mean it just talks about something like do you have a major incident plan, it tells you nothing about whether it's appropriate, whether it's been read, whether it's up to date, whether it's practiced, whether people know about, you know, those sort of important questions".

Disaster preparedness and disaster planning is a key competence of emergency care services often assigned to emergency medicine specialists in facilities and organisations (Calvello et al., 2013). The policy requirement for the District Health Care system requires that facility management be responsible for disaster planning without the benefit of consultation and collaboration with experts in the field. Co-ordination of disaster planning is another vital part of an emergency care system and the policy requirement at this level is therefore not sufficient to ensure its efficacy.

Requirements for Staff training

The PHC supervisory manual places the responsibility of staff training on the manager of the facility:
"The PHC facility supervisor carries a major responsibility to ensure that PHC facility health care personnel are updated, trained and appropriately coached"(*Primary Healthcare Supervision Manual*, 2009, p. 2.4).

In general, the National Core Standards for health require that staff are continuously trained in the use of medical equipment and updated in their field (National Department of Health, 2011a). Similarly, the Ideal Clinic requires that staff are continuously trained and that in-service education programmes should be in place and record keeping of all training should be kept.

With specific reference to emergency care, the integrated services management manual identifies Basic Life support, Advanced life support and Essential management of Obstetric emergencies as courses which staff should be offered the opportunity of attending (*Integrated Services Management*, 2014).

The Ideal Clinic commitments specifically require the following:

> Commitment for Ideal Clinic element 56 - 57
> Nurses can resuscitate and provide basic life support to patients with a sudden onset of a condition manifesting itself by acute symptoms of sufficient severity such that the absence of immediate medical attention (including resuscitation) could reasonably be expected to result in serious impairment to bodily function or death.
>
> - Commitment 56: Resuscitation protocol is available.
> - Commitment 57: 80% of professional nurses have been trained on Basic Life Support (*Ideal Clinic Manual Version 18*, 2018, p. 28)

This commitment emphasises the need for resource allocation to be aligned with the commitments of the policy requirements. Basic Life support training has not been available to many of the facilities. The responsibility for procuring and funding training is not clear.

Key Informant 9:

"And this is not done and nobody really appreciates why we say this and why this should take place why should the district fund it, there are better priorities and so on but you have a situation where not up to 1% of health workers have a valid BLS even talk of ACLS less than 1% will have a valid ACLS certificate and if you paediatric emergency not even to uh half of that will have it so that says a lot about how we value emergency medicine within the district Health Service."

Key Informant 6:

"Now I've always believed that what should happen in that case is instead of leaving it to a person to equip themselves and say I want to do BLS and whatever, I think we need to have a standard where we say let's bring people Professor XXX let him train our district health practitioners whether its nurses or doctors or whatever in certain emergencies and you have an emergency of this nature is how you need to deal with it"

Once again, the relationship between the policy goals or requirements and the policy means is not evident, leading to a high likelihood of policy failure (Bali et al., 2019). There is no plan for reaching this standard.

5.3.4.3 Theme 12: Lack of emphasis on Emergency care process

While the content of the policies focuses mainly on the standard requirements for equipment, the process and skill of the health care practitioners is not clearly emphasised. The content of the policy reveals an obvious bias toward physical standards without detail required to guide the implementation of the policy. Although the requirement for the evidence of existence of certain emergency care services, the processes for stabilisation, referral and emergency preparedness are not detailed. The process for ensuring adequate training is not provided, and the detail required for defining roles of stakeholders in the emergency care system is lacking. Without detailed guidance, implementation of policy is bound to fail.

Key Informant 1:

"You see I always argue that the efficacy of a gun is as strong as the one who is holding the gun it lies in our people's ability or responsiveness to implement the policy."

The focus of the documents analysed aligns with policy approach. The physical requirements for service delivery have become the focus and the standard. This can detract from the purpose of the service which is patient care. Detailed processes of how emergency care services should be delivered would bring the focus back to the provider's competency and the needs of the patient. A patient care focus would shift the emphasis towards competence and collaboration. These aspects have been found wanting. Emergency care within these documents is reduced to a checklist of equipment which is insufficient to direct the service towards effective emergency care.

5.3.5 Process

Quality health care improvement requires that a strong focus is placed on the improvement of processes and outcomes (Campbell et al., 2000). The processes involved in the delivery of a healthcare service is defined as the interaction between the health care user and the health structure. It involves the health interventions and the interpersonal interactions that occur during that process (Campbell et al., 2000). Processes are linked directly with outcomes as the result of care. Effective policy must give direction to the processes and have specific

measurable outcomes in order to perform reflection and evaluation. Emergency care is geared towards an outcomes-based approach with the goal of ensuring definitive treatment and streamlined processes. It has been highlighted that there is a lack of detail regrading emergency care processes. Some processes however have been identified, including the process of triage and referral.

5.3.5.1 Theme 13: Emergency care pathway

Emergency care spans from initial presentation to definitive treatment and discharge. Policies that focus on emergency care within the facility should detail the processes needed for triage, treatment and referral or discharge. A comprehensive guide to movement across the spectrum of care and navigation between the links in the chain of survival is needed to ensure effective emergency care from onset until rehabilitation.

Process of Triage

The first interaction with emergency care begins with triage. Triage can define the trajectory of a patient's care. Prompt assessment and decision making is required to ensure that patients receive urgent care and complications as the result of delays in treatment are avoided. The Ideal Clinic Framework outlines the requirements for a triaging system as follows:

> Commitment for Ideal Clinic elements 11 - 13
>
> The facility must be user friendly for the very sick, frail and elderly patients.
>
> - 11 Help desk/reception services are available.
> - 12 There is a process that prioritises the very sick, frail and elderly patients.
> - 13 A functional wheelchair is always available (Ideal Clinic Manual Version 18, 2018, p. 7)

Triaging should be designated to a healthcare professional to ensure that patients are categorized correctly (Christ et al., 2010). The requirements within the policies allow for a helpdesk administrator to perform triaging. Training of all staff including non-clinical staff is required for the commitment related to the triage process detailing the following:

> Step 4: Schedule in-service training for ALL staff on prioritisation process. Keep a record of attendance in the in-service training book. See Annexure 10 as an example.
>
> Step 5: Delegate the function of prioritisation process to a designated staff member daily.

> Step 6: Conduct random spot checks during the day to determine if the very sick, frail, and elderly patients are prioritised. (Ideal Clinic Manual Version 18, 2018, p. 7)

Triage is a vital part of the emergency care chain of survival. Early recognition of situations requiring urgent acute care is imperative to the effectiveness of the emergency care system (FitzGerald et al., 2010). In their review of effective triage it was noted by Fitzgerald et al (2010) that delegating the right person to the responsibility of performing the triage is of utmost importance. This includes triage in the prehospital environment. The study suggested that the higher the level of qualification of the health care professional, the better the outcome (FitzGerald et al., 2010). The triage requirements in the ideal Clinic framework do not align with the best practices identified in the emergency care field.

Referral pathway and transfers

The referral process within the District Health system is a major challenge cited by many of the key informants. The Ideal Clinic Framework requires that:

> Commitment for Ideal Clinic elements 201- 204
> Facility must have access to a rational and responsive referral system to ensure continuity of care between different levels of health service.
>
> - 201 National Referral Policy is available .
> - 202 Facility's Standard Operating Procedure for referrals is available and sets out.
> - 203 There is a referral register that records referred patients clear referral pathways to required service providers.
> - 204 Copy of referral letter available in patient record (Ideal Clinic Manual Version 18, 2018t, p. 120).

While the referral process is a requirement, the details of this with specific regard to emergencies is not clear and the many challenges are not averted by the direction given in the policy documents. The referral process has been repeatedly highlighted as an area in need of improvement.

5.3.5.2 Theme 14: Supervision and Evaluation

Implementation fidelity refers to the extent to which a policy achieves its intended goals. This requires intentional monitoring and evaluation of outcomes in relation to intended objectives (Carroll et al., 2007). Data collected for feedback purposes play a vital role in informing the policy feedback cycle. Unreliable data results in unreliable evaluation of the efficacy of the policy.

Key Informant 9:

"I think it's more of implementation that's the problem, implementation and supervision. There is a policy on referral. There is a policy on referral route, to say this group of facilities should refer here. This is the way the ambulance should respond, in an hour or two. Waiting time should be reduced, all those policies they are there. Implementation and supervision is the major problem. You know somebody to say we need to do this right and if it's not done right consequence management should kick in, those are the areas that we are lacking."

Key Informant 1:

"people will simply be ticking boxes, but they were not really effective in bringing change in spite of the many guidelines. I mean that manual, I wrote it personally. I know a lot of energy went into it, but the difference was that is that, in the ideal clinic; we introduced the rigorous process of monitoring and evaluation because we established teams."

While the Ideal Clinic provides data on aspects of performance and adherence to standards, the effectiveness of implementation and processes are not evident. The key informant describes the negative effect of creating criterion-based standards and lists in the pre-Ideal Clinic era, in that the evaluation becomes a tick-list exercise. However, the Ideal Clinic Status requirements are criticized by other key informants for similar negative effects. Monitoring and evaluation using this format, is therefore not meaningful and does not yield data that can accurately assess the effectiveness of emergency care at a PHC level.

Poor data to provide feedback

Data on emergency care is therefore also difficult to access and interpret because the actual processes and outcomes are not clearly documented.

Key Informant 5:

"So, if you wanted to know what is wrong with people in any geographical area and you'll get reliable, what I call recordings of disease emergency centres, it is your most reliable or trustworthy source of morbidity."

Key Informant 7:

"you have to have better information to show exactly how what the impact is having of poor and delayed transport I don't think there's enough information ...so to me there's a real real dearth of Information of what is the impact on health care of the way the ambulance services are collapsing."

For evaluation of emergency care, the quality of data is vital. The system can only improve if there is an accurate reflection of the performance of that system (Mashoufi et al., 2018). Policies should be designed with the feedback mechanism already in place and systems that feed data into the evaluation process should be established in the initial implementation of a policy. Emergency care data in the district health care system are not well reported, and a system of feedback is non-existent. The evaluation of the service against the intended policy objectives is therefore impossible and leaves room for assumption that the service is functioning optimally or underperforming. Both assumptions are not constructive for quality improvement.

5.4 Summary

The findings presented here have provided valuable insight into the guiding policy of the district healthcare system and its direct effect on emergency care. The insights of the key informants also allow for a broader understanding of the policy content and the dynamics surrounding it. Emergency care in the district health care system has been neglected and there is a profound need to establish this platform and therefore strengthen the capacity of the district health care system to deal with emergency situations.

Integration of the findings of the various data sources will be presented in the following chapter and recommendations proposed.

CHAPTER SIX

INTEGRATION OF DATA: PRESENTATION OF EVALUATIVE CONCLUSIONS AND RECOMMENDATION STATEMENTS

6.1 Introduction

This chapter presents the findings from multiple data sources, summarizing the major findings and present the recommendation statements developed. This fulfills the requirements to meet the research objectives:

- To extrapolate from the findings, strengths and weaknesses/areas within the system of emergency care at a PHC level.
- To develop recommendations for remodelling of the system of emergency care at a PHC level that optimises strengths and minimizes weaknesses in the system.

Three data sources were used in phase 1 and phase 2 of the study as depicted in Table 6.1.

To facilitate data triangulation, the findings from various data sources were integrated using Walt and Gilson's framework for policy analysis. Triangulation of the various data sources allows for a richer understanding of the context and different perspectives of emergency care at the District Health Care level. Understanding the policies from all stakeholders' viewpoints, increases the trustworthiness of the study and allows for recommendations to be built on a broader base of understanding (Shenton, 2004).

The themes that were presented in the previous chapters, that emerged from three data sources, will be integrated into a synthesized presentation using the above-mentioned study framework.

Table 6.1 Data Sources

Data Source 1	**Data Source 2**	**Data Source 3**
Interviews with Health care practitioners and Managers at District healthcare facilities	Document analysis of selected policies and related guidelines or legislation	Interviews with Key Informants

6.2 Main findings and evaluative conclusions

The synthesis of findings using inductive reasoning allows for the development of evaluative conclusive statements. The general major findings will be presented in a summarized narrative. These findings were then subjected to deductive logic to formulate recommendation statements. Evaluative conclusions for each data source related to the heading from the policy analysis framework will be presented, with major findings **emboldened** for ease of reference.

6.2.1 Actors

Actors in policy analysis theory refer to the stakeholders involved in policy development, and implementation. In this study, the actors included health care practitioners and facility managers working in District Health facilities in Gauteng, policy contributors/developers, management within the District Health Care System and specialists in the field of emergency care.

An important part of developing a rich understanding of emergency care at a PHC level involved creating a platform for health care practitioners rendering emergency care in this setting to share their experiences. **Health care practitioners who deal with emergencies at PHC facilities generally feel overwhelmed and unprepared to effectively manage emergency cases.** Various factors influence their experiences, including the nature, frequency and severity of emergencies seen in the various facilities. These experiences differ according to context; and contextual nuances are highlighted in the findings. It emerged in the data that these experiences result in a dichotomous view of emergency care. As a strength, the demands of emergency care in a PHC setting forces health care practitioners to develop autonomy and independence. At the same time this may be revealed as a weakness as some participants shared their feelings of being isolated and unsupported.

Heath care practitioners described their reliance on the use of a team approach in dealing with emergencies at a primary health care level. They reflected positively on how their teams work well together and find collegial support amongst each other. The use of a team approach is a key attribute of emergency care. **The functional ability and performance of the emergency team is questionable as participants describe their challenges with the lack of competency of team members and lack of training in emergency care.** Health care practitioners' roles in emergency care involve the triaging, diagnosis, stabilization and referral of emergency cases.

Professional nurses are the primary providers of health care services at Primary Health Care facilities with support from a doctor on selected days. The availability of a doctor is determined by the District Health Care staffing norms. The hours calculated for the availability of a doctor is based on the number of patients seen per day and therefore it differs from facility to facility (Daviaud & Subedar, 2012). A standard staffing requirement is the need for a professional nurse on duty at all times – for the direct management of patients and the supervision of lower category nurses. Community Health Care centres require that there be at least one full time employed doctor, while District Hospitals have a range of multidisciplinary team members employed on a fulltime basis (Daviaud & Subedar, 2012). Although they appreciate the positive nature of their team performance at a facility level, there are many dynamics related to role clarity, skill competence and confidence that negatively affect the emergency care team response. Their ability to respond to an emergency varies according to the level of care and capacity of the facility. Lower-level facilities such as Primary Health Care clinics have less equipment and staff available for the management of multiple or complicated emergencies and are therefore better suited to being able to manage basic emergencies and stabilise for referral.

The findings of all data sources highlighted the need for training in emergency skills and consultative support. Health care practitioners expressed their need and keenness to learn the relevant emergency care skills needed to ensure effective emergency care. A willingness to learn is an opportunity that should be taken advantage of to increase capacity and effectiveness in the delivery of emergency care in a PHC setting. Emergency care training for health care practitioners dealing with emergency care at this level must not only be made available but should be contextually relevant to the needs of the area and appropriate for the scope of practice of the practitioner. Data revealed a lack of access to training. A specific focus is placed on the requirement for PHC practitioners to be accredited with basic life support training. Certified instructors, and material for training are not easily available and the contextual relevance of the training may not be appropriate for the needs of the PHC setting. Contextual relevance is important due to the spectrum of district health care being so vast and exposure to emergencies therefore differs greatly from one setting to the next.

Key informants provided an important understanding about the nature and context of the policies informing the district healthcare system. The development of the major policies that inform the district health care system was an iterative process involving consultation with many stakeholders. **However, in the policy development process, a gap was identified with regard to emergency care as there was no consultation with or contribution from**

emergency medicine practitioners as experts in this field. Agenda setting and decision-making power resides with the Minister of Health and the National Department of Health, however, there is no voice for Emergency Medicine at this level. Although the process of development of the policy is described as inclusive, the decision-making power and agenda setting remains the prerogative of the authorities in government positions, referred to by the literature as the bureaucratic arena. This leaves little room for the contribution of specialist practice clinicians as they seek to align the policy with the predetermined agenda set by the Minister of Health.

The role of emergency medical services and emergency medicine needs to be clarified and collaboration between the two services is needed. The role of emergency care practitioners including emergency physicians and emergency nurses in the district health system is not clear. They are employed largely at higher level facilities. The placement of practitioners with these scarce skills must be strategic in order to effectively improve emergency care at the district health level. It was found that the roles and definitions of these two fields of practice are often conflated. While both emergency medicine and emergency medical services are both established fields of practice, they remain silos and collaboration has not yet been realised to create a network of emergency care. An effective system of care requires a strong network of platforms and providers who all work together to achieve the goal of providing efficient definitive emergency care. In order to create a network for health care practitioners dealing with emergencies at district health facilities, there is a need for a coordinated effort to put emergency care on the agenda at a national health level.

A coordinated system requires oversight that incorporates all stakeholders and levels of care. A positive development, is the establishment of a national emergency services office, which is considered as a step in the right direction. However, the scope of this office does not encompass the full spectrum of emergency care. **There is currently no national, provincial or district level leadership for emergency care in South Africa**. A champion for emergency care is needed. This drive to improve emergency care should be re-emphasised at every level of care and therefore leadership at a District Health Care level is needed in collaboration with national leadership.

6.2.2 Context

Contextual differences between facility settings and levels of care were described to have an important impact on the experiences of health care practitioners dealing with

emergencies in PHC facilities. Key informants affirmed that contextual nuances were not addressed in the policies informing emergency care in the PHC setting. The varying contexts of facilities in the District Health Care System pose a challenge for policy makers as they try to address a vast range of challenges. While some facilities are situated in semi-rural environments, others are based in central urban areas. The types of emergencies and therefore, the needs in terms of emergency services differ greatly. The context of the facility and health profile of the surrounding community also determines the major focus of the services. The District Health Care System is the frontline PHC service of the country and serves as an access point to the health care system. The focus of the District Health services remains largely on preventative medicine and the management of chronic disease and minor ailments and is a well-established and an essential part of the health care system of the country. While emergency care is a required offering at district healthcare facilities, it is not seen as an essential part of these services.

A resounding frustration experienced by health care workers and managers, regardless of context, was the inadequate and sometimes inappropriate availability of emergency equipment and emergency drugs. The shortage of human resources to be able to deal with the variety of services offered at the facilities was also highlighted and acknowledged by all key informants. The infrastructure of the facilities does not always enable the capacity for emergency care as this was not the primary intention. Conclusively, it can be said that planning for this service in terms of resource allocation, infrastructure and staffing was poorly conducted. Contextual variations between facilities were not taken into consideration. Document analysis showed that all facilities, regardless of geographical context, were assessed against the same standards and therefore, the requirements were not always achievable or appropriate. There is a mismatch between the set requirements, and the contextual need and capacity of the facility. Standard requirements for all facilities in order to improve access to equitably distributed resources, while noble in intention, have not improved the quality of care available to patients.

The hierarchical context of the District Health Care system is a source of frustration for many participants, with a lack of transparency in decision-making and poor understanding of "what's happening on the ground", cited as major challenges with District and Provincial level management. This has influenced processes for procurement of resources, budgeting, staffing and a mismatch in expectations versus reality. While the

objective of management is to ensure adherence to standards and criteria, a disconnect from the reality of the context has been identified.

Consideration of the geographical context, disease profiles and resource availability along with an understanding of the social determinants of health for that area is needed in order to develop context specific strategy. Health policy must be dynamic and flexible enough to address various settings. While the importance of basic emergency resources has been emphasised for all facilities, the policies of focus in this study did not display the ability to address contextual differences and provide guidance for effective emergency care in various settings. A system of emergency care that identifies facilities with greater capacity for emergency care and acknowledges the contextual variations between facilities is needed. Instead of placing standard requirements on every facility, facilities should be assessed according to their contextual need and capacity, and those with a greater capacity should be strengthened. This will result in the development of a system of emergency care where identified facilities can be strengthened, and a consolidated system established. In the current health system, emergency care as a specialist practice is not found in the PHC setting. There is no coordinated system of emergency care that interfaces between all levels of the health care system. The need for "coming to terms with who we are" has been highlighted and a model that is appropriate for our context is needed.

6.2.3 Content

The policy dynamics were explored as a basis for understanding the content. The history of the District Health System paints a backdrop of inequity and unjust restricted access to health care for a large majority of the population. Post-Apartheid, the overall goal of improving access to health and ensuring equitable distribution of resources is a key objective of the National Department of Health. Equitable access is therefore an underpinning principle for the way all health policy is written. **The implications of the emphasis on access to health care, however, has led to a skewed focus on the structural domain of quality care improvement, leaving the domains of process and outcomes wanting.** This approach yielded a comprehensive framework that integrates well with the current system and historical policy focus. Standards are important to ensure a benchmark for the requirements of service deliver. However, this focus should not exclude the detail required for ensuring quality in the processes of service delivery.

Interviews with key informants pointed to the appropriateness of this policy approach as being questionable. The policies guiding the system focus on developing and ensuring adherence to certain standards and criteria. A standards approach, however, is not sufficient for directing a service platform, as processes and nuances of that service are not detailed. There was a general sense of a lack of emphasis on emergency care within the content of the policies informing the District Health Care System. Positively, the policy requirements highlighted the need to procure emergency equipment. However, the content was also viewed as time consuming, an endless checklist of requirements, with a questionable impact on the quality of care. The concept of improving access to health care, and more specifically emergency care, is not enough if the quality of care is not considered. Increasing access points to emergency care without strengthening the emergency care service itself does not improve patient outcomes.

The document analysis highlighted emergency care and disaster management as an additional service to the package of services offered at District Health facilities. **The content focuses largely on the requirements for emergency equipment, emergency drugs and a designated emergency area, as well as a disaster plan displayed.** The scope of requirements for emergency care is limited to the availability of these physical requirements or standards. Detail related to emergency care processes is insufficient. Emergency care is seen as an addendum to services offered at PHC facilities.

6.2.4 Process

The processes involved in providing emergency care at district healthcare facilities varied amongst facilities and providers. The capacity to stabilize and transfer a patient was concerning as many practitioners described the various challenges they faced. One of the challenges commonly identified was with the current referral system. **The referral system within the District Heath Care System, while documented on paper is described as unclear or dysfunctional.** A major hindrance in the referral system was the poor response time of emergency medical services for transportation to higher level facilities. The relationship between health facilities at different levels of the referral system is described as obstructive and unsupportive.

The process of emergency care rendered within each facility was also explored. **The use of standardized algorithms and guidelines while encouraged is not always compulsory.** The requirement for evidence of disaster planning and a triage system without detail on the process, is considered insufficient to effectively direct these very important aspects of emergency care.

Triage at PHC facilities as described by participants, key informants as well as the requirements for triage indicated in the policy are not in keeping with best practices in emergency care. Guidance for all these important aspects of emergency care is absent in the policies.

These process challenges speak directly to the effectiveness of the policy. The effectiveness of the policy in relation to emergency care can only be meaningfully evaluated if performance indicators are clearly defined and applied. The extent to which a policy fulfills its intended objectives is known as implementation fidelity (Carroll et al., 2007).

Assessing implementation fidelity is a challenge for policy makers when monitoring and evaluation of the effectiveness of a policy is not carefully conducted. **The policy approach employed in the District Health Care system does not yield data that can indicate the quality of emergency care at this level including information on the health care outcomes directly related to emergency care are not available, and therefore evaluation is not reliable.** The collection and analysis of meaningful data is needed. Key informants and interviewees also cited numerous challenges with adhering the requirements of the policy. It is noted that the policy has achieved the goal of creating awareness about the importance of the procurement for the structural requirements for effective emergency care. However, in contrast to the intention, there were some examples described of achieving the policy requirements for accreditation but this having no effect on the quality of care or patient outcomes. Challenges with resources, funding and availability of equipment become hindrances for management to ensure compliance with the set requirements. Managers called for collaborative planning for the requirements and allocation of resources and transparency in the processes of procurement and budgeting.

6.3 Recommendations

Based on the major findings described, table 6.1 summarises the evaluative conclusion, weakness and strengths identified for each major finding. Based on these, recommendations were developed.

Table 6.1 Summary of findings: Actors

Evaluative Conclusion	Strength	Weakness
Actors		
Health care practitioners who deal with emergencies at PHC	The demand in emergency care creates an opportunity for PHC	PHC practitioners are left feeling unsupported and

facilities generally feel overwhelmed and unprepared to effectively manage emergency cases.	practitioners to develop autonomy and independence in their practice when dealing with emergencies at this level.	isolated, and become overwhelmed with the limited capacity they have for dealing with emergencies at this level.
The functional ability and performance of the emergency team is questionable as participants describe their challenges with the lack of competency of team members and lack of training in emergency care.	There is an overall positive view of the cohesion of teamwork when managing emergencies at a PHC facility.	Lack of competency and skills leads to frustration within the team and the roles of team members need to be clarified.
The findings of all data sources highlighted the need for training in emergency skills and consultative support.	There is an expressed keenness and desire to learn emergency care skills from PHC practitioners.	Access to training and relevance of the current training requirements to the context is lacking.
In the policy development process, a gap was identified with regard to emergency care as there was no consultation with or contribution from emergency medicine practitioners as experts in this field.	Emergency medical services has been given a platform in the form of a national office indicating a move towards strengthening emergency care nationally.	Agenda setting in policy making and policy directives lies with political authorities and specialist emergency medicine practitioners have not been included in the process.
The role of emergency medical services and emergency medicine needs to be clarified and collaboration between the two services is needed.	Emergency medicine and emergency medical services are established fields of practice.	Stakeholders in emergency care including emergency medical services and emergency medicine operate in silos with very little collaboration and therefore poor integration with the District Health Care system.
There is currently no national, provincial or district level leadership for emergency care in South Africa.	Emergency care has been identified as a need arising at all levels of care and across all disciplines of health care.	There is no oversight and coordination for the full spectrum of emergency care.

Recommendations deduced from actor findings include:

1. Emergency skills training is required for all health care practitioners working at District Health care facilities.
2. Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner.
3. A strategy for placement of specialised emergency care practitioners needs to be developed to include the district health care system as a setting for their practice.
4. The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.
5. A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.
6. Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.
7. The office of emergency medical services should work in collaboration with the office of emergency care services to ensure an integrated approach to emergency care.

Table 6.2 Summary of findings: Context

Evaluative Conclusion	Strength	Weakness
Context		
Contextual differences between facility settings and levels of care are important considerations in policy development, however, contextual nuances were not addressed in the policies informing emergency care in the PHC setting.	The District Health Care system is a well-established three-tiered system providing important health care at a community level and is therefore an access point for emergency care.	Nuances in various contexts are not appreciated or considered in the current policy requirements and are therefore not always contextually appropriate. The capacity to offer emergency care of facilities in different settings has is not considered.
A resounding frustration from health care workers and managers, regardless of context, was the inadequate and sometimes inappropriate	The District Health Care system offers emergency care at community level, ensuring a broad coverage in access to emergency care.	PHC facilities are overwhelmed indicating poor planning and under resourcing for emergency care at this level.

availability of emergency equipment and emergency drugs.		
The hierarchical context of the District Health Care system was a source of frustration for many participants, with a lack of transparency in decision making and no understanding for "what's happening on the ground" cited as major challenges with District and Provincial level management.	There is an idealistic expectation that all facilities should be capacitated equally to offer emergency care.	There is mistrust and disjoint between district level management and the practical context of PHC facilities.

Recommendations deduced from context findings include:

8. Policy requirements and standards should address the variations in context between facilities and provide appropriate direction for these different levels of care.
9. A multi-level emergency network or system that coordinates emergency care at all levels is needed.
10. A consolidation of emergency care centres should be conducted to identify facilities within the district health care system that have greater capacity to manage complicated emergencies, while lower-level facilities are empowered to stabilise and refer.

Table 6.3 Summary of findings: Content

Evaluative Conclusion	Strength	Weakness
Content		
The policy focus on equitable access to health care has led to an imbalanced prioritisation with the structural domain of quality care improvement, leaving the domains of process and outcomes wanting.	The guiding policy is a comprehensive framework that integrates well with the current system and preceding policies.	The policy approach emphasizes standards and criteria without providing the detail required to guide processes and monitor outcomes.

The content focuses largely on the requirements for emergency equipment, emergency drugs and a designated emergency area, as well as a disaster plan displayed.	The policy requirements are clear and specific and create an awareness of the need for creating capacity for emergency care at a PHC level.	A criterion-based approach leads to a tick-list exercise which is not focused on improving quality of care. Quality if care is not measurable due to the lack of meaningful data indicators.

Recommendations deduced from content findings include:

11. A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.
12. The approach to policy should be reconsidered: The content of a national emergency strategy should emphasise the processes and quality of the service and not only the physical requirements.

Table 6.4 Summary of findings: Process

Evaluative Conclusion	Strength	Weakness
Process		
The referral system within the District Heath Care System, while documented on paper was described as unclear or non-functional.	The referral system is well documented and all PHC practitioners and key informants are aware of the current system of referral.	Implementation of the referral system is poor, with challenges in the collaboration between facilities, lack of understanding of the system from various stakeholders and poor support with specific regard to emergency medical services.
The use of standardized algorithms and guidelines while encouraged was not always compulsory.	Clinical practice in PHC is guided by the Adult Primary Care guideline which makes use of an algorithmic syndromic approach – this approach aligns well with the best practices in emergency care.	Competency in clinical skills related to emergency care is lacking however guidelines and algorithms are not always used to guide clinical judgement. The process of triage is not in line with best

		practice guidelines for emergency care.
The policy approach employed in the District Health Care system does not yield data that can indicate the quality of emergency care at this level including information on the health care outcomes directly related to emergency care are not available, and therefore evaluation is not reliable.	The policy requirements yield statistical data on PHC facilities' ability to meet structural the standards for emergency care.	There is no data available for evaluating the processes involved in emergency care in PHC facilities.

Recommendations deduced from these findings include:

13. The development of a system for data collection regarding emergency care is needed to provide feedback on the efficiency and effectiveness of the service.
14. A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.

6.4 Summary

Emergency care at the district health system has not been prioritized in the policies that inform care at this level. There is an encouraging desire and call from healthcare practitioners for ongoing training and the desire to be capacitated to offer effective emergency care. This strength should be harnessed by ensuring that an emergency care training programme is available for health care practitioners practicing in district healthcare facilities. There is also an impassioned plea and willingness of experts in emergency medical services and emergency care to contribute to the development of an effective, appropriate strategy for an emergency care system. The strength of the policy approach and emergency care at this level synonymously lies in the emphasis in the need for the availability of the structural requirements to effectively offer emergency care. This includes the weighted requirements for facilities to ensure the supply and maintenance of emergency equipment, infrastructure and drugs.

This has not necessarily resulted in the achievement of this goal. A major weakness in the policy is the lack of emphasis on the processes required for the effective running of this service and the ability to measure outcomes and evaluate the care. There is a need for a nationally coordinated effort to ensure that emergency care is integrated at all levels of care. This will ensure that a strong network of support is established for a well-functioning emergency care system. Emergency medicine and experts in the field have not been involved in the development of the policies. The need for collaboration and contribution from these experts is needed along with the strategic placement of experts in emergency care within the district health care system. Based on the major findings and identified strengths and weaknesses, recommendations were proposed. The recommendations that have been developed will be validated using a consensus building technique by key informants in the next phase of the study.

CHAPTER 7

PHASE 2: DEVELOPMENT AND VALIDATION OF RECOMMENDATIONS - A DELPHI STUDY

7.1 Introduction

The recommendations arising from the evaluative conclusions drawn from the major findings from the policy analysis process were subjected to a consensus building process in order to meet the objective of validating the recommendations. Fourteen deductively formulated recommendation statements using a Delphi study. The statements formulated were set as items in a questionnaire. The questionnaire requested the participants to rate their level of agreement with each statement with the purpose of reaching consensus for the recommendations made.

This chapter presents the results of the Delphi study with the view to provide consensus- based recommendations to strengthen the system of emergency at a District Health Care level. In identifying the strengths and weaknesses of the system, recommendations were formulated which relate directly to the data yielded from the policy analysis.

The Delphi technique improves the rigor of the study findings as it is an iterative process and form of member checking. Validation by experts in the field who represent various stakeholders in the policy process, ensures that recommendations are relevant and representative of the data.

Analysis of the data included a description of the demographic characteristics of participants, as well as the determination of the level of consensus among study participants regarding the recommendations proposed to strengthen emergency care at a District Health Care level. The reliability of the Delphi study scale is also reported.

Consensus was set at 80% of participants answering either “agree or strongly agree” or “disagree or strongly disagree” and was reported using measures of central tendency and distribution analysis. Open-ended comments were analysed using latent and manifest qualitative content analysis and discussed with the findings. Findings from round one informed the review of the recommendation statements and changes were made to the statements. NO additions or removal of statements was required. The amended statements were re-rated in round two of the Delphi study. A summary of the Delphi study process is presented in Figure 7.1.

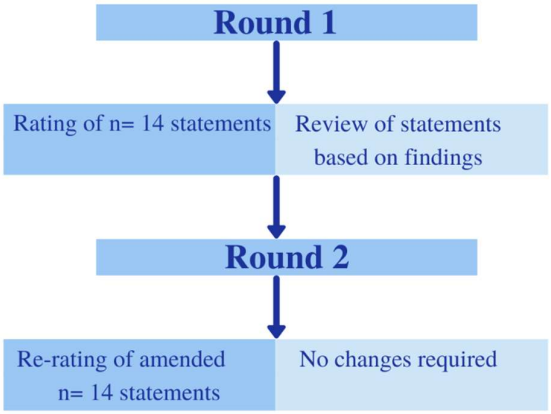

Figure 7.1 Illustration of Delphi Study Process

Flow diagram illustrating the two survey rounds. No statements were removed or added, amended statements were re-rated in round two.

7.2 Format of results presentation

The results will be presented in the following format:

Presentation of demographic characteristics of participants

Presentation of results: Round 1

- Presentation the reliability coefficient for the questionnaire;
- Presentation of the results of the survey using measures of mean scores and standard deviation;
- Presentation of level of consensus;
- Presentation of open-ended comments.

The analysis of open-ended comments was used to inform the review of the recommendation statements. Suggestions or comments were considered carefully and formed the basis for any changes made to the recommendations, which were included in the second round of the Delphi study.

Presentation of results: Round 2

- Presentation the reliability coefficient for the questionnaire;

- Presentation of the results of the survey using measures of mean scores and standard deviation;
- Presentation of level of consensus;
- Presentation of open-ended comments.

7.3 Presentation of demographic characteristics of participants

Ten key informants who participated in the study in phase one were invited to participate in the Delphi study. These key informants were selected as experts in their field of practice and their experience in either one of the three cross cutting fields, as outlined in chapter three. These fields included District Health Care, Emergency Care and Policy development. Demographic characteristics are presented for the purpose of tracking response rate and describing the characteristics of the responsive population. A discussion of the implications of the demographic characteristics of this cohort of participants has been presented in detail in the previous chapter.

Table 7.1 below shows the summary statistics for the demographic characteristics of the participants. A total of nine respondents (n=9) participated in round one of the Delphi study resulting in a 90% response rate. The majority of the participants were male (77.78%). More than half of the participants were between the age 50-59 years (55.56%); 66.67% had a Master's degree and most of the participants had between 21 and30 years of experience (44.44%).

The same ten key informants who participated in round one of the Delphi study were invited to participate in the second round. A total of eight participants participated in the survey, resulting in an 80% response rate. Majority of the participants were male (75%). More than three quarters of the participants were between the age 50-59 years (87.50%). 75% had a Master's degree and majority of the study participants had between 11 -40 years of experience (75%).

Table 7.1 Demographic characteristics of the study participants (N=9)

	Round 1		Round 2	
	Frequency (n)	**Percentage (%)**	**Frequency (n)**	**Percentage (%)**
Gender				
Female	2	22.22	2	25.00
Male	7	77.78	6	75.00
Race				
Black	3	33.33	3	37.50
White	4	44.44	4	50.00
Indian	1	11.11	1	12.50
Coloured	1	11.11	0	0
Other	1	11.11	0	0
Age				
30-39	1	11.11	1	12.50
40-49	1	11.11	1	12.50
50-59	5	55.56	5	87.50
60-69	1	11.11	0	0
70-79	1	11.11	1	12.50
Field of expertise				
Policy maker	2	22.22	1	12.50
Emergency Medical Services	2	22.22	2	25.00
Emergency Medicine	2	22.22	2	25.00
District Health Care	3	33.33	3	37.50
Management	0	0	0	0
Qualification				
Basic Clinical Degree	0	11.11	0	0
Post graduate diploma	2	66.67	0	0
Masters Degree	6	22.22	6	75.00
PhD	1	0	2	25.00
Years of experience				
1-10 years	1	11.11	1	12.50
11-20 years	2	22.22	2	25.00
21-30 years	4	44.44	2	25.00
31-40 years	1	11.11	2	25.00
40 years and above	1	11.11	1	12.50

7.4 Presentation of results: Round 1

7.4.1 Internal consistency of the Delphi scale recommendations - Round 1

The Cronbach alpha test revealed a reliability coefficient of 0.72 showing good internal consistency of the Delphi scale, meaning participants were likely to be consistent in their responses to internal recommendations to strengthen emergency care. Hence, the Delphi scale can be regarded as a reliable scale in this study population.

7.4.2 Participant responses to recommendations to strengthen emergency care in the District Health Care System – Round 1

Table 7.2 shows the proportions of responses to each recommendation on the Delphi scale. For all fourteen recommendations, the highest proportion of responses was either “agree” or “strongly agree”. For each of the recommendations on the Delphi scale. The Shapiro Wilk test produces a p-value of less than 0.05, indicating that the data were normally distributed.

Table 7.2 Summary statistics of participant responses to recommendations to strengthen emergency care in a District care system (N=9)

	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
Recommendations	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Emergency skills training is required for all health care practitioners working at District Health Care facilities.	0	0	2 (22.22)	7 (77.48)
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner	0	1 (11.11)	3 (33.33)	5 (55.56)
A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	0	1 (11.11)	2 (22.22)	6 (66.67)
The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.	0	0	7 (77.78)	2 (22.22)
A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	0	0	3 (33.33)	6 (66.67)
The office of emergency medical services should work in collaboration with the office of emergency care services to ensure an integrated approach to emergency care.	0	1 (11.11)	5 (55.56)	3 (33.33)
Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	0	0	6 (66.67)	3 (33.33)
A multi-level emergency network or system that coordinates emergency care at all levels is needed.	0	0	3 (33.33)	6 (66.67)
A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.	0	0	3 (33.33)	6 (66.67)
A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to	0	0	2 (22.27)	7 (77.78)

manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.				
A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	0	0	4 (44.44)	5 (55.56)
The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements.	0	0	5 (55.56)	4 (44.44)
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service	0	0	4 (44.44)	5 (55.56)
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.	0	0	4 (44.44)	5 (55.56)

The mean for each of the recommendations indicates that participants were likely to agree to each recommendation with a standard deviation of less than one showing little variation in their responses. Table 7.3 shows the distribution of responses to the recommendations on the Delphi scale.

Table 7.3 Distribution of responses on recommendations to strengthen emergency care in the District Health Care system

Recommendations	Mean	SD
Emergency skills training is required for all health care practitioners working at District Health Care facilities.	3.78	0.44
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner	3.44	0.73
A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	3.56	0.73
The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.	3.22	0.73
A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	3.67	0.44
The office of emergency medical services should work in collaboration with the office of emergency care services to ensure an integrated approach to emergency care.	3.22	0.50
Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	3.33	0.67
A multi-level emergency network or system that coordinates emergency care at all levels is needed.	3.67	0.50
A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.	3.67	0.50
A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	3.78	0.50

A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	3.56	0.44
The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements	3.44	0.53
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the Service	3.55	0.53
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.	3.56	0.53

7.4.3 Consensus on recommendations strengthen emergency care in the District Health Care system - Round 1

A high consensus was reached on agreeing with each of the recommendations on the Delphi Scale and the overall agreement level was 97.61% indicating that consensus has been achieved in this round. Table 7.4 depicts the consensus agreement levels for each recommendation.

Table 7.4 Consensus on recommendations to strengthen emergency care in a District Health Care system

	Disagree & strongly disagree	**Agree & strongly agree**
Recommendations	**%**	**%**
Emergency skills training is required for all health care practitioners working at District Health Care facilities.	0	100
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner	11.11	88.89
A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	11.11	88.89
The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.	0	100

A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	0	100
The office of emergency medical services should work in collaboration with the office of emergency care services to ensure an integrated approach to emergency care.	11.11	88.89
Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	0	100
A multi-level emergency network or system that coordinates emergency care at all levels is needed.	0	100
A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.	0	100
A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	0	100
A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	0	100
The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements	0	100
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the Service	0	100
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.	0	100
Overall consensus		97.61%

7.5 Open-ended Comments

In their responses to each recommendation, 44.44% (n=4) of the participants included open-ended comments in round 1. These comments (Annexure 19) provided additional insight into the responses of participants and suggestions for the modification of certain statements were made. In round 2 open-ended comments were included in the responses of 37.5% (n=3) of the

participants. These comments (Annexure 21) provided additional insight into the responses of participants and comments were integrated into the discussion of the recommendations.

7.5.1 Presentation of open-ended comments – Round 1

1. Emergency skills training is required for all health care practitioners working at District Health care facilities.

Three participants provided open-ended comments for this recommendation. Using manifest content analysis, the theme of "immediacy of care" was identified. This refers to the need to equip PHC practitioners with the skills to provide efficient urgent care to patients in need of emergency care. The ability to stabilize the patient at the first point of contact is dependent on various factors including the competency of the health care provider in recognizing and intervening promptly in emergency situations.

2. Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner.

Two participants responded with comments to this recommendation. With no patterns in the comments, the interpreted meaning highlights the importance of training being relevant to the context to ensure application of the knowledge with the result of improved clinical response and patient outcomes.

3. A strategy for placement of specialised emergency care practitioners needs to be developed to include the district health care system as a setting for their practice.

Open-ended comments from two participants highlighted that an example of the implementation of such a strategy exists in another province with evidence of improved outcomes. Clarity in the roles and boundaries of emergency care in the District Health Care system must be provided.

4. The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.

Two participants similarly emphasized that under the umbrella of emergency care, emergency medical services and emergency medicine have overlapping boundaries. Roles must be clarified in order to foster good collaboration between the service providers.

5. A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.

Two participants provided comments on this recommendation. Leadership that oversees the full spectrum of emergency care is vital and may be justified by the contribution that effective emergency care makes to the overall reduction of mortality.

6. Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.

Two Participants emphasized the need for strategic placement and creation of posts at various levels of care.

7. The office of emergency medical services should work in collaboration with an office of emergency care.

Manifest analysis of the three open-ended comments submitted for this recommendation revealed a pattern related to the need for a holistic, integrated system as opposed to the fragmentation experienced in the current emergency care system.

8. Policy requirements and standards should address the variations in context between facilities and provide appropriate direction for these different levels of care.

One comment was submitted for this recommendation, and it was suggested that the local burden of disease be considered for contextual relevance.

9. A multi-level emergency network or system that coordinates emergency care at all levels is needed.

One participant suggested that a formal international classification of diseases system be employed, the relevance of this suggestion to the recommendation proved difficult to interpret and was therefore included in the discussion of findings.

10. A consolidation of emergency care centres should be conducted to identify facilities within the district health care system that have greater capacity to manage complicated emergencies, while lower-level facilities are empowered to stabilise and refer.

One participant provided further clarification on this recommendation suggesting a grading system for determining the emergency care capacity of various facilities. The relevance of creating a system of emergency care that identifies facilities with greater capacit for emergency care and building a network of services around these facilities was suggested to have relevance in the public health care sector only. Relevance to other sectors such as private health care, was raised as a valid concern.

11. A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.

One comment was provided by a participant for this recommendation, which emphasized the urgency in the need for a national strategy.

12. The content of a national emergency strategy should emphasise the processes and quality of the service and not only the physical requirements.

One comment emphasized the need for the focus to be shifted to evaluate health outcomes in emergency care.

13. The development of a system for data collection regarding emergency care is needed to provide feedback on the efficiency and effectiveness of the service.

Two participants commented on this recommendation noting the need for a formal data collection system for both Emergency care and across the health care system.

14. A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.

Two participants highlighted the need for planning and coordination to ensure an effective referral system, and one participant noted the need to ensure that the system is patient centred.

7.5.2 Modification of statements based on open-ended comments.

While consensus was reached with an overall consensus of 97.61% and consensus agreement of above 80% for each recommendation was achieved, open-ended comments provided details and suggestions for the modification of seven of the recommendations. Modified statements were set in a second survey using the same scale and sent to participants for round two of the Delphi study. Modifications based on open-ended comments made were as follows:

Table 7.5 Modifications of Recommendation statements

Round 1	**Round 2**
Recommendations	**Recommendations**
Emergency skills training is required for all health care practitioners working at District Health Care facilities.	**Basic** emergency skills training is required for all health care practitioners working at District Health Disagree Care facilities.
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner.	No change
A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	No change.
The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.	**The role and definition of Emergency Care as an overarching system of care**, and the role and definition of Emergency Medical Services and Emergency Medicine should be clarified.
A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	No change.
The office of emergency medical services should work in collaboration with the office of emergency care services to ensure an integrated approach to emergency care.	**One office for emergency care should be established which covers the spectrum of emergency care** including emergency medical services to ensure an integrated approach to emergency care
Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	No change.

A multi-level emergency network or system that coordinates emergency care at all levels is needed.	No change.
A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.	A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and **coordinated by the emergency care office.**
A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	No change.
A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	No change.
The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements.	The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements, **with a specific focus on the health outcomes of emergency care including mortality and morbidity.**
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the Service.	The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service, **this includes the development of a diagnostic coding system.**
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.	Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended, **and therefore dedicated posts**

	for emergency specialist practitioners should be created within the District Health System.

7.5.3 Presentation of open-ended comments – Round 2

1. Basic emergency skills training is required for all health care practitioners working at District Health Disagree Care facilities.

One participant affirmed the need for this recommendation to ensure quality of the health care services.

2. Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner.

This is expected to increase the capacity of level 1 and 2 facilities for delivering emergency care.

3. A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.

The importance of specialist emergency care practitioners' integration into the PHC team, is emphasised in the comment provided.

4. The role and definition of Emergency Care as an overarching system of care, and the role and definition of Emergency Medical Services and Emergency Medicine should be clarified.

This is affirmed by the open-ended comment emphasising the need for a coordinated structure.

5. A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care system.

One participant commented in agreement with this statement echoing the importance of emergency care.

6. One office for emergency care should be established, which covers the spectrum of emergency care including emergency medical services to ensure an integrated approach to emergency care.

This will allow for improved supervision and management of the services as proposed by one participant in agreement with this statement.

7. Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.

One comment emphasised the importance of this need which will inform training and placement of specialist practitioners.

8. A multi-level emergency network or system that coordinates emergency care at all levels is needed.

One comment relating to this statement indicated that clarity on how this will work is needed, highlighting the need for a comprehensive, clear strategy for an emergency care system.

9. A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office.

The referral process is suggested to be coordinated at a district level and be integrated into the next levels of care.

10. A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower-level facilities are empowered to stabilise and refer.

A suggestion by one participant is to ensure that all Community Health Care Centres and larger clinics should have capacity to manage emergencies.

11. A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.

Two comments were provided in agreement with this statement to ensure a proper structure that integrates well with the current system.

12. The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements, with a specific focus on the health outcomes of emergency care including mortality and morbidity.

It is suggested that a national strategy should include training guidelines.

13. The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service, this includes the development of a diagnostic coding system.

The importance of proper record keeping, and data management is important for monitoring and evaluation.

14. Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended, and therefore dedicated posts for emergency specialist practitioners should be created within the District Health System.

One participant expressed concern for the need to ensure that a collaborative is fostered.

General Comments:

The need to build the capacity of PHC practitioners is noted in one participant's response, with the input from specialist emergency practitioners employed strategically to enhance the current system.

7.6 Presentation of results: Round 1

7.6.1 Internal consistency of the Delphi scale recommendations - Round 2

The Cronbach alpha reliability coefficient was calculated as 0.88 for round two of the Delphi study, showing good internal consistency of the scale. This indicates that participants were likely to be consistent in their responses to the recommendations proposed to strengthen emergency care.

7.6.2 Participant responses to recommendations to strengthen emergency care in a

District Health Care system- Round 2

For all recommendations, the highest proportion of responses was either “agree” or “strongly agree”. Table 7.6 shows the proportions of responses to each recommendation on the round two Delphi scale.

Table 7.6 Summary statistics of participant responses to recommendations to strengthen emergency care in a District care system (N=8)

	Strongly disagree	**Disagree**	**Agree**	**Strongly agree**
Recommendations	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Basic emergency skills training is required for all health care practitioners working at District Health Disagree Care facilities.	0	0	1 (12.50)	7 (87.50)
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner	0	0	1 (12.50)	7 (87.50)
A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	0	1 (12.50)	4 (50.00)	3 (37.50)
The role and definition of Emergency Care as an overarching system of care, and the role and definition of Emergency Medical Services and Emergency Medicine should be clarified.	0	0	2 (25.00)	6 (75.00)
A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	0	0	2 (25.00)	6 (75.00)
One office for emergency care should be established which covers the spectrum of emergency care including emergency medical services to ensure an integrated approach to emergency care	0	0	4 (50.00)	4 (50.00)
Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	0	0	3 (37.50)	5(62.50)
A multi-level emergency network or system that Disagree coordinates emergency care at all levels is needed.	0	1 (12.50)	3 (37.50)	4 (50.00)
A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office	0	0	6 (75.00)	2 (25.00)

A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	0	0	4 (50.00)	4 (50.00)
A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	0	0	2 (25.00)	6 (75.00)
The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements, with a specific focus on the health outcomes of emergency care including mortality and morbidity.	0	0	3 (37.50)	5(62.50)
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service, this includes the development of a diagnostic coding system.	0	0	3 (37.50)	5(62.50)
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended, and therefore dedicated posts for emergency specialist practitioners should be created within the District Health System.	0	0	6 (75.00)	2 (25.00)

For each of the recommendations on the Delphi scale in round two, the Shapiro Wilk test produced a p-value of less than 0.05 showing that the data were normally distributed. The means and standard deviations for each of the recommendation responses are presented in Table 7.8. The mean for each of the recommendations indicates that participants were likely to agree to each recommendation with a standard deviation of less than 1 showing little variation in responses to the recommendations.

Table 7.7 Distribution of responses on recommendations to strengthen emergency care in a District care system.

Recommendations	Mean	SD
Basic emergency skills training is required for all health care practitioners working at District Health Disagree Care facilities.	3.88	0.35
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner.	3.88	0.35
A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	3.25	0.70
The role and definition of Emergency Care as an overarching system of care, and the role and definition of Emergency Medical Services and Emergency Medicine should be clarified.	3.75	0.46
A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	3.75	0.46
One office for emergency care should be established which covers the spectrum of emergency care including emergency medical services to ensure an integrated approach to emergency care.	3.50	0.53
Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	3.63	0.52
A multi-level emergency network or system that Disagree coordinates emergency care at all levels is needed.	3.38	0.74
A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office.	3.25	0.74

A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	3.50	0.53
A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	3.75	0.46
The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements, with a specific focus on the health outcomes of emergency care including mortality and morbidity.	3.63	0.52
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service, this includes the development of a diagnostic coding system.	3.63	0.52
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended, and therefore dedicated posts for emergency specialist practitioners should be created within the District Health System.	3.25	0.46

7.6.3 Consensus on recommendations to strengthen emergency care in a District care system - Round 2

There was an overall improvement in consensus from round one (97.61%) to round two (98.21%). Nine of the 14 recommendations (64.28%) had increased mean scores in round two while others remained unchanged or decreased but still remained within a standard deviation of less than one. Table 7.9 indicates the high consensus reached on agreeing with each of the recommendations on the Delphi Scale.

Table 7.8 Consensus on recommendations to strengthen emergency care in a District care system

	Disagree & strongly disagree	**Agree & strongly agree**
Recommendations	**%**	**%**
Basic emergency skills training is required for all health care practitioners working at District Health Disagree Care facilities.	0	100
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner	0	100

A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	1 (12.50)	7 (87.50)
The role and definition of Emergency Care as an overarching system of care, and the role and definition of Emergency Medical Services and Emergency Medicine should be clarified.	0	100
A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	0	100
One office for emergency care should be established which covers the spectrum of emergency care including emergency medical services to ensure an integrated approach to emergency care	0	100
Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	0	100
A multi-level emergency network or system that Disagree coordinates emergency care at all levels is needed.	1 (12.50)	7 (87.50)
A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office	0	100
A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	0	100
A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	0	100
The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements, with a specific focus on the health outcomes of emergency care including mortality and morbidity.	0	100
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service, this includes the development of a diagnostic coding system.	0	100
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended, and therefore dedicated posts for emergency specialist practitioners should be created within the District Health System.	0	100
Overall Consensus		**98.21%**

7.7 Discussion of Results

The recommendations proposed cover various aspects in need of improvement in the emergency care system. These broad areas include education and training, the role and placement of various actors, the need for leadership in emergency care and the need for a national strategy for emergency care. Recommendations are grouped according to the area they address and discussed accordingly.

7.7.1 Education and training in emergency care

Recommendation 1 suggested that basic emergency skills training is required for all health care practitioners working at District Health Care facilities. This recommendation reached consensus at 100% agreement.

The need for training in basic emergency skills for health care professionals was echoed in every source of data in this study. Health care professionals, policy makers, emergency specialist practitioners and the content of policy itself, all call for the equipping of all levels of health care workers in basic emergency skills. The high level of agreement and consensus (100%) and standard deviation of less than 0.5 indicates a unanimous call for training.

Open-ended comments suggested that the capacity for basic stabilisation would improve health outcomes. Capacitation is directly linked to the education and training of the health workforce (Nyhus & Kamara, 2017).

The expectation for any district health care facility from its most basic package of services to the district level hospital is that there is the capacity to stabilise any acutely ill or injured patient and refer to the appropriate next level facility (*Ideal Clinic Manual Version 18*, 2018; Mojaki et al., 2011b). While resources have been identified as a challenge in certain contexts, the allocation of resources becomes redundant without appropriately trained personnel to utilise the emergency equipment effectively. Access to emergency care cannot be realised without training of health care professionals (Burkholder et al., 2019).

Emergency skills are part of most basic health care educational curricula, however, the skills acquired are not retained in settings where emergency care is not the focal service offered. A study conducted in various African countries predicted that the duration of skill retention does not extend beyond 12 months (Ameh et al., 2018). Continuous educational drives are required. The Ideal Clinic Framework requires facilities to ensure that all health care professionals have an updated Basic Life Support certification, however, the realisation of this requirement has

proved problematic and removes the responsibility from the health care professional who relies on management to create opportunities for training. The main findings indicate that funding and opportunities made available by the provincial department of health are scarce. A national plan for ensuring that all health care professionals are kept updated with basic emergency skills is needed. Whether by means of a continuous professional development requirement or a facility-based accreditation requirement, there should be a drive towards making emergency training compulsory.

District Health Care facilities offer a spectrum of PHC services under which emergency care is not the focus, but rather the emphasis is placed on preventative medicine and management of chronic disease (Calvello et al., 2013). While this focus is valid, it does not negate the need for the capacity to offer basic emergency care and therefore continuous emergency care training is needed to ensure the retention of skills.

While basic emergency skills are a necessity for any health service, the training needs may vary according to the context and qualification of the health care professional. The educational needs of health care professionals differ in various settings (Kidd et al., 2012).

Recommendation 2 highlights the need for emergency skills training to be context specific and appropriate for the scope and capacity of the health care practitioner. PHC facilities differ from higher level emergency departments in infrastructure, skills mix, culture and the type of emergencies seen.

High quality, contextually relevant training is a recommendation that has reached consensus at 88.89% agreement and a standard deviation less than 1 indicating agreement. Open-ended statements included the concern for the development of an educational strategy that would be applicable to the South African, PHC context.

Like many LMIC's, and in particular Sub-Saharan Africa, nurses without postgraduate training make up the largest portion of our health workforce (Jaeger et al., 2018). It has been particularly useful to understand the international literature on emergency care in rural health care facilities even though not all contexts in the District Health Care system are classified as rural, there exists many similarities.

Nurses in primary health care and rural facilities practice in resource constrained settings with little or no formal training in emergency skills and yet they often manage acutely ill and injured patients independently (Baker & Dawson, 2014; Jaeger et al., 2018). A study exploring the

experiences of general nurses in rural Australia highlighted the vast spectrum of services offered at these facilities making the spectrum of types of emergencies just as broad (Kidd et al., 2012). As a result, nurses must be prepared for many different situations in a setting very different to the ideal emergency department setting. In response to the call for contextually relevant emergency skills training, many countries have developed specific courses for their rural contexts.

Emergency skill training in rural contexts has been advocated for and as a result, courses have been developed for this purpose in various international contexts; however, a once off course is not sufficient, there is a need to develop a system of continuous education (Schubert et al., 2018). The retention of skills post emergency training has also been highlighted due to the inconsistency of exposure to emergencies in these settings. Various strategies for rotation and exposure have been trialled to ensure that health care professionals are able to practice and retain emergency skills, however, the experiences of nurses have called for a different approach (Kidd et al., 2012).

The use of education technology such as simulation and blended learning approaches may assist in providing immersive experiences for health care professionals practicing in areas where exposure to emergencies is not sufficient to retain the skills required (Gutenstein et al., 2019). The application of this kind of model should be carefully considered as often access to educational technology is limited to better resourced areas (Gutenstein et al., 2019). Training networks and partnerships may assist in knowledge and resource sharing without negating the context specific needs of primary health care settings.

Emergency skills training must not only be contextually relevant but must also be appropriate for the level and qualification of the health care professional. While it is vital that primary health care practitioners are equipped with specialised skills, often beyond their basic training to equip them for dealing with emergencies, there must still be a level of accountability and supervision. The opportunity for upskilling health care professionals must be balanced with the concept of task shifting and exploitation of lower-level health care workers (Jaeger et al., 2018). Therefore, emergency skills training should be tailored. The gap between basic emergency skills and specialist practice is not clearly defined in the literature and this grey area leaves practitioners uncertain of their scope and makes the objectives of training difficult to define. Ideally, the mentorship and consultation of specialist emergency practitioners with general primary health care practitioners would assist in closing this gap, but due to the scarcity of

specialist emergency practitioners this is not always possible. This therefore highlights the need for an increase in the training of specialist emergency practitioners – in emergency medicine and emergency nursing (Nyhus & Kamara, 2017; Wolf et al., 2012).

A holistic view of the emergency care system would assist in the development of a relevant, contextually appropriate strategy for emergency skills training.

7.7.2 The role and placement of various actors

The District Health Care system is a platform for the delivery of PHC services. The staffing of this system consists mainly of general nurses and doctors. Specialty practice in this setting includes that nurses who have acquired a postgraduate qualification in PHC and doctors who have specialized in the field of Family Medicine (*District Clinical Specialist Teams in South Africa Ministerial Task Team Report to the Honourable Minister of Health*, 2014). The District Health Care system has employed a District Specialist Team for the purpose of oversight for each district. The team consists of members from various disciplines including a "family physician, a primary health care nurse, an obstetrician and gynaecologist, an advanced midwife, a paediatrician and a paediatric nurse". The addition of an anaesthetist was included for the oversight of medical emergencies and perioperative care in surgical cases (*District Clinical Specialist Teams in South Africa Ministerial Task Team Report to the Honourable Minister of Health*, 2014).

The team is intended to be led by the family physician and the primary health care nurse as PHC is the focus of care. In alignment with the Sustainable Development Goals, maternal and child-care have been included as a priority (World Health Organization & United Nations Children's Fund (UNICEF), 2018).

The decision to include an anaesthetist to oversee emergency care is one of notable concern. While anaesthetists are often included as a vital part of the emergency multidisciplinary team, the expertise in emergency care lie with the emergency care practitioner. Emergency care is a distinct field of medical and nursing practice with a different approach to anaesthesia. Contribution from an emergency care practitioner should have been included in the oversight of medical emergencies.

One of the key responsibilities of team members is to develop and ensure adherence to discipline specific standards within the District Health Care System (*District Clinical Specialist Teams in South Africa Ministerial Task Team Report to the Honourable Minister of*

Health, 2014). The void in contribution from emergency care experts is evident in in the inadequate standards for emergency care and lack of co-ordinated planning for this discipline.

There is a need for the District Health Care System to create a platform for the contribution of specialist emergency practitioners. A study exploring the rural health care system of America proposed a model of partnership between rural health and emergency medicine (Greenwood-Ericksen et al., 2017). While this model appreciates the need for the contribution of emergency medicine in primary health care, it does not allow for the fostering of an integrated system.

A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice is ***Recommendation 3.*** This proposed recommendation reached an agreement level of 87.5%.

Open-ended comments suggested the need for the creation of posts specifically for emergency practitioners within the District Health Care System. While there was some disagreement (n=11.11%) with this recommendation it is considered important that this specialty be included in the system of care in order to have the most impact. There is a concern, however, that the scarcity of practitioners in this field would lead to vacant posts. A strategic plan for national emergency care should therefore include a strategy for the placement of specialist emergency nurses and doctors within the District Health Care system and increase the training of specialists in this field (Wolf et al., 2012). The skills set offered by these practitioners will increase health outcomes and decrease the burden of disease caused by acute illness and injury (Burkholder et al., 2019).

Role clarity and definition is vital for a functional system of care. In particular, the role and scope of the emergency care system and the network of stakeholders included in this system has not always been clear (Calvello et al., 2013). Emergency Care and Acute care while very similar in definition have been debated but often used interchangeably (Calvello et al., 2013). For the purpose of this study the term emergency care is used to describe the system of care used to deliver care to patients with acute illness or injury. An emergency care system is a network of service providers covering the spectrum of care from pre-hospital care, stabilisation and referral, and definitive or curative care.

Recommendation 4 identified the need for the role and definition of Emergency Care as an overarching system of care, and the role and definition of Emergency Medical Services and Emergency Medicine to be clarified.

The key stakeholders in the network of emergency care, include emergency medical services whose focus is on pre-hospital care and inter-hospital transfer with the goal of getting a patient to the appropriate facility for care. The focus of emergency medical services also includes the responsibility of disaster preparedness and response (Mehmood et al., 2018). The scope of emergency medicine includes that of prehospital care and disaster management but has its focus largely on in-facility care (Reynolds et al., 2017). In South Africa the scope of these specialty fields has not been determined or recognised in health care policy. The term "Emergency Health Services" is used broadly to evaluate emergency care in the latest South African Health Review (*South African Health Review 2018*, 2018). The use of this undefined terminology results in a lack of accountability as clarity in roles and responsibilities are not clearly defined.

Emergency medicine and emergency nursing by comparison with various other specialities, are both new and developing fields of practice in many sub-Saharan countries and therefore their place in the health system is not defined (Nyhus & Kamara, 2017). In order to coordinate a well-functioning system of emergency care these terms and roles must be defined and acknowledged by policy. Participants agreed with this recommendation and consensus reached 100%.

7.7.3 Leadership in emergency care

Recommendation 5 stated that a position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System. Consensus was achieved at 100% agreement for this recommendation with all participants agreeing that there is a need for leadership that is recognised at a national level.

Health care leadership has become a growing need in health care systems globally (Sonnino, 2016). The ability to coordinate complex systems and empower people to achieve set goals has become emphasised above the managerial skills previously needed for management in health care (Sonnino, 2016). A leader should possess the ability to understand systems and the complexities of health care while developing and driving forward a vision.

Without a champion for a cause, agenda setting for decision making and policy development is left to the prerogative of the bureaucratic authority such as ministerial teams and government officials (Sheikh & Porter, 2010). Clinicians need to be included in the process of agenda setting, and national leadership is needed to ensure integration with the national health care system goals and structures. This requires the national government to create a platform for the

leader to operate and contribute effectively. The development of a system of emergency care requires not only oversight and coordination but vision and championship.

The concept of a champion is commonly used in implementation science and is defined as a person dedicated to driving forward a cause or change within an organisation (Powell et al., 2015). The use of champions in health care have been used in various drives for quality improvement, but also involves the role of advocacy and monitoring the implementation of a strategy (Goedken et al., 2019). A position of national leadership for emergency care should be held by someone who possesses the qualities and who is tasked with the responsibilities as a champion for emergency care – advocating for and driving forward the cause of emergency care to become a priority in the health care system.

Similarly, ***Recommendation 14*** highlighted the need for leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies, and therefore dedicated posts for emergency specialist practitioners are needed within the District Health Care System.

National leadership would require a team of people at different levels of the health care system in order to implement a multi-level strategy for emergency care, inclusive of Primary, secondary and tertiary level health care facilities. While specialist emergency practitioners are more commonly employed in secondary and tertiary level hospitals, they are scarcely found in District Health facilities and therefore posts should be created for the specific clinical governance and championing of emergency care at this level.

An office of emergency care without the support of clinicians and clinical governance would be redundant and hold theoretical value without the capacity to extend reach to the District health facilities in need of support and mentorship in emergency care. The Human Resource for Health strategy for South Africa in 2013-2017 identified the employment of clinical associates at district level facilities to offer emergency care and various definitive procedures for acutely ill or injured patients (National Department of Health, 2011b). This proposal has not been followed through in the Human Resources for Health Strategy for 2030 where there is no clear plan for the expansion or development of this field of health care practitioner (National Department of Health, 2020). In terms of staffing, emergency care is narrowly allocated to the category of emergency services and ambulance related workers. Mentorship, and specialised training for clinicians in district facilities dealing with emergencies has not been planned for. In particular, there is a noticeable silence in the policies regarding the role of

the new cadre of health professionals in South Africa, the Clinical Associates. Clinical Associates possess the skills and scope to play a key role in frontline emergency care at a primary health care level with the relevant supervision and leadership (Louw Murray et al., 2019). Their contribution to the emergency care system must be emphasised and strategically included to optimise the value they add to the system.

The role of the emergency nurse as an advanced practitioner in a PHC setting, has not yet been clearly defined (Brysiewicz & Wallis, 2010), however, the ability to offer a leadership and support role within the district may be a consideration. As an advanced practitioner the emergency nurse's scope of practice includes leadership, clinical care and consultative support (Hill, 2017), which are attributes described as requirements for a champion for emergency care at district health care level. In a media statement by Dr Stevan Bruijns, a specialist emergency physician and lecturer, the need for an increase in training due to the existing scarcity in this field further exacerbated by a loss of skills to other countries was re-emphasised (*Emergency Medicine in SA Needs a Lifeline*, 2016). Hence, the strategic placement of these specialists is needed and training in this field must increase. By creating an expanded platform of practice, it may also increase the retention of emergency care skills in the country and encourage growth in the field.

A national government office for emergency medical services in South Africa currently exists under the leadership of the National Director for EMS. The scope of EMS includes pre-hospital care, inter-hospital transfer and disaster preparedness and response and cuts across various fields of medical practice, seen in the figure, which illustrates the context of emergency care in the health care system (Figure 2.1) (Mehmood et al., 2018). The development of this office was a positive step in the direction of establishing a national plan for emergency care however the full spectrum of care is not covered in this office. Currently, this office oversees EMS including primary response or ambulance services and disaster management. Emergency care as an over-arching system of care includes emergency medical services as well as emergency medicine and acute in-facility care within its domains, as depicted in Figure 2.2 (Hodkinson & Wallis, 2010; Reynolds et al., 2017).

The development of two separate offices may lead to further fragmentation and therefore the proposal for one office under which all stakeholders within the network of emergency care can collaborate has been suggested in ***Recommendation 6*** and accepted by participants in the Delphi study with an agreement level of 100%.

A mandate from national government is necessary to ensure that the office has the power to execute its responsibility and effect change (Hensher et al., 2006; Reynolds et al., 2017). Recommendations developed from various associations and representative bodies do not always reach the agenda setting table and therefore a mandate given from national authority may increase the effectiveness of this office. The responsibility for the establishment of a functional emergency care system has been highlighted by the WHO as an essential role of government (Anderson et al., 2012; Reynolds et al., 2017). This responsibility is founded on civilian's right to access emergency care and therefore should be the key priority of any health care system (Burkholder et al., 2019). Strong motivation for the establishment of a national emergency care office forms the basis for this recommendation, which reached a consensus of 100%

7.7.4 A national plan for emergency care in South Africa

A national plan for emergency care has emerged as a key recommendation from this study. Key areas of focus for this plan include the development of appropriate policy to guide emergency care, the development of a national strategy for emergency care, the development of a clear referral system and network of emergency care services. It was emphasised that the content of the related policy and strategy should have a specific emphasis on quality and be contextually relevant to the setting in which it will be implemented, as proposed by ***Recommendation 7***, which reached an agreement level of 100%.

There is a need for contextual relevance and consideration of various settings in the development of policy and accreditation requirements for health facilities. The standards set for emergency care in the Ideal Clinic Framework is a requirement for all District Health Care facilities regardless of context and need, which results in unachievable criteria or the wasting of resources as it may be contextually irrelevant. For policy to be effective it must be contextually appropriate and relevant to the needs of the particular context it must function in (Bali et al., 2019). Dynamic policy effectiveness goes as far as to suggest that policy should be able to adapt to changing circumstances and still give appropriate direction for the achievement of the policy goals (Bali et al., 2019).

In a health setting the context should take into consideration factors such as resource availability, human resources for health, the political and economic environment and the socio-cultural context (Gilson et al., 2018). Open-ended comments from participants in the Delphi

suggested that an important factor for consideration relates to the local burden of disease as indicated by mortality and morbidity.

These factors are essential in designing policy that would be able to give direction in varying contexts. South Africa is comprised of vastly different settings, from remotely rural areas to bustling urban areas with central business districts and densely populated residential areas, with more than 66% of the population living in urban areas (Plecher, 2020). However, even in areas classified as urban settings, there exists townships and informal settlements, which are poorly resourced and underdeveloped making the classification a challenge. Hence, an investigation into the classification of areas was conducted in 2001 and additional descriptors were added to include semi-urban and semi-rural. These classifications are based on the existence of a local authority in the area and the type of infrastructure – informal or formal (Statistics South Africa, 2003). The co-existence of such varying contexts makes policy making a challenge and highlights the need for dynamic policy effectiveness. A broad directive that is flexible for varying contexts while remaining consistent with the broader goal is needed.

This will require a collaborative effort from various stakeholders at different levels of the health care system to ensure that different contexts are well represented, and a rich understanding of the needs is achieved. Policy that is developed from a broad base of understanding and insight is more effective than a top-down developed policy (Gilson et al., 2018). The coordination of this process would be a key function of the proposed national office for emergency care.

Strategies to develop or improve emergency care in various LMIC's have proven their worth in the decrease in mortality and morbidity and ultimately the burden of disease caused by acute illness and injury (Reynolds et al., 2017). The motivation to develop a system of emergency care is found in the proven reduction of lives lost (Burkholder et al., 2019). While the focus of this study is on emergency care in the District Health Care System, the findings of this study highlight the need for a strategy to develop a national system of emergency care that encompasses all levels of care as suggested in ***Recommendation 8.*** This directly precedes ***Recommendation 11*** which calls for a National Emergency Care strategy to be developed in order to form a strong emergency care system that integrates functionally with the District Health Care System.

The state of emergency care in the district health care system is limited and uncoordinated and therefore a broader approach is needed to ensure a well-integrated system of care. The WHO proposes a framework for emergency care that allows interrelation between various levels of

care and various stakeholders or service providers (WHO, 2018). The WHO framework describes the process of emergency care from activation to definitive care and takes into account various entry points and the emergency care capacity at these varying levels of care (Reynolds et al., 2017).

Emergency care in the District Health Care system will be automatically strengthened once a national system of emergency care is established to develop and support emergency care offered at a primary health care level. The development of a multi-level system includes defining the geographical boundaries, identifying various levels of care based on the capacity of the facilities within a region, recruiting the contribution and involvement of stakeholders at each level, and finally, developing a network of support that links the various levels (Glickman et al., 2010). Effective emergency care is measured by its ability to move a patient rapidly and seamlessly through the system with the goal of bringing them to definitive care (Reynolds et al., 2017).

Recommendation 9**,** which achieved consensus with an agreement level of 100%, follows on from the call for a national system of emergency care. The development of a coordinated system of care will naturally include the development of a functional referral system as an additional unction of the emergency care office. A clear and functional referral system is vital for the effectiveness of an emergency care system (Mojaki et al., 2011). At the core of emergency care is the concept of the chain of survival and the referral system, which includes transport. It can be described as the links in the chain bringing a patient from initial presentation to diagnosis and treatment. A referral system that is coordinated at a systemic level but relevant to the local context is recommended (Reynolds et al., 2014).

The data from this study echoes the findings of Mojaki et al (2011) that the referral system in the District Health care system is dysfunctional. An indicator of a non-functional referral system in many countries is the overcrowding and inappropriate use of higher-level emergency departments (Becker et al., 2012). In the South African context, higher level emergency departments include level one trauma units and emergency departments at secondary and tertiary health care institutions.

Factors attributed to inappropriate use include patient knowledge of the referral system and patient preference and access (Becker et al., 2012). Participants in the Delphi study emphasised that patients' needs must be considered in the development of the referral system in order to

ensure relevance to the circumstances and preferences of patients. Clear communication of the processes is vital for all stakeholders to gain a clear understanding of the referral pathway.

Many other challenges were identified included the obstructive and non-supportive relationship between various facilities both from a referral and acceptance perspective.

The need to build a supportive network between facilities is vital and therefore ideally stakeholders from the various levels of facilities should be involved in the process of developing a referral pathway. This will ensure that collaboration takes place and there is a level of ownership and accountability for the effectiveness of the system. The financing of collaborative efforts becomes tricky as allocations of budgets are considered and competing agendas are highlighted. Therefore, it is important that a national allocation of financing is ring fenced for emergency care and a funding model is developed (Reynolds et al., 2014).

In building a partnership between emergency medicine and primary health care in rural America the fostering of a supportive relationship and understanding of the system was vital for the success of the partnership (Greenwood-Ericksen et al., 2017). The lessons learned from the development of this model are applicable in our context. The process of collaboration and involvement from various levels and stakeholders ensured the development of a unique, sustainable and contextually relevant approach to emergency care in the rural areas of America.

Effective emergency care has been highlighted by the WHO as a successful method of decreasing mortality and morbidity and ultimately reducing the burden of disease caused by acute illness and injury (Anderson et al., 2012).

The development of a novel emergency care system may produce unintended consequences such as the inappropriate referral of cases to higher level facilities (Glickman et al., 2010) and therefore as part of a national strategy the capacitation and identification of lower-level facilities to be accredited emergency centres is recommended. This capacitation and consolidation would involve the training of health care practitioners and optimisation of the available resources for effective emergency care. Facilities within the District Health Care system that are identified may then be supported towards accreditation as an emergency centre with the capacity to definitively treat emergency cases.

Various models for the development of a network of facilities in the system of emergency care have been proposed with most countries employing a wheel and spoke approach. This approach has a ring of peripheral facilities referring to a central higher-level facility for definitive care.

A nodal approach allows for various facilities to be interconnected for the sharing of resources, information and support. A combination of these models would allow for the supportive nature of a nodal approach and collaboration between facilities while the goal of reaching a dedicated emergency care able to offer definitive care is still realised.

The conceptualisation of such a system would require first, an assessment of the current emergency care system in order to develop a wide view of the current facilities and resources. The WHO has developed an assessment tool for Emergency Care systems to enable health systems to identify strengths and weaknesses in their emergency care system (Reynolds et al., 2017). A national assessment would provide essential data needed to develop an effective strategy.

An assessment of this nature would also provide data on resources and identify areas with increased capacity for emergency care and those in need of more support. A strategy for capacitating selected facilities would be needed to increase the support for each geographical region.

Therefore, ***Recommendation 10*** suggesting the consolidation of emergency care centres to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower-level facilities are empowered to stabilise and refer was put forward and achieved an agreement level of 100%. There is a need to clarify the definitions of various nomenclature such as emergency care centre, emergency department/unit and accident and emergency unit in order to delineate the requirements and capacity of these various facilities appropriately.

While an accreditation process is suggested by participants in the open ended comments, this process should be carefully considered in light of the contextual factors and need for process related policy as opposed to a standards approach. Standards are essential for monitoring and evaluation but must be preceded by clear policy directives and processes.

Recommendation 12 once again highlighted the need for the content of a national emergency care strategy to emphasise the processes and quality of the service and not only the physical requirements, with a specific focus on the health outcomes of emergency care including mortality and morbidity.

The policy analysis conducted in the previous phase of this study underscored the superficial nature of the standards approach employed in the Ideal Clinic Framework and the preceding

National Core standards for health. It was emphasised that the processes and evaluation domains of policy (Campbell et al., 2000) were lacking and therefore in the development of a national policy for emergency care, it is recommended that policy should give depth to the direction it provides for the system of care.

Physical requirements for infrastructure, equipment, consumable resources and human resources are vital for the functioning of a health service. The need for appropriate resources for emergency care is therefore foundational for effective care (Reynolds et al., 2014).

However, this should not be the ultimate goal of the policy. The processes which detail all aspects of care and the clear delineation of various role players and networks should be included. To ensure quality of care, there must be a holistic and contextual approach to policy that gives appropriate direction and detailed processes for ease of implementation. The contextual relevance of the requirements should be reflected in the policy. Checklists for structural requirements for emergency care are unable to provide the depth in guidance needed to improve quality in emergency care services.

The third domain of policy includes that of outcomes and evaluation. Outcomes of care as described by Campbell et al (2000) include health status indicators and user satisfaction. User satisfaction is currently a major focus in our current context in South Africa as the health ministry has enabled large scale collection of data related to patient satisfaction and aims to increase user satisfaction (*South African Health Review 2018*, 2018). Mortality and morbidity are important indicators of health outcomes and therefore the monitoring of these outcomes should be written into the policy for emergency care. Monitoring and evaluation of the system of care and therefore the ability to effect quality improvement is largely dependent on the availability and quality of data (Mashoufi et al., 2018).

There is an obvious dearth of data on emergency care outcomes, a challenge experienced by many LMIC's (Reynolds et al., 2017). The quality of the system cannot be evaluated and therefore motivation for improvement is difficult to justify. The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service, this includes the development of a diagnostic coding system, as per ***Recommendation 13***.

Indicators for monitoring must be clearly defined to ensure high quality relevant data. A data system is needed that is simple, effective and can be applied in various contexts and levels of care. The suggestion of a coded system for diagnoses was noted from participant open ended

comments. This coding system should be integrated with the defined indicators to ensure a rich data set for monitoring and evaluation of the system of emergency care. This will also allow for the development of an understanding of the contextual needs of different facilities and regions and focus policy, training and interventions appropriately. Information and technology support for record keeping and the availability of equipment and computers for this purpose play a major role on the success of this system, and therefore, this must be taken into consideration.

7.8 Summary

This chapter presented the demographic characteristics of the Delphi study participants, who contributed to the consensus building during two rounds of the Delphi study. Fourteen recommendations to strengthen emergency care were subjected to the consensus building technique, and were rated by participants according to their level of agreement with each recommendation. The results indicated that the Delphi scale used may be considered reliable in this population, and consensus was reached with 98.2% of participants indicating agreement with the proposed recommendations for strengthening emergency care in the District Health Care System. The recommendations covered broad areas in need of improvement including the education and training of health care practitioners dealing with emergencies at a PHC level to empower them with the knowledge and skills they need to manage emergencies effectively. The role and placement of various actors in the emergency care process needs to be defined and considered, and the need for leadership in emergency care has been highlighted. Lastly, the need for a strategy to develop a national emergency care system was emphasised with specific attention needed in the area of health care policy, and the development of a national strategy for emergency care with a clear referral system. The quality of emergency care must be emphasised and therefore quality indicators must be determined.

A set of consensus-based recommendations for strengthening emergency care in the District Health Care system are presented. The final chapter will conclude the study with an evaluation of the research process, the limitations of the study as well as recommendations for education, research and policy.

CHAPTER EIGHT

EVALUATION, RECOMMENDATIONS AND CONCLUSION

8.1 Introduction

While the literature points to the importance of and the need for strengthening emergency care, there is a particular call for the improvement of this service at the level of care most accessible to communities, the PHC system. Globally, many countries have adopted various strategies to improve and develop effective emergency care systems in alignment with the WHO resolution for emergency care. For these strategies to yield effective emergency care systems, they must be contextually appropriate for the country's overarching health system and resources. Every country's health system is driven by health care policy and therefore in order to evaluate and improve any service platform, the full context of the system of care must be considered. By using a framework for policy analysis various data sources were able to provide insight into the state of emergency care in the District Health Care system of Gauteng. These insights were the outcome of a qualitative formative enquiry. The evaluative conclusions reached formed the basis of 14 consensus-based recommendations for strengthening emergency care in the District Health Care System. This chapter presents a reflection on and an evaluation of the process, outcomes and limitations of this study and propose recommendations for policy, health sciences education and future research.

8.2 Evaluation of the Study

My interest in the thesis topic was inspired by my experience as a specialist emergency nurse working in a level 1 trauma unit in a quaternary academic institution. Anecdotally, I noticed the extreme delays in receiving patients from lower-level facilities and the poor state in which patients arrived, indicating a lack of efficient emergency care in frontline community facilities. While I enjoyed the opportunity to work in a well-resourced, multidisciplinary team context, my skills and competencies were not fully appreciated in this setting. Having a full range of team members and access to doctors, interns and students meant that my advanced clinical skills were very rarely required. I developed an interest in understanding emergency care in Primary Health Care settings, and began to question the positioning of specialist emergency practice, which currently focuses on secondary and tertiary institutions.

At the heart of the research argument is the objective of developing a contextually relevant strategy for strengthening emergency care in the District Health Care system. Central to the thesis statement, an evaluation of emergency care in PHC settings was the first step in developing an understanding of the current context.

The study set out with a twofold purpose: to analyse emergency care in a PHC setting and identify areas of strength and weakness by conducting a policy analysis of all emergency care related policy documents and policy processes; and to use the evaluation as a basis for the development of recommendations to improve emergency care at this level.

To fulfill the purpose of the study and meet the specific objectives, a two-phased qualitative formative evaluation of emergency care in the District Health Care system of Gauteng was conducted. I used a framework for policy analysis to formulate a rich understanding of the system of care using multiple data sources. Walt and Gilson's framework for policy analysis (Walt, 1998) was used as the framework for data collection and integration in phase 1 of the study. In phase one of the study, I sought to meet the objectives of analyzing the system of emergency care using the framework for policy analysis and identifying strengths and weaknesses in the system by formulating evaluative conclusions based on the findings from the various data sources.

Data were collected from three data sources in order to gain understanding on each component of the policy analysis framework, namely the actors, process, context and content.

Over a period of two months, I conducted semi-structured interviews with health care practitioners and facility managers at District Health Care facilities, who shared their experiences in dealing with emergencies at this level of care. A document analysis assisted me in extracting information regarding emergency care in the District Health Care system on all policies influencing emergency care at this level. Semi-structured interviews were also conducted with key informants to explore and gain insight into the process of development, implementation and evaluation of the policies of focus.

The two major policies identified, included the National Core Standards for health establishments, which precedes the current governing policy, The Ideal Clinic – Realization and Maintenance Framework. Using qualitative content analysis, I identified themes and subthemes and presented these findings under the policy analysis framework descriptors.

Data were triangulated and integrated into Walt and Gilson's framework for policy analysis. Guided by an inductive approach, I identified major patterns in the data and formulated evaluative conclusions about emergency care in the District Health Care system. I found that health care practitioners and facility managers face various challenges when dealing with emergencies in district level facilities. The sharing of their experiences exposed serious gaps throughout the spectrum of emergency care. The concept of emergency care as network of services is not well defined and therefore, the service is disjointed with emergency medical services operating on a platform separate to the services offered in the facilities. Policy makers leading health policy development in the District Health System failed to invite representation from emergency medicine and emergency nursing, to contribute to the policy development process. Emergency care therefore, has not been emphasised as a priority of the district health care system and the national health system at large.

The policies guiding the District Health System and therefore emergency care at this level do not sufficiently direct or prioritise emergency care. The approach taken is based on standards and requirements for facility accreditation with emphasis placed on the physical requirements of the service without much detail on the processes or acknowledgement of the need for a broad coordinated system of emergency care. The standards are not contextually sensitive and therefore not always relevant for the settings in which they are meant to be implemented. While the standards created positive awareness about the importance of procurement and maintenance of emergency equipment and resources, the need for a coordinated system of care with specific processes, objectives and direction is needed.

The study evolved interestingly from being focused on the specific setting of the District Health Care system to a much broader view from a national health perspective. The dynamic unfolding of the study findings has led me to acknowledge that, in order for emergency care in the district health care system to improve, the development of a multi-level system, led by a national emergency care office, is needed. Emergency care at one level cannot exist functionally in isolation and therefore a broader view and coordinated effort to establish a system that functions at every level of care is called for.

Based on these findings I proceeded to phase 2 of the study with the view to developing and validating recommendations for strengthening the system of emergency care at a PHC level. By integrating the findings of the first phase, I was able to identify the strengths and weaknesses of emergency care at a PHC level and formulate evaluative conclusions. The evaluative

conclusions were used to deductively formulate fourteen recommendations for strengthening emergency care in the District Health Care system. The formulation of these recommendations comprised the first round of the consensus-building Delphi technique. I then employed the Delphi technique to validate the recommendations proposed through consensus-building. The key informants from the previous phase were invited to participate in the Delphi study and to rate their level of agreement with each of the 14 recommendations. Data were collected using an online survey, and analysed using descriptive statistics with a focus on measures of central tendency. Consensus was set at 80%. In the first round of the Delphi study, consensus was reached at 97.1%, however open-ended comments provided insight that was valuable for the further modification of seven of the statements. The second round of the Delphi reached consensus of 98.21%.

The final list of recommendations included recommendations for various stakeholders with a distinct call for national authority to prioritise the development of an emergency care system for South Africa that will coordinate care at all levels including the District Health Care system. The recommendations broadly covered the areas of education and training in emergency care, the role and placement of various actors, leadership in emergency care and the need for a strategy for the development of a national emergency care system.

The development of consensus-based recommendations, which were based on a rich description of the state of emergency care in the District Health Care system is the fulfillment of the purpose and specific objectives of this study. I confirm that the choice of research design and methods used were consistent with the nature of the inquiry and the application of the methods ensured scientific and trustworthy research process. The policy analysis process yielded rich insights contributing to the development of a contextually relevant system of care. and may propose lessons for other LMIC's.

Upon reflection of the research process and the research findings, it is important to note the limitations.

8.3 Limitations of the study

During the research process I became acutely aware of two important limitations of this study. The objective of the study was to analyse the system of emergency care in the District Health Care system in the Gauteng province of South Africa. The recommendations from this study include various national level proposals and for these to be realized and a relevant strategy

developed, a national assessment of emergency care is needed. The WHO proposed a framework for the national assessment of the emergency care system to assist countries in identifying strengths and weaknesses in their system and providing them with insight upon which to develop a relevant strategy. A broader assessment is therefore needed. The scope of the study did not allow for broader sampling across provinces.

Secondly, I find it essential to acknowledge the changing context of our health care system. At the time of data collection and presentation of this thesis South Africa had a dichotomous health care system. The private health care system, which operates separately to the public health care system was therefore not included in this study. With the acceptance of the White Paper for the National Health Insurance, plans are underway for a total restructuring of the health system that will see private and public health care integrated. How emergency care will be situated in this integrated system remains largely unknown and an effective emergency care system should be coordinated in a way that correlates with the new structure of the National Health System. Assessment of emergency care in the private health care system is therefore needed and a view to integrate the two systems must be considered in the context of the National Health Insurance Act. These limitations are important for the development of a national strategy for emergency care; however, this would require additional methods beyond the scope of this research.

Although the sampling method sought to include any multidisciplinary team members dealing with emergencies at a District Health Care facility, only two categories of health care professionals met the criteria and were available: doctors and professional nurses. At the study sites, no clinical associates were employed at the time of data collection and other health care professionals were not directly involved in emergency care. Clinical associates play a vital role in servicing under resourced and rural areas and therefore integration of this category of health care practitioners in an emergency care system is vital. Emergency services personnel such as paramedics and emergency medical technicians were not included in the study and they might have provided a different viewpoint on the emergency care system at the District Health Care level.

Traditionally, policy analysis targets specific policy that speaks to an area of concern. There is currently no specific policy on emergency care in South Africa. Various policies include emergency care in the content of the policy; however, the content was superficial. Analysis of the various policy documents was therefore challenging as data was scarce and interpreting the

data for meaning was difficult. Integration of the various sources, however, brought meaning into the document analysis and findings were made richer by means of triangulation.

8.4 Contribution of this study

The significant contribution of this study lies in the novel approach to the evaluation of a system of emergency care. This method of formative qualitative evaluation of a system of care has never before been conducted for this purpose' the richness of the method comes from the inclusion of various stakeholders and actors as well as the policy content itself. In order to strengthen any clinical platform or system of care it is important to generate a sound understanding of the current state of the system. An evaluation of emergency care at a District Health Care level in South Africa has not been conducted and therefore the findings of this study add great value in forming a comprehensive understanding of the context and how emergency care functions at this level of care. A formative evaluation also provides an evidence-based and directed approach to allow for the answering of specific questions and generating data that can point to the areas in need of improvement.

Without a specific guide or template for improving emergency care in a PHC context or the development of an emergency care system, it is important that a contextually relevant approach is used to establish the system of care and foster collaboration between stakeholders to ensure a well-integrated network. This study has highlighted the need for this collaboration and defining of roles with the aim of moving toward and established emergency care network.

A wealth of understanding came from the emphasis on understanding the context of emergency care in PHC settings. Contextual nuances and challenges provided a reality check and reminder that we should "come to terms with who we are" and forge a path for improvement that suits our context. With an emphasis on contextual relevance, it is consequential that recommendations were derived organically from the data and are therefore likely to meet the needs of the current context. This study provides opportunity for further research and development of knowledge in this field where health policy meets clinical practice. The development of an effective emergency care system must include the development of appropriate health policy, which includes contributions from stakeholders involved in the spectrum of emergency care. The policy approach of health policy in general has been highlighted and a more holistic approach to quality improvement is proposed for future policy development. Health policy should aim to improve quality of care in all domains of quality improvement and not only focus on the structural domain. For emergency care this would imply

that policy should provide guidance in the processes and details involved in each aspect of the spectrum of care and should delineate the roles and responsibilities of stakeholders clearly.

This study serves as a scientific basis for the call to make emergency care a national priority in South Africa and thereby improve emergency care at all levels of care including the District Health Care system.

It is also clearly emphasized that contextual relevance in the development of health systems and policy planning is vital for the success of any system of care, and therefore as many LMIC's, move towards the strengthening of their emergency care systems, their own contextual nuances must not be forgotten.

Globally, health policy plays an important role in health care delivery and the involvement of health care practitioners in the process of policy development has been re-emphasised in this study. The importance of the contribution from relevant clinical experts in health system planning cannot be overstated.

8.5 Recommendations

Although the outcome of this research presents a list of consensus-based recommendations for strengthening emergency care in the District Health Care system, specific recommendations are proposed for health sciences education, research and policy making.

8.5.1 Recommendations for Health Sciences Education

A major finding in this study was the need identified by health care practitioners for training and education in emergency care. The District Health Care system specifically is run by generalist practitioners, community service health care professionals and junior practitioners in the nursing, medical and clinical associate professions. Although training in emergency care must be continuous it is also important that undergraduate programmes adequately prepare health care practitioners with the knowledge and skills needed to deal with emergencies in various settings.

The skills needed to lead a team, to think critically and to intervene in an emergency should be taught at an undergraduate level for health sciences education, maintained and advanced after undergraduate education is complete. This will empower the non-specialist health workforce with the initial capacity to deal with emergencies in any setting.

Continuous emergency training, however, should be made freely available for health care practitioners serving in District Health Care facilities. The Department of Health should develop a strategic plan to "train the trainer" in order to roll out training more widely.

8.5.2 Recommendations for further research

From this research, so many opportunities for further research have emerged. There is a dearth of knowledge in the assessment and evaluation of emergency care at various levels of care and settings and the various recommendations presented in this study offer opportunities for further research. As a developing field in South Africa and Africa at large, the contribution of focused scientific evidence may assist in the establishment of efficient, contextually relevant models of emergency care for LMIC's.

A research agenda is needed as part of a national emergency care strategic plan and key areas for investigation may include but are not limited to the following:

- Evaluation of emergency care in various settings and at various levels of the health system, including the private health care system.
- The development of educational programmes and resources aimed at equipping health care practitioners with the necessary skills and knowledge to deal with emergencies – specific to their context and qualification.
- The development of a data capturing system to evaluate the health outcomes of emergency care in the district health care system (specifically focused on mortality and morbidity), this will improve the body of evidence upon which the motivation for improvement of this system of care may be built.
- The setting for the practice of specialist emergency doctors and emergency nurses is an area in need of further investigation to determine the best strategy for utilization of the scarce skills offered by these specialist practitioners.

In a developing field, research opportunities are vast and the call for contribution into this area must be emphasized to see the development of an emergency care system built on sound scientific evidence that is contextually appropriate and meets the needs of our country and setting.

8.5.3 Health policy research

The field of health policy is often not tapped into by clinicians, such as specialist emergency practitioners, looking to improve a clinical platform. This study has highlighted the importance of locating clinical research within the health care system and health policy environment. Health policy research is not only important for gaining an in-depth understanding of the complexities surrounding clinical services, but it is also important for shedding light on the essential role of health care practitioners in making substantial contributions to policy development. In South Africa, agenda setting tends to be bureaucratic with a large responsibility placed on the Minister of Health. The result is that important issues are not always prioritized. In identifying the weaknesses and inefficiencies in the emergency care system, and the resultant effects that ineffective policy can have on a clinical platform, it is further emphasized that further research is needed on:

- The role of specialist emergency care practitioners in health care policy development in South Africa
- Effective policy designs that adequately direct clinical services and platforms
- The relationship between actors in the policy environment including national authority, health management, the clinical platform, and academic experts in various fields of practice.

8.6 Conclusion

This thesis presents the work conducted to analyse and describe emergency care at a PHC level. The various aspects of emergency care were investigated using Walt and Gilson's Policy Analysis Framework. Strengths and weakness in the system of emergency care were identified and evaluative conclusions were drawn from the data. Based on the evaluation, recommendations for the strengthening of emergency care at this level were developed. These consensus-based recommendations were presented as the final outcome of the study. The key aspects in need of strengthening include emergency care training for PHC practitioners, the role and placement of various actors in emergency care, the need for leadership in emergency care with a national platform that can direct emergency care at all levels of care, and therefore a national strategy for the development of a national emergency care system. There is a great need for the strengthening of emergency care in the District Health Care system and the broader health care system at large.

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ANNEXURE 1: Approval from Postgraduate Studies Committee

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172076

Reference: Mrs Sandra Benn
E-mail: sandra.benn@wits.ac.za

01 November 2017
Person No: 0602359X
PAG

Mrs ML Botes
13 Peperboom Street
Bosmont
Johannesburg
2093
South Africa

Dear Mrs Botes

Doctor of Philosophy: Approval of Title

We have pleasure in advising that your proposal entitled *Strengthening the Emergency Care System at a Primary Health Care level using a framework for policy analysis* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

ANNEXURE 2: Ethical Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

Office of the Deputy Vice-Chancellor (Research & Post Graduate Affairs)

TO: Ms M Botes
School of Therapeutic Sciences
Department of Nursing Education
Medical School
University

E-mail: Meghan.Botes@wits.ac.za

CC: Supervisor: Professor J Bruce and Dr R Cooke <Judith.Bruce@wits.ac.za>
and <HREC-Medical.ResearchOffice@wits.ac.za>

FROM: Iain Burns
Human Research Ethics Committee (Medical)
Tel: 011 717 1252

E-mail: Iain.Burns@wits.ac.za

DATE: 10/05/2018

REF: *R14/49*

PROTOCOL NO: **M171115** *(This is your ethics application study reference number. Please quote this reference number in all correspondence relating to this study)*

PROJECT TITLE: *Strengthening the emergency care system at a primary health care level using a framework for policy analysis*

Please find attached the Clearance Certificate for the above project. I hope it goes well and that an article in a recognized publication comes out of it. This will reflect well on your professional standing and contribute to the Government funding of the University.

MSWorks2000/Iain0007/Clearscan.wps

UNIVERSITY OF THE
WITWATERSRAND
JOHANNESBURG

R14/49 Ms M Botes

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M171115

NAME: (Principal Investigator)	Ms M Botes
DEPARTMENT:	School of Therapeutic Sciences Department of Nursing Education Medical School University
PROJECT TITLE:	Strengthening the emergency care system at a primary health care level using a framework for policy analysis
DATE CONSIDERED:	24/11/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Professor J Bruce and Dr R Cooke
APPROVED BY:	Professor CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	10/05/2018

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

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on 3rd floor, Phillip V Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.
I/We fully understand the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in **November** and will therefore be due in the month of **November** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature

Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

ANNEXURE 3: Letters of permission from District Research Councils

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

OFFICE OF THE DIRECTOR SEDIBENG DHS

Enq: Mpho Ngubane
016 950 6255
016 950 6210
E-mail: Mpho.Ngubane@gauteng.gov.za

TO : **MS. M. BOTES**
UNIVERSITY OF WITWATERSRAND

FROM : **MS. S. HLAHANE – DIRECTOR SEDIBENG DHS**

DATE : **26 FEBRUARY 2018**

SUBJECT : **PERMISSION TO CONDUCT RESEARCH – STRENGTHENING THE EMERGENCY CARE SYSTEM AT A PRIMARY HEALTH CARE LEVEL USING A FRAMEWORK FOR POLICY ANALYSIS**

Please be informed that permission has been granted for you to carry out the abovementioned research at Midvaal CDC. It is noted that you have already obtained Provincial Ethics Committee as well as the University of Witwatersrand Research Ethics Clearance.

Kindly note that a copy of the report on the findings (especially) that concerns Sedibeng District must be submitted to the Director's office at the completion of the study.

This permission is also subject to the conditions stated in the protocol and any change in design and methodology must be communicated to the District Director.

We wish you success in your research endeavours.

MS. S. HLAHANE
DIRECTOR SEDIBENG DHS
DATE: 26/02/2018.

RESEARCH PROPOSAL DETAILS: GP_201801_032

GAUTENG PROVINCE
REPUBLIC OF SOUTH AFRICA

Joburg
a world class African city

JOHANNESBURG HEALTH DISTRICT

Faculty Of Health Sciences
Research Ethics Committee,
University Of The Witwatersrand
Johannesburg, South Africa
Meghan.Botes@wits.ac.za

Enquiries: Dr EM Ohaju
Tel: 011 694 3888 Cell: 076 8831659
Email: Elizabeth.Ohaju@gauteng.gov.za

Hillbrow CHC: Administration Building
Cr Smith Str. & Klein Street
Private Bag X21, Johannesburg
South Africa, 2017

DRC Ref: 2018-01-006

NHRD Ref no: GP_201801_032

Dear: MRS Meghan Botes

Re: *STRENGTHENING THE EMERGENCY CARE SYSTEM AT A PRIMARY HEALTH CARE LEVEL USING A FRAMEWORK FOR POLICY ANALYSIS*

Your application for Research Approval refers

The District Research Committee has reviewed your application. This letter serves as an in-principle approval to access the Districts Health facilities (mentioned below) for the above project subject to following conditions:

- The facility to be visited: **CHIAWELO CHC, LILLIAN NGOYI CHC, MOFOLO SOUTH CLINIC, SOUTH RAND HOSPITAL.**
- This facility will be visited from **23/03/2018 to 23/03/2019**
- The research can only commence after you submit an ethics clearance certificate from a recognized institution.
- You will report to the Facility Manager before initiating the study.

Region	Regional Health Manager	Contact No.	Cell phone
Southrand	Dr N Maleka	011 681 2002	071 872 6649
D	Ms Maria Mazibuko	011 674 1200	082 781 9919
F	Oupa Montsioa	011 681 - 8130	082 467 9423

The following conditions must be observed:

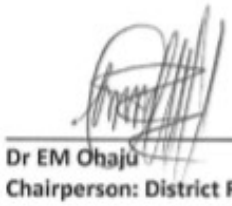
- Participants' rights and confidentiality will be maintained all the time.
- No resources (Financial, material and human resources) from the above facilities will be used for the study. Neither the District nor the facility will incur any additional cost for this study.

- The study will comply with **Publicly Financed Research and Development Act, 2008 (Act 51 of 2008) and its related Regulations**.
- You will submit a copy (electronic and hard copy) of your final report. In addition, you will submit a six-monthly progress report to the District Research Committee.
- Your supervisor and University of the Witwatersrand will ensure that these reports are being submitted timeously to the District Research Committee.
- The District must be acknowledged in all the reports/publications generated from the research and a copy of these reports/publications must be submitted to the District Research Committee.

We reserve our right to withdraw our approval, if you breach any of the conditions mentioned above.

Please feel free to contact us, if you have any further queries. On behalf of the District Research Committee, we would like to thank you for choosing our District to conduct such an important study.

Regards,



Dr EM Ohaju
Chairperson: District Research Committee
Johannesburg Health District
Date 23/03/2018



Mrs M. Morewane
Chief Director
Johannesburg Health District
Date: 23/03/2018

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Enquiries: Dr. Lufuno Razwiedani
Tel: +27 12 451 9036
E-mail: lufuno.razwiedani@gauteng.gov.za

TSHWANE RESEARCH COMMITTEE: CLEARANCE CERTIFICATE

MEETING: 12/2017
PROJECT NUMBER: 24/2018
NHRD REFERENCE NUMBER: GP_201801_032

TOPIC: STRENGTHENING THE EMERGENCY CARE SYSTEM AT A PRIMARY HEALTH CARE LEVEL USING A FRAMEWORK FOR POLICY ANALYSIS

Principal investigator:	Mrs Meghan Botes
Supervisor :	Professor Judith Bruce Dr Richard Cooke
Facility:	Tshwane District Hospital Lotus Gardens Clinic Sokhulumi Clinic
Name of the Department:	University of Witwatersrand

NB: THIS OFFICE REQUEST A FULL REPORT ON THE OUTCOME OF THE RESEARCH DONE AND

NOTE THAT RESUBMISSION OF THE PROTOCOL BY RESEARCHER(S) IS REQUIRED IF THERE IS DEPARTURE FROM THE PROTOCOL PROCEDURES AS APPROVED BY THE COMMITTEE.

DECISION OF THE COMMITTEE: APPROVED

R.O. Oyedipe

.....

Dr. Robert Oyedipe
Acting Chairperson: Tshwane Research Committee
Date: 26/04/2018

.....

Mr. Pitsi Mothomone
Chief Director: Tshwane District Health
Date: 2018-04-26

ANNEXURE 4: Information letter to participants for semi structured interviews with Health Care practitioners and District Health Care Facility Managers

Dear Sir/Madam

My name is Meghan Botes, and I am presently a candidate for a Degree in Doctor of Philosophy in the Nursing at the University of the Witwatersrand. I am conducting a study on emergency care at primary health care facilities and would like to invite you to participate in the study.

The aim of the study is:

- To analyse the system of emergency care using Walt and Gilson's policy analysis framework.
- To identify strengths and weaknesses/areas within the system of emergency care at a primary health care level.
- To develop guidelines for remodelling of the system of emergency care at a primary health care level that optimises strengths and minimizes weaknesses in the system.

It is anticipated that the information will help improve emergency care at a primary health care level. However, there are no immediate benefits for participating in the study but participating in the study will give you the opportunity to make known your needs and opinions as a health care practitioner dealing with emergencies at a primary health care facility.

Should you agree, you will be required to participate in an individual interview where a few open ended questions will be asked and you will have an opportunity to respond to and to raise any -related issues you wish to raise. You will be asked to complete a form regarding demographic information. Interviews will be scheduled according to your earliest convenience and will last between 35-45 minutes. Interviews will be recorded via audio recording and transcribed for analysis. If at any time you experience difficulty in answering the questions or anything that makes you uncomfortable, I will gladly refer you for counseling.

Participation in this study is completely voluntary and you may refuse to participate or withdraw from the study at any point with no repercussions for you. Confidentiality will be maintained. All information/transcripts and recordings will be kept in a locked cupboard and

only I, Meghan Botes and my supervisors will have access to them. No personal information or identifiers are required on the demographics form to ensure that you cannot be identified in any way; so your name will not be linked to your responses.

If you have any questions regarding the study, please feel free to contact me at

(011) 488-3317 during office hours, or 0729976409 after office hours.

Yours sincerely,

Meghan Botes

ANNEXURE 5: Interview Guide – Health Care Practitioners and District Health Care Facility Managers

What is your experience in dealing with medical emergencies at a primary health care level? Probes and Prompts will be used

Actors:

- How do you feel about managing medical emergencies? Probe on perceived strengths and weaknesses
- Describe your role in the team when managing a medical emergency

Process:

- What approach do you use when managing a medical emergency?

Content?

- Describe your view of the referral system for this facility?
- How do you apply content of the APC Guideline and Ideal Clinic Framework applied in the practical management of medical emergencies?

Context:

- How would you describe the resources available to you if you need to consult someone during a resuscitation? Probe on perceived strengths and weaknesses

ANNEXURE 6: Information letter to participants for semi structured interviews with Key Informants

Dear Sir/Madam

My name is Meghan Botes, and I am presently a candidate for a Degree in Doctor of Philosophy in the Nursing at the University of the Witwatersrand. I am conducting a research study emergency care at primary health care facilities and would like to invite you to participate in the study as a key informant with valuable knowledge and experience in the field of study.

The aim of the study is:

- To analyse the system of emergency care using Walt and Gilson's policy analysis framework.
- To identify strengths and weaknesses/areas within the system of emergency care at a primary health care level.
- To develop guidelines for remodelling of the system of emergency care at a primary health care level that optimises strengths and minimizes weaknesses in the system.

It is anticipated that the information will help improve emergency care at a primary health care level. However, there are no immediate benefits for participating in the study but participating in the study will give you the opportunity to make known your needs and opinions as a health care practitioner dealing with emergencies at a primary health care facility.

Should you agree, you will be required to participate in an individual interview where a few open ended questions will be asked and you will have an opportunity to respond to and to raise any related issues you wish to raise. You will be asked to complete a form regarding demographic information. Interviews will be scheduled according to your earliest convenience and will last between 35-45 minutes. Interviews will be recorded via audio recording and transcribed for analysis. If at any time you experience difficulty in answering the questions or anything that makes you uncomfortable, I will gladly refer you for counseling.

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If you have any questions regarding the study, please feel free to contact me at

(011) 488-3317 during office hours, or 0729976409 after office hours.

Yours sincerely,

Meghan Botes

ANNEXURE 7: Interview Guide –Key Informants

What are your views on emergency management at primary health care facilities/at this primary health care facility? Probes and Prompts will be used

Process:

- What are your views regarding the approach used when managing a medical emergency at a primary health care level? Probe…
- Prompt: How is the content of the APC Guideline and Ideal Clinic Framework applied in the practical management of medical emergencies?
- What are your views of the referral system? Probe…

Content:

- Ideal clinic status and legislative directive requires that a facility is able to provide basic emergency care- what do you think are the strengths and barriers in this system in achieving this standard? Probe…

Actors:

- Who are the main actors involved in emergency care at a District Health Care level?
- Can you describe the actors involved in the process of policy development?

Context:

- How would you describe the resources available to practitioners if there is a need to consult someone during a resuscitation? Probe…

ANNEXURE 8: Specimen consent form for participation in the study

I agree that the study entitled "**Strengthening the emergency care system at a primary health care level using a framework for policy analysis"** has been explained to me by the researcher Meghan Botes and I have read and understand the information letter provided.

I agree to participate in an individual interview to share my views and experiences on dealing with emergencies at a primary health care facility.

I understand that the findings will be used as a part of the research study and will add to the body of knowledge regarding emergency care at a primary health care level.

Signature: _____

Date:_____

ANNEXURE 9: Specimen consent form for audio recording of interviews

I agree that the study entitled "**Strengthening the emergency care system at a primary health care level using a framework for policy analysis"** has been explained to me by the researcher Meghan Botes and I have read and understand the information letter provided.

I agree to be audio recorded during an individual interview with the researcher.

I understand that the findings will be used as a part of the research study and will add to the body of knowledge regarding emergency care at a primary health care level.

Signature: _____

Date:_____

INTERVIEWEE: Apartheid. So, like today it's me and then usually it's somebody else during the week. Unfortunately, we don't have a time table.

INTERVIEWER: Okay. Is there an approach that you use when managing emergencies? Like do you have a triaging system or a system that you use for when you manage a patient?

INTERVIEWEE: No, the thing is they get triage somewhere and they will just go and use it as the case presents.

INTERVIEWER: Okay, and what has been your experience in dealing with emergencies here?

INTERVIEWEE: I don't understand.

INTERVIEWER: Like for instance what kind of emergencies do you see? Do you feel like you've maybe…

INTERVIEWEE: Oh, actually the emergencies are not really like life threatening emergencies. The way we do them is like trauma basically. Things like trauma, elevated, uncontrolled hypertension or uncontrolled diabetes that kind of thing.

INTERVIEWER: Okay.

INTERVIEWEE: So, it's not like your real-life threatening emergencies.

INTERVIEWER: And do you use any guidelines for your management? Do you use, you know, the APC guideline; do you use any of those?

INTERVIEWEE: Ja, we do have a book. Hold on. You know like I said…

INTERVIEWER: No problem. It's not a problem but do you use the guidelines or is it kind of just as you…come as you go?

INTERVIEWEE: Just as depending on the kind of emergency.

INTERVIEWER: Okay.

INTERVIEWEE: Ja. You know like for instance if you have a trauma unit it will obviously come short things like that but here even like Broncho spasm can also be because we treat medical and surgical emergencies.

INTERVIEWER: And your role in the team or do you…how do you feel about the functioning of the team in the emergencies?

INTERVIEWEE: In the emergency it's myself because it's one doctor and three nurses and basically the doctor does everything.

INTERVIEWER: Does everything.

INTERVIEWEE: You suture. Like I am going to suture now. So, it's that kind of thing.

INTERVIEWER: So, if you had to describe to me some of your biggest challenges with emergencies…?

INTERVIEWEE: The biggest challenge really is one of treatment and two co-operation of the staff.

INTERVIEWER: Can you just sorry, I know, just elaborate a bit more on the co-operation of the staff? What do you mean like?

INTERVIEWEE: You know the nurses are supposed to like for instance when you suture they're supposed to clean the wound, give local and actually they're supposed to be suturing and they do none of those things. They just give you the stitch pack and you sort yourself out. I'm sure you saw when I was suturing I was alone.

INTERVIEWER: Ja.

INTERVIEWEE: That kind of thing.

INTERVIEWER: So, you feel pretty much alone?

INTERVIEWEE: Alone.

INTERVIEWER: There's no team.

INTERVIEWEE: Very much alone. At this clinic I am working alone. There is no team.

INTERVIEWER: And the equipment, I know that they mentioned also down there that the resources there is a problem.

INTERVIEWEE: Ja, no, sometimes we don't have stitch pack, sometimes actually we don't have the sutures themselves, sometimes we don't have linen savers, goggles, aprons, that kind of thing.

INTERVIEWER: And when there's like a real-life threatening emergency?

INTERVIEWEE: Oh, well we use the emergency room, resus room but apparently there's that defibrillator which doesn't have pads.

INTERVIEWER: Okay.

INTERVIEWEE: Sometimes we cannot find tubes to incubate patients. You can go and have a look there. Nobody actually does a…how can I put it?

INTERVIEWER: Checking.

INTERVIEWEE: Checking of the…

INTERVIEWER: Emergency.

INTERVIEWEE: …it's supposed to be done ideally on a daily basis. Sometimes you get like expired medications.

INTERVIEWER: And tell me about the referral system? Like do you feel like you're supported in terms of the referrals?

INTERVIEWEE: No, the referral system is a nightmare especially to this hospital, [inaudible], they return almost 90% of the patients.

INTERVIEWER: They return them?!

INTERVIEWEE: Ja, they return them.

INTERVIEWER: Why? That's strange.

INTERVIEWEE: Serious. They have to be managed here.

INTERVIEWER: Sho and if you do have to refer a patient, the process is it easy or …?

INTERVIEWEE: No, you just write a referral. You fill in a referral form and you sign that patient.

INTERVIEWER: Okay and how do you feel about your support from the other systems? Do you feel like if you had…?

INTERVIEWEE: Other systems meaning the facility or outside?

INTERVIEWER: Within and outside because if you felt like you're dealing with an emergency that's now beyond you like a very complicated thing how supportive is everything?

INTERVIEWEE: Ja, the thing is there is no one else who can really help because we've got the [inaudible]; we've got the physios; we've got the psych here and we've got the TB people; those are the peripherals. So, you can't really get help from those people.

INTERVIEWER: And there's no one that you can call in a consult…

INTERVIEWEE: No, no.

INTERVIEWER: …you're just kind of on your own.

INTERVIEWEE: Ja, but luckily the people that we see here are not that bad. You know the thing is with the EMS people they know which to take to hospital and which to bring here. So, you don't actually get like gunshot wounds of the head coming here.

INTERVIEWER: So, would you say you rely a lot on their…

INTERVIEWEE: Discretion, ja.

INTERVIEWER: Discretion…

INTERVIEWEE: Ja.

INTERVIEWER: …in bringing patients here.

INTERVIEWEE: The thing…the people that come here that should not be here are usually brought by the community like the gunshots, chest, abdomens and basically gunshots to the vital parts.

INTERVIEWER: Okay, and then when patients come that shouldn't be here it's usually from the community?

INTERVIEWEE: Ja, from the community but the ambulance people know how to which people belong here.

INTERVIEWER: So, if you had to say one thing that's your greatest challenge in this place what would you say it is?

INTERVIEWEE: There's just too many challenges. That's the greatest challenge.

INTERVIEWER: That's the greatest challenge. There's too many challenges.

INTERVIEWEE: The level of co-operation, you know, all these things.

INTERVIEWER: And do you think things like training of staff or a better system or…?

INTERVIEWEE: The only people that can train is us. We went for BLS course about two months ago, but the nurses don't attend these things.

INTERVIEWER: The nurses don't get trained and do you think that those kind of things would help bring the team…

INTERVIEWEE: That would definitely help because they don't even know that they're supposed to be a team because when you do BLS they tell you that you have to work as a team. There's a team leader and everybody has a role in the team, but it doesn't happen.

INTERVIEWER: And you feel like if there's a team it will help a bit better.

INTERVIEWEE: At least if they can do that it will give them the idea that this is supposed to be done as a team and not just a doctor alone.

INTERVIEWER: Okay, thank you.

INTERVIEWEE: Alright.

INTERVIEWER: Your insight is very helpful.

INTERVIEWEE: Okay.

ANNEXURE 11: Interview Transcript Health Care Practitioner Interview - 2

INTERVIEWER: Thank you so much Sister, I know that you're very pressed for time, so I'm going to ask my questions quickly. The question that I'm asking is what is your experience in dealing with emergencies at this level facility?

INTERVIEWEE: As in general experience?

INTERVIEWER: Yeah.

INTERVIEWEE: Dealing with emergencies?

INTERVIEWER: Yeah, at this level.

INTERVIEWEE: At this level of district level it's not easy because a lot of emergencies that you see finally need, the level of care that they need we don't necessarily provide for. So, you find that you deal with emergencies but at the end of the day you've got to transfer them to level one, a referring hospital, which takes long, ne. So, at the end of the day, patients become so delayed. If you think that the level of care that they need, at this level one hospital they cannot get. So it becomes frustrating because you've got somebody for 12 hours who are waiting for an ambulance, take them and some resources we don't have, like scans, some tests we don't have here in this hospital, we need them after hours, in this hospital there's no level three functioning, so a lot of things for this level becomes strenuous, whereas if it was maybe the same patient at a level hospital three, level three, it would have been better, but for us it's always challenging and you know, yeah, as long as emergencies are serious, it takes longer than [inaudible] taking another [inaudible].

INTERVIEWER: So, is the problem that the patients are coming to the wrong facility or is the problem in the delay getting them to the next facility?

INTERVIEWEE: No, patients, it's their first level of care that they can access and even if they could go to level three they will be sent back. They don't know how, which level to go, but when they can't find that they are so serious to an extent that level one hospital is not going to be able to cut for them, so send them through. By sending them through, it takes longer because, to start with, you need to arrange that side with the doctors, they need to accept or refuse, or they say wait until they get the results. The result takes longer if it's after hours, you can even wait six hours for results. So, at the end of the day it's challenging just because patients were here, and we don't have the facilities to help them.

INTERVIEWER: And you say that it takes long to transfer as well by ambulance.

INTERVIEWEE: Too long, because the ambulance don't only focus on transferring, they've got other patients to deal with.

INTERVIEWER: And what approach do you use in managing emergencies? Do you use the ABC Guidelines or algorithms. How do you, what approach do you use?

INTERVIEWEE: Managing it depends; what we do now we triage patients. Triaging it's a system that is used internationally and so we check them before, there are those emergencies that would physically say they cannot be triaged. They go straight, they are classified as red, they should be seen immediately. They are those that are classified as orange after being assessed by [03.00] and everything they complain, then we'll categorise them and in orange, so they must be seen within 15 minutes. They are those that are categorised under yellow colour, they can wait for 45 minutes to be seen, depending on the diagnosis, their vital signs. So immediately when they come ...

INTERVIEWER: They're triaged.

INTERVIEWEE: We triage them and see, but when it's an emergency resuscitation or whatever, we follow all the prescribed algorithm like they came once, they [inaudible] protocols, it depends what condition they bring in.

INTERVIEWER: Okay, and how does it work? Do you have a team approach or how do you manage practically?

INTERVIEWEE: Ja, we've got a team approach. When we delegate in the morning every day, we've got Sister no 1, Sister no 2, Sister no 3 or this number. Sister no 1 has got to focus on the airway, Sister no 2 is going to be assisting the doctor with breathing, Sister no 3 is going to be circulation and then after that they're going to have one person running for them, like a runner. So, we leave it [inaudible].

INTERVIEWER: Okay, and then they rotate. They rotate.

INTERVIEWEE: When the other patient then comes.

INTERVIEWER: For the next resusc. So, it's like the ATLS structure.

INTERVIEWEE: Yes.

INTERVIEWER: Okay…and what are the professional nurses' role in the team?

INTERVIEWEE: Within [*talking together*].

INTERVIEWER: Yes, it is just those Sister 1, 2, 3, is that how it goes?

INTERVIEWEE: Yeah. Sister 1 will be doing airway; airway it means you'll be there, if the doctor is intubating you are suctioning or preparing the intubation for the staff, then you are there securing the airway, if you need to bag, you're the one who'll be bagging the patient, the one on prepping, if the patient has arrested completely, they will be there physically trying to assist with whatever, it'll be CPR, they will be the ones assisting them but roles depends on the number of delegation we delegated, yeah.

INTERVIEWER: Yeah, and does the team work well?

INTERVIEWEE: Yeah, I will say so, but it's just that you know what, sometimes, most of the time it's not always as we plan. Sometimes you'll find that these two emergencies at the same time. So, we only have three RNs on duty. So even though the other, or like now, you'll find me on the passage, I'm the

operation manager, but I'm working because it's so busy. There's a shortage of staff, so that leads to this function are not ...

INTERVIEWER: In the teams, makes sense, and the training of the staff, do you think it's adequate?

INTERVIEWEE: Not necessarily because only for now two RNs, excluding they are trauma trained. So, the rest are just a [inaudible] trained but it's still not enough because when you are in trauma, it's always better when you are trained as a trauma RN.

INTERVIEWER: And does that make a difference, having a trauma specialist?

INTERVIEWEE: A lot. Yes, you can intubate, you can do anything, you can even prescribe up to 5 mils of morphine or Donegal, you can select the patient, you can resus them, save the emergency patient, but when you are not trained you cannot, even if the doctor is busy with another patient, you cannot tube, you cannot intubate the patient, you cannot do anything. You can just...

INTERVIEWER: So are the nurses doing that, when the doctor is not available, they manage, the ....

INTERVIEWEE: The trauma do, trauma trained.

INTERVIEWER: The trauma trained nurses, they manage?

INTERVIEWEE: Yes, we are supposed to tube, you can intubate the patient, ventilate the patient, put in drips, give whatever we think, the patient needs resuscitative fluids and all that, ja.

INTERVIEWER: Okay, and can you tell me what is your view of the referral system?

INTERVIEWEE: Yoh, bad, it's so bad and time consuming, because when you phone that side, you find that the doctor on call that is there is the consultant. When you phone him, they'll say, phone my res, when you phone the res, he says phone my intern, then you're going to have 20-40 minutes still trying to get to somebody to talk to. By the time you get them, they're going to ask you what tests have you done, you tell them, okay, please do this test, do this and call me when you've got the results. So that might, blood results sometimes takes two hours, three hours. So, when you get back to them, maybe you get a voicemail. You try again, through WhatsApp and whatever, you don't get them. So, it can even take four hours before somebody can really ...

INTERVIEWER: Accept the patient.

INTERVIEWEE: ... taken, yeah.

INTERVIEWER: And that's just to accept, that's before you even went for the ambulance.

INTERVIEWEE: It's too long.

INTERVIEWER: And the resources in the department? How would you describe the resources available?

INTERVIEWEE: We don't have enough resources.

INTERVIEWER: In terms of what, what is happening?

INTERVIEWEE: They're cutting from the basics one like striker beds, just [inaudible] beds. We only have one mobile [inaudible] that can take a patient to another. So, we've got a bed we're still waiting on and I forget. Wheelchairs, not so good, because you know our equipment, they are used all the time. A bed does not get rest, so they don't last. So, with them not lasting, maybe they don't even last a year. It means if you buy this, we cannot again buy again this year. Wait until, do you wait for another financial year. When it comes there we still sit and discuss, why are you ordering again, wharra wharra wharra, so it can even take you another financial year before you can, so it strain us, and some basic resources. Most of the time you find that they are not on stock in the hospital. Basically, there's no budget or I don't know what challenges, but most of the time we don't have stock.

INTERVIEWER: So, resources are a challenge.

INTERVIEWEE: Too much.

INTERVIEWER: And drugs?

INTERVIEWEE: Our drugs are fine.

INTERVIEWER: Drugs are fine?

INTERVIEWEE: [*Agrees*].

INTERVIEWER: Okay, and if you can give me one major barrier, do you, good emergency care, what would you describe it as, major problem?

INTERVIEWEE: Only one.

INTERVIEWER: Oh, what is your biggest problem?

INTERVIEWEE: Staff shortage.

INTERVIEWER: Staff shortage.

INTERVIEWEE: Staff and resources.

INTERVIEWER: Okay.

INTERVIEWEE: These are the two major but the leading one is staff, because if somebody needs to be given CPR and there's no one there to give, if there's a [inaudible] it doesn't help the problem, so staff it's the leading one. Shortage of human resources, yeah.

INTERVIEWER: And what do you think is done well here?

INTERVIEWEE: What is done well here, in terms of anything?

INTERVIEWER: Yeah, in terms of your emergencies, something that you think they're good at, a strength?

INTERVIEWEE: I think the response… like a rushing to the patient, you know. Immediately when the patient comes, people will try to be there evaluating it. It's not like patient waits long before they're treated. We try to reduce that waiting time. If it's an emergency, a serious one, we all rush to the patient, so that I

think is done well, because some places you can wait for a long time, bleeding without anyone trying to help you. So here, even if we don't have resources, but that response, it's a sharp one, [inaudible].

INTERVIEWER: Okay, thank you very much.

ANNEXURE 12: Interview Transcript District Health Care Facility Manager– 1

INTERVIEWER: So, the question that I'm asking is, what are your views on emergency management at a primary healthcare facility like this one?

INTERVIEWEE: My views will be they are necessary, because most of the patients who report at the clinic is nowadays everybody is told to go to the clinic before you go wherever. Even though we keep on giving the health talk to the patient but if you have been stabbed, if you have been bleeding profusely, you don't need a letter to go via the clinic, go straight to hospital, the patients still come to the clinics. So, at the end of the day, regardless whether it's a clinic or a hospital, our clinic still needs to be equipped with all the emergency equipment that we need, and the sister needs to be trained, so that if the patient comes in, nobody must say, I didn't know how to resuscitate the patient, I didn't know what to do and what to do. Though, most of the sisters who are generally trained, we got our basic first-aid, but sometimes we tend to be like at a district, we'll be doing the chronic, the high blood and the diabetes, we'll be doing the ART, you know the sisters for the ARV and stuff like that, you sort of lose contact with what you're supposed to be doing when a patient comes in with an asthmatic attack, stuff like that. So, I would say, the sisters need constant skilling, they need to be educated and updated on things, because the protocol that was used for asthmatic – when a patient comes with asthmatic attack in casualty, things that worked in hospital 15 years ago when I was working in the trauma side, I suppose is not being utilised now, it has been changed. So, the clinic, really, I think they like should be like treated like hospital. It must be [fit] level 1 mini hospital with where you put in emergency and the sisters, and we should have delegated sisters who are trained with emergency. Fortunately, in Clinic Meyerton, we do have one sister who's really in emergency all the time. We know that when the patient comes in, even the…our clerks know that this one takes her straight to Sister Mpho.

INTERVIEWER: Okay.

INTERVIEWEE: Ja.

INTERVIEWER: And tell me, so what happens when there is an emergency? What approach is used?

INTERVIEWEE: The approach?

INTERVIEWER: Ja, so what happens?

INTERVIEWEE: Okay, let me give an example who somebody who's bleeding. If a patient comes like, last time we had somebody with a stabbed chest. The patient will come in. When these kids, we've got somebody on the information desk, she just screamed "Sister Mpho, I've got a patient bleeding", then they take the patient there, rush her straight into the emergency. So that's the clerks and everybody will do the register and they'll follow up the patient in there.

INTERVIEWER: In the emergency.

INTERVIEWEE: Ja, she doesn't' to have wait there. And then Sister Mary goes straight to the patient, will start you know doing all the emergency care that the patient needs, arrest haemorrhage, put up a drip and start. If she needs somebody to help and a second person in charge of emergency, and we've got another sister who's in charge of emergency. We've got our delegated book that we know this one is between Sister Mpho, then it's Sister Masenthle, then it's Sister Mary. If she needs an assistant, she just calls one nurse, "call Sister Masenthle to come in and be.

INTERVIEWER: Okay.

INTERVIEWEE: Ja. When I arrive there, she'll be maybe busy trying to arrest haemorrhage, then I'll be now busy putting up a line, a drip or something. The third sister I will, "please call an ambulance".

INTERVIEWER: Okay, and do you use the protocols from the ...

INTERVIEWEE: Yes, we do have the protocol. We got an algorithm what to do in case of emergency, it's on the wall ...

INTERVIEWER: On the wall.

INTERVIEWEE: ... there on the emergency side, yes.

INTERVIEWER: Okay, and tell me, what are your views of the referrals system?

INTERVIEWEE: The referral system, it's okay, but I'll say what delay us most is the ambulance system, because our patient just – if a patient is an emergency, automatically we'll say, even she got her own transport, we won't say, use your transport, because anything can happen along the way, we need an ambulance. So, unfortunately you'll be stabilising the patient, the patient will be sitting there, and you can never just go away from that patient on that time. You'll be like an ICU nurse, wena, you know you're looking ...

INTERVIEWER: Monitoring.

INTERVIEWEE: ... you are monitoring the patient constantly until the ...

INTERVIEWER: Ambulance comes

INTERVIEWEE: ... ambulance comes. the ambulance is early believing me to be ... the last time we saw an early ambulance it was 30 minutes, but from there it's more than that. Not unless the ambulance happens to be here and even if it happens to be here and the patient comes in as an emergency, we've got to log a call for this particular patient. Ja, they're not going to attend to this one unless we phone them and make them aware they are here.

INTERVIEWER: Sjoe, and the referring hospitals, do you have any problems with them accepting patients or…?

INTERVIEWEE: No, the doctors, especially in Koponong, the doctor will like to give us lot of orders. You phone, because we have to. You know, before you refer, the other thing, you phone ambulance and then you refer, you phone the doctor that you are referring the patient to. If you phone the doctor, the doctor will start saying, check the situation point of this, do this and this, do this and this. That's why I'm saying our emergency room have to be equipped, because the doctor on that point is actually listening to you and you are telling the doctor about this patient that I'm having at the same time whilst she's giving all the order. In his mind he wants to stabilise the patient, you know, telephonically, but at the same time you may find that they are giving us lots of orders that things we don't even have here.

INTERVIEWER: Before they'll accept the patient.

INTERVIEWEE: But most of the doctor will say [*interruption*]. Sorry about that.

INTERVIEWER: No problem.

INTERVIEWEE: I have lots of appointment today.

INTERVIEWER: No, it's okay, I understand. So, and how would you describe the resources available for the clinic for emergencies?

INTERVIEWEE: In Meyerton you are lucky. We've got everything really here. We've got [inaudible] bags, we've got ECG machines, we've got ... but now, of late, we've got only one oxygen cylinder, because the last time we ordered oxygen, they said we don't have enough, and now we are a bit apprehensive though, because it's winter and we may have lots of

asthmatic intake, but really don't, we really need enough oxygen, but I've never seen us wanting for anything when we've got an emergency. The now thing, the other thing that we don't have now, I think we don't have bandages and gauze – they say we don't have it in stock, but more often we don't really need a lot of things.

INTERVIEWER: Okay.

INTERVIEWEE: Ja, like I say in Meyerton, we are lucky, you know. As far as stock is concerned we've really, and now our sister, emergency sisters check every morning. So, she'll be giving me a list, I need this, I need that, I need it for the day, and we'll follow it up from our main pharmacist, Johan Heyns.

INTERVIEWER: And do you get emergencies often?

INTERVIEWEE: I'll say yes, because there's never a day where we don't have an emergency. I don't know whether it's often by your standard, or. To me, as a nurse, I know as a nurse every clinic have to have an emergency one way or the other, but in my thinking, it was like, I wouldn't mind somebody who's been sitting here sort of, their sugar levels go down and he or she collapses, that will be our emergency for the day and we'll be like putting a line, checking their sugar levels and stuff like that. But, believe you me, we do have everybody here – burns, they come in here, regardless of the fact that it's supposed to go straight to the hospital, our stab wounds. I suppose the location of our clinic plus the Sicelo, the proximity of our clinic to the Sicelo, with the Sicelo people being far away from Kopanong, they always think that it will be easier. I will think the same also. Let me just go to my nearest place where I can get help, so they come here. We deliver patient here, to us delivering a baby is an emergency because we don't have an incubator. We've got a delivery pack ready for in case of emergency we have, the mom comes in fully dilated, because they say they keep on phoning that side, the ambulance doesn't come, but they don't. They come straight here because they think, I'll rather deliver at the clinic because I know the sisters are going to help me.

INTERVIEWER: They help you.

INTERVIEWEE: Ja, and even the assault, they come here, they're expecting the nurses, the clinic to stabilise the patient before anything else. Sometimes we do even have DOAs, you know, patient comes in already dead, because they think that, you know, you'll be thinking,

you know, maybe she's not dead yet. [*Interruption* – I'm just attending to the lady, I'm going to come out now.]

INTERVIEWER: No, problem. Don't worry I'm almost done, a few more questions. If you need to consult, if you're stuck with a patient, can you phone someone to help or do you call the doctor?

INTERVIEWEE: Fortunately, in Meyerton we've got a doctor with us Monday to Friday.

INTERVIEWER: Okay, so the doctor will come.

INTERVIEWEE: So, whenever there's an emergency, you need the doctor's around to help.

INTERVIEWER: Okay, and in terms of training you were mentioning, how often do you get trained, is it enough? What do you think is needed?

INTERVIEWEE: I'm emergency-experienced from when I was working in Sebokeng Hospital. I would say I'll need an update now because things changed, the drugs changed, we don't use for that anymore; we use this for that anymore – for asthmatic, they don't use anymore, we see what the doctor is doing and then we catch up, but I would say really, we need constant training. I don't know. When I say constant, how it will be like, maybe when we find out if there's anything in as far as emergency is concerned, even the sisters from the clinic must not be excluded.

INTERVIEWER: Ja, okay, and then the last question, what do you think are some of the barriers to, you know, with the ideal status clinic and national core standards for emergencies, what do you think are some of your difficulties or are you reaching them, are you ideal?

INTERVIEWEE: With the ideal and the cost and that protocols, you know, they send us that list of things that they need. So, we don't have any problem in getting whatever that ideal need, and I don't see any problems for us reaching there. The only things, when those people come in, even if you know that my adrenalin's right to the corner there, when they say where's your adrenalin, you've now forgotten but really, I don't see any problem, especially the sister who does the emergency. You do it all the time, you sort of know that my laryngoscopes are in there, my [inaudible] bag is there, everything's there, it's just yours to know. Even the drugs, just check the expiry date before they come so that at least you know your things are in order. Not just for them, even for the patient.

INTERVIEWER: For the patient. Okay, thank you, that's all.

INTERVIEWEE: Alright.

ANNEXURE 13: Interview Transcript District Health Care Facility Manager– 2

INTERVIEWER: Okay, I think I'll try and put the recorder close by.

INTERVIEWEE: I think it will record properly.

INTERVIEWER: Okay, so Doctor, my question is, what are your views on emergency care at a primary healthcare level, like at this facility?

INTERVIEWEE: You know, to be honest with you, I can say, is sort of stretched, besides that, we're sometimes running short of medication, sometimes the doctors are not well trained, personnel are not well trained themselves in general. Like, take for instance, you cannot have people in the emergency area without you know thorough training like BLS, ATLS, pulse and the works, because we get all sorts of cases that will pop in here and there. If you are not well skilled in that field, then you're likely to make a mess out of the whole thing. So, my take is that we should actually subject our personnel to rigorous adequate training.

INTERVIEWER: Okay, so at the moment it is not adequate.

INTERVIEWEE: I would say so because in the process we have to look at shortage of staff, you know, things like that, and we have to look at, you can't send people for training all of them, otherwise the system will collapse. We need to have people who will go with the training and then that training should be conducted in such a way that it is synchronised with whatever work they do here. So those are things that we actually need to have up your skill and then we'll gain, so to speak. Okay.

INTERVIEWER: And the funding for the training?

INTERVIEWEE: It is there but it's not, it is not a requisite or it is not adequate, for instance, I have 10 [inaudible 02:06], in fact, eight. Without the two [inaudible 02:09] that I have there, so there are 10 people who are there who need all of them need training, let alone the fact that some of them have gone to do it privately on their own, but the long and short of it you've got to have some peace of mind by saying to yourself, look, I know they do, they can cope with the situation primarily at this point in time, because they have been trained. So, at this point we cannot say, do you have ATLS or do you have Pulse, or do you have ACLS or whatever you know, because the guys all tell you no, I don't have [inaudible 02:48] sometimes or he doesn't have it all, and what are doing about it as a clinic? We've got to say, I have files available, go and train, but like I say you shouldn't settle, people let it go. You

should actually try and spread it in such a way that the service is also accommodated in the process. Ja.

INTERVIEWEE: Okay.

INTERVIEWER: And you also mentioned the shortages of resources.

INTERVIEWEE: Ja, you know, differences, sometimes we take long before you adjudicate say tubes like the T-tubes and the ones ECG machines sometimes is running out of paper and so on and so forth. So, you've got to be sitting in and placing an order. I'll give you a particular example: we stayed for quite some time without the [inaudible 03:43] cartridges, because look, those cartridges are uses in and out of that emergency room, like you know, they sell like hot cakes. So, it being that we need to have let me say, do I have adequate people to actually pick up that, that is going to be running out in two weeks' time, has the order been placed, how long is it going to take to come in and who is going to be [different], you know some such things. Those are things that actually need to [inaudible 04:20] take it off. It's only poor management on the side of our, the person who is ordering but at the same time the distributors play a major role as well, and this in like which and over no payment at all from head office plays a major role again. Some, some distributors will tell you no supplies, they'll tell you no, I won't supply you for the simple reason that I haven't been paid, you know, 30 days have long passed and I'm still sitting here with an order that was supposed to be paid say maybe 90 days or 60 days ago. So, those are some of the things that contribute to a loss of, or lack of resources.

INTERVIEWER: Okay, and equipment, in terms of the equipment?

INTERVIEWEE: By resources, I mean not only material.

INTERVIEWER: Equipment as well.

INTERVIEWEE: Equipment as well, you know, so equipment is also a major, major, a major factor. Like for instance, if you have one person there now in our emergency area coming in and needing a ventilator. We've got only one ventilator now, period. If the second one comes in, well, we are sunk. I'm pretty sure that patient is going to pack up if it is there's a need for it. Maybe we should actually, even the area itself, this is an old hospital, South Rand Hospital is an old, it's as old as I am, 60 something years, so that, the whole place needs a total revamp. It should have proper operations management in that area, whereby you know that's an area for resuscitation, that's an area just for the ordinary simple cases,

that's a suture[inaudible 06:13] room, that's a POP room and who's working there. You must adequately also staff your areas concerned, because without staff you can't work and right now there's a Circular 1 circular of trade business being issued by the department that we should feel imposed. So that also impacts negatively on, you know, there's a shortage not only on material and other resources, also human resource. Human resources are a very major role, plays a major role in the managing of any area. So, if you can staff all of those areas, then you [06.54].

INTERVIEWER: Okay, and tell me the approach that they use in casualty, do they use the primary care guidelines?

INTERVIEWEE: Ja, basically they do, they do use them.

INTERVIEWER: The algorithms.

INTERVIEWEE: Ja, they use them.

INTERVIEWER: Okay, and what are your views of the referral system for emergencies?

INTERVIEWEE: You know, in our hospital there I wouldn't really say it works, because people use the system to their advantage. In a sense that you really cannot say patients should be referred from that clinic as such. Once again there's that policy that says, don't turn any patients away. They wait until late, they know then that [inaudible 07:43] is closed, they come up and drop their emergency here. The same goes out for the very doctors in the very early, for them to refer to Jo'burg Gen is a mammoth task, or to Bara, it's a mammoth task, because you have to be phoning and the patient has to wait again for the emergency vehicle to pick him up or her up, to take her to the police[?] call centre, and there is a delay you know in the EMS transporting the patients to the required area. So, the referral system also needs a little bit of waking up on. We need to say, yes, I can confidently transfer a patient to Jo'burg Gen and I won't be told no, there's no ICU bed, I have to be running around like a headless chicken to be getting an ICU bed for the patient. It's so wrong, because at the end of day you end up sitting with a patient who you don't know what to do with, and remember we are a level 1 hospital and a patient, when the patient walks in here, he sees, he or she sees a hospital and nothing else. Instead of saying this is a level 1, she doesn't understand what that is all about. Is this patient to be cared for and hence that you know impacting negatively on the service, because at the end of the day, if a patient doesn't get care here, he's going to be going out to the press and the outside world telling them, I didn't

get any help from South Rand. Not knowing exactly what the nitty gritty and the referral lines are, you know, to follow.

INTERVIEWER: So, what happens in a case like that where you have a ventilated patient that you can't transfer?

INTERVIEWEE: You know we end up trying to stabilise as much as we possibly can until a space opens somewhere else. If that space doesn't open, then we end up phoning the [inaudible 09:52] has to see as to what to do with the patient.

INTERVIEWER: Okay, and, let me just check, and the resources available to consult, so you say like your doctors are community service doctors. If they're in a situation where it's beyond them, how, where do they get support?

INTERVIEWEE: Look, we do have, we belong to the Johannesburg cluster and our referral hospital is the Charlotte Maxeke. So, we pick the phone up and try and speak to the consultant or the registrar on call there that side, and he has to give guidance as to what's going to happen. But in the majority of cases, it's, you don't have joy you know, you struggle a lot, before you can get that patient consent to come up and talk to you. It's only now of late that I'm insisting that we're going to work together, and we are one family, it's only that I mean the lower room down there, which is South Rand Hospital. But the long and short of it is we all work for the department, Gauteng Department of Health, and we have to produce results for the Department of Health, which is the GDOH, and then it's then that you know, and the same of, it has to be somebody you know on the other side, it should really come to an end, it should be stopped, because that tends to compromise patients one way or the other, because take for instance if I phone say Helen Joseph to ask for an ICU bed, I'm likely to get one because I know the consultant there all. I just pick up the phone and say, hey [inaudible 11:41], I have got a patient like this. Now, what if I'm not around? It means that patient is going to be shunted for a period, probably the patient will end up in Steve Biko or somewhere, you know in [inaudible 11:56] or whatever, and that is not on. To me it's a question of, if I call up CA and I need to refer, let it be a question of where's the patient and so, so and so. You know, it shouldn't' be a question of, hey, we've got Doctor Siphane on the line call-ups in here and then everybody will stand on his or her toes.

INTERVIEWER: So, it shouldn't be about who you know?

INTERVIEWEE: No, it shouldn't be about who you know, it should be a question of I've got a patient here, I've got [inaudible 12:27] here who's a patient and she needs help, and then we should be able to help, and the referral system should be smooth flowing for everybody, not for the selected few. That's my take.

INTERVIEWER: Okay, and tell me, if you had to, just two more questions, if you had to describe some of the barriers that you have in meeting, you know, the national core standards for emergency care, what would it be?

INTERVIEWEE: Like I said, we've got to have suppliers in place. If you don't have suppliers in place, then obviously you're not even meeting some of the core standards. I mean, take for instance, I for one would not be treated in a very dirty place like some of the emergency areas are. I need to be treated in an area where there are adequate supplies, adequate equipment, main equipment, with staff that is going to be stressed out because of overloading of work , you know, so I need to be having friendly staff that would be meeting me there and working on me with a friendly face, and that would actually be an ideal situation, which we are all striving for, but we cannot because of...

INTERVIEWER: And then what do you think is something that is run well at this facility in terms of emergencies?

INTERVIEWEE: Look, we are trying our utmost. We try by all means to say, let us go in when [inaudible 14:19] and that is solely for the purpose of having to save their life, and that is solely for the purpose of service delivery which is our core business here. So, we are trying by all means and I cannot say we are doing it almost right, but we're trying, you know, and even the mixing of systems that we have put in place to try and get our doctors to be adequate and efficient in their management of care. So, we even had to go an extra mile putting, that is where we put all the concepts in our care department, trying to get the system to be smooth flowing, you know. In the past we used to have a person being very tired and not coming to work the following day and so on and so. Now we know for a fact that tomorrow we'll be having somebody there who will be working and then that won't be a problem at all.

INTERVIEWER: So, they've looked at it.

INTERVIEWEE: They do. But now we are going to change the system again, on the 30th. I'm trying to work something out there and hopefully to avoid. That's all I can say.

INTERVIEWER: Okay, thank you very much Doctor Tsepang, it's very helpful.

INTERVIEWEE: I hope I've been, I didn't say things that are going to be.

INTERVIEWER: No.

INTERVIEWEE: Anyway, thank you very much for coming.

INTERVIEWER: Thank you, thank you for your time.

INTERVIEWEE: And let me fill this out for you, and...

INTERVIEWER: Thank you.

INTERVIEWEE: Do you want me to fill it out right away?

INTERVIEWER: Yes, please, if you could. I'll just take it with me, and then Doctor Tsepang, is, can I just go down and ask the doctor in casualty if I can have some of his time, or do I need him to, do I need you to…?

INTERVIEWEE: No, tell him you've been with me and I've given you the okay.

INTERVIEWER: Okay, thank you very much.

INTERVIEWEE: It's Doctors [inaudible 16:16] Kadgimange.

INTERVIEWER: Kadgimange and?

INTERVIEWEE: He's supposed to be working with one of the floaters, I don't know who the floater is.

INTERVIEWER: Okay, thank you very much.

INTERVIEWEE: Okay Ma'am.

ANNEXURE 14: Interview Transcript Key Informant– 1

INTERVIEWER: So, just to give you a bit of a background for my study, I've been looking at Emergency Medicine in the District Health Services and what I've done is the first phase of my study was interviews with clinicians, doctors and nurses in the various levels of the District Health Services, so, clinics, community healthcare centres and district hospitals and asking them about their experiences of emergency care. My study is based in Gauteng, so I have been looking at the different districts in Gauteng.

Then the next phase was to do a policy analysis, so I've looked at all the different policies that are meant to inform the District Healthcare Service and I've tried to fish out anything related to emergency care and now this phase involves interviews with key informants, so these are people who either have contributed to the policies or are responsible for implementing and supervising these policies, implementation and the last phase will be, from all of this I am supposed to come up with recommendations that I will then send back to the key informants to participate in a Delphi study to validate the recommendations.

INTERVIEWEE: Okay.

INTERVIEWER: So that's kind of where I am at, that's where you fit in, you form part of the key informants and my first question is; to your knowledge, which I know is extensive, which would you consider the major policies that inform the District Healthcare Service at the moment?

INTERVIEWEE: On emergency care or just the District Health Service in general?

INTERVIEWER: Just the District Health Service in general.

INTERVIEWEE: It's a pretty broad question so please redirect me if I'm wrong and okay, so if I have to talk about national I don't know policy at a provincial level beyond the Western Cape and we obviously have lot of policies here…

INTERVIEWER: Ja.

INTERVIEWEE: But most things are oriented towards a NHI implementation so, ideal clinic would be sort of guiding structure.

INTERVIEWER: Yes.

INTERVIEWEE: And there's not much about emergency care in there and that guide is a narrow replacement for the National Core Standards which was the guide for the last few years.

INTERVIEWER: Yes.

INTERVIEWEE: I think most of the things from National, I mean there's sort of vertical programme stuff that talks to primary care platforms in district health systems but I think mostly [inaudible 0:02:40.2] in terms of the overall governance of the platform that would be my go to.

INTERVIEWER: Ja, so those are the ones that I have been looking at and trying to analyse and find something on emergency care in there. So, that brings me to my next question; what is your view on emergency care in the District Healthcare System?

INTERVIEWEE: I think it is a blind spot for the department, so the National…let me say this (I know you are recording so I will try and say it in a way that is not too critical), but I am pretty critical of how it's set up. So, the National Department has an EMS directorate which is covered under the ambulance services and disaster management or disaster medicine but doesn't in any way touch on facility based emergency care and then there's the primary unit and then there's the acute hospital unit and none of them really think…they sort of think about casualty but not in a co-ordinate or coherent…well in fact we did a, I served on the ministerial advisory committee for eighteen months and our strongest recommendations was that that EMS unit be reoriented to be an emergency care systems unit which looked at from the point of injury or illness to being discharged [inaudible 0:04:12] of the emergency unit at the reins.

If [inaudible 0:04:15.6] I think in national it is a complete blind spot, it's seen by many as a sort of casualty unit and it's interesting that people have this long term relationship with the primary care provider who they go to for chronic management, so whereas reality is that even though that on paper should exist people mostly, apart from picking up their meds and go into [inaudible 0:04:45.7] they mostly go seek healthcare when they don't feel well and that you could argue then [inaudible 0:04:52.6] emergency care means unscheduled acute care and for me that falls under emergency care, it's quite a wide remit that I'm giving there.

INTERVIEWER: Yes.

INTERVIEWEE: I think the national department sees emergency care as resuscitation, [inaudible 0:05:07.6] CPR whereas actually the overwhelming bulk of it really is acute primary care or unscheduled primary care or there is abdominal pain when you don't know how sick they really are, probably 5% of actual emergency care work really is that high-end big drama stuff, but that seems to be the only thing that people think about when you say emergency care at national or trauma or CPR. Provinces are a little bit different in Western Cape's got a pretty robust history, my post is over all of the emergency care for the province.

INTERVIEWER: Yes.

INTERVIEWEE: And be established within the EMS so they look after [inaudible 0:05:51.7]…

INTERVIEWER: Which is different because we…sorry to come in here…we don't have one in Gauteng.

INTERVIEWEE: Exactly, whereas KZN does have one but it has not been empowered the way that the Western Cape has and many other provinces don't have at all. So, Gauteng has very good emergency units with a lot of really well trained and smart people and they are a good EMS service, albeit decentralised but there's not much co-ordination between the two.

INTERVIEWER: Ja.

INTERVIEWEE: KZN has a provincial head of emergency medicine who has a sort of of overall governance responsibility across the province, but doesn't have much of an authority, it doesn't even have a secretary, it's just a few hours a week and have no interaction with EMS, my opinion is that it shouldn't be inside EMS rather than EMS being inside, but it's fine it's just an operational thing, a reporting up thing….but it means that EMS and facilities are completely coherently [inaudible 0:07:00.2], I mean it's not perfect by any means, but on paper we're completely...

So I sit with EMS managers on a daily basis and I sit with hospital managers on a daily basis and clinicians in EMS and clinicians in hospitals and it actually is…it's still some way from where it should be but it's actually a reasonably functional model [inaudible 0:07:24.9] but I know for a fact that the other six provinces have nothing even [inaudible 0:07:30.4] in the hospitals, it's somewhere between casualty and basic emergency unit.

INTERVIEWER: Ja, so there were two things that stood out for me there and really you are not the first person to mention these concepts. My last interview was with Dr. Joey Cupido, so he's brought me up to date on the Western Cape EMS. The one thing was that, because it's a blind spot at national and in most provinces, it is seen very much as emergency services as a transport service and not a care service, not a like you were saying, facility based.

INTERVIEWEE: [inaudible 0:08:12.8]

INTERVIEWER: And the second thing that I am hearing from you is about the lack of leadership in order to co-ordinate emergency care; am I correct in hearing that from you?

INTERVIEWEE: Exactly, yeah.

INTERVIEWER: Okay and I wonder, what is your view on if there should be a national position to coordinate care nationally throughout all levels?

INTERVIEWEE: Yeah I've said already, it was a strong recommendation in the department ministerial advisor committee back in 2013, we then in 20…I think it was 2017 we did…I helped the development of WHO Geneva the emergency care system assessment tool to the national assessment, we've done it now in about 50 countries. We did it in South Africa in I think 2017 September, I think, I could check that but part of it is about governance of the overall system and the number one recommendation that we made again was that the EMS office actually should not be an EMS office it should be an emergency care system office that has [inaudible 0:09:30.6] over, you know, it has some sort of say or control or leadership over community-based care, ambulance response, inter-facility transfer and then the primary care platform emergency care provision, you know, it has to have fingers into every part of the health service because emergency care happens at every part of the health field.

INTERVIEWER: Ya.

INTERVIEWEE: Not something that's been acted on though, the department doesn't seem to have the appetite for it because I think the only voice saying this at the national department is a paramedic and [Ravene Naidoo] is an absolutely superstar and he has my full backing…

INTERVIEWER: Ya.

INTERVIEWEE: You know on the pecking order of things in the health department, a paramedic stepping in does not come high.

INTERVIEWER: Ya.

INTERVIEWEE: So it's a bit unfortunate.

INTERVIEWER: Ya, shew okay, and can tell me with regard to the policies like the ideal clinic, what is your view on how emergency care has been included in those policies like the ideal clinic?

INTERVIEWEE: The ideal hospitals are a little bit more robust but the ideal clinic I think the opportunity was lost to really strengthen emergency care provision. I think it's a, [inaudible 0:10:54.4] is not the right word but it's a tiny corner of the clinic and obviously there's a lot more to a clinic than emergency care but I think again it's forgotten maybe is a bit strong, but it certainly is a blind spot and I get the sense that the people who have contributed the emergency care part had an uphill fight to try and have it included. I don't think…I understand it's supposed to be the minimum standard but even for that in a country with the resources that we have it's too low, I think it's a missed opportunity.

INTERVIEWER: Ya and also it's very standard spaced, it's about ticking the boxes and having the right equipment but it doesn't really speak to the process of care.

INTERVIEWEE: It doesn't speak to it at all but even the standards, I think they are very minimalistic and some of them I fundamentally disagree with, but ya, I mean it just talks about something like do you have a major incident plan, it tells you nothing about whether it's appropriate, whether it's been read, whether it's up to date, whether it's practiced, whether people know about, you know, those sort of important questions.

INTERVIEWER: And so because primary healthcare and the District Health Services has had a large focus on preventative care, I think that's where emergency care has kind of been forgotten; what is your view on how does it actually fit into the District Health System?

INTERVIEWEE: Well it's [inaudible 0:12:44.3] I think there's a natural or there is a requirement where it is natural, there is an absolute need for district health managers and commissions to have EMS leadership in the forums and whatever the cluster meetings are that they have, they need to be engaging with EMS for one, because EMS is the thing that moves the clinicians also moves the pieces around, so if EMS isn't speaking to the issues that they have both at primary care and in district hospitals, then you get all sorts of backlogs and bottlenecks and speed bumps and so on and then I think there's a need for district health managers and commissions, I'm a little bit worried about saying commissions and by commissions I mean commission leadership (the interns and cosmos that's not what I'm

talking about) it's on top and they're just really service providing, but the clinician management should we say, they really need to have clear direction on what emergency care, what role emergency care plays or should play in that facility, the important role that it can and should play and some clear guidance on how to develop it well because I think it's a part of the platform that moved in the corner where the doctor or nurses work with very little support or supervision and it's the inpatient from the district hospital, but the inpatient from the clinics but the preventative services get the bulk of the attention.

INTERVIEWER: Ya.

INTERVIEWEE: And I'm not saying they should, you know, I think ultimately given the proportion of resources that go into both, the preventative and ward base should still get the bulk of [inaudible 0:14:52.1] but it's something like 1% [inaudible 0:14:55.3] at the moment, it needs to be much more aligned to the [inaudible 0:14:58.8] worker which is probably more like [inaudible 0:15:00:2] and emergency care actually is the minority but it's a much bigger share of the workload and a much bigger share of the attention to care.

So, adding EMS into meetings, particularly at the district level, not necessarily at the facility level, although that's also important but then at facility level either in emergency care, an emergency unit clinicians representative [inaudible 0:15:28.5] and medical. In discussions in governence or we'd see a lot of, for instance, where a setup in a hospital, they don't even include emergency unit, you know, they talk about so this patient had a bad outcome in medical ward and a lot of that stems from emergency management that they've not included, they just talk, it's like the inpatient teams have the…because they've been around for longer they have the authority and the casualty must just do what they're told.

INTERVIEWER: Ya.

INTERVIEWEE: And I think we need a change in that sort of dynamic because if you can get the care right at the front door, whether it's in a clinic or in a hospital, we can really impact the length of stay and the cost of care in the outcome for the patient.

INTERVIEWER: So, the other thing that has been on the agenda of the National is the outreach teams, these district specialist teams and on the district specialist teams there hasn't been any representation of emergency medicine and I wanted to know your views on including either an emergency physician or an emergency nurse, a trauma emergency trained nurse, on those teams or operating in the district services because at the moment emergency

physicians and emergency nurses, you'll find most of them in our secondary and tertiary hospitals instead of in the district services.

INTERVIEWEE: Yeah I've given inputs into this before with the district services, so again this is not and I'm not saying the Western Cape has got the right solution, we just have a different model to the rest of the country and we've moved away from it, now it's kind of evolved but in 2007 or so the head of health set up his geographic, geographic service areas which is the same as, basically we had five in the Western Cape centred around the geographic district. So it's very similar to what the district specialist teams but we have, so I eventually appointed five emergency physicians, one for each of the geographic service areas [inaudible 0:18:00.9] and their job was to go out to the hospitals and clinics and DMRs and make sure that they were running a [inaudible 0:18:13.3] service and that the service that they were running spoke to provincial and national policies and that they were trained and that they all kind of joined up together.

So, each area would bring in a, like once a year they would have a training day where sort of half the day would be refresher training for some stuff, so almost like train the trainer on some key issues but the other half would be in a forum to exchange ideas and best practices and this is what we do in our small district hospital or this is what we do in the CHC in our area and that was replicated with anaesthesia and surgery and internal medicine and obstetrics and so on. When the district specialist teams came in, we already kind of knew [inaudible 0:18:58.2] we had about a ten year life on that [inaudible 0:19:05.8] I think the department felt that structures had been put in place closer to the ground that replace that, rightly or wrongly. The district specialists team didn't have an emergency medicine person in and I honestly want to say that I don't care whether it was a doctor or nurse, just someone who knows what they're talking about from an emergency unit point of view, you know, has an understanding of EMS and so on, I don't think it matters, you know, I think if you say specialist emergency physician you're causing a problem right there because we've got so few of them in the country.

INTERVIEWER: Ya.

INTERVIEWEE: But also, they are not always the right person, so a doctor or nurse just need that experience and training in emergency care.

The downside of it is I think the…how I understand in some provinces that the district teams in the poorer communities is more a sort of sitting in the middle with trying to look at the

kind of platform across the district, as opposed to where I think emergency care particularly would be more useful, which is to get in your car and go to those sites and study, you know, get to know, spend time on the ground, on the shop floor on each site to doing outreach activities, to teaching helping them, you know, you walk into places and you can see well you've got the wrong oxygen treatment here and why don't you have…you don't have in your unit and just seeing things that is hard to see when you're tied up, when it's your unit. Building relationships with people, linking them to other people in the area and linking them to EMS and building networks and I think if the teams were set up like that, emergency care absolutely would be centred on them. I think if it's sort of sit in the middle and theorise about the platform and writing policies from the platform, I don't honestly, I don't think it matters whether emergency care is there or not.

INTERVIEWER: Ya.

INTERVIEWEE: I think there's a really pressing need for someone smart in emergency care to be going unit to unit around and making these connections and making these networks and apart from anything else, helping people understand that it's not just them who's having a terrible time with trying to provide emergency care, everyone's in the same sort of boat. There's this small hospital down there is trying this solution and this CHC is doing well so why don't you try that and you should speak to that person at that hospital. That was probably the most useful thing that the first seven or eight years with my job here, really just networking people so that they know who to talk to and they're not just bombarded with politics from the middle.

INTERVIEWER: Ja, so if you could give your top recommendations, I know you've said quite a few of them already, but recommendations maybe for how the policies should work or any other recommendations like a leadership structure or could you summarise that for me?

INTERVIEWEE: We absolutely have to have an emergency care office and an EMS office, I think it is long overdue, I think each province needs a head of an emergency medicine, people who, its not about empire builders, it's not about that at all, I mean if you're looking at orthopaedics, it's very clear where you can go [inaudible 0:22:53.3], emergency care is apart from primary care, is probably the only part where you…part of the health system which is really transversal.

INTERVIEWER: Ya.

INTERVIEWEE: So it needs to be in the community about first aid and you know accessing the system and it needs to be in EMS and it needs to be in all the primary care facilities, whether they like it or not, someone will walk in with chest pain who is having a heart attack, someone will walk in with breathlessness and they have to know how to respond to those emergencies just long enough to get them to a facility and it has to be all district hospitals and above. So I think the correct recommendation would be each province needs to have a designated head of emergency care and not, I don't mean EMS, I mean emergency care.

INTERVIEWER: Ya.

INTERVIEWEE: Then I think we need much better integration into, well I''l come back to policy, third thing I would like to see some fairly robust outreach system put in place within each province where there's a geographic responsibility, a district responsibility from usually inevitably from a large hospital I imagine, just how structures are, such as a clinician, doctor or nurse who has some responsibility and accountability to try and implement the quality of emergency care in that district.

Then from a policy point of view I'd like to see a much more robust integration of emergency care in ideal clinic and ideal hospital, I think they are…as I said, there's huge gaps there and they would be, you know, inevitably I report to the minister, I had like a 190 recommendations, now tell me the three that you want me to do because I'm going to ignore the rest of them, so you know you end up with yellow ambulances and something else but I think but I'd probably keep it at three or four, you could pick three of those and if I was going to drop one of those I'd probably drop the district team and take it to national and provincial level, I think that they're the two most important at the policy level thing, that this ideal clinic is really important. I could come up with ten others, so I think then we'd be getting into people are not paying attention [inaudible 0:25:20.6] they think you're asking too much.

INTERVIEWER: Ya, shew, well you've really provided some great insight and you've echoed a lot of what a lot of the other people that I've interviewed have said, but I think you've answered all my questions very well and I'm very grateful for your time.

I'm going to write up all the interviews, I still have two more interviews and then I'm going to write up some recommendations, I will try and make them as short as possible, because as you say, after the first four nobody is really listening and I'm going to send them out again in the form of a Delphi to validate them, but I' very grateful for your time Professor Wallis and for your work, I really…I myself am passionate about emergency care especially in the

district health services, so I am really hoping that it will also become my life's work. I'm still young so I have some time ahead of me. So thank you for your time.

INTERVIEWEE: It's an absolute pleasure and good luck with that and once again accept my apologies for the delays but it's unusual times…

INTERVIEWER: Yes.

INTERVIEWEE: Reach out to me if and as and when I can help you.

INTERVIEWER: Thank you so much Professor Wallis and I completely understand.

INTERVIEWEE: It's an absolute pleasure.

INTERVIEWER: Have a good day, all the best, stay safe and keep healthy.

INTERVIEWEE: Okay you too, bye.

INTERVIEWER: Bye.

ANNEXURE 15: Interview Transcript Key Informant– 2

INTERVIEWER: Just to give you a quick background of the study my study's looking at emergency care in the district health services and in the first phase of the study what I did was I interviewed clinicians at the various District facilities like clinics, community health care centres, district hospitals to find out their experiences of emergency care in the district in the next phase was to look at the policies I looked at the major policies that informed the district health system and I tried to fish out the emergency care within our policies and now I'm in this phase where I interview the key informants to have identified as people who either make the policies implemented policies or teach the policies to find out your views on emergency care in the district health care system and in the next phase will be that I write it up in the form of recommendations which are sent back to the key informants to validate and the way that will be The study so that's kind of where you fit in so my first question is what is your view on emergency care in the district health care system?

INTERVIEWEE: Ok so I think that emergency care does feature most certainly and I think that when I look at the ideal clinic framework and so on there are indicators that say they must emergency care must be part of that it is at a mainly basic life support level in the district health system I mean when you are talking about the district health system you are talking about the clinics or are you talking about the hospitals district-level hospitals

INTERVIEWER: so I'm talking about the clinics the community health care centres and the district hospitals okay so yeah most certain.

INTERVIEWEE: It has to be essential and it reaches across all of those domains and the depending on the type of clinic the community health clinics are far better structured and can do more obviously and you normally have a doctor in there and the district health system I'm in the district hospitals there are definitely emergency care that's being provided in the emergency centres that are there you know at the at that level so I think that it's actually critical for emergency care to feature at the district Health Care Level and not be because you're at the reserve of regional or tertiary or Specialised hospitals, simply because these are there facilities that are in the Communities and will serve as Frontline emergency care

providers whether it's a primary health care nurse with that level of training with resuscitation as part of it or whether it's a doctor that specialises in emergency medicine or or you know whether you know a paramedic is part of the team but EMS should by and large preferably remain pre-hospital because it's a gap that we have we don't have enough of these type of personnel to be working in clinics in clinics are a different environment.

Yeah so that's my view I think it's an essential and critical component that should be further strengthened if not if anything within the district itself

INTERVIEWER: And with regard to the policies you mentioned the ideal clinic policy which is the kind of the major policy that informs the district health care system at the moment do you think that what's in the policy in the framework on emergency care do you think that it's sufficient

INTERVIEWEE: ok so if you look at the referral system these patient needs to be moved because it's a referral upwards to the appropriate level of care now if you look at a.

Primary health care clinic the basics that you should be able to do would be like standard resuscitation CPR bls resuscitation use of the AED and then move the patients so all of the other primary health care clinicians if it is an essential from the area it gives guidance on what a primary health care nurse can do and I think that's more than enough if they can do that they will be doing a lot to in terms of primary health care then the community health care clinics and that I think that they can step it up a little bit that's where you need your resuscitation trolley is and that so that the problem is. I think there's a lot in the policy and in the frameworks and stuff and the norms and standards and in the framework that says these must be provided but I think that it's also some of these things are still developing because when you look at when it comes to the resuscitation we talk about advanced Airway use you are supposed to have a laryngoscope intubation stuff and you should be having having defibrillators and that but because of cost and other financial constraints or skill restraint and salon you find that those services are not really being provided

INTERVIEWER: so that actually brings me to my next question the policies tend to focus on equipment and standards that should be in place in the clinic but not particularly on process and how emergency care should be rendered and the type of services that should be offered at each clinic do you think that there should be more clarity on these

INTERVIEWEE: you see it depends on what the policy is intended to do and what your tools are intended to do if you look at the those tools it speaks to the levels of provision and what needs to be there and who would provide that service the processes and so on will be is assumed to be inherent in the fact that you would employ a qualified primary health care nurse or a qualified doctor or a qualified any of the the clinicians and so on so you would expect those to be in place. I'm doing something very similar for EMS I'm not going to be looking at whether a paramedic has been trained to intubate and how they would do it I would have to assume that some of the skills are already inherent by virtue of their qualification so it wouldn't be processed driven it becomes more of a checklist but you have to have a higher order checklist you know it's not a checklist that ok I see let's check the resuscitation trolley you must have a OP Airway intubation endotracheal intubation nasopharyngeal Airways we not talking about doing that that would be a Checklist for that kind of stuff but if you look at the framework of the policy it speaks about higher ended like does the clinic meet the provisions to be able to undertake safe intubation you know so then we'll say yes the person has gone and done this and we can see that the people are trained they've got the minimum qualification and you seem that they would be doing continuous professional development and there's ongoing refreshers and clinical announcements you know that kind of stuff you know

INTERVIEWER: and my next question is particularly about PMS so it seems to me from a couple of the interviews that I've done that EMS and in facility Emergency care seems to be quite separate they seem to be two separate entities why is that?

INTERVIEWEE: Well, for one EMS is not a function of the clinic or a function of the hospitals. It is a standalone service by virtue of the constitution. The provision of ambulance

services is a provincial responsibility. Right? And there is reasons for that. It is about the infrastructure, the way EMS needs to be managed. We do not work within one clinic; we work across a sub district, across districts and at times across provinces and at times across the country. So, if you confine an ambulance to a particular clinic firstly the clinic needs to own the ambulance and they need to utilise it within the communities, those kinds of things. You have to have other community needs and so on. Now, there is not always that there is a dichotomous relationship between the clinic staff and the hospital staff and the EMS personnel. I think there needs to be a more, a fostering of that relationship. I have worked with clinics. I've worked in my clinical years with district level hospitals and you establish that relationship with the clinicians that are there. That takes a lot of hard work and you have to keep on at it, to get to know the clinicians, you get to know the people and there were times when I come in with a priority one patient to a hospital, they never asked me a single question thereafter, will be ready for it because we discourage that relationship. Then on the other side of things I think that, I want to say this as professionally as I can but I do not think that the nurses are trained as they should in emergency care. If the primary healthcare nurse, the context of training the primary healthcare nurse is not emergency care. And I have trained primary healthcare nurses when I was at EMS side of things at the university and at the college and so on. Sometimes it is the first time they have done CPR effectively or nobody has even showed them how to use a mask properly. In EMS we are very focused on our education and training. You have to be very time orientated, it is not relaxed. We are prepared to work with patients on the floor, on the bed, anywhere. So, if your whole education and development has been on a certain paradigm and a certain context it is hard to adjust. So, I had to go into many clinics and we had to start a resuscitation from the start, from the scratch yet they were professionals like nursing staff that are there and all that might have happened to the patient is the IV line drops, that is all. But no CPR or you have a major [inaudible 02:58] bleed, there's no intubation all of those kinds of things. So, I think that emergency nursing is definitely a profession and it has become a specialisation but it is at the higher end of the spectrum. And then the other problem with the clinics…I am giving you my EMS perspective right and I am not saying that I am right 100%. It is my own experience is that sometimes most district level hospitals in the most remote sites at the clinics, you have the most inexperienced staff that are there. And so, you know I have had to fly to intubate [inaudible 00:03:49] in Mduzi hospital which is a very district level hospital in northern Natal. And it was doing completely a primary response and complete stabilisation of this patient and again there is malnutrition there, I had to intubate those babies and yet there were

doctors there but they did not have the competence or should I say the confidence to be competent in that skill. They didn't have. So, that is another level of that. I do not know if that answers your question.

INTERVIEWER: No, it does absolutely. So, there are two questions I want to ask you as a follow on. The one is that EMS has you as the national director and emergency medicine or emergency care doesn't have a leader or an office or someone that is directing the emergency care nationally like there is you directing EMS. Do you think that that could possibly help?

INTERVIEWEE: Ja, it could help but it is the same thing as saying we have cardiology as a specialty in hospitals then you must have a cardiologist at national department of health.

INTERVIEWER: Ja.

INTERVIEWEE: Now, remember emergency care is a facility or is a provision of healthcare, a type of healthcare within a health establishment. EMS is separate, it is a health establishment on its own but you can also use the counter argument and you can say trauma needs to be managed across the spectrum and it is what we have been working with emergency medicine and the people that you might be talking to. Like Feroza Motala and B Wallace and the team and those kinds of guys. Where we see emergency care as a continuum and we define that in the [inaudible 00:05:47]. So, it is picking up an emergency patient from the point of injury or illness right up until they see the backdoor of the emergency centre.

INTERVIEWER: Ja.

INTERVIEWEE: So it is a continuum of care and that is what we have been fostering through the work that we have been doing. Now, when you look at emergency medicine conferences and that you are learning, you learn emergency learning, you learn pre hospital, emergency medical care, in the pre hospital environment you will have the emergency medicine guys and so on. It will take you forward like that.

INTERVIEWER: Ja, so there is an effort for more collaboration.

INTERVIEWEE: Ja, and we have done that at national we have created what we call the emergency forum. That is all the respective people but we did not have a meeting last year and this year because time pressures and all of the issues that are going on. But we looked at the priorities; we looked at the areas of common interest. We looked at things like handover processes, taking over processes, triaging from the pre hospital to in hospital and having a

common system, that kind of thing. There is another whole lot of activities that we are working on but like I say…So, I have been driving that for national from within my unit but you are quite right, the emergency care itself is not a line function, an appointed line function within the National Department of Health.

INTERVIEWER: And tell me if you had to give me a recommendation, if you could wish about what you think could improve the, first of all the in-facility emergency care in the district health services and then the EMS services within the district health?

INTERVIEWEE: So, what I would say is firstly we need to even if it is primary healthcare and it is a primary healthcare setting it has got to be a much stronger emergency care program within that. And that is based on not just where I come from now but based on my clinical experience at times when I used to teach the nursing staff and so on. So, you could see that there were gaps in the emergency care approach. So, it needs to become a strong module not just about CPR and so on. Like the way you would have the APLS, ATLS and so on.

INTERVIEWER: Yes.

INTERVIEWEE: So you have a program that is designed like that to bring people in.

INTERVIEWER: For the district.

INTERVIEWEE: Ja, and let it be a much more, stronger program not like a half day program kind of thing.

INTERVIEWER: Okay, so by a program you mean training?

INTERVIEWEE: Ja, training.

INTERVIEWER: And in terms of the EMS services?

INTERVIEWEE: So, EMS I think that EMS also needs to have a better appreciation of the roles of primary healthcare and the roles of the district health model and I think that is the gap that we have in EMS. Coming from an academic environment and I have curriculated based on almost all of the programs there seems to be a lack of disintegrated approach to healthcare. Very often we only feel that I am a pre hospital this is what I do and I have done my work and now it is handed over to the next person. We need to see patients that we are part of a complete system not just in the narrow area that we work in. The work that we do or we take over from the clinic and transport, or if you take a community health centre to a district health system, they must see that this is a continuum of care and understand the roles of all the other

healthcare professionals in this, not only have a narrow minded view of this is what I do. And that is where my job ends you know that kind of thing.

INTERVIEWER: Yes you are not the first person to say that. I have spoken to another academic in EMS at another university and he said the exact same thing that there is a gap in understanding where EMS fits in to the system.

INTERVIEWEE: And it comes from historically, when we first grew up in EMS, I was a young boy, I was twenty-one years old, going out and checking patients and that is the truth. And you know at that stage you have a very narrow view of things; you do not see our societal roles. We do not see ourselves as how does this impact on the socio economic situation in the country. Those high-end type thinking and that. So, you only think about it from that narrow point of view and that had to do with our training at that stage because we were taught skill based, go there, do this, x, y and z and you come out. It is almost like you fill in the checklist and check sheet and you do that. But you have got to see yourself as part of a healthcare team and healthcare profession.

INTERVIEWER: Ja, and I think that when you speak about the team that would then bring about your ideas about collaboration with the clinicians and the clinics in the facilities.

INTERVIEWEE: There is a lot of that that we have started to foster now like Feroza and B Wallace and those type of people because we have grown up and we have seen what the gaps are and so because of our good relationship, it is more personality dependent. What happens if you had somebody else that did not care about emergency nurses and emergency doctors and so on. Ag this is my world and they do not influence my world. Then obviously there is a breakdown in that system, you know.

INTERVIEWER: Okay, well thank you Mr Naidoo; that was very insightful. Thank you for your time; you have answered all my questions. You have really echoed a lot of the sentiments of some of the colleagues that you have mentioned, they have also been key informants in my study and they have all been saying basically the same things. So I am quite excited to write it up and I will email you the recommendations that I come up with, probably in the next two months for you to just have a look.

INTERVIEWEE: Ja, that will be wonderful; I do look forward to seeing that even if you do send me stuff and I do not respond immediately you must just send again and I will try and

makes some time. I come from an academic background and I am also trying to do this PhD but I just do not have the time and thinking space for any of that, you know.

INTERVIEWER: Yes, it's hard.

INTERVIEWEE: It is hard at the moment. All right.

INTERVIEWER: Thank you so much have a good evening and stay safe.

INTERVIEWEE: You too.

INTERVIEWER: Thank you. Bye.

ANNEXURE 16: Information letter to particpants of delphi study

Dear Sir/Madam

My name is Meghan Botes, and I am presently a candidate for a Degree in Doctor of Philosophy in the Nursing at the University of the Witwatersrand. I am conducting a research study emergency care at primary health care facilities and would like to invite you to participate in the study.

The aim of the study is:

- To analyse the system of emergency care using Walt and Gilson's policy analysis framework.
- To identify strengths and weaknesses/areas within the system of emergency care at a primary health care level.
- To develop guidelines for remodelling of the system of emergency care at a primary health care level that optimises strengths and minimizes weaknesses in the system.

It is anticipated that the information will help improve emergency care at a primary health care level. However, there are no immediate benefits for participating in the study but participating in the study will give you the opportunity to make known your needs and opinions as a health care practitioner dealing with emergencies at a primary health care facility.

Should you agree to participate, you will be required to participate in a Delphi Technique round of questionnaires. You will be asked to complete a questionnaire regarding the recommendations made from this study. You will be a part of a group of participants all completing the same questionnaire. After analyzing the results of the questionnaires, the questionnaire will be returned to you with some changes based on the findings. This process will be repeated until consensus is reached between all participants. Participation will require that you have an active email address to which the questionnaire may be mailed and returned.

Participation in this study is completely voluntary and you may refuse to participate or withdraw from the study at any point with no repercussions for you. Confidentiality will be maintained. All information and records will be kept confidential and only myself, Meghan Botes and my supervisors will have access to them. No personal information or identifiers

are required on the demographics form to ensure that you cannot be identified in any way; so your name will not be linked to your responses.

If you have any questions regarding the study, please feel free to contact me at

(011) 488-3317 during office hours, or 0729976409 after office hours.

Yours sincerely,

Meghan Botes

ANNEXURE 17: Consent to participate in delphi study

I agree that the study entitled "**Strengthening the emergency care system at a primary health care level using a framework for policy analysis"** has been explained to me by the researcher Meghan Botes and I have read and understand the information letter provided.

I agree to participate in the Delphi technique questionnaire which may continue until consensus is reached.

I understand that the findings will be used as a part of the research study and will add to the body of knowledge regarding emergency care at a primary health care level.

Signature: _____

Date:_____

ANNEXURE 18: Delphi Study Instrument – Round 1

Recommendations to strengthen emergency care in the District Health Care System: A Delphi Study

The purpose of this study is to investigate emergency care at primary health care level using a framework for policy analysis and to propose recommendations for strengthening the system of emergency care at this level.

Thank you for your valuable input into the development of these 14 recommendations. For this part of the study you will be required to complete the following short survey:

1. Review the recommendation proposed and indicate the extent to which you agree or disagree.
2. . You may add comments after each recommendation, which may include reasons for your response or further recommendations (optional).

This is the first round of this survey. You may be requested complete another round, depending on the degree of consensus between participants. Your input and time is vital for the success of this study and is highly valued!

Thank you!

Please provide your basic demographic details:	
Please provide a pseudonym of your choosing:	_____
Please provide an email address so that responses may be tracked for subsequent rounds:	_____
Gender:	◯ Female ◯ Male
Race:	◯ Black ◯ White ◯ Indian ◯ Coloured ◯ Other
Age:	◯ 30-39 ◯ 40-49 ◯ 50-59 ◯ 60-69 ◯ 70-79
Field of expertise:	◯ Policy maker ◯ Emergency Medical Services ◯ Emergency Medicine ◯ District Health Care Management
Highest level of Qualification:	◯ Basic Clinical Degree ◯ Post graduate diploma ◯ Masters Degree ◯ PhD
Years of experience in your field:	◯ 1-10 years ◯ 11-20 years ◯ 21-30 years ◯ 31-40 years ◯ 40 years and above

Please review each recommendation and select whether you agree or disagree with the proposed recommendations. You may add open ended comments for each recommendation (optional).

Recommendation 1: Emergency skills training is required for all health care practitioners working at District Health Care facilities.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 2: Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 3: A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 4: The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 5: A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 6: The office of emergency medical services should work in collaboration with the office of emergency care services to ensure an integrated approach to emergency care.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree

Comments	_____
Recommendation 7: Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 8: A multi-level emergency network or system that coordinates emergency care at all levels is needed.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 9: A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 10: A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 11: A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 12: The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree

Comments	
Recommendation 13: The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	
Recommendation 14: Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	
Additional Recommendations:	

ANNEXURE 19: Participant Open ended comments from Delphi Study – Round 1

Recommendation	Participant comments			
	Participant 1	**Participant 3**	**Participant 4**	**Participant 6**
Emergency skills training is required for all health care practitioners working at District Health Care facilities.	Depends what you mean by both parts. Basic recognition of the very sick, and initial stabilisation - for everyone. More in depth training for those who will work in the emergency centre	To improve health outcomes, golden hour response critical for patient.	effective immediate care is vital	
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner		Key aspects should be high quality training and optical Clinical response.	otherwise may not be applied BUT is challenging to develop	
A strategy for placement of specialised emergency care practitioners needs to be developed to include the		Implemented this practice in Western Cape DOH , with clear	What does the "District Health Care System include / exclude? Does	

District Health Care System as a setting for their practice.		evidence of improved health outcomes .	it exclude referral hospitals?	
The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.		There is overlap of clinical accountability in most hospitals in RSA	perhaps define which is over-arching?	
A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	this is above the current Director: EMS post - and covers the spectrum of emergency care	Emergency care contributes significantly to reduction of Case Fatality Rates.		
The office of emergency medical services should work in collaboration with the office of emergency care services to ensure an integrated approach to emergency care.	should be 1 office. EMS functions should be part of the emergency care office	Pre - and Intra - hospital emergency care should be seamless. Should be integrated and complimentary - not competing!	but why so fragmented?	

Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.		Dependent on local burden of disease as per morbidity and mortality surveillance.		
A multi-level emergency network or system that coordinates emergency care at all levels is needed.		Needs simple digital system that use coded medical conditions eg ICD 10 .		
A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.	EC office - per my earlier comment	Coordinating service provider should be held accountable by a mechanism that crosses the vertical budget silos. Thus an independent financial program manager that secures adequate	reflecting actual patient needs	

		funding across financial programs 2 , 3, 4 and 5 Funding for Emergency Care should be " ring fenced " and contributions from financial programs clearly demarcated and monitored .		
A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.		" Grading " of emergency centres as per Core Standards should be normal practice and Centres of Excellence certified as per such Core Standard. Certification should be subject to regular review (6 monthly) and based on Competency of resident Emergency		These questions are very Cape Town and state related have no relevance to other sectors

		Medicine Team and Essential Equipment List .		
A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.		Absolute and urgent matter - as current situation disastrous (as exposed by COVID 19)		
The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements		Most important it should focus on health outcomes at Emergency Units, by regulating that reports on health outcomes be mandatory. Specifically, morbidity and mortality data. This will include Coding of		

		all diagnosed diseases and Compulsory reporting on Case Fatality Rates to hospital management and hospital boards .		
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service		Coding of all diseases (manually and electronically) and compulsory Death Reporting within 48 hours .	is this EMS or wider?	
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.		District health facilities to create dedicated posts for Clinical Governance of Emergency Care Services	but don't forget the secondary and tertiary levels -can be critical in these cases	

ANNEXURE 20: Delphi Study Instrument – Round 2

Recommendations to strengthen emergency care in the District Health Care System: A Delphi Study Round 2

The purpose of this study is to investigate emergency care at primary health care level using a framework for policy analysis and to propose recommendations for strengthening the system of emergency care at this level.

Thank you for your valuable input into the development of these 14 recommendations. In the previous round we reached consensus on every statement, however, the analysis of open ended comments have led to the modification of of 7 of the 14 statements.

Please see below the level of consensus acheived for each recommendation:

Disagree & strongly disagree

Agree & strongly agree

Recommendations

%

%

Emergency skills training is required for all health care practitioners working at District Health Care facilities.

0

100

Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner

11.11

88.89

A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.

11.11

88.89

The role and definition of Emergency Medical Services, Emergency Medicine and Emergency Care services should be clarified.

0

100

A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.

0

100

The office of emergency medical services should work in collaboration with the office of emergency care services to ensure an integrated approach to emergency care.

11.11

88.89

Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.

0

100

A multi-level emergency network or system that coordinates emergency care at all levels is needed.

0

100

A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office and emergency medical services office.

0

100

A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.

0

100

A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.

0

100

The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements

0

100

The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service

0

100

Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended.

0

100

Total consensus

97.61%

The highlighted statements have been subjected to modification and therefore we invite you to:

1. Review the recommendations proposed and indicate the extent to which you agree or disagree.
2. You may add comments after each recommendation, which may include reasons for your response or further recommendations (optional).

This is the second round of this survey. You may be requested complete another round, depending on the degree of consensus between participants. Your input and time is vital for the success of this study and is highly valued!

Thank you!

Please provide your basic demographic details:	
Please provide a pseudonym of your choosing:	_____
Please provide an email address so that responses may be tracked for subsequent rounds:	_____
Gender:	◯ Female ◯ Male
Race:	◯ Black ◯ White ◯ Indian ◯ Coloured ◯ Other
Age:	◯ 30-39 ◯ 40-49 ◯ 50-59 ◯ 60-69 ◯ 70-79
Field of expertise:	◯ Policy maker ◯ Emergency Medical Services ◯ Emergency Medicine ◯ District Health Care Management

Highest level of Qualification:	◯ Basic Clinical Degree ◯ Post graduate diploma ◯ Masters Degree ◯ PhD
Years of experience in your field:	◯ 1-10 years ◯ 11-20 years ◯ 21-30 years ◯ 31-40 years ◯ 40 years and above

Please review each recommendation and select whether you agree or disagree with the proposed recommendations. You may add open ended comments for each recommendation (optional).

Recommendation 1: Basic emergency skills training is required for all health care practitioners working at District Health Care facilities.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 2: Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 3: A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 4: The role and definition of Emergency Care as an overarching system of care, and the role and defintion of Emergency Medical Services and Emergency Medicine should be clarified.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 5: A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 6: One office for emergency care should be established which covers the spectrum of emergency care including emergency medical services to ensure an integrated approach to emergency care.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree

Comments	_____
Recommendation 7: Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 8: A multi-level emergency network or system that coordinates emergency care at all levels is needed.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 9: A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and coordinated by the emergency care office.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 10: A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____
Recommendation 11: A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	◯ Strongly agree ◯ Agree ◯ Disagree ◯ Strongly Disagree
Comments	_____

Recommendation 12:

The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements, with a specific focus on the health outcomes of emergency care including mortality and morbidity.

- ◯ Strongly agree
- ◯ Agree
- ◯ Disagree
- ◯ Strongly Disagree

Comments

Recommendation 13:

The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service, this includes the development of a diagnostic coding system.

- ◯ Strongly agree
- ◯ Agree
- ◯ Disagree
- ◯ Strongly Disagree

Comments

Recommendation 14:

Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended, and therefore dedicated posts for emeregncy specialist practitoners should be created within the District Health System.

- ◯ Strongly agree
- ◯ Agree
- ◯ Disagree
- ◯ Strongly Disagree

Comments

Additional Recommendations:

ANNEXURE 21: Participant Open ended comments from Delphi Study – Round 2

Recommendation	**Participant comments**		
	Participant 1	**Participant 3**	**Participant 4**
Basic emergency skills training is required for all health care practitioners working at District Health Disagree Care facilities.	To ensure the quality of emergency health care services		
Emergency skills training should be context specific and appropriate for the scope and capacity of the health care practitioner	To build capacity for Level 1 and 2 care services.		
A strategy for placement of specialised emergency care practitioners needs to be developed to include the District Health Care System as a setting for their practice.	As part of PHC team	Clarity would be needed in relation to the qualification/HPCSA registration category envisaged for this role.	
The role and definition of Emergency Care as an overarching system of care, and the role and definition of Emergency Medical	To enable a proper structure for services and management		

Services and Emergency Medicine should be clarified.			
A position of leadership for emergency care at a national health level is required to ensure that emergency care becomes a priority for the National Health Care System.	To ensure the importance of the service		
One office for emergency care should be established which covers the spectrum of emergency care including emergency medical services to ensure an integrated approach to emergency care	For supervision and management of the services		
Policy requirements and standards should acknowledge variations in context between facilities and provide appropriate direction for these different levels of care.	This will determine the type of training and placement of such specialist.		
A multi-level emergency network or system that coordinates emergency care at all levels is needed.	Not sure how it will work		

A clear referral process, appropriate for various contexts should be developed at the level of each district involving stakeholders from all facilities and **coordinated by the emergency care office**	Coordination should be at district level		Not just districts - must include regional hospitals at the very least
A consolidation of emergency care centres should be conducted to identify facilities within the District Health Care System that have greater capacity to manage complicated emergencies, while lower level facilities are empowered to stabilise and refer.	All CHCs and big clinic should have capacity to manage emergency PHC conditions		
A National Emergency Care strategy must be developed in order to form a strong emergency system that integrates functionally with the District Health Care System.	A proper structure is important		integrates with the entire health system

The content of a national emergency care strategy should emphasise the processes and quality of the service and not only the physical requirements, **with a specific focus on the health outcomes of emergency care including mortality and morbidity.**	Training curriculum and management Guidelines should be developed.		
The development of a system for data capturing regarding emergency services is needed to provide feedback on the efficiency and effectiveness of the service, **this includes the development of a diagnostic coding system.**	Proper recording keeping and data are necessary to monitor and evaluate performance		
Leadership at a district level to champion the cause of emergency care and provide support for the implementation of policies is recommended, **and therefore dedicated posts for emergency**	Integration will be necessary with clinicians to avoid vertical program which will not achieve the desired goals		

specialist practitioners should be created within the District Health System.			
General Comments	It is important to understand the health service delivery dynamics of PHC facilities. In a clinic; nurse, clinical associates, medical officials and family physicians all work together to provide emergency services so working with this team in clinics will improve the service. One or few emergency care physicians can not cover 94 PHC facilities in the case of Ekurhuleni.		