

“We’re kind of screwed”:
Perspectives of
Emergency Medical Workers on the
Western Cape EMS system

by

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Abstract

The World Health Organization honours Emergency Medical Service (EMS) systems as a vital part of any effective health care system and as such, it remains an important topic for research. Literature on South African EMS systems is limited and thus a need exists to better understand South African EMS systems. The aim of this study was to explore the perspectives of Emergency Medical Workers (EMWs) on the Western Cape provincial EMS system. In addition, the study aimed to uncover the insights of the EMWs into the daily operations, struggles, communication and interactions within the EMS system. Obtaining these insights were thought to be important since South African EMWs face multiple challenges in their occupations, such as burnout, critical incident exposure, occupational stress and so forth. In part, these challenges are a result of the effect that the country's political history of Apartheid has had on EMS, as well as the current burden of inequality, poverty, poor infrastructure, multiple communicable diseases (such as HIV/AIDS and Tuberculosis) and the high rate of trauma and violence. In order to meet the aims of this study, a qualitative paradigm with open, unrestrictive methods was employed. Three semi-structured focus group discussions (consisting of four, four and six EMWs respectively) were conducted. The analysis was inductive or data-driven and specifically involved a thematic analysis, combined with a matrix and saliency analysis. This open, inductive approach was not only appropriate to the explorative nature of the study, but also allowed for new and unique insights to emerge. The analysis firstly revealed that the EMWs perceived the EMS to be a complex, interdependent system that is hierarchically organized and politically influenced. In addition, the EMWs perceived themselves to be at the bottom of this hierarchy, yet they also placed emphasis on the expertise and prestige associated with their occupation. As such, they seem to have a dual identity and position within the EMS system. Secondly, by exploring the EMWs' perceptions of and interactions with the other role-players in the EMS system (call-takers, dispatchers and management) it was found that communication plays a vital role within the EMS system and permeates the system in both a broader and more subtle way than initially postulated by previous research. The EMWs also indicated that they wanted the other role-players in the EMS system to experience and better understand their day-to-day tasks and struggles. Thirdly, the EMWs revealed how they are passionate about and dedicated to their jobs and that their first priority is to provide quality care to the patient. Yet they also raised some

concerns around how the occupation has potential adverse effects on their physical and psychological well-being. Finally, it was found that the EMWs faced many daily struggles and obstacles, of which finding the correct location of the incident and getting to the scene of the incident within their time targets was a major concern. Overall the EMWs that the issues that cause a lot of aggravation and distress for them are actually those minor aspects which are often overlooked by the management of the EMS. In other words, for the EMWs, the devil lies in the details. To conclude, this research yielded unique and new insights into a South African EMS system and into the occupation of the EMWs. These results serve as an important exploratory step from which further research in this area may be extended and it also has the potential to generate interventions for improving the working environments and job satisfaction of EMWs and as such may have an impact on the efficiency of the EMS systems in general.

Keywords: *Emergency Medical Workers, Emergency Medical Services, South Africa, Teamwork, Hierarchies in Emergency Medical Services, Communication, Work Engagement, Identity of Emergency Medical Workers, Coping Mechanisms, Political influences on Public Health.*

Plagiarism Declaration

I, Juanita Luzaane Pelzer, hereby declare that this master’s research report is the product of my own independent work. I have not allowed, and will not allow, another party to duplicate my work with the intent of passing it off as his/her personal effort.

I further acknowledge that I am well aware of what plagiarism is and I know that plagiarism is an offense. As such, where content was drawn directly or indirectly from an external source, the source was referenced and cited using the American Psychological Association (APA) reference technique.

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Signature

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Chapter 1: Introduction

The existence of Emergency Medicine as a distinct medical sector is a relatively new and unexplored field, particularly in developing countries, such as South Africa. In South Africa the development of Emergency Medical Services (EMS) has been greatly affected by the country's political history of Apartheid and currently the burden of inequality, poverty, poor infrastructure, multiple communicable diseases (such as HIV/AIDS and Tuberculosis) and the high rate of trauma and violence results in a great need for effective EMS or pre-hospital care (Govender, Grainer, Naidoo & MacDonald, 2011). As such, looking into Emergency Medical Services in South Africa has the potential to yield interesting results, due to the unique context of the country.

Yet research on the topic of Emergency Medical Services in South Africa is minimal. Moreover, the studies that have been conducted in South Africa have focused largely on topics around the physical and psychological welfare of emergency workers. For example, a number of South African studies have looked into the needs of Emergency Medical Workers (EMWs) (Kriek, 2008), work engagement (Naudé & Rothman, 2006), burnout (Stassen, Van Nugteren & Stein, 2012), critical incident exposure (Ward, Lombard & Gwebushe, 2006) and occupational stress (Naudé & Rothman, 2006; Sparrius, 1992). Internationally, the majority of research studies into EMS have also focused on the physical and psychological welfare of emergency workers, such as occupational stress, burnout, critical incident exposure and post-traumatic stress. Less attention has been given to coping mechanisms used by emergency workers. There are also a number of international studies on the characteristics of emergency workers.

Moreover, the researcher noted that some important understandings appear to be missing from the current literature on EMS. Firstly, few empirical studies have described or examined an EMS system in its entirety. Thus, there is limited information on the structure and operation of EMS systems. Since an EMS system is apparently wide-ranging, multifaceted and complicated (Al-Shaqsi, 2010), the researcher believes that there is a need to better understand the structure and operation of EMS systems. The researcher further believed that a better understanding of EMS systems may be particularly valuable in the unique South African context, where EMS systems are influenced by the political history of the country and various socio-economic factors. Secondly, even though a number of studies into EMS

have made use of EMWs as participants, the majority of these studies have focused on Advanced Life Support Practitioners, which is the highest level of qualification for an EMW. Hence, the EMWs with a lower qualification have largely been ignored in previous literature. Thirdly, although the subject of communication within the EMS system has been highlighted as highly important by authors such as Patrick, Barger and Deasy (2010), who stated that the provision of EMS requires good coordination and efficient communication, and although the topic has been briefly discussed by a number of authors (Carriere, Burque & Bonnaccio, 2007; Kriek, 2008; Nordby, 2004; O'Meara & Boyle, 2012; Wyatt, Illingworth, Graham & Hogg, 2012), there seems to be an absence of thorough empirical investigation into the role and manifestation of communication within an EMS system. Additionally, since communication within an EMS system is described as an intricate process involving many role-players (Patrick, Barger & Deasy, 2010), a broad and comprehensive investigation into communication within an EMS system is necessary. Particularly so in South Africa since it is a multilingual country. Finally the researcher noted that the existing studies into EMS (both international and South African) made use of quantitative research methods and thus there seems to be a definite lack of explorative research into EMS systems. Since research on EMS is relatively rare, especially in South Africa, more explorative approaches may yield interesting results and new topics for research.

This study's main aim was to explore the perspectives of EMWs on the Western Cape provincial EMS system in which they are employed and as such to indirectly obtain an insider's perspective and general better understanding of the structure and operation of the entire EMS system. The researcher further believed that the EMWs' insiders' perspective of the system had the potential to yield valuable, new and interesting insights. Moreover, this study used EMWs with different levels of qualifications (as opposed to only Advanced Life Support practitioners) as participants in an attempt to obtain a broad and comprehensive range of perspectives on the EMS system. In addition, this study also aimed to explore and better understand the communication practices and the interaction that takes place within the EMS system. Since communication within an EMS system is believed to be an intricate process involving many role-players (Patrick, Barger & Deasy, 2010), a broad and comprehensive investigation into communication within an EMS system is ultimately necessary. Although such a broad and comprehensive investigation into communication was beyond the scope of this study, the study did attempt to gain insight into a certain area of communication within the EMS system, specifically, communication that either directly or

indirectly involved the EMWs. In addition, this study made use of an explorative or qualitative research methodology, because the topic under investigation is relatively unexplored. It was also believed that the explorative approach had the potential to yield rich and unexpected data and findings.

Moreover, the study formed part of a larger study undertaken by the Health Communication Research Unit (HCRU) of the University of the Witwatersrand. As a multidisciplinary research group, the HCRU is concerned with the unique challenges of cross-cultural and cross-linguistic communication in the health care context of South Africa. Research done by the HCRU aims to inform policy and to deliver practical guidelines for site-specific communication training (The Health Communication Project, 2012). The HCRU is currently undertaking the Emergency Call Centre Project, which aims to identify communication facilitators and barriers in Emergency Medical Calls at the EMS of the Department of Health in the Western Cape (The Health Communication Project, 2012). To date, the HCRU have focused their research almost exclusively on the communication that takes place in the Emergency Call Centre (in other words, the communication between the caller and the call-taker) with the ultimate goal of improving Call Centre practice. With this study the scope was broadened to explore another area of the EMS system, by focusing on the EMWs. Accordingly, this study brought the HCRU one step closer to understanding the Western Cape EMS system and its communication practices as a whole. This understanding could ultimately contribute to developing a training model, involving all areas of the EMS system, in an attempt to improve service delivery.

The following three chapters will provide a thorough discussion of the current literature related to EMS and EMWs. Firstly, an overview of the structure and operation of an EMS system will be provided. Specifically, this chapter will touch on the different models of EMS, introduce the Western Cape provincial EMS where the participants of this study are situated, discuss the difference between public and private health services in South Africa, highlight the important role of communication within an EMS system and lay out the areas of communication that affect the EMWs, emphasize the importance of teamwork in an EMS system, consider the evaluation of EMS systems and finally touch on how public health can be affected by political influences. The second chapter will introduce the EMW. A description of the EMWs' occupation will be provided, followed by an overview of what previous studies have found on the characteristics of EMWs. In addition, the chapter will discuss possible dangers associated with the occupation, such as occupational stress, burnout,

critical incidents and post-traumatic stress, as well as the mechanisms that EMWs have been found to employ in an attempt to cope with the above-mentioned issues. Chapter four will discuss EMS in the South African context, thus the country's demographic and health profiles will be portrayed along with how this affects the country's EMS.

Chapter five will give a detailed account of the research methodology used for this study. The study design, sampling procedure, method of data collection, ethical considerations, methods of analysis and the means employed to establish rigour will be discussed in detail. The sixth chapter contains the results of this study. Specifically, the study found that the EMWs perceived and described the EMS system as an interdependent and hierarchically organized system. The study also revealed how the EMWs interact with and perceive the other role-players in the EMS system. These role-players are: the call-takers (who answer emergency calls), the dispatchers (who liaise with the call-takers and then proceed to dispatch the EMWs to an emergency) and the managers of the EMS system. In addition, the EMWs exposed how they see themselves within the EMS system, how they view their occupation and how the occupation affects their physical and psychological well-being. The study further discovered what the EMWs perceived to be major obstacles in their occupations as EMWs. Finally, the EMWs participating in this study were able to give their perceptions of how the community and the government of the Western Cape affect the EMS system. These findings and the implications thereof will be discussed in chapter seven. The paper will conclude in chapter eight, followed by some limitations and recommendations for future study and to the Western Cape EMS in chapter nine.

Overall the findings of this study provided a deeper understanding of a South African EMS system, communication within the system, the occupation of an EMW, the daily struggles of an EMW and the perceived influences of the community and government on the EMS system. The findings further highlighted areas for possible intervention and change for the better in the Western Cape EMS. These insights can also be applied to other EMS systems in South Africa. Finally, due to the explorative nature of the study, the results provided directions for new research into EMS

Chapter 2: An Overview of Emergency Medical Services

A country's EMS system contributes widely to the overall function of its health care systems. The EMS can be defined as a broad system consisting of the personnel, facilities and equipment required to assure the effective, coordinated and timely delivery of health and safety services to victims of unexpected illness or injury (Al-Shaqsi, 2010). The function of EMS can be broken down into four basic tasks, namely, providing access to emergency care, providing care in the community, providing care during transportation of the patient, and care upon arrival to a receiving health care facility. EMWs are the first responders to the ill or injured patient and provide 24 hour medical response, pre-hospital care and the service of transport to the nearest health care facility to the public (Western Cape Government, 2012a).

Models of EMS Systems

Since the 1970's there have been two major pre-hospital emergency care systems in use, namely the Anglo-American model and the Franco-German model. However, other systems are being established (some are a combination of the two models mentioned above), particularly in developing countries that are constrained by a lack of resources (Al-Shaqsi, 2010; MacFarlane & Benn, 2003).

The Anglo-American model of EMS is based on a 'scoop and run' philosophy (Al-Shaqsi, 2010). The aim is thus to deliver a patient to a hospital as quickly as possible, with little pre-hospital interventions at the scene of the incident and en route. Patients are typically transported by EMWs directly to technologically advanced Emergency Departments (as opposed to hospital wards) and from there transferred to specialist departments, such as a coronary care unit (Dr. C. Stein, personal communication, 18 July 2014). The system is run by trained EMWs and EMTs, with clinical supervision. It relies heavily on land ambulance and less so on aero-medical evacuation. This model of EMS usually operates in association with public safety services, such as the fire brigade and police department, rather than with public health services and hospitals. Anglo-American EMS systems are typically used in countries (for example in the United States of America, Canada, New-Zealand and Australia) where emergency medical services is well-established and accepted as a distinct medical speciality.

On the other hand, the Franco-German model of EMS is based on the ‘stay and stabilise’ principle. The idea is almost to ‘bring the hospital to the patient’ and to provide maximum treatment at the scene of the incident. As such, these systems are run by emergency physicians with a wide-ranging scope of practice, who have access to advanced technology. In the event that patients are transported to a hospital, they are admitted directly to a specialist department, such as a coronary care unit. Patients are transported by road ambulances as well as helicopters and coastal ambulances (a boat used for emergency medical care in island areas such as the city of Venice, Italy, the UK and so forth). This system is usually a sub-system of a wider health system and is widely implemented in European countries (such as Germany, France, Greece and Austria) where emergency medical services is a relatively young field.

	Franco-German model	Anglo-American model
No. of patients	More treated on scene, few transported to hospitals	Few treated on scene, more transported to hospitals
Provider of care	Medical doctors supported by EMWs	EMWs with medical oversight
Main motive	Brings the hospital to the patient	Brings the patient to the hospital
Destination for transported patients	Direct transport to hospital wards i.e.: bypassing EDs	Direct transport to EDs
Overarching organisation	EMS is part of public health organisation	EMS is a part of public

Table 1: Comparison between Franco-German model and Anglo-American model (Al-Shaqsi, 2010, p. 321)

As can be seen in the table above, the two models thus have the same primary goal for trauma patients and the critically ill, but they differ when it comes to non-critical care and transport (Al-Shaqsi, 2010). A number of studies have tried to compare the two models in terms of outcomes and/or cost-effectiveness, yet most of the studies found that the models seem to not be comparable, since they function in different contexts and have different demands to meet. As such, one model cannot be presumed to be better or worse than the other. Nonetheless, Al-

Shaqsi (2010) notes that patient outcome should ultimately be the judging standard on which model is best.

Yet another method of classification of EMS systems is according to the level of care provided (Al-Shaqsi, 2010). The Basic Life Support (BLS) model is associated with the 'load and go' approach and is thus similar to the Anglo-American model. The goal is to provide prompt transport to a healthcare facility and to offer only basic, non-invasive interventions. These interventions may include cardio-pulmonary resuscitation (CPR), fracture splinting, full immobilisation and oxygen administration. In contrast, the Advanced Life Support (ALS) model is associated with the 'stay and stabilise' approach. Services include all BLS interventions, with the addition of invasive procedures such as endotracheal intubation, IV line placement, chest decompression and the administration of a wide range of medications.

Under the level of care classification system, the typical "all-ALS" system operates as a fleet of ambulances managing both urgent and non-urgent care of patients. All vehicles are manned by an ALS practitioner. On the other hand, some EMS systems make use of what is called a "tiered" response system that is comprised of both BLS, ILS and ALS crews. This system dispatches ILS and ALS crews to serious and critical cases and uses BLS crews for non-critical cases and scheduled transports of stable patients. The advantage of this system is that it leaves ALS crews available to provide acute care to seriously ill or injured patients. The EMS system operating in South Africa makes use of both BLS, ILS and ALS crews (Al-Shaqsi, 2010).

The Western Cape Provincial EMS System

The Western Cape Department of Health's EMS provides a medical response and pre-hospital care service to the public, which is available 24/7. The Western Cape EMS as a whole consists of 1 730 members of staff. The service is also supplemented by volunteers if need be. The EMS system is divided up into three divisions, namely the ambulance service, rescue services and Healthnet (which provide non-emergency inter-facility transport). This study focused on the ambulance services. There are approximately 251 ambulance vehicles operating in the Western Cape. Each ambulance is equipped with complete medical supplies, such as appropriate medical apparatus and medication, as well as a stretcher. Ambulances are

manned by skilful EMWs, who work in teams of two per ambulance and provide quality care based on their training (Western Cape Government, n.d.).

Recently the City of Cape Town has introduced a single toll-free number for residents of the city. Thus when a resident calls 107 from a landline, the call-taker at the Emergency Call Centre is able to see the caller's number, location and service delivery area, which makes service delivery much easier and more effective (Western Cape Government, 2004). In addition, the Western Cape Provincial EMS set a goal of reaching 90% of Priority 1 calls within fifteen minutes, both in the city and outside of the Metropole by the end of 2011. Yet due to practical constraints, a different benchmark may be applied to rural areas (Dr. C. Stein, personal communication, 18 July 2014). Nonetheless, this goal specifically required the restructuring of communication processes within the call centre, since service provision is ultimately reliant on effective communication (Western Cape Health, 2011).

According to the facility's website (<http://www.westerncape.gov.za/service/medical-emergency-transport-and-rescue-metro>), EMWs administer basic medical assistance to patients on the scene of the event and then proceed to transport the patient to the nearest health care facility for complete medical treatment. This is in line with the Anglo-American model of EMS, which has the goal of taking the patient to the hospital. Yet the researcher must raise two points of concern here. Firstly, this study clearly indicated that the Western Cape EMS does also employ a number of ALS practitioners and thus the service also provides ALS procedures to patients on-scene and/or en route to the hospital. Secondly, due to its political history, the country's Emergency medical services system is not well-developed or well-established. In fact, formal regulations to govern the operation of ambulance services were only introduced in 2010 (Western Cape Ministry of Health, 2010). Yet South Africa, as well as the Western Cape, makes use of the Anglo-American model, which is actually intended for countries with a well-developed Emergency Medicine discipline. The researcher would have expected South Africa to be making use of the Franco-German model of EMS, which is based on a 'stay and stabilise' philosophy and is, in the researcher's opinion, more appropriate to countries where Emergency Care is not a well-established field. However, it is understandable that South Africa's EMS suffers from a lack of resources, such as a lack of ALS practitioners, and thus the country might not be able to utilize specialist physicians to deliver pre-hospital care. Perhaps South Africa, like other developing countries with a lack of resources, could develop their own model of EMS, which is a combination of various existing EMS models (Al-Shaqsi, 2010).

Public versus Private Health Services in South Africa

South Africa employs a structure of province based government ambulance services that is supplemented by private ambulance services (Sharlin & Alagappan, 2010). The private health system is nationally based and provides services to around 20% of the South African population, yet receives 70% of the total available finances and resources. However, note that this is not to say the source of funding is the same. As such, the private sector is financially better off and can afford the necessary staff, equipment and medication to provide first-world health care and medications to the more privileged members of the population in a comfortable setting. The rest of the population is served by provincially based public health services. Healthcare in general is very much divided along socio-economic lines in South Africa. A massive gap in quality exists between the private and public sector and, in practice, these systems cater to different populations. The public healthcare system mainly serves a lower-income bracket while those who can afford it use the private healthcare system (Sharlin & Alagappan, 2010).

In part due to the high trauma rates in South Africa, the public emergency services are overstretched. In recent years, private "rapid response" emergency services have been established to fill the essential gap. The biggest private EMS is Netcare911, which has the largest fleet of emergency response vehicles - cars, ambulances, helicopters and fixed wing aircraft - and paramedics in the country. Most medical schemes cover private ambulance services, yet the cost involved are often steep (in monthly premiums or excess payments). Conversely, the amount charged for public health services is based on a rating scale and will depend on how much a person earns and on how many dependents the person has. However, a patient is likely to be charged additional amounts for medication and tests (SouthAfrica.info, n.d.).

The government ambulance services are referred to as "METRO" or Medical Emergency Transport and Rescue (Sharlin & Alagappan, 2010). In South Africa, the National Emergency Number for an ambulance is 10 177. These services are further supplemented by volunteer ambulance services, such as SA Red Cross and St John's. In general, the public health sector is under resourced and understaffed (Wallis, Garach & Kropman, 2008). As such, the public

health sector is under tremendous pressure, with demands more often than not exceeded the available resources. As a result, the public health sector frequently fails to adequately service the large area which they are supposed to service.

The Important Role of Communication

What is communication?

Communication can be understood as the passing of information in verbal, non-verbal or written form. West and Turner (2009) go on to identify six types of communication. Firstly, intrapersonal communication refers to a person communicating with him/herself. Secondly, interpersonal communication is understood as communication between (usually) two people. Thirdly, small group communication takes place between members of a small task group. In the fourth instance, organizational communication refers to communication with and among a large, extended environment which has a defined hierarchy. The fifth kind of communication is known as mass communication and refers to a large audience being addressed via some mediated channel, like the television or radio. Lastly public communication is when a single person presents a live speech to a large audience. Each of these types of communication is thought to be effected by the pervasive influences of both culture and technology (West & Turner, 2009).

Models of communication.

Furthermore, there are three main models of communication. The first was developed in 1949 by Shannon and Weaver and is known as the Linear Model of Communication. This model views communication as a linear or one-way process in which the speaker speaks and the listener listens. In addition, there is the possibility of 'noise' or interference distorting the understanding between the speaker and the listener (Wood, 2009). Subsequently Schramm developed the Interactive Model of Communication in 1955. This model depicts the speaker and the listener as both taking turns to speak and to listen to each other. It also portrays the listener or receiver as providing feedback to the speaker or sender and proposes that the communication will work best if the two parties involved have a common field of experience (Wood, 2009). The latest model of communication is known as the Transactional Model, which depicts the elements in communication as interdependent (see figure 2). The idea is that each person is both a speaker and a listener and can simultaneously send and receive messages. Thus the implication is that communication is a continuous process, plus it

proposes that each person involved in the communication acts according to their background, previous experiences, attitudes, cultural beliefs, self-esteem et cetera (Wood, 2009). This model also takes the possibility of noise or interference into account.

Figure 1: The Transactional Model of Communication (Wood, 2009)

Interferences with efficient communication.

It might be worthwhile to consider exactly what is meant by the concept of ‘noise’ or interferences that hinder efficient communication. According to West and Turner (2009), noise is anything that hinders the message that is being exchanged. According to these authors there are four different types of noise. Firstly, there is what is referred to as Physical or External noise. This is considered to be anything that is located outside of the receiver that makes the message difficult to hear or understand, for instance a bad telephone line. Secondly, Physiological noise is some biological factor that has an influence on the reception of the message, for instance, a hearing or speech impairment. The third type of noise is called Psychological or internal noise. This refers to the communicator’s biases, prejudices and feelings towards the other person and/or the message. Lastly, Semantic noise occurs when the sender and the receiver of the message in question each applies a different meaning to the

same message. This can be due to the use of jargon or a language barrier. Consequently, this study will explore the presence or absence of various types of noise in communication, as perceived by the EMWs.

Communication in the EMS system.

The communication within an EMS system is complex and involves a number of role-players (see Figure 1 for a depiction, according to the researcher, of the flow of information in the EMS system). As such, the researcher deemed it appropriate to make use of the Transactional Model (over and above other models, such as ecological or systemic frameworks) to understand communication in the EMS system. In the EMS system, each person is both a speaker and a listener and can simultaneously send and receive messages. For instance, when a dispatcher is giving information about an incident to an EMW, both the dispatcher and the EMW is simultaneously a speaker and a listener. Additionally, each person involved in the communication acts according to their background, previous experiences, attitudes, cultural beliefs, self-esteem and so forth (Wood, 2009). For instance, the dispatcher may have an African cultural background, have poor self-esteem which influences his/her behaviour and he/she may have a negative attitude towards his/her job, which will have an impact on his/her behaviour and in turn this will affect the communication. Similarly, the EMW might have a European cultural background and may have had a negative previous experience with a dispatcher that will influence his/her behaviour and communication. The problem with communication in EMS is a minor miscommunication can have severe consequences for a patient. The transactional model also takes the possibility of noise or interference into account, which is specifically relevant in EMS communication. Various matters can make the message difficult to hear or understand, for instance a bad telephone line, background noise and so forth. Individuals may also have a physical impairment that makes a message difficult to convey or understand and in South Africa, where we have eleven official languages, linguistic differences or even heavy accents may influence communication. Individuals may also have personal biases, prejudices and feelings towards the other person and/or the message, which will interfere with efficient communication. Finally, there is always the possibility that the speaker and listener may apply different meanings to the same message, resulting in potentially disastrous miscommunication.

According to Patrick, Barger and Deasy (2010) the provision of EMS requires good coordination and efficient communication, as the success of an EMS system in timely and

accurate dispatch of the appropriate resources to emergencies is determined by the communication system of that EMS. Specifically, an EMS system must be easily accessible, have a well-organized dispatch system, be adept at communicating with and directing mobile resources in the community and have a well-thought-out approach for patient handover between health care providers (Patrick, Barger & Deasy, 2010).



Figure 2: The flow of information in the EMS system

Areas of communication for the EMWs.

A review of various sources reveals that EMWs communicate to different people and organisations on a daily or regular basis. Attention will now be turned to these areas of interaction.

1) Communication within the EMS system (Caller to Call-Taker to Dispatch to EMW).

It is crucial for EMWs to be able to get to the scene of the incident with speed and accuracy. This depends to a large extent on efficient communication firstly between the caller and the call-taker, then between the call-taker and the dispatcher and then between the dispatcher and the EMWs or the ambulance driver. Thus, in the first instance, geographical information needs to be acquired and transmitted accurately: did the caller give the correct address? Did the correct information get passed on from the call-taker to the dispatcher to the EMWs? If any information gets distorted during this process, the ambulance will in fact not reach the

appropriate location on time or at all, which could have fatal consequences. Consequently, careful and effective communication within the EMS system is of critical importance. Ballard (2009) notes the importance of developing referral systems to ensure that no time is wasted in searching for an incident scene or receiving hospital and also to ensure that communication can occur with as little difficulty as possible. Furthermore, O'Meara and Boyle's (2012) observed that practical difficulties in reaching both urban and rural locations results in lengthy response times. Hence it might be worthwhile to ask what role communication within the EMS system plays here, thus, could poor communication form part of the practical difficulties in reaching certain locations? Perhaps the call-takers, as well as the dispatchers and EMWs need to be particularly alert, thorough and vigilant when taking down and passing along geographical information.

2) *Communicating with Fellow EMWs.*

Another important factor to consider in terms of communication is how the ambulance crew members relate to one another. During their shifts they do spend a lot of time together in a confined space and under stressful circumstances. They also have to rely on each other to get the job done and to a large extent this is dependent on communication. In her study on the needs of EMWs, Kriek (2008) found that EMWs listed the ties between co-workers as well as the way they worked together as elements that they liked about the job. Additionally, the EMWs reported that they often talk to each other in order to cope with particularly traumatic incidents. Yet the same study revealed that incidents such as shouting at each other, arguments, spreading rumours and so-called betrayal were not uncommon among EMWs. Consequently it seems as if EMWs generally have strong bonds with each other, yet interactional difficulties do occasionally occur, both on a professional and a more personal level.

3) *Communication with Patients.*

Communication is a significant part of an EMW's job and he/she must be competent to communicate crucial information to others both in written and in verbal form (Sanders et al., 2012). He/she must also be flexible in communication and should be able to adjust communication strategies to different situations, for example, Nordby (2004) advises EMWs to use theoretical constructs when interacting with health professionals, but everyday terms when interacting with patients or members of the general public. Since patients are often anxious and sometimes unfocused, a good part of patient management involves reassuring the

patient and making sure that he/she understands what is being communicated to him/her and as such it is essential for the EMW to have good interpersonal skills.

4) Communication with Staff of the Emergency Department.

EMWs have a close professional relationship with the Emergency Department staff to who they hand their patients over (Wyatt, Illingworth, Graham & Hogg, 2012). Along with delivering the patient to the Emergency Department, the EMW must also submit a patient report form, which is to be completed by the EMW, and contains valuable information about the patient and his/her condition. The patient report form is thus one way in which the EMWs communicate with the Emergency Department staff. According to Wyatt et al. (2012), a benefit of EMW training in the US has been to allow EMWs to interact and work with medical and nursing staff in the Emergency Department. This strategy is thought to support communication and to build fellowship between the staff.

5) Communication with Management.

According to Carrière, Bourque and Bonaccio (2007) communication is central to the practice of management within EMS. They mention that various studies (e.g. Yammarino & Naughton, 1988) have shown a positive relationship between the amount of time spent on communication and important work outcomes, such as job satisfaction. Upon investigating the needs of EMWs, Kriek (2008) found that EMWs wanted management to listen to employees, to inform them of decisions and to be in touch with what happens at the ground level. However, it has been acknowledged that when it comes to fostering satisfactory and efficient communication with and amongst EMWs, managers of EMS face many intricate challenges. Among these challenges is the possibility of a “communication gap or disconnect” between managers and EMWs, seeing as EMWs work non-standard hours, whilst management commonly work traditional office hours (Carrière, Bourque & Bonaccio, 2007, p. 60). Another challenge is the fact that EMSs operate with high spatial differentiation, which refers to the geographical distribution between offices, bases and personnel. Greater spatial differentiation means that the opportunity for significant personal interactions between EMWs and managers are minimal.

The Importance of Teamwork in an EMS system

When responding to an emergency, EMWs must work together with their partners (and other role-players in the EMS system) to evaluate the condition of the patient and the safety of the scene, to provide medical interventions on the scene and on route to the hospital, as well as to load and transport patients to receiving facilities. Thus, good teamwork amongst EMWs and within the EMS system in general is crucial to safe and efficient healthcare delivery and is associated with enriched outcomes for both patients and health care professionals (Leggat, 2007; Patterson et al., 2012). A study by Leggat (2007) found that good leadership, knowledge and understanding of organizational goals and strategies, commitment to the organisation, respect for others and a commitment to working collaboratively and to achieve a quality outcome were identified as requirements for good teamwork. Yet Leggat (2007) also mentions that some authors found that individual characteristics determine teamwork, because these characteristics, such as abilities, experience, attitudes, values, personality and so forth, define what team members are willing and able to contribute to the team. Another study by Patterson et al. (2012) found that reciprocated trust, collective mental models and closed loop communication are fundamental requirements for effective teamwork.

Conversely, research indicates that poor teamwork is linked to a range of negative outcomes and often results in avoidable medical errors (Patterson et al., 2012; Peckter, Prewett, Campbell & Brannick, 2012). Various characteristics of EMS work can be considered as a threat to good teamwork, such as stress, fatigue and frequent alterations of partners. Yet, the literature mentions that there is firstly a lack of research characterizing and measuring teamwork in EMS. Secondly, EMWs apparently receive little to no formal training in developing teamwork skills in their education programs. Instead, these skills are acquired informally and 'on the job' (Leggat, 2007).

It has however been suggested that EMWs (and other role-players in the EMS system) could greatly benefit from the implementation of formal team-training programmes (Peckter et al., 2012; Sehgal et al., 2008). Teamwork-training teaches important team behaviours and communication skills and is believed to have the potential to improve the quality and safety of emergency care. A few models of team-training, specifically for the Emergency Health Care sector, have been developed. These models often make use of a multi-disciplinary approach and incorporate lectures, role-plays, task simulations and feedback. Such comprehensive models are believed to have a positive effect on the reactions and behaviours of trainees both during training and on the job.

In addition, Shapiro et al. (2004) did a review of emergency department (ED) risk management cases and found that 43% of errors were to the result of problems with team coordination. In these cases, an effective team structure in the ED and caregivers trained in team behaviour would either have alleviated or prevented 79% of the identified failures. In a subsequent endeavour, the researchers involved nine EDs from civilian and military institutions in curriculum development and staff education. The result was the Emergency Team Coordination Course (ETCCH). A physician and nurse pair taught this 8-hour educational course to other physicians, nurses, technicians, and support personnel. The curriculum was organised into five team dimensions or topic areas, namely: maintain team structure and climate, apply problem-solving strategies, communicate with the team, execute plans, manage workload, and improve team skills. The training day also provided for (1) behavioural modelling through review of professionally produced videotaped segments of actors illustrating good and poor teamwork, (2) practical table top exercises to engage students in practising components of teamwork such as task prioritisation and case review from a teamwork perspective, and (3) analysis and discussion of clinical vignettes (developed by an expert panel) conveying features of good and poor teamwork. Research revealed that EDs using the ETCC had a 67% increase in error averting behaviour as measured by previously validated behavioural anchored rating scales (BARS) and a 58% reduction in observable errors. The project verified the applicability of the behaviourally oriented training based on the aviation model to providers in emergency care.

Sehgal et al. (2008) developed one such team-training program. The four-hour teamwork-training program targeted all providers and staff on an inpatient medical unit. The training was part of a project called the Triad for Optimal Patient Safety (TOPS)—a multidisciplinary and multicentre project aiming to improve unit-based safety culture through communication and teamwork initiatives. The teaching strategies combined educational presentations, facilitated discussions using a safety trigger video, and small-group scenario-based exercises to practice effective communication skills and team behaviours. The training program was highly rated by all disciplines participating in the exercise. According to the researchers, the key was creating a shared forum to learn about and discuss interdisciplinary communication and teamwork.

Moreover, some researchers have found the existence of a sense of hierarchy within the fields of medicine and nursing (Watermeyer, 2013). This sense of hierarchy may evidently be obstructive to effective teamwork. Davies (2002) mentions that where multi-disciplinary

teams are concerned, the problem may be that people have the idea of ‘working alongside’ another team. Instead, Davies suggests that a notion of ‘working together’ may ultimately foster better teamwork.

Measuring EMS Performance: Time is of the Essence

MacFarlane and Benn (2003) note that it is difficult to assess and determine the true efficiency of EMS systems and pre-hospital care. This is so because multiple variables and combinations of factors are involved when it comes to EMS systems, which makes standardisation and comparisons problematic. Yet researchers and the governing bodies of EMS systems have made various attempts at evaluating the efficacy of EMS systems. The most widely used method of assessment is to record and evaluate ambulance response times and on-scene times. As such, most EMS systems have numerous treatment and transport protocols in place to moderate these times.

Although time is certainly one of the more concrete and quantifiable variables where pre-hospital care is concerned, the value of using time as a measure of the efficacy of an EMS system is a debatable issue. Literature on the topic is scarce and has yielded varied results. Some studies found that prolonged pre-hospital times are bound to have adverse effects on the outcomes of severely injured patients (O’Meara & Boyle, 2012). For instance, MacFarlane and Benn (2003) mention that a Canadian study found that a total pre-hospital time of more than sixty minutes for severely injured patients significantly increased the risk of death. Yet a study done in the United States of America found that no pre-hospital time less than ninety minutes had a negative impact on a patient’s survival. Thus, the study found no threshold point beyond which transport to hospital would have decreased mortality. Furthermore, a study by O’Meara and Boyle (2012) indicated that long pre-hospital times could usually be attributed to factors that are not controlled by the attending EMW. For instance, when responding to emergencies in rural or informal settlements, longer pre-hospital times can be expected due to lengthy travel distances and dispersed resources. Also, when the patient is severely injured, longer scene times can be expected because the patient will require more Advanced Life Support procedures, which are often more time-consuming than Basic Life Support procedures. As such, it has been suggested that the time spent at the scene of the incident must be adjusted in accordance with the needs of the patient and when

there are extended scene times, these cases should be scrutinised in order to determine the cause of the delay and to come up with practical solutions to decrease scene times.

South Africa's political history of Apartheid plays a huge role in the history of EMS and must be kept in mind when attempting to understand the operation of and the disparities in the current EMS system. Currently the quality of EMS delivery is still unequal due to the crippling effect of Apartheid practices, various current social inequalities and a lack of resources, particularly in rural areas. For example, in the rural Eastern Cape, the average response time is almost four hours and in 17% of cases an ambulance did not arrive at an emergency situation at all (Meents & Boyles, 2010). In comparison, the Western Cape Provincial EMS set a goal of reaching 90% of Priority 1 calls (involving a seriously injured patient in a critical condition) within fifteen minutes, both in the city and outside of the Metropole by the end of 2011.

Chapter 3: Introducing the Emergency Medical Worker

Description of the EMW's Occupation

The objective of the Ambulance Service is to get the correct patient to the correct hospital within the shortest possible period of time (O'Meara & Boyle, 2012). In addition, injured or ill patients are often in need of pre-hospital intervention and stabilization (Sanders & McKenna, 2012). The level of intervention or care required varies from one situation to the next. Thus, EMWs need to prioritize patients according to the severity of their condition. This process of categorizing patients according to their need is called triage. In 2004, the Cape Triage Group (CTG) produced a triage system suitable for the South African context, namely the Cape Triage Scale (CTS) to prioritise patients both in the pre-hospital setting and in Emergency Care Units. In pre-hospital care, the triage scale uses the instability of a patient's vital signs to differentiate between the priorities of patients (Gottschalk, Wood, De Vries, Wallis & Bruijns, 2006). Accordingly, the abbreviations P1, P2 and P3 are used to refer to the priority of the patient. A P1 patient is seriously injured and in a critical condition, a P2 patient is seriously injured, but not critical and a P3 patient is mildly injured. The following table indicates the criteria used to prioritise or triage patients.

EDUCATIONAL INSTITUTION	RED (P1)	YELLOW (P2)	GREEN (P3)	BLUE (DEAD)
Cape Peninsula University of Technology, Cape Town	Primary Survey compromised	Maintaining own Primary Survey. Injury/illness requires treatment within 60 minutes.	Injury/illness that should not compromise the Primary Survey within 60 minutes	The obviously dead
University of Johannesburg, Gauteng	Primary Survey compromised	Maintaining own Primary Survey. Injury/illness requires treatment within 60 minutes.	Injury/illness that should not compromise the Primary Survey within 60 minutes	The obviously dead
DTI, Natal	Life-threatening emergencies	Non-life-threatening emergencies requiring hospital treatment.	Minor injury/illness. Walking wounded	The obviously dead
Lebone Ambulance College (Pretoria)	Treatable life-threatening injuries/illness	Serious non-life-threatening injuries.	Minor, easily managed injury/illness that may not require Ambulance transportation	The obviously dead

Natal Ambulance College	Life-threatening emergencies	Seriously injured patients	Moderate injuries	The obviously dead
EMS College, Cape Town	Primary Survey is compromised or an injury that will lead to permanent disability	Maintaining own Primary Survey. Injury/illness requires treatment within 60 minutes.	Injury/illness that will not compromise Primary Survey within 60 minutes	Mortal injury

Table 2: EMS triage criteria as instructed at Higher Educational Institutions throughout South Africa (Gottschalk et al., 2006, p.150).

Generally, EMS personnel are required for either medical or trauma emergencies. A medical emergency refers to an acute medical condition requiring immediate attention, such as a heart attack, stroke severe asthma attack or a diabetic emergency. A trauma emergency refers to a situation caused by external force, such as a motor vehicle collision, shooting incident, assault or burn (Kriek, 2008). Moreover, different levels of EMWs are qualified to manage different levels of medical or trauma emergencies. Firstly, a Basic Ambulance Assistants (BAA) is qualified to provide basic life support to a patient. Training as a BAA involves a four-week training course in basic human anatomy, the management of trauma patients and cardiopulmonary resuscitation (CPR). At the next level are Intermediate Life Support (ILS) practitioners. Training at this level involves a four-month training course, after which the individual is able to administer certain medications and to provide defibrillation, chest decompression and intravenous (IV) fluid therapy. Finally, four levels of Advanced Life Support (ALS) practitioners exist in South Africa. Critical Care Attendants (CCAs) undergo a nine-month training programme and the Emergency Care Technician (ECT) undergoes a two-year programme. One can also obtain a National Diploma in Emergency Medical Care (which takes three years to complete) or a Bachelor of Technology in Emergency Medical Care (which is a postgraduate qualification after the National Diploma and takes one to two years to complete). ALS practitioners are allowed to administer a wide range of medications and complicated medical procedures such as endotracheal intubations and cardioversions. At all levels, EMWs must be registered with the Health Professions Council of South Africa (Campbell & Campbell, 2010; Kriek, 2008; Sanders & McKenna, 2012).

However, according to Campbell & Campbell (2010), the HPCSA Professional Board for Emergency Care (PBEC) has been in the process of revising the training procedure of EMWs. Closure of the BAA and CCA registration was planned for the end of 2010 and that of the ILS in 2014. In the future, the ECT and a new four-year professional degree (the

Bachelor of Science in Emergency Medical Care) will form the two ranks of the EMS system in South Africa.

There has been some debate over the need for advanced life support versus basic life support in pre-hospital care. In other words, do the EMWs simply need to stabilize the patient and then get him/her to a hospital where care can be provided by emergency doctors and nurses, or is there a need for EMWs to provide ALS as soon as they are able to? This question has an impact on just how crucial the role of EMWs is. Results from empirical studies are varied and often contradictory, with some studies finding that on-site or en route ALS in trauma patients had no benefit, yet other studies found that pre-hospital ALS intervention does improve the outcome of critical patients. Yet the role and value of pre-hospital ALS hinges might depend, for one, on the geographical location, in combination with the condition of the patient (Govender et al., 2011; MacFarlane & Benn, 2003). For example, ALS interventions may be vital in a situation where a patient with a severe head injury requires a lengthy transit from a rural area, but if the same patient lived in an urban area that only required a short trip to the nearest hospital, ALS interventions might not have made a difference to the outcome of the patient. Moreover, the health care needs of the community, available resources and the medical and social culture of a country also influences the usefulness of ALS interventions. Accordingly, the value of pre-hospital ALS could possibly be challenged by well-developed health care systems assisted by EMWs with short pre-hospital times. Yet in South Africa the high rate of trauma, widespread poverty, the high rate of communicable diseases, the maldistribution of health care institutions and emergency facilities, as well as long pre-hospital response times result in the growing need for not only effective pre-hospital care, but specifically ALS services (Govender et al., 2011).

Proposed characteristics of an EMW

Work engagement.

According to Naudé & Rothman (2006) some individuals appear to derive satisfaction and pleasure from extraordinary working conditions and show little to no negative physical, psychological or social symptoms, irrespective of excessive job demands and lengthy working hours. Such individuals are described by positive psychologists (such Seligman & Csikszentmihalyi, 2000, in Naudé & Rothman, 2006), as being engaged in their work. The phenomenon can be defined as a positive, rewarding state of mind that is work-related. It is not a fleeting state of mind, that is concentrated on a specific object, event, individual or

behaviour, but rather a more persistent and pervasive affective-cognitive state. Furthermore, work engagement is characterised by vigour, dedication and immersion in one's work. The concept of vigour involves high levels of energy and mental resilience while working, along with a willingness to invest a lot of effort into one's work. Additionally, a person can be said to be dedicated to their work when they derive a sense of satisfaction from it and it leaves them feeling enthusiastic, inspired and proud. Work engagement is a common attribute of EMWs and was also found to be present in EMWs in the study done by Naudé and Rothman (2006).

The rescue personality.

Some authors, such as Mitchell and Bray (1990, as cited in Wagner, 2005), further suggest that people who do emergency response work have a particular and very unique personality. This is referred to in the literature as the "rescue personality", which is characterised by extraordinary levels of empathy and dedication. In addition, the "rescue personality" is described as a person who is inner-directed, action-orientated, able to make quick decisions and committed to unusually high standards of performance. Rescue workers are also thought to be traditional, socially conservative and easily bored. They further enjoy being needed and like having control of situations and themselves (Wagner, 2005).

However, Wagner (2005) also mentions that other authors (such as Gist and Woodall, 1998) adamantly refute the very existence of a "rescue personality" as described by Mitchell and Bray, based on the fact that little to no scientific evidence exists to support the authenticity of this personality. Moreover, the characteristics of the rescue personality as described by Mitchell and Bray (1990) are intended to be applicable to all emergency service workers. Thus, it does not refer to a specific type of rescue work. Yet, there seems to be evidence in the literature (for example from Paton, 2003, in Wagner, 2005) suggesting that different groups of emergency service workers face different occupational challenges and thus fall under different risk grades. As such, the proposition is that future research should seek to describe distinctive features of different emergency workers, thus of fire fighters, EMWs and police officers, independently. Findings by Fannin and Dabbs (2003, as cited in Wagner, 2005) may support this proposition. The study found that the various characteristics predicted the decision to join the fire services, while the decision to join the EMS was only predicted by extraversion.

Niculitã (2013) postulated that the personality characteristics of ambulance workers are likely to play a noteworthy part in their occupational performance and the work-related decisions they make. Consequently, she did a study to explore the associations between personality factors and the professional performance of EMWs and other emergency workers. The study found significant differences in personality traits among different groups of emergency workers, which seem to be linked to the professional roles that emergency workers play in assisting patients. For example, possessing the trait of intellectual openness was found to be useful for EMWs since it may help them to provide fast and efficient solutions in unusual emergency situations.

In addition, EMWs (and emergency workers in general) may be prone to what is referred to as 'sensation seeking'. According to Niculitã (2013), the concept of sensation seeking was coined by Zuckerman in 2007 and refers to cases where people actively seek out diverse, unusual, complicated and extreme feelings and experiences. They may also be unusually willing to take a variety of risks, for the sake of the thrilling experience. Consequently, if EMWs find the unpredictable nature of their work, along with the common occurrence of extreme situations appealing, then they are likely to have a high level of sensation seeking. This could be an important factor in promoting performance and resilience in this challenging and demanding occupation (Niculitã, 2013).

Possible Dangers Associated with the Occupation

The working environments of EMWs are most often a road ambulance and/or an unfamiliar environment. Ambulances offer a cramped, unstable and noisy workspace that might make it difficult to perform assessments and procedures. Outside of the ambulance, conditions are seldom better, for the environment can offer bad lighting, limited or no electricity, extreme temperatures, dangers and distractions (Ballard, 2009). EMWs are further exposed to various physical, chemical, ergonomic, psychosocial and biological dangers in their working environments (Mohamed, Jinabhai, Taylor & Yancey, 2007). Accordingly, EMWs are at risk of occupationally acquired injuries and transmissible diseases, such as HIV/AIDS, Tuberculosis, malaria, hepatitis B, measles and diarrhoea, which are endemic in South Africa. Moreover, although legislative guidelines are in place to protect the EMWs, little is known about the practical protective measures available for and used by EMWs in South Africa. A study by Mohamed et al. (2007) found that EMS-specific standard operating procedures for communicable diseases and infection control are only in practice in KwaZulu-Natal, the

Eastern Cape and Gauteng and that formal education and in-service training is limited. The authors called for the development of a national communicable disease and infection control policy specific to the EMS, as well as an official training module on communicable diseases and infection control for practitioners in the pre-hospital setting. In addition, a study by Kowalski and Vaught (2001) found that EMWs pointed out that safety concerns, as well as physical and verbal abuse by members of the public was a major stressor of their profession. The authors found that the stressful environments in which EMWs work could in fact lead to an increased risk of injury, cardiovascular diseases, physiological and psychological health problems and burnout.

Occupational stress.

According to Wagner (2005), it is a well-known fact that emergency response work is a particularly difficult and emotional profession, requiring emergency workers to deal with challenging circumstances, such as injury, mutilation and death. As such, EMWs are prone to experiencing occupational stress (Cooper, 2000). The Spielberger State-Trait (STP) model of occupational stress (Spielberger, Vagg & Wasala, 2003) acknowledges the significance of individual variation in personality traits in influencing how stressors in the workplace are perceived and assessed by an individual. The STP model defines occupational stress as the mind–body arousal that is a result of the physical and/or psychological demands accompanying the job. If a stressor is assessed as being a threat, this leads to the activation of the autonomic nervous system, resulting in emotional arousal and the experience of anxiety and anger. If the subsequent physical and psychological tension is severe and persistent, adverse behavioural consequences may be the ultimate result. Furthermore, employees tend to appraise their work environment based on the capacity of specific job demands, work pressures and the level of support received from supervisors, co-workers and organisational policies.

Miller (2000) further notes that exposure to trauma can lead to various psychological, physiological and emotional repercussions. Various empirical studies have revealed an association between emotional fatigue and the following occupational conditions: physical workload, poor environmental or working conditions, time pressures and shift work schedules that were not favored (Naudé & Rothman, 2006). A South African study found that that emergency workers who experienced stress because of job demands (such as, working overtime, being assigned new or unfamiliar duties, having to deal with crisis situations and

being given greater responsibility) also experience emotional exhaustion and depersonalization. Nonetheless, stress as a result of a lack of job resources, such as lack of opportunity for advancement, fellow workers not performing according to standard, insufficient support from supervisors and a lack of recognition for good work was found to be the greatest predictor of both emotional exhaustion and depersonalization. The authors noted that a possible explanation for these findings is that stress as a result of a lack of resources was relatively severe for emergency workers, which could also have contributed to emotional exhaustion and depersonalization (Naudé & Rothman, 2006).

Another South African study of the stressors experienced by emergency workers (i.e., ambulance and rescue services) by Sparrius (1992) found that 15 of the 19 stressors identified could be ascribed to organisation-based elements. These stressors included the experience of the structure of the organisation as para-military and conflict and communication problems between management and employees. Additional stressors were identified as problematic dealings with patients, being physically in danger in terms of geographical locations, experiencing physical and verbal abuse from onlookers or patients, a lack of or inadequate equipment, travelling long distances, clashing personalities at work and pettiness among colleagues.

Burnout.

In addition, according to Shaufeli and Enzman (1998), a common finding is that Emergency Workers often experience burnout as a result of the chronic stressors which they face. According to Naudé and Rothman, (2006) burnout can be thought of as the negative antithesis of work engagement. Burnout is described as the occurrence of a persistent negative state of mind in a normal individual, which is work-related. This condition is principally characterised by exhaustion, distress, a sense of reduced efficiency, decreased motivation and the development of dysfunctional attitudes and behaviours in the workplace (Shaufeli & Enzman, 1998). In addition, people who are experiencing burnout tend to detach themselves both emotionally and mentally from work and they become less involved with people and less responsive to the needs of people. They also tend to develop a cynical and nonchalant attitude to work, which results in a negligence of demands and an eroded sense of achievement (Naudé & Rothman, 2006). The presence and severity of burnout can be determined with the Mashland Burnout Inventory – Human Services Survey (MBI-HSS),

which measures emotional exhaustion, depersonalisation and reduced personal accomplishment. Since the occupation of an EMW requires involvement with people, accompanied by a caring and responsive attitude, as well as mental alertness and dedication to the demands of the job, burnout is without a doubt a serious threat to EMWs and the successful functioning of any EMS system. As such, the occupational stress of emergency workers should be managed carefully by the organisation so as to prevent burnout (Naudé & Rothman, 2006). This can be done by provide adequate resources for emergency workers in an attempt to prevent distress.

Critical Incidents.

Sometimes EMWs are exposed to incidents that are beyond the scope of their day-to-day experiences (Beaton, 1999). Such events are known as “critical incidents”, and may involve events such as armed conflicts, severe motor vehicle accidents, and the witnessing violent of deaths (Marmar, Weiss, Meltzer, Ronfeldt & Foreman, 1996). A critical incident leads to the experience of remarkably strong emotional reactions that may interfere with the individual’s ability to function normally, either at the scene of the incident or at a later point in time. Critical Incident Stress (CIS) is thus the term referring to the resulting thoughts, feelings, and behaviours that the person may experience after a critical incident. Critical Incident Stress is fundamentally different from general daily stress, cumulative stress, or even distress (Beaton, 1999).

Beaton (1999) further mentions that it is often assumed that EMWs are by some means less affected by exposure to events that members of the general public would find disturbing, due to the very nature of their work. Yet, some authors (such as Moran & Britton, 1994, in Beaton, 1999) caution that no empirical research exists to support this notion and it is furthermore unlikely that any coping mechanism can guard against constant exposure to critical incidents.

A study by Beaton (1999) found that symptoms of Critical Incident Stress can last for six months to two years after the critical incidence occurred. The research further revealed that critical incidents have the potential to lead EMWs to lose the enthusiasm and passion for their work. Moreover, in the long-term, Critical Incident Stress can change the perceptions of EMWs regarding their job, themselves, and the relationships with their families. Certain

variables, such as the ethos of the particular EMS and a lack of support from both within the system and outside of the system were found to influence the longstanding effects of Critical Incident Stress.

Furthermore, a study by Regehr, Goldberg and Hughes (2002) found that all of the eighty-six EMWs that participated in the study had been exposed to at least one critical incident over the course of their career. Moreover, 82% of the participants reported that they had been distressed and overwhelmed by the experience of the critical incident. The table below summarises the findings of this study.

Type of exposure	EMWs exposed	EMWs who experienced distress
Death of a patient	85%	36%
Line-of-duty death	28%	58%
Violence against self	70%	58%
Violence against others	93%	24%
Near-death experiences	56%	48%
Death of a child	85%	78%
Multiple casualties	91%	33%

Table 3: Exposure to Critical Events (Regehr, Goldberg & Hughes, 2002, p. 506)

In an attempt to discover the potential effects of exposure to a critical event on the mental health of EMWs, Regehr, Goldberg and Hughes (2002) also asked participants to rate aspects related to their mental health before and after exposure to distressing events. Their findings are shown in the table below. Evidently, alcohol use and the use of psychiatric medication increased substantially and EMWs also took significantly more mental health stress leave after being exposed to critical incidents.

Issues related to mental health	Experience traumatic event before	Experience traumatic event after
Alcohol abuse	1%	12%
Drug abuse	1%	1%
Suicidal thoughts	6%	5%
Suicidal attempts	1 %	1%
Mental health stress leave	2%	29%
Psychiatric medication	2%	9%

Table 4: Substance Use and Mental Health Issues among EMWs Before and After Exposure to a Traumatic Event (Regehr, Goldberg & Hughes, 2002, p. 508)

A study by Marmar et al., (1996) compared stress responses to a critical incident (the collapse of a freeway following an earthquake) for groups of EMWs, fire fighters and police

personnel. The study found that the three groups did not differ regarding present symptoms. However, an interesting finding was that the EMWs reported more detachment from the incident yet they also reported greater stress responses and more symptoms in comparison with Police and Fire personnel. Participants that reported greater distress also reported greater exposure to the traumatic event, greater peritraumatic emotional anguish, greater peritraumatic dissociation, greater perceived danger, and being or feeling less prepared for the critical incident. The researchers proposed that the pre-employment psychological screening that police officers and fire fighters undergo, which is intended in to select people who will be resilient to frequent stressors, may explain the above mentioned finding (Marmar et al., 1996). In addition the study found that nine percent of the sample presented with symptom levels similar to that of psychiatric outpatients.

Post-traumatic stress.

If Critical Incident Stress is not properly addressed, the symptoms may eventually present as Post Traumatic Stress Disorder (PTSD) (Beaton, 1999). The DSM-IV-TR states that the diagnosis of post-traumatic stress disorder (PTSD) requires, firstly, that a person has been exposed to a traumatic event that resulted in intense fear, helplessness or horror. Secondly, that the person persistently re-experiences the event in the form of dreams, recollections, reliving or experiencing distress upon reminders of the event. Thirdly, that the person attempts to avoid associated stimuli or otherwise experiences emotional numbing and detachment. Lastly, the person must also experience hyper-vigilance and chronic arousal. These symptoms must be present for longer than one month and must cause clinically significant distress or impairment in the person's daily functioning (Lake, 2009). Also, what may be a more common occurrence is Acute Stress Disorder, which presents with the same symptoms as PTSD, but these symptoms persist for no longer than one month (Lake, 2009). Although many emergency rescue workers may experience symptoms that do not meet the full diagnostic criteria for PTSD as indicated by the DSM, these symptoms can nonetheless be disturbing or debilitating to the individual (Marmar et al, 1996).

Various empirical studies support the assertion that EMS personnel are at risk for PTSD and often do go on to develop significant PTSD symptoms. A 2010 study on 105 EMS personnel found that 4% met the clinical criteria for PTSD, 1% met the sub-clinical criteria for PTSD, 83% had some PTSD symptoms and 12% had no symptoms whatsoever (Mishra, Goebert,

Char, Dukes & Ahmed, 2010). Another study on 56 EMWs found that 38% of the sample met the DSM-III-R criteria for PTSD, and 39% of the sample presented with other psychiatric symptoms (Clohessy & Ehlers, 1999). A study by Bennet, Williams, Page, Hood & Woollard (2004) examined the incidence of PTSD, depression and anxiety in a sample of 617 EMWs. The researchers found that 22% of the respondents did present with PTSD symptoms. They further found that levels of PTSD did not differ according to the level of qualification of the EMWs, yet males had a greater prevalence rate than females (23% in comparison with 15%). In addition, approximately one in ten respondents reported possible clinical levels of depression and 22% reported possible clinical levels of anxiety.

However, Figley (2013) emphasises that there is a difference in the presentation of responses during and following a traumatic encounter for those who experience the primary stressors, and for those who experience secondary stressors. In the latter case, Figley calls the presenting phenomenon Secondary Traumatic Stress (STS) or compassion fatigue. Figley subsequently defines STS as: the stress which results from assisting or wanting to assist a traumatized or suffering person. STS can emerge abruptly and involves a sense of helplessness and confusion, as well as a sense of intense loneliness, as if one has no support. Emergency medical workers, such as nurses and EMWs, are particularly vulnerable to STS, since they regularly assist traumatised individuals. One proposed reason why emergency medical workers are so vulnerable to STS is that they tend to empathize with their patients, and although this empathy helps them to understand and treat the patient, the helper may be traumatised in the process.

It is however important to note that not every traumatized individual will develop PTSD, Acute Stress Disorder, STS or any other severe psychological symptoms. Some authors propose that the risks of developing clinically significant PTSD is related to the trauma itself, to pre-existing risk factors, or to an interaction between the two (Carrier, Lambert & Gersons, 1997). Predisposing vulnerability factors can include general poor adjustment, prior personal psychiatric problems or a genetic susceptibility to general or specific psychopathology, early exposure to adversity or trauma, certain personality characteristics such as neuroticism and introversion, recent life stress or drastic life change, inadequate support structures, tendency to avoid thinking about or dealing with problems, the substantial use of alcohol and an external locus of control (Carrier, Lambert & Gersons, 1997; Ursano, Fullerton, Vance and Kao, 1999). To add, a study by Bennet, et al., (2004) found that disasters workers who have

dealt with deceased victims are at a higher risk for both acute and chronic PTSD. Moreover, the previously mentioned study by Mishra et al. (2010) showed that EMWs found incidents involving severe injury or death of a co-worker, as well as cases involving children as particularly distressing. Furthermore, the severity of the traumatic event and the proximity of the EMW to the traumatic stressor seem to be directly related to the manifestation of later psychological disorders (Ursano, et al., 1999).

Moreover, Ursano et al. (1999) mention the model proposed by Davidson and Foa (1993) which postulates that the risk of developing PTSD is dependent on both the traumatic experience itself (“external” factors) and the characteristics of the victim (“internal” factors). As such, there are certain extreme events that are so severe and devastating, that it is likely to induce PTSD (at least at the outset) in most persons, regardless of whether or not they have a predisposition to psychological disorders or distress. Mass shooting incidents disaster and disaster rescue work are examples of such extreme events. On the other hand, in the presence of numerous predisposing factors, certain people could find events that would be minimally stressful to most people (so called “low magnitude” events such as corpse discoveries) traumatic.

Coping and Coping Mechanisms used by EMWs

The term coping refers to the efforts that a person makes in an attempt to manage situations that are considered to be potentially detrimental or stressful (Naudé & Rothman, 2003). Coping can either be thought of as a range of strategies or as an outcome. As a strategy, coping refers to the various methods that an individual employs in order to manage his/her situation. On the other hand, coping as an outcome refers to the eventual results of the individual’s coping strategy.

Yet it is also a real and quite common possibility that a person fails to cope. This is referred to as non-coping in the literature and is involves numerous physiological, psychological and social instabilities, which can eventually result in higher levels of stress, anxiety and depression. As such, the crucial element in the coping process is whether or not the individual in question is able to make use of an appropriate coping mechanism (Naudé & Rothman, 2003).

Informal coping mechanisms.

Empirical evidence indicates that EMWs often make use of informal coping strategies following the experience of a critical incident. According to Regehr, Goldman and Hughes (2002) common coping mechanisms include the deliberate emotional distancing of oneself from the victim, as well as the victim's loved ones. In addition, EMWs may also make use of cognitive strategies in an attempt to stay focused on the task at hand, instead of being overwhelmed by emotion. Respondents also mentioned that they would often review the work that they did during the critical incident and so positively reframe the event as a learning experience. Having an informal support system in the form of family and friends, as well as work partners and colleagues, was also mentioned as a helpful resource. However, some of the participants in the study noted that the so-called "macho atmosphere" amongst EMWs sometimes made it difficult to express their true feelings and concerns to their colleagues. Lastly, and unfortunately so, some EMWs turned to alcohol or other substances in an attempt to help them cope with traumatic incidents.

The study by Mishra et al. (2010) similarly found that EMWs mostly made use of the following coping strategies: positive reinterpretation (63%) and making use of family and social support (59%). Yet, in contrast with the study by Regehr, Goldberg and Hughes (2002), this study found that EMWs coped by being aware of their emotions (as opposed to suppressing emotions) and giving vent to their emotions (46%). Additionally, it is hypothesised by Clohessy and Ehlers (1993) that coping strategies that preclude emotional processing of the disturbing event may maintain PTSD. As such, the authors advise that a substantial subgroup of EMWs may be in need of formal support to help them adequately process critical incidents and the emotional repercussions thereof.

Various authors (Jenkins, 1998; Moran and Massam, 1997; Regehr, Goldman & Hughes, 2002) identified humour as an informal coping mechanism used by EMWs during difficult and tedious situations. The concept of humour is often difficult to define, since there are various facets of humour. A distinction can be drawn between a sense of humour (a characteristic of a person), appreciation of humour (the capability to see humour in a situation) or generation of humour (the inclination to make humorous remarks or to behave in

a humorous way). Examination of the different facets of humour suggests that generating humour serves a more psychologically protective function than a simple appreciation of humour.

It is widely believed that humour can offer relief of tension, can help an individual to reinterpret a situation and to better cope with the stress surrounding the situation. According to Moran and Massam (1997), people also use humour to reframe events and so one will often find people holding onto beliefs such as: "things can't be that bad if I can still laugh". More specifically, humour may challenge self-defeating or harmful thoughts and can also be used by the individual to distance him/herself emotionally from the stressor in question. As such, humour may in some cases be used by the individual as a protective mechanism. Theories on humour also assert that it may provide EMWs with an opportunity to get rid of aggressive feelings. However, there is some debate around whether more overtly aggressive humour serves to increase or to decrease levels of aggression. The authors note that aggressive humour in emergency work (which is quite a common occurrence) is more likely to be directed at the organisation, rather than at a specific emergency situation. Evidently the physical effects of humour seem to be similar to the effects of exercise and it ultimately has a relaxing effect on the body. The positive physical effects also extend to the immune system and some researchers have speculated that laughter triggers the release of endorphins.

Laughing can also be an important means of communication and can facilitate teamwork. Within emergency medical services, the use of medical slang is common. It is a private means of communication, almost like a secret code, and it serves to create a sense of belonging. Palmer (1983, in Moran & Massam, 1997, p. 5) found that emergency staff may use slang terms such as a "crispy critter" to refer to someone who has suffered severe and terminal burn wounds or a "greenie" to refer to a corpse that has already started to decompose. These terms have a clear humorous component and are believed to serve as a coping mechanism. A particular type of humour which is thought to help relieve tension in a critical incident situation is referred to as black or gallows humour (Moran & Massam, 1997; Regehr, Goldman & Hughes, 2002). The humour may help the EMWs to put negative thoughts out of mind, to minimise distress and also to rely on the social benefits that it provides. It is apparently most often used in bizarre or particularly distressing situations.

Finally, it is important to note that humour may also be used by EMWs to mask negative feelings and to prevent them from having to deal with anxiety. It is believed that this will in

fact cause later distress, as it is important for EMWs to deal with the anxiety, rather than to suppress it with humour. This potentially damaging use of humour is found more amongst males and as such it is described by Moran and Massam (1997) as a "macho" coping mechanism.

Formal coping mechanisms: debriefing.

The negative repercussions experienced by EMWs following a critical incident can formally be addressed by the use of debriefing (Miller, 2000). Debriefings are basically structured group meetings where the EMWs are assisted in dealing with the cognitive, emotional, physical and social reactions that they have experienced or are currently experiencing as a result of exposure to a traumatic event. The aim is to help them cope with the inevitable stress and to relieve acute stress symptoms, but also to prevent long-term adversities and as such to ensure that the EMWs are able to continue doing trauma work. The debriefing will also offer opportunities for the EMWs to understand, process and normalize their reactions to the trauma. This is often done by reframing the incident, examining the people's cognitive, emotional and physical reactions to the incident and teaching the EMWs how to identify predictable stress responses, as well as how to employ effective coping mechanisms to deal with these responses. Debriefings also provide social support. Ideally, individual follow-ups should occur subsequent to a debriefing session. Debriefings may be offered by social workers, counsellors or psychologists.

There are a number of debriefing models, such as the Mitchell Critical Incident Stress Debrief (Mitchell, 1983), the National Organization of Victim Response Debriefing (Young, 1997), American Red Cross Debriefing (American Red Cross, 1995) and Psychological Debriefing (Raphael, 1986). Nonetheless, the models all have the same basic aims of helping EMWs to process responses to trauma, to introduce principles of self-care, to normalize, rather than pathologize reactions to trauma and stress and to increase the coping abilities of EMWs as individuals and as a group (Miller, 2000).

Many researchers have emphasized the importance of providing interventions for psychological distress and PTSD in EMWs. For example, Smith and Roberts (2003) did a literature review of studies advocating interventions for dealing with distress in EMWs and came up with 292 articles. Mishra et al. (2010) claimed that since EMS personnel are at high risk of experiencing post-traumatic stress symptoms, it is important for EMS centres to

identify and treat potential stressors, as well as resulting psychological problems early on. In addition, they suggested that on-going assessment and employee assistance programmes should be a minimum requirement at EMS centres. Moreover, studies by Regehr, Goldman and Hughes (2002) and Jenkins (1998) found that EMWs themselves stated that having a good psychologist at the EMS centre did help or would help them to better cope with critical incidents and the daily stresses of the occupation. However, Jenkins (1998) found that only 50% of EMWs actually made use of counselling services. There are a number of reasons why the EMWs may not make use of available resources, but most often EMWs fear they will be labelled as weak or incompetent by management or co-workers (Beaton, 1999).

Chapter 4: EMS in the South African Context

South Africa's Demographic Profile

Due to a rich social heritage, South Africa currently has a vast cultural diversity (de Kock, 2003). Furthermore, South Africa is a religiously pluralistic society, featuring Christianity, Hinduism, Islam, Judaism and "Traditionalist" religions. With eleven official languages, the language profile of the country is also extremely varied and unique. Furthermore, South Africa is a middle income country, featuring the largest economy in Africa and a modern infrastructure. However, the country is also plagued by high levels of unemployment and large inequalities in wealth (de Kock, 2003).

The Western Cape Province, where this research will be situated, consists of five district municipalities, namely the West Coast, Boland, Central Karoo, Overberg and Eden. In addition, the City of Cape Town is considered a metropolitan municipality. Although the Western Cape Province is the second richest in the country (as measured by total current income), the province is still plagued by high rates of poverty, unemployment and unequal distributions of income between population groups (Punt et al., 2005). Specifically, the poverty rate of the province is estimated at 20.8% and poverty rates vary greatly among racial groups. Moreover poverty and unemployment are commonly related to rural or informal areas and in fact between 10.4% and 10.7% of the province's people do live in rural or informal areas (Punt et al, 2005; V. Wiener, personal communication, April 6, 2013). In addition, 15.3% of Western Cape households can be classified as agricultural households, which means that these people live in rural or isolated areas that are far removed from markets, transport, water and electricity as well as access to health care (Punt et al., 2005).

Moreover, O'Meara and Boyle (2012) note that geographical location is definitely a major concern for EMWs as it impacts on response times. Delays often occur when the emergency is in a rural area, which is characterized by significant travel distances, scattered medical resources and practical issues such as no street names or house numbers. Yet delays in getting to the scene and the hospital are also a problem in urban settings where traffic volumes and other factors make fast travelling difficult. Other factors associated with prolonged response times include the degree of isolation from major hospitals and resourcing of the ambulance service, for example available crew members, their skills and the equipment of the vehicle. All of the above mentioned factors are particularly relevant in South Africa and particularly

the Western Cape Province, considering the demographic profile of the country and the province.

Furthermore, the cultural composition of the province reflects the diversity that is seen throughout the rest of the country. According to V. Wiener at Statistics South Africa (personal communication, April 6, 2013), the racial composition of the Western Cape Province is as follows: Black African (32.8%), Coloured (48.9%), Indian or Asian (1%), White (15.6%) and Other (1.6%). Likewise, the province features great linguistic diversity as the language profile consists of Afrikaans, English, IsiNdebele, IsiXhosa, Tshivenda, Xitsonga and other unspecified languages.

Other important issues pertaining to the Western Cape Province is the high prevalence of gangsterism and drug and alcohol abuse. According to statistics, gang violence is widespread in the province and has recently spread to areas not traditionally associated with gangs (Western Cape Government, 2012b). In addition, drug and alcohol abuse are proposed as the main contributors to violent crimes. The great risk of self-injury or overdose also means that drug and alcohol related incidents are likely to require EMS assistance. There is also a high rate of sexual offenses in the Western Cape Province (Western Cape Government, 2012b).

Accordingly, various factors in the Western Cape Province could be potential challenges for effective Emergency Medical Service delivery. From the above overview, it follows that the Western Cape is a large province, which means that the EMS has a large area to cover. The province is also plagued by poverty and unemployment, meaning that many people probably cannot afford private health care and are thus reliant on the government health sector. For many members of the community, an absence of transport is a common barrier to emergency care. This might be due to the people not having access to a vehicle or the inability to pay for transport, or even the absence of adequate roads in informal settlements (Razzak & Kellerman, 2002). Thus, for many people, an ambulance is their only hope of getting to a hospital. Yet it is often also a challenge for ambulances to reach isolated rural, informal and agricultural households, where street names and house numbers are often absent, disorganized or not visible. Consequently it becomes vitally important for everyone involved to communicate information pertaining to tricky locations in a logical and careful manner. The great diversity in the province's racial and linguistic composition is also a potentially huge challenge for the EMS system as it erects cultural and language barriers that need to be

overcome. Finally, social problems in the Province, such as gang violence, drug and alcohol abuse, as well as the high rate of sexual offenses further creates a need for effective EMS.

South Africa's Health Profile

South Africa has a health profile unique to the Southern African Developing Community Region, due to high rates of violence, HIV/AIDS, communicable diseases and chronic diseases of lifestyle (Coovadia, Jewkes, Barron & McIntyre, 2009; Wallis, Garach & Kropman, 2008). These diseases contribute to an average life expectancy among South African males of 49 years and 52 years for females. High levels of poverty and unemployment in the country adds to the challenge of many poverty-related illnesses such as infectious diseases, maternal death, malnutrition and the growing burden of non-communicable diseases. Furthermore, with 69 deaths of children under the age of 5 years per 100 000 live births, South Africa is one of only 12 countries in the world where there has been an increase in child mortality rates since 1990 when the Millennium Development Goals were set. Consequently Coovadia et al. (2009) suggest that, in a developing country such as South Africa, advanced approaches to health service delivery are essential. Goudge, Gilson, Russell, Gumede and Mills (2009) add that in order to strengthen the public health sector, it is important to improve matters such as ambulance services and referral systems.

An Additional Challenge for South African EMS

In 2008 there were 1631 registered ALS practitioners in South-Africa who had to provide pre-hospital care to a population of around fifty billion people. When compared to global standards, this ratio is grossly inadequate (Govender et al., 2011). Hackland and Stein (2011) also mention the dire shortage of ALS practitioners in South Africa and state that according to the Health Professionals Council of South Africa 2008/2009 annual report the ratio is approximately 1:40 217. They propose that this deficit may be due to education and training which is not sufficient to meet the needs of the country or alternatively poor retention strategies may lead skilled and experienced EMWs to withdrawal from operational practice. In addition, Govender et al. (2011, p.60) suggest that the above mentioned shortage of ALS EMWs may be due to a phenomenon which they have termed "the migration of South-African ALS practitioners". This study found that the main reasons for migration, as reported by the respondents, were unsatisfactory working conditions, concerns about physical security and economic considerations/remuneration. Lastly, Kriek (2008) found that the trauma and tragedy that EMWs are subjected to does not appear to be a major reason for their departure

from the profession. The respondents also attested that they did not simply join another local EMS, but that they left South Africa altogether. The significant shortage of ALS practitioners further adds to the burden of the BAA and ILS practitioners, as they are forced to make decisions and take action that is beyond their training level (Campbell & Campbell, 2010). These findings raise important questions regarding major issues within the South African EMS system that could contribute to unsatisfactory or difficult work circumstances for EMWs.

Politics and Public Health

South Africa's political history plays a huge role in the history of EMS and must be kept in mind when attempting to understand the operation of and also the disparities in the current EMS system. During the Apartheid era, specific ambulances were only permitted to transport and attend to patients of a specific race, even in emergencies. Thus, the Department of Health operated in line with the political objectives of the Apartheid state and accordingly focused most of its efforts and resources on only a portion of the population. Access to health care was only declared as a basic human right in 1996 and many efforts to improve the health sector have since been undertaken. Yet the first Ambulance Services Bill in South Africa was only approved in 2010 by the Western Cape Provincial Parliament (Western Cape Ministry of Health, 2010). This Bill provides a foundation of standards and regulations for ambulance services and complies with international standards. Prior to this, there were no regulations determining what defines an ambulance, the minimum requirements for such a vehicle and what performance targets they should be measured by (Western Cape Ministry of Health, 2010).

Moreover, the link between public health and politics was not severed with the dissolution of Apartheid. Brown (2010, p. 155) states that "public health is politically paradoxical because its core conceptual components – the exercise of public authority and the promotion of population health – stand in practical contrast..." Yet Brown notes that the intricate relationship between politics and public health are not often discussed together and public health rarely concedes that its work is inescapably political, that political saturation actually shapes the profession of public health. Ghobarah, Hutch and Russett (2004) elaborate on this idea. They claim that political leaders ultimately want to retain their power and in order to do so they must form a winning alliance amid the politically active members of the public. Thus they allocate private goods to their supports and provide communal goods to the population at

large. Yet, the situation is more difficult for democratic leaders, as is the case in South Africa. Democratic leaders must please a wide variety of supporters and they must cater more to the larger demands of the public and their wellbeing. They also run the risk of being blamed and held accountable for failing to address the basic and pressing needs of the public. As such, they are likely to make substantial investments in public goods, such as health services.

As a country, South Africa is currently run by the African National Congress. Yet the Western Cape Province is the only province under reign of the Democratic Alliance. The above mentioned theory of Ghobarah, Hutch and Russett (2004) seems to be occurring in the Western Cape. In attempt to retain power, the DA seems to be making large investments in the public health sector, and especially in the Western Cape EMS system. For example, by issuing a press release stating that the Western Cape Provincial EMS has a new goal of reaching 90% of Priority 1 calls within fifteen minutes, both in the city and outside of the Metropole by the end of 2011, the DA is effectively indicating that they intent to cater to the health needs of the public at large and by doing so they are gaining the favour of the politically active members of the community.

However, Kanyane (2010) cautions that the post-apartheid government has focused excessively on physical and tangible features of public service delivery and in doing so they overlooked the more impalpable, but equally essential, social aspects of service delivery. He goes on to advocate an equal focus on quantitative and qualitative aspects of public service delivery. Moreover, Razak and Kellerman (2002) state that the capacity of a health care facility is equally determined by its human and structural features. The human factors refer to the number and combination of workers, as well as their competency and wellbeing. The structural factors refer to the available space, supplies, equipment and medications that the facility has at its disposal.

Conclusion to Literature Review

From the literature review it is clear that various studies have explored issues relating to EMS and the occupation of EMWs, yet these studies have focused on areas within the EMS in isolation, for example, on the negative effects of the occupation (Kriek, 2008; Hackland & Stein, 2011), on the needs of EMWs (Kriek, 2008), on the migration of South African EMWs (Govender et al., 2011; Hackland & Stein, 2011) et cetera. What appears to be missing from the literature is a comprehensive insiders' perspective, such as that of the EMWs, of the EMS system as a whole. Furthermore previous studies seem to have employed rather rigid

methods, such as quantitative surveys with closed questions or even qualitative approaches with very specific research questions which yielded (appropriately so) very particular results. However, since the EMS is in fact a complex and intricate system consisting of various departments and role-players (Sanders & McKenna, 2012), it was thought that obtaining a broad perspective of the system in its entirety from those who are a part of the system, would enable a better understanding of the EMS system as a whole.

With regards to communication, various studies also focused on isolated areas of communication within the EMS system, for example communication with management, with dispatchers, with call-takers, with fellow EMWs, with hospital staff and with patients (Carrière, Bourque & Bonaccio, 2007; Nordby, 2004; O'Meara & Boyle, 2012; Wyatt et al., 2012; Sanders & McKenna, 2012). Yet, the researcher could not find a study in EMS literature that sought to explore communication within the EMS system in general, thus involving all the areas of communication or all the role-players. The researcher believes that this is a critical void in the literature, because communication within the EMS system is complex and interwoven into the entire system (Sanders & McKenna, 2012). Indeed, studying the system in terms of its composite parts is useful, yet, as von Bertalanffy, (1968) stated, the whole is greater than the sum of its parts and as such it is also important to study the system as a whole.

Chapter 5: Methodology

Purpose of the Study

The aim of this study was to explore the perspectives of EMWs on the Western Cape EMS system in which they are employed. This aim can be broken down into three sub-aims. Firstly, the study aimed to uncover how the EMWs generally and specifically perceive and describe the EMS system as a whole. Secondly, the researcher sought to discover what the EMWs deemed to be the most pertinent topics or concerns regarding the EMS system. This study further aimed to investigate communication within the EMS system from the perspectives of the EMWs. As such, the study investigated communication as “a whole” from the perspective of one of its “parts” and thus gave insight into both the particular “part”, as well as the “whole”. Accordingly, the third and final research aim was to explore how communication features in the EMS system, how communication plays out in the system, how communication happens effectively and what the barriers are to communication, all according to the EMWs.

Overview of study design

Qualitative methods are focused on quality and texture of experience and are able to provide rich insight into subjective experiences (Willig, 2008). Thus, qualitative methods are concerned with how people come to understand the world, how they experience events and how they handle situations. Consequently, it was believed that a qualitative approach would be best suited to the explorative nature of this study. The pilot study (a small group discussion guided by the discussion guide for this study) done by Professor Penn with two EMWs at the EMS centre in April 2013 further indicated that a qualitative approach would be well suited to the aims of this study. The EMWs participating in the pilot study responded well to the open-ended questions and also appreciated someone taking an interest in the exceptional jobs that they do.

The theoretical framework for this study was Hammersley’s Subtle Realism (Snape & Spencer, 2003). Subtle realism accepts that the social world does exist independently of individual subjective understanding, but is only accessible to the researcher via respondents’ interpretations (which is further interpreted by the researcher). Thus, the importance of the respondents’ interpretations is emphasised and the researcher must acknowledge that

different vantage points will yield different results. From this perspective, the underlying aim of research is then to convey as full a picture as possible of the nature of a multifaceted reality (Snape & Spencer, 2003).

In addition, subtle realism encourages the researcher to acknowledge that personal interpretations are important, so the researcher is not supposed to strive to be objective and neutral Realism (Snape & Spencer, 2003). As such, reflexivity is important on the part of the researcher. Furthermore, although the researcher's interpretations must be grounded in the accounts of the participants, one can go beyond the explicit data, as long as the building blocks are made visible.

Sampling Procedure

The participants of this study were EMWs, who were able to give an insider's perspective of the structure and operation of the EMS system. The occupations of the EMWs are extraordinary, as it is a demanding, gruelling, draining and often dangerous job which requires a certain type of person (Moran & Massam, 1997). As such, the study used a unique and interesting group of people as participants. A purposive sample of fourteen EMWs was recruited from the Western Cape EMS. The researcher originally aimed to recruit between eighteen and twenty four participants, thus three to four focus groups with around six people in each (as is suggested by Krueger and Casey, 2000), however, due to the demanding schedules of the EMWs, only fourteen people could take time off from work to participate in the study. The inclusion criteria for the EMWs were as follows: the participants had to be qualified as an EMW on either the basic, intermediate or advanced life support level. Gender did not form part of the inclusion criteria. The EMWs were formally invited by letter (see Addendum A) to take part in this study via the Provincial Communications Manager of the EMS Communications Centre, who agreed to let the employees participate in various studies undertaken by the HCRU, including this study. It must be noted that these invitations were not given to individual EMWs at random. Instead entire groups, or "shifts" as they are called in the EMS, were invited to take part in the study together and thus each shift formed a focus group. This allowed the researcher to gain insight into what happens on a smaller scale within each group or shift, to get various views on the system as a whole and also to compare the different groups and their perceptions to each other.

Data Collection: Focus Groups

Focus groups were used to collect the data for this study. This method was time-efficient as the EMWs did not have a lot of time to spare from their critically important jobs. A focus group was also able to deliver qualitative data, specifically; a focus group could be used to collect data of interest to the researcher and it could offer insight into a wide range of opinions across groups. According to Krueger and Casey (2000), focus groups have five features: they involve a group of (1) a number of people who (2) have particular characteristics in common and (3) offer qualitative data (4) in a focused discussion to (5) help to understand the subject which is of interest to the researcher. Thus, considering its purpose, size, composition and procedures, a focus group is a special kind of group. The purpose is to gather information by intently listening to the discussion in an attempt to better understand how people think or feel about a specific issue, product or service. This is achieved through a series of group discussions which are carefully planned and designed to attain perceptions of a distinct area of interests.

According to Krueger and Casey (2000) the participants for a focus group are selected because they have certain characteristics in common that relates to the topic at hand. In this case the participants had employment as an EMW at the Western Cape EMS in common. The authors further suggest that the groups must be small enough to allow every participant to share his/her point of view, but also large enough to allow for diverse perceptions to emerge. Thus the authors' recommendation is to have a group of five to ten people. In this case, three focus groups were conducted, two of which consisted of four participants each, and one group consisting of six participants. Once again, the reason why two of the groups contained less than the recommended number of people is that the EMW have very demanding schedules thus the research could only get access to a limited number of people.

With regards to the number of focus groups to conduct, the researcher followed Krueger and Casey's (2000) guidelines, which was to initially plan three groups and once these focus groups have been conducted, the researcher determined that saturation was in fact achieved. Thus, the researcher believed that the three groups provided the entire range of possible ideas and no new information was emerging and no additional groups needed to be conducted. Lastly Krueger and Casey (2000) mention that a focus group needs to be homogenous. In this study, homogenous groups were broadly defined as EMWs who work for the Western Cape

Government EMS (METRO). In addition, the groups were to consist of a mixture of basic, intermediate and advanced life support EMWs. The reasoning behind this is that the pilot study revealed that the different levels of EMWs seem to form a hierarchy and experience different issues. Hence, including different levels of EMW was supposed to lead to a wider range of opinions to emerge during the focus group discussions. Prior to commencing with the focus group discussions, each participant received a sticker with a number. This assigned number was used to refer to and to identify participants in notes made during the discussions and was also be used as a pseudonym later on in analysis. Lastly, a demographic questionnaire (see addendum B) was handed out to participants along with the consent forms. The reason being that the researcher believed demographic information (especially age, tenure and level of qualification) could have an effect on the viewpoints of EMWs.

The focus group discussions took place in an accommodating and comfortable environment to encourage participants to share their points of view. Hence a more natural environment than that of an individual interview was achieved, because participants are influencing and influenced by others (Krueger & Casey, 2000). Since the researcher is not an experienced moderator, the focus groups were directed by one of the supervisors of this research project (who is experienced and skilled as a moderator), with the researcher acting as an observer. As expected, many of the participants were Afrikaans speaking, and so the researcher's home language (Afrikaans) was particularly useful in these sessions, which were bilingual. The discussion was carefully designed by the researcher in an attempt to elicit the EMWs' thoughts and feelings pertaining to the operation of and mechanisms at work in the Western Cape EMS system. In general, and as is suggested by Krueger (1998), open-ended questions were mostly used, which allowed the participants to determine the direction of the response. However probing questions were used when necessary in an attempt to narrow and focus the discussion. In addition it must be noted that the researcher was well aware that the topic of discussion is somewhat of a sensitive and volatile matter. Thus the researcher and moderator were prepared for the possibility of discussions becoming heated. Where this was the case (although it was not extreme), strict moderation was applied to keep the discussion from getting out of control, for example, the moderator redirected the discussion to a more neutral or positive topic (as is suggested by Krueger, 1998). Furthermore, the group discussions were audio taped and subsequently transcribed verbatim. Notes were also made by the facilitator and the researcher of significant observations such as body language, facial expressions and so forth in an effort to triangulate findings. To further ensure rigour, a third

researcher was enlisted to take notes of the focus group discussions. These notes were also used to triangulate findings, to ensure accurate observations and to keep track of speaking-turns.

Ethical Considerations

While collecting and analysing qualitative data, it is crucial at all times to be aware of the ethics involved. Being ethical in qualitative research is important because during the research process the participant's private life is inevitably moved into the public domain and it is the responsibility of the researcher to ensure that this process operates on respect for the participant's well-being (Gillet, 2011). The undertaking of this study is covered by the ethical clearance obtained for the Emergency Call Centre Project of the HCRU (see Addendum C for ethical clearance certificate). In order to further conduct this study in an ethical fashion, the researchers were firstly formally introduced to the participants and contact details were made available in case the participants wished to contact the researchers for any reason. Furthermore, the participants were clearly informed of the purpose of this study, as well as of the data gathering procedures involved (see Addendum A for an example of the consent form for this study). Thus, the participants were well aware of what their rights and responsibilities were as participants. It was also explained that involvement in this study was completely voluntary and that participants had the right to withdraw from the study at any time.

In addition, since the topic is of a potentially sensitive nature, confidentiality was a high priority for this study. The participants were assured that their identities, as well as anything that they reveal in the focus group discussion, will be kept confidential. Hence only the researcher and the moderator will have access to the raw data and any personal information and pseudonyms will be assigned to participants during transcription and analysis. Furthermore, it was made clear to the participants that nothing they would say in the group discussions would be revealed to anyone outside of the particular focus group, not members of another focus group, other colleagues, management, friends or family. To ensure this, all participants were asked to sign a disclaimer. Anyone who felt that they were not willing or able to comply with these terms reserved the right to withdraw from the study. Lastly, the participants were informed of possible risks and benefits pertaining to involvement in this study. Specifically, risks included possibly participating in or being exposed to intense discussions or debates, for example around grievances or issues with the EMS. However, participants were informed that they had the right to excuse themselves from the discussion.

It was also mentioned that if any of the participants experienced any serious distress following the discussion, they could contact the researcher who would refer them to a competent counsellor.

On the other hand, benefits of taking part in this study included an opportunity for the participants to raise important points or concerns regarding the topic at hand, as well as a chance to make suggestions for improving the EMS system. Although this study may seem to pose a certain risk to participants' work relations or even to their employment, it must be stressed that this study (as well as other studies conducted by the HCRU at this site) was executed with full support of the Management of the Western Cape EMS, who are keen to find ways of improving operations. Furthermore, aside from conducting the focus group discussions with the necessary discretion, the participants were assured that the results obtained from this study will be shared with the management of the EMS in such a way as to protect the identities and the welfare of the participants. Specifically, pseudonyms were used throughout the research report and any identifying information was removed from the report.

Method of Analysis

This study made use of situational analysis, meaning that the researcher did not presuppose the type or nature of analysis necessary for this study until she had been sufficiently exposed to the actual data (Krueger, 1998). This is because Krueger (1998) notes that qualitative research has inductive properties that allow the researcher to make decisions and refine the quest for knowledge en route and as such the analysis procedure should be open to indicators from the situation. Consequently, only after transcribing the focus group discussions and becoming thoroughly immersed in the data, did the researcher decide to make use of Braun and Clarke's (2006) thematic analysis, coupled with a saliency analysis (Buetow, 2010) and a matrix analysis (Averil, 2002) in order to enhance the quality and level of the analysis. A detailed description of the steps taken during analysis will now follow.

The method of thematic analysis by Braun and Clarke (2006) was used to provide an overall and rich thematic description of the entire data set (as opposed to providing a detailed account of one particular theme or group of themes). According to Braun and Clarke (2006), this approach is particularly suited when the topic under investigation is relatively under-researched. Since the views of the EMWs in the Western Cape EMS have not been researched to date, using this approach seemed particularly fitting.

Braun and Clarke (2006) propose six steps or phases for a thematic analysis, although they state that the analysis is not a linear process, where one merely moves from one step or phase to the next. Instead it is a recursive practice, requiring the research to move back and forth throughout the process of analysis. Phase 1 was to *become familiar with and immersed in the data* so as to be completely aware of the breadth and depth of the content. This was achieved during the transcription process and required repeated and active reading of (and listening to) the data. During this phase, the researcher also started making notes of interesting points and marked ideas for coding.

The second phase was to *generate initial codes* (Braun & Clarke, 2006). By systematically working through the entire data set, the researcher identified areas of the data that were interesting and that could have formed the basis of repeated patterns. The researcher made use of the qualitative analytic program ATLAS.ti (2012) to assist with the coding procedure and to organise the codes. The researcher aimed to use the analysis to provide a thematic account of the entire data set, instead of focusing on a particular theme or group of themes and so the entire data set was coded, as opposed to only coding specific features of the data. Additionally, coding was done inductively and was thus data-driven, as opposed to theory-driven (Braun & Clarke, 2006). With this inductive analysis, the researcher did not try to fit pieces of data into an established coding frame or the researcher's analytic notions. Simply put, the researcher asked: "what is the data telling me"? The researcher also followed the advice of Braun and Clarke (2006) and coded inclusively, coded an idea more than once where necessary and coded for as many potential ideas as possible. Contradictions were not ignored, but noted and this formed part of the analysis.

The subsequent phase (phase three) involved *searching for themes*. Basically the researcher started to analyse the codes and to contemplate how different codes may cluster together to form a central theme (Braun & Clarke, 2006). In addition, the researcher considered relationships among codes, themes and different levels of themes. The identification of themes was primarily done on the semantic or surface level. Accordingly, the researcher identified codes and themes within the explicit or surface meanings of the data, and the analysis proceeded from systematising and describing the data to show patterns in the semantic content, to interpreting the significance of the patterns along with their extensive connotations and repercussions. However, the researcher did not and could not ignore themes that pertained to the latent level, and so underlying notions, conventions and conceptualisations that were thought to shape or inform the semantic content of the data were

also included in the analysis where appropriate. This is in line with the interpretative work suggested by subtle realism (Snape & Spencer, 2003).

Phase four was to *review the themes*, so the researcher deleted some themes that were not important, merged themes together and even split one theme into separate themes (Braun & Clarke, 2006). The researcher had to make sure that data within themes fitted together well, while there was a clear distinction between different themes. The researcher reviewed themes both at the level of the coded data extracts, as well as the level of the entire data set. At this stage the researcher also drew up and evaluated a thematic map (see Addendum D).

During the fifth phase, the researcher had to *define and name the themes* (Braun & Clarke, 2006). In other words, the essence of each theme was identified, it was determine what aspect of the data was captured by each theme and then an appropriate and final name was given to the theme.

To aid with phases three, four and five, the researcher made use of a descriptive matrix analysis to effectively organise and sum up the analysis (Averill, 2002). Thus, the researcher displayed the themes, along with the corresponding quotes, links and reflections or notes in a table (see table 5 for the template used, also see Addendum E for an extract from the actual matrix analysis). This also assisted with noting similarities, differences and trends in responses across the three focus groups. Most importantly, the matrix analysis enabled the researcher to identify and write down the essence of each theme by looking at the quotes and links associated with the theme, as well as by taking the notes and reflections on the theme into account. Using the matrix analysis table, the researcher was also able to identify those quotes which best captures the essence of or revealed the most interesting features of each theme.

In addition, the researcher incorporated a saliency analysis (Buetow, 2010) into the matrix analysis. A saliency analysis evaluates the degree to which each code recurs, is highly important (i.e. new, enhances understanding and useful for addressing real world problems) or both. Thus, aside from helping the researcher to get an idea of the hierarchy of themes, a saliency analysis can also reveal what is not recurrent, yet possibly significant to the aims of the study. Accordingly, the status of a theme could be a) highly important and recurrent, b) highly important and non-recurrent, c) not highly important and recurrent or d) not highly important and non-recurrent. The 'saliency' level or status of a theme was indicated under the 'status' column in the figure below. If the researcher did not make use of the saliency

analysis, some important ideas, which did not recur and could thus not, by definition, be classified as a theme, would have been lost (Buetow, 2010).

<u>Theme</u>	<u>Links</u>	<u>Status</u>	<u>Group</u>	<u>Quotes</u>	<u>Reflect</u>
<i>(Definition)</i>	<i>(To other themes/ codes)</i>	<i>(Saliency Analysis)</i>	<i>(Focus group number)</i>	<i>(Verbatim quotes)</i>	<i>(Researcher's reflections)</i>

Table 5: Template of Matrix Analysis

The sixth and final phase involved *the final analysis and write-up of the report*, and commenced once the researcher had a set of fully developed themes. The goal here, according to Braun and Clarke (2006, p.23) is to “tell the complicated story of your data in a way which convinces the reader of the merit and validity of your analysis”. The authors further note that although the write-up should contain ample and vivid data extracts, the extracts should be embedded within an analytic narrative. As such, the analytic narrative should be more than a simple description of the data, but should in fact make an argument on the subject of the research question (Braun & Clarke, 2006). Here the researcher made use of the matrix analysis tables to organize and structure the write-up in a logical fashion, and also to accurately sum up and explicate each theme using the definition, links, status of importance and recurrence, pivotal quotes and the researcher’s reflections or notes.

Means to Establish Rigour

Long and Johnson (2000) note that in order to yield findings that carry strength and conviction, rigour has to be pursued in qualitative research. Consequently, the researcher made use of the following means to establish rigour. Firstly, the researcher reflected on personal beliefs, values and feelings after conducting each focus group, made notes of this and kept it in mind whilst writing up the final report in an attempt to understand what effect these might have on the research process. Secondly, in an attempt to establish stability, the researcher and moderator made use of member checks. Thus, the accuracy of findings and understandings was checked with the participants whilst the focus group discussions were underway. In the third instance, the HCRU have been involved with the Western Cape EMS for a significant period of time and this sustained involvement with the participants has built trust (Morse & Field, 1995). In addition, the researcher spent some time in the work environments of the EMWs, which enriched the researcher’s understanding of the EMS system (Long & Johnson, 2000). For example, the researcher spent some time observing the

call-takers and the dispatchers, discussed the operation of the EMS with the communications manager and even listened to a number of emergency calls, all in an attempt to thoroughly understand how the EMS operates. This also enabled the researcher to recognise and appreciate issues and topics that the EMWs spoke about in the focus group discussions. Lastly, triangulation was achieved by continually discussing the planning, analysis, write-up and conclusions of the study with supervisors and also with colleagues who were also working in the HCRU. This not only ensured that the research process was being carried out with accuracy and integrity, but it also stimulated the researcher to explore alternative perspectives and explanations, as is suggested by Long and Johnson's (2000) concept of 'peer debriefing'.

Chapter 6: Results

Overall, the focus group discussions revealed exactly how the EMWs perceived and described the features and operation of the EMS system, the interaction within the system, the role and position of the EMWs within the system, the daily struggles of the EMWs and also the external social influences on the EMS. Upon analysis of the focus group discussions, the researcher noticed that the topics raised seemed to be structured and clustered around how the EMWs perceived the different levels of the EMS system. To name one example, the EMWs frequently talked about the role of the dispatchers and their interaction with the dispatchers and *how* they talked about the dispatchers, for instance their use of pronouns and adjectives, clearly indicated where the EMWs perceived the dispatchers to be positioned in the EMS system. This phenomenon applied to all the other role players within the EMS system. For that reason, the researcher has chosen to present the findings of this study according to the different levels of the EMS hierarchy that the EMWs pointed out. The following diagram will help the reader to understand how the results are structured.

Figure 3: The Researcher's Presentation of the Results.

The figure shows the EMWs at the centre (the light triangle), since it is their insider's perspective that is being presented. Thus, in the figure, from the EMWs' insider's perspective they are practically looking out over the rest of the EMS system. The thick black arrows represent the EMWs' views on or interactions with the other role-players in the EMS system. The outer grey triangles represent the other role-players in the system, namely EMS management, the dispatchers and the call-takers. The thinner inner circle represents the EMS system as an organisation and the thicker outer circle represents the context of the Western Cape Province in which the EMS system is situated. Finally, the little numbered boxes indicate in what order the sections will be presented. In short, the idea is that the Western Cape EMS system consists of various layers and the discussion will start with the EMS

system as a whole and then move inwards to the EMW, before moving out again to the larger social context in which the system is embedded.

Firstly, the views of the EMWs on the EMS system as a whole will be presented and explained. This section will include how the EMWs perceive the structure and operation of the EMS system, as well as their position within the system. Secondly, the EMWs' interactions with and perceptions of the other role-players in the EMS system will be discussed. This section will start with a discussion of the dispatchers, whom the EMWs are in frequent and direct contact with. Consequently the discussion will move on to the EMWs' perspectives of the call-takers and finally the EMS management. Thirdly, the lives of the EMWs will be discussed. This section will give insight into how the EMWs feel about their profession and what their priorities are in their capacity as EMWs. Attention will also be given to the identity of the EMWs, as well as their physical and emotional well-being. In the fourth instance, the researcher will proceed to give an overview of what the EMWs identified as their daily struggles in the workplace. Finally, the results section will conclude with the EMWs' perceptions of the context in which the Western Cape is situated in. Thus, their views on the Western Cape government and community in relation to the EMS system will be discussed.

Although all three focus groups discussed more or less the same topics, their opinions and perspectives differed somewhat. The researcher also noticed that the three groups had different general attitudes or outlooks. Focus group 1, or rather two members of the group, was very extroverted and expressive and they spontaneously gave plenty of detailed examples and accounts of their experiences. Although they did have some complaints about certain issues in the EMS system, they did not appear to be negative towards the EMS system or their occupations. They appear to have accepted the system and to have adapted to the issues that they raised with the system. Yet, where they were truly unhappy with something, they were not afraid to use their voice, but they were also quick to come up with possible solutions to perceived problems. The group seems to know and understand each other well and they report that they work together as a team. Group 2 was very different from the others in that they were more satisfied with the circumstances and less worried about the issues that the other groups raised. In this group one participant seemed to be rather different from the other EMWs in that he/she was very calm, tough and confident. Many of the differences and positivity in this group could probably be attributed to this participant, who also seems to be a strong and influential leader. It must also be noted that this group consisted of two new

EMWs, and thus their opinions and attitudes were likely to be influenced by the older members. This group was also very focused on the task or cause, more positive and understanding towards the EMS system. In some cases they accepted the status quo, but at the same time they were not afraid to challenge issues that they felt were unfair. Of all the groups, group 3 was noticeably more negative. They reported feeling despondent, frustrated and disgruntled due to what they perceived as unsatisfactory working conditions. This group also seemed to have a lack of mutual respect and did not appear to work together well as a team. The researcher also noticed that these group members fuelled each other when it came to complaints about the EMS and so the discussion became increasingly negative over time. Accordingly, the researcher felt like the opinions expressed by the group members were in some instances affected by the general attitude of the focus group.

The EMS System according to the EMWs

“...it’s a chain reaction”

In the literature review it was mentioned that an EMS system operates based on a succession of events, with the caller getting through to a call-taker, who must pass a message on to a dispatcher, who must pass a message on to the EMWs, who must get to and treat a patient and/or transport the patient to a healthcare facility (Patrick, Barger, & Deasy, 2010; Sanders & McKenna, 2012). As such, the success of an EMS system is to a large extent determined by accurate, efficient and closed-loop communication. The focus group discussions confirmed that the functioning of the EMS system as a whole depends on the efficient flow of information from one role-player in the system to the next (thus efficient communication). Yet, the EMWs went on to refer to the EMS system as “a chain” (of reactions or events) and specifically stressed how interdependent the EMS system and its various role-players are. As the following quote from group 2 clearly illustrates (see Addendum F for Participant Details):

pF: no it’s a chain, it’s a chain reaction.

With every incident that requires emergency medical assistance from the Western Cape EMS, all the role players in the system, from the call takers, to the dispatchers, to the EMWs, play a crucial role in making sure that the emergency is attended to. As such, all the role-players are intimately connected with each other and all have an impact on each other’s performance and success rate (in terms of making sure that the emergency is attended to). In fact, participant K

in group 3 claimed that one role-player cannot function in their position at all, if he/she does not have the other role players present and performing in the system as well. The participant made the following statement:

pK: ...you tell him what kind of a controller would he be if he didn't have a call-taker? If he doesn't have an ambulance to dispatch?

Moreover, the “chain” and the interdependence of the system does refer to communication (and perhaps is rooted in communication?), but it goes beyond communication to involve factors such as ability and performance on the job and it ultimately affects patient care and the overall success rate of the EMS system. What was also evident in the focus group discussions was that the EMWs believed that this great interdependence in the system is often forgotten by the other role-players in the system and as such they feel that there needs to be a greater awareness of this interdependence amongst individual role-players, in order for the system to function better as whole. Thus the EMWs felt that everyone (call-takers and dispatchers) should be more conscious, that they should keep in mind that their quality of work (where efficient communication plays a large role), has a direct effect on how well the next role-player in the system is able to do his/her work and accordingly this ultimately effects the overall effectiveness of the EMS system. The following quote from focus group 2 illustrates how the EMWs see and feel about the interdependent EMS system:

pE: I understand they ((call-takers)) are too inundated with all their calls that they have to get out, and they most probably got their supervisors standing on their backs watching them, to worry about a limit that we having on the road, but I mean if we don't produce the goods, then you can't say that they are working either.

“...we're bottom-feeders”

A possible reason why the EMWs felt strongly about call-takers and dispatcher being more aware of the interdependence of the EMS system and more conscious of how their work affects the rest of the system, is that the EMWs describe themselves as the last link in the EMS chain. As participant E in group 2 said:

pE: because we're actually on the - we're bottom-feeders, we on ground level

Fa: That's a horrible way of describing it! ((laughs))

pE: But we are, we're on the ground, we doing the work.

It is interesting to note that in this extract this participant seems to simply accept this as the status quo and he/she does not agree or disagree with the facilitator's negative reaction to his/her statement. Instead there is a quiet contentment and acceptance of this fact. Yet, in the following extract from group 2, the same participant reacts to the implication of them being the last link in the EMS chain:

Fa: ...I've seen on the screen, the screen printout where sometimes actually it's the call-taker writing it down wrong so they hearing it but then they typing it the wrong way or with the wrong vowel or something so I wonder where that problem originates.

P1: And then who takes the brunt of it? We take the brunt of it, we have to get to the patient

The same sort of reaction can be seen throughout the focus group discussions. The EMWs believe that if something goes wrong somewhere else in the EMS chain, be it with how the call-taker takes or passes the message from the caller across to the dispatcher, or how the dispatcher takes or passes the message from the call-taker across to the EMWs on the road, they are the ones who will inevitably bear the burden of all the mistakes that were made earlier on in the EMS chain. In addition, the EMWs appear to feel like they are completely powerless to do anything to prevent the consequences of mistakes or events which occurred at previous links in the chain. They also feel like they are at the mercy of the role-players who represent previous links in the EMS chain and in some cases this seems to lead to feelings of frustration and defeat. As participant C in focus group 1 stated:

Fa: What are your tricks to make life easier for you?

pC: The thing is with us, we're kind of screwed, for lack of a better word, because you come on duty, you get aah the dispatcher telling you where to go with thirty-five calls from the previous shift, so now what can you do?

The above findings mostly affirm what Patrick, Barger and Deasy (2010) say about communication playing a critical role in the successful functioning of an EMS system. Yet it appears that communication in the EMS is more complex and more embedded in the system than what is proposed by the existing literature. How effectively communication occurs also has more intricate consequences than originally thought, not only for the EMS system as a whole, but also for the individual role-players within the EMS and particularly for the EMWs. (Please note that the role of communication will be continually discussed in the following sections).

However, the idea of the EMWs being the last link in the EMS chain, the impact thereof and the associated feelings of powerlessness and frustration has to date not been explored in the literature and so this study has rendered a new and interesting finding that can be explored in more detail in future studies.

Teamwork? Or not?

As mentioned above, a possible consequence of the EMWs' perception of themselves as being in the position of the last link in the EMS chain, is that they would like the other role-players in the EMS system to be more aware of the interdependence of the system. In group 2, one participant actually suggested that the interdependence of the role-players should be taken to the next level; to make the system even more interdependent, so as to force consideration of how the quality of work at the one level affects the outcomes at the level of the EMWs. The participant said:

pE: You know what they should do? Their two minutes that they are given, after that two minutes, if they give the call out within two minutes, then their call is out, off their hands, well done. They must make that a viable call only once we have to receive the patient (.) See? They must make their call a viable call only once we had received, so once we have got – so we can only get there with their help

Whether such a drastic approach could be put into practice in the first place, and if so, whether it would actually have the desired effects, is probably doubtful or possibly debatable. Yet, what the above extract ultimately alludes to is the EMWs' need for better teamwork between the various role-players in the EMS system. The final sentence, "...so we can only get there with their help", principally indicates that this participant seems to want and/or need the cooperation and joint effort of the call-takers and the dispatchers.

Moreover and still on the subject of teamwork, the focus group discussions also revealed how the EMWs valued cooperation, a good team spirit and mutual respect within their shifts (in other words, among fellow EMWs). This is in line with literature on the role and importance of teamwork in EMS systems, stating that teamwork is vital to the delivery of safe and efficient pre-hospital care (Leggat, 2007; Patterson et al., 2012). Yet, unlike previous studies, this study was not able to establish specific characteristics of good teamwork. The only requirement for promoting good teamwork that is mentioned in the discussions, is "understanding". This apparent lack of a definition of teamwork may be due to the fact that, according to the literature, EMWs generally do not receive formal training on teamwork. As

such, there may be room for formal teamwork-training programmes. However, the majority of EMWs in this study claimed that they do work together as a team. The following extract reveals this point:

pG: *Ja, we, we working as a team and I think that is most important. Ja! Working as a team, together*

Fa: *And what's the trick for promoting a good, good team?*

pH: *Understanding*

A good and long-term partnership.

In addition, the majority of the EMWs stated that having a good partnership will greatly promote teamwork. The idea was also that a good partnership would result in happier employees and ultimately lead to better and more efficient service delivery. Although the EMWs did not explicitly indicate what exactly they thought constituted a good partnership, the researcher was able to make some deductions and conclusions from the discussions. As such, a good partnership was thought of as one where the EMWs got along with each other, had a mutual understanding among, respect for and trust in each other and where they perceived each other to be competent to do the job. The majority of the participants were also in favour of having stable, long-term partnerships, because they believed it would result in a better relationship, more support or back-up and greater understanding between partners. For example, the following extract from group 3 illustrates the reasoning behind this notion:

Fa: *And tell, tell me about the consequences of having a good partnership, talk to me about what that shows in, so that we can prove to those guys and say okay if you've got a good strong partnership, this causes what?*

pI: *If you work with a perfect partner, you work smarter and not harder*

Fa: *Smarter and not harder. Does it show in their stats?*

pI: *Yes it will show*

Fa: *Tell me how it will show in the stats*

pI: *You're gonna come to work with the idea I'm gonna come to help patients, like say if you wanna go in the mornings – your first time you spend checking your vehicle, you check your vehicle then your partner will tell you listen this and this and this that partner will actually give you attention as to what needs to be on the vehicle and how, certain stuff, like who the next crew is and that, your partner will back you – when you get incidents at hospital and stuff like that, your partner will back you.*

Evidently, the EMWs feel that a long-term partnership facilitates better teamwork and results in better, faster and more efficient service provision and patient care, since they believe that

operations run more smoothly when there is a good partnership. Another quote from group 1 further explicates the support for stable, long term partnerships:

pA: *...but what we used to have way back in the day is you have a permanent partner. You know it was so fantastic I didn't even have to say B**** I need a drip, that drip is already up*

pD: *Ja*

pA: *You don't have to say this patient needs oxygen because that patient has got the oxygen on already*

pB: *the thing is you can work faster, we know what to do*

pD: *There's a flow*

Hierarchies

Accordingly, at first glance it seems as if the EMWs value teamwork in general, have achieved it in some ways and strive for it at all levels of the EMS system, yet, upon closer inspection, it becomes clear that this teamwork which they are referring to is among EMWs or within certain shifts of EMWs. Notice how in the previous three extracts, the EMWs are in fact talking about a “team” and “partners”, not about the other role-players in the EMS system. When it comes to teamwork between the various role-players within the EMS system, for example between the EMWs and the dispatchers, there seem to be some discrepancies. Based on the content of the focus group discussions, the researcher came to the conclusion that where the other role-players within the EMS system are concerned, the EMWs are not necessarily seeking to attain the same comradeship with them as what they claim to have with (some of) their fellow EMWs. Instead, the researcher believes that they simply want better cooperation from the dispatchers and call-takers. It seems that they believe this can be achieved by giving the other role-players a better understanding of what it is like to be an EMW, to have them walk a mile in their shoes. Simply put, the EMWs want to be understood. As participant A in group 1 said:

pA: *What we said is they need to come on the road once a month or so, so that they can get the feel*

The researcher will now provide various quotes that illustrate how there is a perceived divide and lack of teamwork and camaraderie between the EMWs and the other role-players in the EMS (specifically the dispatchers and call-takers, whom the EMWs collectively refer to as the control room below). The following extract from group 2 gives a vivid example:

pH: *No. We don't have each other's backs*

pF: *Ye:::s!*

pH: *There's a clear separation between the control room and the road crew*

In addition, the way in which the EMWs speak about the other role-players, in particular the dispatchers, but also the call-takers, further indicates that there is a divide between the role-players.

pD: *I don't know how that meeting would work because it's like a power struggle*

pA: *It will be an argument*

pD: *The ones inside is like 'I'm in charge of the crews so I tell you what to do'*

Fa: *So the dispatchers feel like they're in charge?*

pA: *Yes*

pD: *Yes*

pA: *they tell it to us*

In the extract above, firstly notice the overt talk about a power struggle and the EMWs' assertion that the dispatchers believe themselves to be in charge of the EMWs. Even though the dispatchers in an EMS system do in fact have the authority to direct the movements of the EMWs (Dr. C. Stein, personal communication, 18 July 2014), the negative perception of the apparent hierarchy could in fact be a barrier to effective teamwork. Also notice how the EMWs use the pronouns "us" and "them" when talking about themselves and the dispatchers. This is an occurrence which happens throughout all three focus group discussions and the researcher believes that on a latent level this affirms the alleged hierarchy and divide between the role-players. It is as if the EMWs are distancing and dissociating themselves from the other role-players. The researcher believes that this is a noteworthy observation, since essentially, all the role-players are employed by the same company and have the same ultimate goal of assuring that the correct patient receives the correct medical attention, yet, according to the EMWs, they act as if they are not on the same team at all. In a complex and interdependent system such as the Western Cape EMS, a lack of team-work, at any level, can become a major obstacle to the success of the system as a whole.

Hierarchies within hierarchies.

As far as perception of a hierarchy and the co-occurring usage of the "us" and "them" pronouns go, it was also found to apply to the different levels or qualifications of EMWs and

thus indicates the existence of a certain hierarchy or “pecking order” among EMWs. For instance, participant A of focus group 1, who is an ALS technician said:

pA: *Well look our vehicle is not normally as busy as the normal crews, the paramedic vehicles are used more for specific calls*

And also:

pA: *yes. I came I came to a house one day so I did more than what the normal crew would do – yes but why didn't the other crew do this? So I said because the other crew was probably a lesser qualification. The people think everybody is a paramedic or a medic, but they don't even know what a paramedic is*

So not only did the participant make a distinction between “our vehicle” and another vehicle or crew, but he/she also repeatedly refers to the other vehicle or crew as “normal”. By definition, the word “normal” refers to something which is ordinary, standard, average or typical. The participant is setting this up as a contradiction: “normal” versus the opposite of normal, meaning special, extraordinary and of a higher status or prestige. Participant A also sets up a contradiction between his/her qualification and “a lesser qualification”, as if he/she is looking down on the crew or practitioner with the lesser qualification. He/she also goes on to boast about going the extra mile for a patient and attributes this to his/her higher qualification, which could in fact be attributed to a variety of other factors, for example, his/her personality or mood, characteristics of the patient or the circumstances surrounding the incident. Furthermore, it seems as if the participant expects recognition for his/her level of qualification, because he/she would like the public to realize that he/she is an ALS practitioner (or a “paramedic”, as the participant said) and that this status carries prestige and requires respect and even admiration. Evidently, participant A is referring and admitting to a hierarchy amongst EMWs based on level of qualification.

The literature clearly indicates that there are different levels of qualifications for EMWs, the distinction being between BLS, ILS and ALS practitioners. In addition, Watermeyer (2013) observed the existence of hierarchies in medicine and nursing. Yet the notion of hierarchies based on qualifications of EMWs does not seem to be thoroughly explored in EMS literature, particularly in South Africa. This study provides ample evidence of hierarchies amongst EMWs and gives some insight into how these hierarchies play out within a South African EMS system. The study also shows how common, complex and intricate EMS and EMW hierarchies are.

In addition, the EMWs also speak of a certain “pecking order” based on tenure or years in the service. They explain that those who have been in the service for a longer period of time, so the more senior EMWs, get treated better by fellow EMWs and also by dispatchers, as the following quote from group 1 illustrates:

pD: *But you know even for like again with regards to professionalism between the crews and the dispatcher you'll find, like *****, he's in the service for a good couple of years, so if he should – say the dispatcher tells him load this patient and he says no I cannot handle this patient for whatever reason, the dispatcher won't speak back to him. Here I come, [only qualified for a few years and I'll say*

pB: *[it's true*

pD: *the same thing, they will try to give me a hard time*

Interactions with and Perceptions of the other Role-Players in the EMS System

The following section relates to the EMWs' accounts of their interactions with and perceptions of the other role-players in the EMS system, thus the dispatchers, call-takers and EMS management. Accordingly, this section will focus on various forms of communication within the EMS system, but particularly on interpersonal, small group and organizational communication. That the EMWs discussed communication within the EMS system is valuable, since previous works have revealed that communication largely determines the success of an EMS (Patrick, Berger & Deasy, 2010). The EMWs' insiders-perspective into communication thus has the potential to lead to a better or new understanding of communication practices within the EMS system.

The Dispatchers.

With regards to the dispatchers, the EMWs seem to feel like the dispatchers are the enforcers of the rules set by the EMS. This related to the previous discussion of hierarchies within the EMS system. Apparently, the EMWs are of the opinion that the dispatchers see themselves as their "controllers" or in a higher position in the EMS hierarchy. As a result, the EMWs claim that the dispatchers often refused to take advice or corrections from the EMWs. This reportedly made the EMWs feel inferior and bullied, and again provides evidence for their perception of being the “bottom-feeders”, at the bottom of the hierarchy or the last link in the

EMS chain. The reported attitudes and behaviours of the dispatchers also seems to disturb the team-work and cooperation within the EMS chain, and at times gets in the way of efficient service delivery, as the following quotation will show:

pA: *But he didn't say wait let me call back, let me check, now we're telling him 'control you're sending three vehicles to the same call and he says 'don't argue with me! I'm the dispatcher' blah blah blah he went off on the radio*

Conversely, the EMWs were asked by the facilitator to paint a picture of the ideal dispatcher and they had very clear and specific ideas around this, as if they had given it some thought beforehand. Interestingly, in response to the question, all the EMWs in all of the focus groups proceeded to mention the name of one specific dispatcher, even when they were asked not to mention names. They also listed the valued qualities of this particular dispatcher. See the extract from group 1:

pA: *You know, Mam, his voice, number one, the voice calms you down because when he gets on the board you now know all is well in EMS. Even though the calls are pushing, and even though we are working – like maybe we'll do sixteen calls for that day – it won't feel like sixteen calls because it's Mister ***** dispatching*

pB: *He knows how to handle the cars out there*

pA: *And even though there's workload, because he's [()*

Fa: *[So because he's been on the road, he's been on the road, he understands how to handle cars but it's also something to do with his voice*

pB: *His voice*

pA: *He's calming. He's just a passive people-person. If he speaks to you 'Hi Mister *****', hope you're well, it's nice to hear your voice again'. You know [it makes you feel*

pB: *[He's friendly*

Thus, upon considering all of the focus group discussions, the ideal dispatcher can be summarised as follows: the most important quality, according to the EMWs, is that the dispatcher must have a calm disposition. He or she should not get over-excited or flustered about any call, and this calmness should reflect in his or her voice. Apparently, if the dispatcher stays calm, the EMWs on the road will also stay calm. Thus, it looks like the dispatcher does in fact have a lot of control over the crews on the road, but the dispatcher should not take advantage of this. In fact, the EMWs mentioned that it is important to them that the dispatcher treats them with respect and that he or she is at least friendly with them over the radio. On a more technical level, the EMWs also felt that it was important for the dispatcher to have practical experience of having been on the road. They felt that a dispatcher with practical experience not only knows the geographical areas better, but that he or she is

also able to organise and keep track of the vehicles out on the road. Lastly, the EMWs stated that an ideal dispatcher is a good communicator, who has a clear and fluent voice.

Although the researcher was able to use various sources in the literature review to summarise the areas of communication for EMWs in the EMS system, the literature specifically pertaining to the communication and interaction between EMWs and dispatchers was limited and not detailed. Hence this study gives new insights into how the interactions between the two parties play out and also what the ideal interactions would be like, according to the EMWs.

The call-takers.

The EMWs seem to have certain expectations of the call-takers, as well as ideas on how the call-takers could be doing a better job. These ideas are very specific and quite detailed, as if this was not the first time that the EMWs had thought about the matter. Groups 1 and 2 firstly seem to understand that the call-takers are also governed and limited by the rules and regulations of the system, like the time allocations, yet they have some suggestions as to how the call-takers could make the most of the time that is allocated to them to obtain the relevant information from a caller. What it comes down to for the EMWs is that the call-takers should get the correct address from the patient; the address is the most important aspect for the EMWs. In order to do this, they suggest that the call-takers should firstly become more familiar with the geographical areas of the province so that they will be able to scrutinise addresses and to recognise, ask for and suggest landmarks. In addition, the idea that the call-takers should be asking more questions and the right questions to establish and confirm details such as the correct address or the condition of the patient, came up multiple times in the discussions across all groups. What exactly is meant by “the right questions” is not clear though, but it appears that the EMWs simply want the call-takers to really scrutinise the details of the calls, so as to attain the correct information to pass on to the dispatchers and eventually to the EMWs.

Also important where the call-takers are concerned is the EMWs’ idea that the call-takers should get basic medical training and they believe that this will enable the call-takers to ask “the right questions”.

pK: ...And also with the, with the call-takers, the people taking the calls, like, like the problems we have now is the people taking the calls is not, medically qualified (.) so that, that is a problem because they don't know what questions to ask

Overall, they feel that the consequences of the call-takers having no medical training are that they spend time on getting useless or incorrect information from callers and also that they often misjudge the actual medical emergency and thus the priority of the incident. Specifically, the EMWs mentioned that they are getting a higher volume of priority-1 calls lately, but when they arrive on the scene they find that the priority was either misjudged by the call-takers, or that the callers gave misleading information to the call-takers, which led to the call's priority being incorrectly identified. This may be a waste of resources as the ALS vehicles could be needlessly dispatched to lower priorities, instead of attending to real priority-1 incidents. Another problem, as participant A from group 1 states, is that the EMWs occasionally get sent out to transport multiple patients, but then find that the patients cannot be transported in the same ambulance, due to their medical conditions which pose a risk to one another. This may again be a waste of time and resources, but also poses a serious threat to the patients themselves. For instance:

pA: *even the dispatchers ((laughs)) even our dispatchers*

pD: *Ja!*

pA: *Because our dispatchers uhm they send you for a TB patient, then they want you to load Pneumonia with them*

Management.

The EMWs' views on management were mixed and seem to be related to the general atmosphere and attitudes of the different focus groups. Group 3 was particularly negative about and critical of the EMS management, but this group was also more negative in general. Yet, overall, the EMWs did not seem particularly satisfied with certain aspects around the EMS management as they blame management for the issues that they are experiencing. For example management is being blamed for imposing time limits that are too rigid, for not being concerned about the quality of care provided to the patient and for not paying adequate attention to the safety and welfare of their staff. In addition, the EMWs seem to question the priorities of management and they seem to be unsure of where their allegiance lies – is it with their staff, with the patients or with the government? Whether these opinions reflect the actual state of affairs at the Western Cape EMS is not the concern of this study, however, what the researcher can gather from this study is that the EMWs are unsatisfied with the above mentioned aspects. This perception is likely to have a negative effect on the job satisfaction and morale of the EMWs and may impact on their job performance (Kriek, 2008). In addition, the apparent troubled relationship with management may be due to what

Kriek (2008) calls a “communication gap”. In other words, the fact that the EMWs and management often do not work the same hours or at the same location may be a barrier to interaction and personal communication.

“Come on the road”

With all three focus group discussions, the facilitator suggested a team-based training programme, where all the various role-players in the EMS system, thus the call-takers, dispatchers and EMWs, would all get together to work through a case-based training session. The facilitator proposed that the aim of this training would be for all the role-players to start understanding each other’s issues, and this could in turn possibly improve the overall teamwork and efficiency in the EMS system. The EMWs of all three focus groups were not opposed to the idea, but they all indicated that they would prefer such a training initiative to be practical, as opposed to office-based. Thus, they want the other role-players to go out in the ambulances with them and to see and experience the issues that they deal with, for example to see what the geographical areas look like and where they are situated, to experience an emergency in real life and to see what medical conditions look like in practice. The following extract demonstrates how the EMWs reframe the office-based suggestion to a more practical alternative:

Fa: *We’ve got to think about ways – you know one of the things we’ve been talking about is thinking about doing a training which like is not just- cause I see they do training for call-takers or they do training for dispatchers [or they do training*

pA: *[but the call-takers*

Fa: *for you guys. I want to put you all in a room*

pA: *mmm*

pB: *mmm*

Fa: *So that they can start hearing your troubles and you can start hearing their troubles. Do yo – would that work?*

pA: *What we said is they need to come on the road once a month or so, so that they can get the feel. Number one, a new dispatcher comes on the board, they don’t know the areas*

Consequently, it seems as if it all comes down to practical experience for the EMWs. They seem to be of the opinion that the other role-players in the system do not truly understand their job, and the best way for them to get a better understanding would be to experience the job. Thus, for the EMWs it would not be sufficient to simply *tell* the other role-players about their troubles; verbal communication will not suffice. Instead, they seem to be of the opinion that the other role-players need to *feel* or *experience* their issues first hand. As such, the EMWs are indirectly proposing that practical experience will result in a better understanding and more efficient teamwork amongst the role-players in the EMS system. It is interesting to

see that the EMWs feel that non-verbal communication will be more efficient than verbal communication in bringing their message across to the other role-players. The following quotation affirms the value that EMWs place on practical experience:

pA: So yeah, I mean there's nothing that makes up for practical experience, there is no way you can make up for experience

In all of the focus group discussions, multiple mentions were made regarding the value of experience. Yet this seems to be a rather abstract concept and the EMWs do not really give a definition of what exactly is meant by experience. What the researcher was able to surmise is that they are referring to practical, hands-on experience. This of course relates to their view on the facilitator's training idea, that enabling the other role-players to walk a mile in their shoes would enable better understanding of their struggles and obstacles and that this will lead to better cooperation and more efficient service delivery. Furthermore, the EMWs even brought up the idea of taking EMWs who are retired or are for some reason no longer able to work in the ambulance, to become call-takers and/or dispatchers, as they feel that the practical experience of such persons would be invaluable in the control room. Also, the EMWs mentioned a few instances where practical experience can teach call-takers little tricks so as to establish the emergency or the seriousness of the emergency, for instance:

*pA: And he said – the one guy phones in “yes sir, my dad collapsed here!”, and he's not awake and he can't do this and he can't do that. S**** says to him: “okay, Sir, now what's wrong?” No he had chest pains. S**** says to him – but the patient says, he says the patient is unconscious. S*** says: “Okay quickly ask him where's the pain”. The guy goes away, he comes back “No my dad says the pain is here and there”. Then he knew that it's a P-2, it's no longer a P-1. But that's experience, that's what we're trying to say
pD: And knowing which questions to ask*

This finding, of the EMWs valuing practical experience as a means to better inter-departmental understanding and teamwork, has not been mentioned by previous literature. This new insight could contribute to teamwork-training programmes for the EMS, as will be explicated in the Discussion section.

The Life of an EMW

This section will focus on the EMWs' view of themselves. There is a fair amount of literature on the occupation, characteristics and well-being of the EMW and this study adds to that body of knowledge. Yet this study is unique in that it not only provides a first person account of the life of an EMW, but it was also able to attain the EMWs' views of themselves within

the EMS system. Thus the results provide insight into how the EMWs perceive their role and position in the EMS system. The following section will thus elucidate how the EMWs view themselves and how they describe their identities and their profession. That the EMWs' first priority is their patients will also be demonstrated. Lastly, the researcher will provide the EMWs' account of their physical and psychological wellbeing.

“I love *my* job”.

When it comes to the character of the EMWs, it is evident that they have found a strong sense of identity in their work. Firstly, throughout the focus group discussions, the EMWs use a lot of personal pronouns when talking about the job and aspects of the job. For example, notice how participant A in focus group 1 says “*my* job” and “*my* patient”:

pA: Now they expecting us to load and go and I've got a major problem because that is the joy I get out of *my* job, I like sitting and chatting to *my* patients and finding out what is wrong with them and educating them

The respondent could very well have used a neutral article and said “the job” and “the or a patient”, yet the use of the personal pronoun is found throughout the discussions and is thus worth paying attention to. The researcher believes that it indicates a sense of ownership or responsibility, as well as a deep sense of personal attachment to and involvement with the profession. Overall, it is evident that the EMWs are not neutral about their jobs and it is not “just a job” or a source of income for them. For them, the job is a part of who they are, it is inextricably linked to their personal identities and they find the job to be personally rewarding. Many participants referred to it as “a calling”. To illustrate, note how in the above quotation the participant talks about the “joy that I get out of my job” and mentions how he/she “likes” interacting with his/her patients. Furthermore, the EMWs also often explicitly talked about their love and passion for the job. For example, in the following extract participant B from group 1 claimed that a love for the job is a prerequisite for being an EMW in the first place. He/she further stated that one should not be in the profession to simply earn an income. Overall participant B is of the opinion that it takes a special kind of person, a dedicated and passionate person, to be an EMW, because it is a challenging job that, according to him/her, does not pay particularly well.

pB: *Well I – I always tell, I always tell the newcomers, uh I hope you're not here for the money, because it's really hard work, number one, so you must have a love to be able to do this job to earn the money. The money must come afterwards, because you must, you must first have the love, otherwise you're gonna end up like neglecting people after a while. You understand?*

There is also an instance where the members of group 1 talk about how the dedication, passion and commitment to the cause, as well as the patient is sometimes a higher priority for them than the regulations of the EMS are. For instance, the EMWs may in some cases place the needs of the patient above certain regulations, such as the time targets allocated to them by management. Recall that the literature review mentioned how time is used as an indicator of performance by most EMWs and thus certain regulations are in place to minimize travel and scene times (O’Meara & Boyle, 2012). In the discussions, the facilitator mentioned an extraordinary case where an ambulance was called out to a patient with abdominal pains, but upon arrival discovered that the patient was in labour with triplets. The response from group 1 was:

pA: *We were freaking out on the air about these triplets because the one gentlemen said the one triplet was being born at the one stage and then they found out, no, but there’s another one coming and they need another ambulance and we are trying to volunteer to go because we need to push for the baby’s sake – we’re not even worried about times at that point, but management only understands times*

Firstly notice how the participant says that they were “freaking out” about the case. In the researcher’s opinion, this indicates that they were genuinely very concerned about the patients and felt a strong need, an obligation even, to help them. The underlined section in the above extract (*we are trying to volunteer to go because we need to push for the baby’s sake*) further demonstrates to the researcher how the EMWs are above all dedicated to the cause and to patient care. The fact that they were reportedly attempting to volunteer to assist indicates an eagerness and need to help the patient. In addition, the respondent clearly states that this attempt was for the patient’s sake, indicating that he/she (and presumably his/her teammates) cares about the welfare of the patient. This made the researcher wonder if the dedication and passion of the staff would not be enough to ensure excellent service delivery from the EMS.

Evidence from focus group 3 indicates that this is an important point to consider. The participants in focus group 3 are significantly more negative than the other two groups and at various points in the discussion they mentioned that they no longer enjoy their jobs. For example:

pN: *And the other thing, uhm m-most of us, I think ninety eight, ninety nine point something of us, we we have a passion of this job, now ah ah as I’m sitting here, I don’t think it’s only me, I even want to change my career. I don’t, I don’t see eh my future here in this place*
 pM: *I feel the same*

It seems as if their passion for the job has been extinguished and this is making them feel negative and hopeless about their future in EMS. This important statement alludes to job

dissatisfaction and burnout. Whatever the cause for this diminished passion and burnout, it might be advantageous to both the EMWs and the EMS as a whole to find some way of rekindling this passion and as such this is a matter that should certainly be looked into.

The findings of a love for and dedication to the job is in accordance with what positive psychologists (such Seligman & Csikszentmihalyi, 2000, in Naudé & Rothman, 2006), describe as work engagement. As was mentioned in the literature review, work engagement refers to a persistent and pervasive positive and rewarding state of mind that is work-related. Work engagement is characterised by vigour, dedication and immersion in one's work and from the above discussion it seems as if the EMWs possess some, if not all of these qualities. They are certainly dedicated to and somewhat immersed in their work, and they are also energetic and eager to engage in their work, for instance, consider that the EMWs in group 1 tried to "volunteer" to help with the triplets case. In addition, the findings also seem to support Wagner's (2005) idea of the 'rescue personality', which is characterized by high levels of dedication and empathy. The rescue personality is also associated with an action-orientated state of mind and a commitment to unusual standards of performance. Yet it is difficult to say with certainty if the participants in this study are engaged in their work or if they do possess a 'rescue personality', since this study did not actually measure any characteristics or personality traits. But if the EMWs in this study are in fact action-orientated, this might explain why they value practical experience so much.

Providing quality care to the patient is the priority of the EMWs.

The previous section already alluded to the idea that the EMWs consider the patient to be their highest priority and the researcher now wishes to explore this idea further.

Firstly, the EMWs of group 1 talked about how their training, as well as their scope of practice as specified by the Health Professions Council of South Africa (HPCSA), requires them to focus on the patient and the quality of care given to the patient:

pA: ...they teach us quality care at the college

Furthermore, it is evident that the EMWs have been applying these guidelines in practice and that they truly are committed to making the patient their first priority and to giving the best possible quality of care to the patient. For example, participant J of focus group 3 explains how he/she is committed to the HPCSA's guidelines of quality care.

pJ: *That's why it's better to stick to the patient side of the story, no one is, you are the only person that's practicing on your registration with the Health Profession Council... Health Profession is not concerned about response times, or mission times, that kind of stuff, they want to know what kind of, what did you do to improve your patient care...*

In addition, the majority of EMWs in the discussions indicated that, in their opinion, the ultimate goal of the EMS and for them as EMWs is to provide patient care, because whether or not the EMS functions effectively, ultimately determines whether or not the patient benefits or suffers at the end of the day. However, the EMWs also strongly indicated that they doubted whether quality patient care was a priority for the EMS system, or for the management of the system. One such an example is from participant E in focus group 2:

pE: *yeah it's quality not quantity and we've asked them ((management)) that, timeously, is it quality or quantity that you want?*

Fa: *you ask them that?*

pE: *Yes! Because I mean if you on scene for longer than twenty minutes then you get called, you're too long on scene, but the patient's outcome depends on that!*

Evidently, the participant is of the opinion that the management of the EMS is concerned with quantitative factors, such as response times (the time issue will be discussed in detail shortly), but in the process they forget about the patient and about the quality of care given to the patient. As participant I in group 3 states:

pI: *Everyone is forgetting the reason why we're all in the service, no one cares about the patient anymore*

Moreover, the EMWs perceive themselves and the management of the EMS to have different and contradicting priorities, which seems to lead to unhappiness and frustration for the EMWs. The EMWs further felt like they were almost being pressured to forget the patient, but they were evidently set on resisting these pressures and some of them admitted to being rather stubborn or even rebellious regarding this matter. For instance, participant I in focus group 3 insisted that the patient is his/her one and only concern:

pI: *...I don't feel jack shit for the service, how they operate, what statistics they have to hand over to ministers or whatever to get funds to use on their themselves and get their salaries, that is their thing, I'm here for patient care. And that is my, I think that is my only responsibility, I don't, I try to provide by the rules and the guidelines whatever the system has in place, but really, my function is here is patient care... the patient is the patient at the end of the day*

This apparent contradiction in and confusion of priorities (i.e. the tension between quality and quantity) could become a serious problem for the EMS system. Moreover, the feelings of frustration, bitterness, contempt and obstinacy that may result from the confusion about

priorities are bound to have a negative effect on the service delivery of the EMS. Firstly, if an employee is unhappy with his/her job circumstances, he/she is likely to not perform optimally and the person could eventually resign or be discharged. Secondly, a negative attitude of just one employee could spread to other employees, which could have a substantial negative impact on the service delivery of the EMS. This is an important factor to keep in mind, considering that various authors (such as Govender et al., 2011; Hackland & Stein, 2011; Kriek, 2008) found that the rapid loss of EMWs in South Africa is mostly due to them resigning due to unsatisfactory working conditions.

On a higher level, the finding that EMWs seem to be confused about the concern of the EMS system (quality or quantity?) and the resultant expectations of them, brings up the question posed in the literature review: are South African EMS making use of the model of EMS that is best suited to the country's unique needs? Moreover, there seems to be an evident tension between quality of service and quantitative measures of performance in the EMS system and the EMWs appear to be fully aware of this tension. The result is an uncertainty on the part of the EMWs around whether they have the same priorities as the management of the EMS system, and also around whether they are expected to deliver quality or quantity and that they ultimately battle to meet both requirements. This finding could further indicate that there might be a gap in communication on an organizational level. Thus, the second question is: is management effectively communicating the goals of the EMS (so the model used) to the EMWs? These ideas will be further explained in the Discussion section.

A conflicted identity.

The previous section indicated how the EMWs are committed and dedicated to their jobs. In addition, the EMWs are the ones who are medically trained and thus they probably possess the highest qualifications of all the role-players in the EMS system, possibly with the exception of the managers. Yet they certainly have the expertise when it comes to patient care, coupled with plenty of practical experience. They also carry a lot of responsibility and even prestige, thus one would think that they are in a position of power or authority in the EMS system. Yet they are also the last link in the EMS chain and as such, they are in some ways dependent on the call-takers and dispatchers and how well these people do their respective jobs. This evidently leads to a lot of frustration and feelings of helplessness or powerlessness for the EMWs, for example participant E in group 2 stated:

pE: *But you know it's, it's like repetition, they do get better with time, but I mean it's at our expense, all works out under our expense*

Furthermore, the EMWs' authority and medical knowledge is often undermined or disrespected, both by the dispatchers and by the staff at the hospitals, as participant D in group1 stated:

pD: *There's no respect for each other's qualification between paramedics, nurses, doctors*

Accordingly, it seems as if the EMWs are battling with a conflicted identity. They are both in a position of authority and prestige, but at the same time their authority gets undermined and challenged. It is almost as if their identity is situational: at home or when dealing with a patient, they are revered as experts and are in a position of authority. Yet when they are dealing with hospital staff, like doctors or nurses, they are suddenly "shifted to the bottom of the food chain", so to speak.

Another point of conflict is the researcher's idea that, according to society and the media, EMWs are seen or projected as "superheroes" – they save lives on a daily basis and are able to cope and deal with traumatic, challenging and dangerous circumstances that most people are not able to deal with. Yet they are also ordinary people. They are only human and by no means immune to the job or unaffected by the horrific things that they see and experience, they get scared and traumatized and at the end of their shifts they have families to go home to with whom they must be 'normal'. Various quotes from the focus group discussions exemplify this dual identity. For example, at one point participant G in group 2 says:

pG: *No, I'm, I'm a strong person ((laughs)) I'm a really strong person*

Yet at a later stage the same participant says:

pG: *Ja, because there's no support for us and at the end of the day I think we need something like this, we need a psychologist, somebody that understands... so uhm (.) then you at the end of the day maybe also need some debriefing of a situation, you know that you've, that you've been in*

The participant is not being dishonest in any or either case, but probably really is a strong person, who does get affected and traumatized by the job at times. Here the need for a more effective formal debriefing procedure is already highlighted and will be discussed in detail in the following section.

This dual, conflicted position must be challenging for the EMWs and since the existing literature does not mention this phenomenon of a conflicted or dual identity, this study has not only yielded a new and interesting finding, but also provides a topic for further study.

The physical and psychological wellbeing of the EMWs.

The next theme concerns situations that pose a physical danger to the EMWs whilst they are on the job. Firstly, and as indicated by the literature, EMWs are at risk of contracting transmissible diseases such as HIV/AIDS or Tuberculosis:

Fa: *What about HIV/AIDS and everything, do you, does that kind of impact on your practice daily or is it, or do you just make the assumption that everybody's got it or how do you, how do you deal with it?*

pF: *((laughs)) Ja!*

pE: *Ja, I told *** today, everyone has got AIDS until proven otherwise.*

pF: *You need to protect yourself, I mean ah and the thing is, you can't ask them as well*

Fa: *Ja because there's this confidentiality issue and this disclosure issue and ja there's a stigma, so it's very difficult, I'm sure, to deal with that on a daily basis ja. And they ah were also telling us about the MDR [and the TB*

pF: *[Oh the TB!*

Fa: *Ja does that, is that an issue in your daily, life, or*

pE: *If it's full-blown TB eh and they not on treatment, yes it, it does become an issue, more than HIV 'cause I mean*

Fa: *So how do you, I mean eh, what do you have to do, as a practitioner*

pE: *We are issued with uh this contaminant suits, and masks and stuff like that*

Fa: *But ah if you don't know, how do you establish these things?*

pE: *If you gonna pick up from home?*

Fa: *Hmm*

pE: *Eh well, I suppose if you fresh and new you won't be able to recognise it. And you gonna have to learn the hard way*

In the above extract the participant does mention that the EMS provides the EMWs with protection against certain communicable diseases in the form of protective uniforms and other equipment. Yet it is not clear whether or not the EMS has standard operating procedures in place for dealing with diseases. The above extract could possibly allude towards a reliance on more informal strategies, since participant E is saying that they have to be vigilant and that they have to effectively rely on experience when it comes to

communicable diseases. According to Mohammed et al. (2007), there is in fact a general lack of standard operating procedures in EMS systems when it comes to dealing with diseases.

In addition, the well-being of EMWs are also occasionally threatened by acts of physical violence or abuse from members of the public. Such cases are beyond the scope of the EMWs' daily routine and the literature refers to such events as critical incidents. The extract below is an example of a critical incident experienced by participant A in group 1.

pA: *We get to the house, this guy comes at us with a hammer in his hand and we were three females on the ambulance. He comes running to us, my partner says to me “**** get into this ambulance” and she reverses out and they’re picking up bricks to throw at us.*

Fa: *Sho! Why?*

pA: *Because the patient had been waiting for three hours. And they’re scolding me as they’re coming at us – I don’t know what language that was but there were swear words in there ((laughs)) but then we tell the dispatcher we are moving out of the area because uhm they throwing us with bricks, he says no no no no don’t move out of the area. I said – I nearly snapped – I said we are moving out because you are not here. You are not going to say it’s okay, I’ll pay for your family, if they kill me. I was angry that day! Because he told me to stay in the area! Then Mister **** came, he said move out of the area now.*

Notice how the participant was not only in physical danger, but was also verbally abused. Yet, the participant indicates that even when his/her natural fight or flight response kicked in and he/she asked for help or assistance from the dispatcher, help was refused. In fact the participant’s account indicates that the dispatcher instructed him/her to NOT escape the dangerous situation. As can be expected, the participant’s reaction to this is severe. Firstly, he/she reacted with anger and defiance. The participant further seems shocked by the idea that the dispatcher did not seem to understand or care about the severity of the situation or the possible consequences thereof. The fact that the participant used the word “kill”, as opposed to “harm”, “hurt” or another word not indicating that his/her life was in imminent danger, further stresses the perceived severity of the situation.

Furthermore, the researcher got the sense that this participant, and others, sometimes felt uncared for or “dehumanised” by the EMS when it comes to dangerous situations, as if there is no consideration for the safety of the EMWs and as if there is also a lack of consideration for the fact that the EMWs have families and loved ones who are dependent on them. The EMWs indicated that the apparent lack of concern on the part of certain managers and/or dispatchers when it comes to critical incidents sends a conflicted message about how the EMS values their employees. Evidently this made the EMWs feel expendable and of little worth. Below is another example of a dangerous situation that was evidently brushed off by

the EMS, as if it was expected that the EMWs were supposed to be unaffected by the critical incident:

*pD: there was also a colleague of ours uhm they, were they did a call in ***** and they were also shooting there, they were lying flat on their stomachs while they were shooting and they never got any debriefing, they never got any stress leave nothing. Their officer asked them are you sure this job is for you when they were too stressed*

The focus group discussions also revealed that although the EMWs are trained to deal with trauma or medical emergencies, they are significantly distressed by critical incidents that threatened their safety and that these effects often lingered and had a profound personal impact on the EMW. For instance, participant G of group 2 told of this incident:

pG: Exactly! I was in a incident, wi, with three ladies, we were chased by a foreign guy with a knife in his hand? He he assaulted a child, he stabbed the child in the head et cetera, the child was red, and we had to leave the child in the passage because we all had to run (.) the police had to run! So we had to run! So it was a whole, messy, trauma thing. So we went – we had to phone I-Cass, I-Cass came out one day and that was it. They never checked up if we okay, how we dealing with it – ‘cause normally, I mean after a while you go through these things again where somebody just like, speak a little bit loud to you or somebody running to you, now you feel that I want to run again – there was nobody! And you can’t speak to the people that we have by us

As can be seen in the above extract, the consequences critical incidents are, among others, reliving the incident or being overly sensitive or vigilant. These ramifications are in accordance with findings by Beaton (1999) and Miller (2000), who noted that exposure to critical incidents can lead to a variety of emotional, psychological and physiological repercussions for EMWs. According to the literature, these resulting negative thoughts, feelings and reactions are known as Critical Incident Stress (CIS). The literature also mentions that no coping mechanisms are able to completely guard EMWs against CIS and so EMWs cannot and should not be expected to be physiologically, psychologically or emotionally unaffected by a critical incident (such as violence or a near-death experience).

The solution that the EMS offer for this issue is to provide the EMWs with so-called “danger pay”, which is (according to the focus group discussions) only R100 per month. The respondents thought that this amount was almost insulting, as they felt that their lives are worth more than this. Participant B in focus group 1 added that this was just a way for the EMS to gain control over them or to force them to go into dangerous situations. Overall, the mere fact that the EMWs feel uncared for is problematic as it is sure to have a negative effect on job satisfaction, morale and service provision.

Debriefing.

As is indicated by the literature (Miller, 2000), one would imagine that a better solution to the traumas that the EMWs experience, would be debriefing or counselling. Yet debriefing in the EMS is experienced by the all the EMWs who participated in this study as either totally absent or inadequate. The following extract from group 1 provides a good example of how the EMWs feel about this topic.

Fa: *Do you guys have a sort of a debrief, a formal debrief?*

pA: *No the last time we had a debrief was when we got shot at! ((laughs))*

pB: *Ja!*

Fa: *When was that?*

pA: *Oh goodness! That was years ago in D***, we were shot at twice hey? Twice. In D***. And the debrief, the one day, once we were debriefed, the second time ((laughs)) no one was debriefed*

pD: *Nothing like that happens by us*

Notice how the participants indicate that the debriefing occurred a long time ago, that it was in response to a traumatic life or death situation and that when such a situation occurred again to the same people, no debrief was offered. It seems as if the EMWs feel like they are simply expected to be able to cope with traumatic events, since they are in fact trauma workers. This idea is indeed mentioned in the literature. Beaton (1999) found that EMS systems often (mistakenly) expect EMWs to be able to handle any sort of trauma, even if it is a critical incident. For example, consider the following quote by participant D that was given earlier on:

pD: *....Their officer asked them are you sure this job is for you when they were too stressed*

Yet various focus group members indicated their need for a regular, formal debrief session to be offered by the EMS, by competent, professional people, such as a registered psychologist. Although most of the participants indicated that they want a formal debriefing for critical incidents, some participants indicated that they would prefer a weekly counselling session to deal with everyday occupational stress. These findings are in line with the current literature that indicates that most EMWs would want a formal debriefing procedure to be available to them (Jenkins, 1998; Miller, 2000). In contrast, participant E apparently did not feel the need for any kind of debrief:

pE: *my thing is if you in this line of work if you need debriefing after every incident then you shouldn't be in it at all*

This notion may be attributed to what some authors term the “macho” atmosphere in emergency work. Certain EMWs may decline to make use of debriefing services because they perceive it as a weakness (Beaton, 1999). However, in this particular instance, it may be that the participant has a misconception of the concept of debriefing altogether. Notice how he/she says “after every incident”. Perhaps this participant has the idea of debriefings (which is a very specific procedure in response to critical incidents) confused with regular counselling for day-to-day incidents, hence his/her negative reaction.

Nonetheless, critical incidents and the ramifications thereof are a very important issue that needs to be considered in the EMS environment, because the mental and emotional state of the EMW is likely to effect the treatment of patients and the overall quality of service offered by the Western Cape EMS.

Coping mechanisms and informal debriefing.

From the focus group discussions it is evident that EMWs have developed certain informal strategies to cope with daily occupational stress, as well as with critical incidents. Firstly, it seems as if EMWs tend to use each other as a support system. So they apparently talk to partners or colleagues when they feel the need and a number of participants actually referred to this process as “debrief among each other”. Thus, it seems as if certain EMWs have a type of “informal debriefing” procedure in place, as is evident from group 1:

Fa: *...the other thing that I'm hearing is that you guys have got your own kind of support system 'cause you're all listening to all the calls*

pA: *mmm mm and then we debrief among each other*

Group 3 also mention that they talk to each other, or to whoever is closest when the need arises, even if they do not like the person in question. This may indicate just how desperately the EMWs need an outlet for their thoughts and feelings.

Fa: *Okay. You've got a debrief, an informal debrief, you've got each other, you can talk and say*

pK: *Oh you mean the people they put you with that you don't want to work with? Yeah we've got each other*

pI: *We just talk to them whether he wants to hear or not, just offload on that one*

pJ: *Because he's the closest ((laughs))*

pK: *Ja, so at that point it doesn't really matter whether you like each other or not, just shut up and*

Although the members of group 1 seem to be a genuine support system for one another, while the members of group 3 seem to use their partners for “informal debriefing” not because they get along with each other, but more because it is convenient to do so, the point remains that EMWs need to have certain coping mechanisms in place. This use of informal support systems is in line with findings by Naudé and Rothman (2003). Yet these authors also mentioned that informal coping strategies may include emotional distancing, positive reframing of incidents or the use of alcohol or other substances. The participants of this study did not mention any of the above. Yet this study did reveal that certain EMWs “debriefing amongst each other”. This “informal debriefing” may be a topic for future study.

Humour and laughter as an informal coping mechanism.

Another interesting finding, that supports the findings of various previous studies (Jenkins, 1998; Moran & Massam, 1997; Regehr, Goldman & Hughes, 2002), is the use of humour as an informal coping mechanism. According to the literature, humour is often used by emergency workers as a means to relieve tension, to help reinterpret negative events and to challenge negative or harmful thought. Interestingly, laughter and humour was found throughout the discussions of focus groups 1 and 2, particularly when the participants were discussing a stressful incident or a serious matter. In fact, the researcher counted 29 instances of laughter or humour and in all these instances, the topic being discussed was, according to the researcher, of a “serious” nature. For example, in group 1, participant A makes light of a serious situation where they were shot at and he/she also makes light of the reported fact that they were not adequately debriefed.

pA: *No the last time we had a debrief was when we got shot at! ((laughs))*

pB: *Ja!*

Fa: *When was that?*

pA: *Oh goodness! That was years ago in D***, we were shot at twice hey? Twice. In D***. And the debrief, the one day, once we were debriefed, the second time ((laughs)) no one was debriefed*

Later on, the same participant tells of an incident where their lives were in danger. The participant tells the story with almost a comical flair to it and laughs about it, but he/she does admit that at the time of the incident, it was in fact not funny. Once again, the participant seems to be making use of humour to positively reframe and cope with a distressing and dangerous situation.

pA: *...they start firing in our direction. You just see ambulance crew members running! And we went into into the building; we managed to get there without getting shot. N**** said: "joh, D*** I was too fat! They would have hit me!" He went and he laid down, he said he just heard this bullets go past his ears, because he says they would have hit him because he's too fat, the bullets would have ((laughs)) would have got him*

Fa: *You know but it's funny looking back but not at the the time?*

pA: *NO, not at the time.*

In group 2, the participants seem to have a good sense of humour. For example, when the discussion revolved around issues with dispatchers, like when a dispatcher does not speak clearly and the message is thus unintelligible, participant E made a joke about a certain dispatcher:

pE: *Ja and then there's a other one eh that sounds like Macy Grey. She can't speak her own language probably*

((laughter))

pG: *Oh ****, ****, **** ((shakes head and laughs)) why?*

Fa: *Who's this?*

pE: *There's one dispatcher, I mean*

Fa: *((laughs)) Macy Grey! Who's this?*

pE: *Macy Grey is a singer*

pG: *She's got a nice voice*

Fa: *Oh that lovely, she's got a lovely*

pE: *Ja that hrrrr! ((uses rough, deep voice)) That voice!*

((laughter))

Such cases are found throughout the discussion of focus group 2. Evidently, these EMWs have a good sense of humour and this helps to relieve tension in situations that could probably be rather frustrating. According to the literature, the use of humour can also better communication and facilitate teamwork amongst emergency workers (Regehr, Goldberg & Hughes, 2002). In the above extract, the team members seem to have a friendly camaraderie and this could possibly be attributed in part to the use of humour in the team. Consider the following extract where one of the team members is teasing the others in a friendly, non-threatening way:

p1: Normally when there's a problem on the shift, then, that problem is recognisable soon, and then that person gets changed, chopped and changed. So, uh:: maybe a problematic child will go with her, like you see they put him with her ((laughs))

Finally, this study also found what the literature terms “aggressive humour”. In accordance with previous findings, this was aimed at the organisation, rather than at a specific emergency situation. Aggressive humour was possibly used to vent aggressive feelings in a more socially acceptable manner (Moran & Massam, 1997). This kind of humour was found exclusively in focus group 3, who had a more negative attitude in general:

pK: ... Hush me rush me, but then don't hush me rush me for bullshit, do you understand what I'm saying? Don't hush and rush me for bullshit! That will make me kahoots with the Russians and blow up this whole freaken building ((people laugh)) I will. And then everybody needs an ambulance!

Daily Struggles and Obstacles for the EMWs

The address issue.

pA: When you're getting the message the first thing we stress about is if their address is not right

The above quotation from focus group 1 indicates that the EMWs feel like the geography is the foundation of effective service provision: if the EMWs cannot find the patient, they cannot treat the patient and cannot in fact do their jobs. Thus it is crucial that the caller gives the correct address to the call-taker, that the call-taker takes the address down correctly and then that the correct address gets passed along to the dispatchers and eventually the EMWs. However, there are a number of things that can interfere with the EMWs getting the correct address. Firstly, the EMWs mentioned the fact that the Western Cape province has a large and vastly expanding informal and rural population and as such it is often the case that a caller does not know or have an address, or that the EMWs are not able to find the address because the houses are not numbered at all or in a logical fashion, because there is no or no visible street name and number or because the address is not in a map book. This struggle to find a correct house has serious ramifications for both the patient, who has to wait longer for assistance, and also for the EMWs, whose performance is evaluated on their response times. The following extract from group 1 illustrates this struggle:

pB: ... We have to look for the houses. Now they give you maybe twenty nine six three five. Now you must go look for twenty nine six three five. But now the house numbers change from twenty nine six three five then it's twenty nine one three two (.) and I mean these houses are on the two corners so you would expect that it would run in - I don't know whether the

people just draw a number out of a hat or something, but finding the house numbers are a big stress because now you take, where you would take from the day hospital to where the house is, you take maybe one or two minutes, you take twenty minutes just to look for the house

Fa: *And then that shows on your [your*

pA: *[your response times*

Consequently, the above findings stress the issue that was mentioned in the literature: that large socio-economic inequalities means that a vast amount of South Africans live in informal, rural or agricultural areas that are far removed from resources and not easily accessible (Western Cape Government, 2012b). Thus, there is a great need for effective EMS in the country, but at the same time the EMS have many barriers to overcome in their attempt to deliver efficient services in the country. In addition, the above findings support O'Meara and Boyle's (2012) finding that the majority of time delays can be attributed to external factors that are outside of the EMWs' control.

Furthermore, it may also be the case that something goes wrong during the transfer of the message containing the address of the patient. Consequently, the EMWs mentioned that the location of the emergency should be the most important aspect of the call and that the other role-players should pay particular attention to making sure that this vital piece of information is correct in the first place and is then carried over to the EMWs in the correct form. This point illustrates how important effective communication is for effective service provision by the EMS, as was suggested by Patrick, Barger and Deasy (2010) in the literature. For example, participant G in group 2 said:

pG: I think like, the most important thing for me is, the address. I don't care if it's a male or female or what's wrong with the patient

In addition, the EMWs suggested that the call-takers should always ask the caller for a nearby and clearly recognizable landmark. They felt that this would make it easier for them to get to the correct location and the correct patient.

The time issue.

As indicated in the literature review, the EMWs (and the EMS system as a whole) are largely driven by and evaluated on time and this is also the case for the Western Cape EMS system (O'Meara & Boyle, 2012). Accordingly, the EMWs have certain targets: a specific amount of time to get to the patient (response time), another amount to attend to the patient on the scene of the emergency (scene time) and yet another amount of time to get the patient to a hospital.

In general and across all focus groups, participants were not happy with the allocated target times. In fact, this was the most recurring theme, as the issue was mentioned a total of 27 times across the three focus group discussions. The EMWs felt like the allocated target times were too strict and that it did in fact interfere with their work every so often, by putting them in danger on the road as they speed to make response time, and also by interfering with the quality of service that they are able to deliver to the patient on the scene of the emergency. For example, participant A from focus group 1 said:

pA: Because we're getting sued so many times now. The - they're suing the people now because you're mismanaging patients. But why are you mismanaging a patient? You're not giving this or that because you must push for time

Furthermore, the EMWs mentioned that there are in fact a number of very real obstacles to meeting stringent times and this confirms findings by O'Meara and Boyle (2012). Specifically, obstacles to response times are thought to be: the rules of the road (ambulances actually have to obey the speed limits and get fined if they fail to do so; the driver of the ambulance is then held accountable for the fine), traffic, weather conditions and the geographical issues mentioned above. Another obstacle is often the condition of the patient, for instance when the patient needs to be resuscitated or when the EMWs have to administer medication and wait for it to take effect before they are able to transport the patient. Although these are very real obstacles, the EMWs feel like their superiors do not always recognize this. This is evident in the fact that the time limits are linked to bonuses and if the EMWs do not meet the time requirements, they do not receive a bonus. The EMWs seem to think that this is not entirely fair, since they are often not in control of whether or not they are able to meet the time requirements.

Moreover, that time limits are linked to bonuses in the first place indicates that having good and impressive reaction times are very important to the Western Cape EMS. This is probably due to the fact that time is a quantifiable aspect of their service and can be used to indicate the effectiveness of this service. The researcher further found that time limits as a measure of the performance of the EMS is thought to be very political. For instance:

Fa: Where are they getting the pressure from? Is it ((time targets)) because of numbers or

pA: I think they're getting it from the Minister of Health because if the Western Cape performs well I think they must get some kind of incentive.

According to the researcher (and some of the participants), the reason behind the EMS' focus on time is as follows: time is a quantifiable measure of performance, and since the EMS is

evaluated according to their performance by the government and then accordingly receive various incentives, this could be one of the reasons why the EMS is so concerned about having impeccable response times. However, more will be said on the idea of political influences on the EMS shortly.

Looking at the Bigger Picture

The community of the Western Cape: community perceptions of public health.

Regarding the community of the Western Cape, the EMWs talked a lot about how the member of the public take advantage of the service, so they sometimes fake an emergency so that they can get transport to the hospital. Razzak and Kellerman (2002) also found that for many members of the community, an absence of transport is a common barrier to emergency care, thus these members of the public may not have any other way of getting to a hospital. Yet, if the patient is not severely injured, but in fact only has an appointment at the hospital, this might be a waste of resources for the EMS. Another issue mentioned by the participants is that the people often lie about the severity of their emergency in order to get an ambulance to respond quicker. One such an example is:

pA: *...and they do - the community understands also that if they want an ambulance at their house immediately, they will say "my mother's having a heart attack"*

pB: *exactly ja*

Fa: *so they give you the wrong information*

This may be yet another issue that ends up wasting the resources of the EMS and thus the problem needs to be addressed somehow. However, the fact that the community seems to have to turn to deception in the first place, raises some concerns about the general perceptions around the South African Public Health sector in general.

The EMWs further made an attainable suggestion for addressing the issue of public deception. They said that a campaign to educate the communities might help to alleviate the issue of public deception and could also make it easier for both the EMS and the people if the people knew what exactly to call an ambulance for and how the procedure works. Here is an extract from group 1 which touches on this topic:

pD: *but I think for the most part uhm the people need to be educated more about emergencies.*

pA: *this is what I – I asked in a meeting one day, when are we going to, like I mean if you take five minutes in the morning, like ER24 does, five minutes in the morning just to educate, everybody watches the news because they wanna know what the weather or the traffic is like in the morning. Five minutes just to educate people; this is what you call the ambulance service for, this is how we work, this is how things operate*

pD: *you'll see the responses*

The Western Cape government: political influences on the EMS.

The focus group discussion revealed how the EMWs are aware that many policies and practices in the EMS are affected, if not determined, by politics. For example, participant E of group 2 said:

pE: *You know it all boils down to our time limit that we have, our 15 minutes and it's getting tighter now 'cause elections are coming closer so that 15 minutes -*

Fa: *Why is that? Why is it so, so linked to-?*

pE: *our response times.*

Fa: *Ja.*

pE: *Well it's always been politics.*

So, not only does participant E bring up the issue of how the political domain affects the policies and procedures within the EMS system, but the participant also links politics to the time issue. Thus, once again, political agendas or influences are given as an explanation for the big focus on time within the EMS. This idea is in fact in line with the literature, asserting that political influences tend to shape the public health sector (Brown, 2010; Ghobarah, Hutch & Russett, 2004). As was mentioned earlier, it is understandable that the EMS system is concerned with time. Firstly, in any emergency time is of the essence. Secondly, time is a quantifiable measure of the overall performance of the EMS. However, what the focus group discussions revealed was that the Western Cape EMS is considered to be somewhat of a poster child for the ruling government. This is quite a significant statement, considering that the Western Cape is the only province in South Africa that is run by the Democratic Alliance. Again, whether this allegation is true or not, is not the concern of this study. But what is appropriate for this study is the fact that the EMWs are making such allegations in the first place, and that the EMWs seem to be questioning where the EMS's loyalty lies or whose interests are being served by the current policies and practices.

Chapter 7: Discussion

Overall, the results revealed that the organisation and operation of the EMS system is much more complex than originally indicated in the literature review. As such, multiple factors and multiple combinations of factors need to be taken into account in an attempt to understand the entire system. Firstly, as the EMWs indicated, the EMS system can be thought of as a chain. That is to say that the system is not made up of distinct or separate departments (i.e. the call-centre, dispatch and EMWs) who are each doing their independent jobs and then passing the results on to the next role-player in the system. Accordingly, although figure 2 (originally on p.20) accurately captured the flow of information in the EMS system, it is a too simplistic representation of the operation of the EMS system.



Rather, all the departments or role-players in the EMS system are interdependent and intricately connected to one another. Again, the analogy of a chain can be used to illustrate the structure and operation of the role-players in the system. Thus, think of the EMS system as a chain and each link in the chain represents a different department or role-player in the system. It follows that the links are and have to be connected to each other, if not, there would be no chain. Thus, the role-players are and have to be connected to each other (i.e. they have to communicate effectively) or there would not be an EMS system. Furthermore, because the links are connected, the links unavoidably overlap. Furthermore, because the role-players are connected to one another, their tasks unavoidably overlap. So the task of the call-taker overlaps with the task of the dispatcher, which in turn overlaps with the task of the EMW. The following diagram illustrates this idea:

What the above figure also illustrates is that the EMWs perceive themselves to be the last link in the EMS chain and they can only work with what gets passed on to them from the previous links. Thus, if the previous links performed poorly or if there was a break in communication between the links, the EMWs have to deal with the consequences of the other role-players' actions and the EMWs will not be able to perform at their optimal level. So technically, with each emergency, the EMWs are in a position to evaluate the rest of the EMS chain's performance. If the rest of the chain performed well, the correct EMWs should at least be able to reach the correct patient. This means that all the role-players and not just the EMWs should ultimately be working towards a mutual goal of getting the correct ambulance to the correct patient. As the above figure illustrates, the EMWs believe that the patient should be the objective that the EMS chain works towards.

Yet there seems to be various interferences when it comes to the optimal functioning of the above-mentioned EMS chain. Firstly, in the Western Cape the different role-players are physically separated. So although the call-takers and the dispatchers work in the same building, they work in separate areas of the building. The EMWs are based at another building, but they spend the majority of their time in an ambulance out on the road. This not only separates them from the other role-players, but also from their managers. The physical separation of role-players may lead to a mental or psychological feeling of separation. So it may explain the "us versus them" mentality that was revealed in the focus group discussions. It may also lead the role-players to believe that they are working independently, so it may explain why the EMWs feel like the other role-players are not aware of the interdependence of the EMS system. Secondly, the perceived hierarchies in the EMS system contribute to the mental or psychological feeling of separation of role-players. The hierarchies may also lead to power struggles and conflict within the EMS system. Consequently, the above-mentioned

factors are a possible barrier to communication and team-work. And if the “connections” in the EMS chain are threatened or weakened, the entire chain is unavoidably also threatened. Accordingly, team-work training may be necessary to break down the mental or psychological divisions between the EMS role-players.

In addition, the results also revealed that the complex EMS system is rooted in communication. Communication permeates the entire EMS system, both in a more subtle and a more pervasive way than originally indicated in the literature review. In other words, in the EMS system, the concept of communication equals more than just verbal interpersonal interaction between the various role-players in the system. Rather, all six types of communication that West and Turner (2009) have identified feature everywhere in the EMS system. Firstly, intrapersonal communication occurs constantly for all the individual role-players in the system and may have an impact on the performance of the individual or on how the individual proceeds to communicate in other ways within the system. For example, the internal dialogue that an EMW has with him/herself when or after engaging in interpersonal communication with a dispatcher is likely to affect how he/she interprets or the message, reacts to the message, performs on his/her job, et cetera. If the EMW thinks that the dispatcher is being friendly and respectful, he/she is likely to react positively to the message. If however the EMW thinks that the dispatcher is being rude and disrespectful, he/she is likely to react negatively to the message and this will affect how he/she communicates back to the dispatcher and to fellow EMWs, how he/she performs on the job and how he/she feels about the job. Secondly, interpersonal communication between two people occurs frequently in the EMS system: between an EMW and his/her partner, between an EMW and a dispatcher or between an EMW and his/her manager. It is important to the success of the EMS system as a whole that this communication is accurate and efficient. For instance, the EMWs highlighted that it is vital for every role-player to get and pass on the correct address for the particular patient. Thirdly, small group communication refers to, for example, a formal or informal meeting or talk between a small group of EMWs, such as a shift. In the EMS context, this communication is also important, as all the members of a shift need to be able to work together as a team. It may also come into play when shifts are debriefing amongst each other after a critical incident or a difficult task. Thus small group communication can potentially affect the teamwork and morale of a shift. In the fourth instance, West and Turner mentioned that organisational communication refers to with and within a large, extended environment which has a defined hierarchy. This is communication with and within the entire

EMS system. The EMWs indicated that they perceived communication with the organisation to be inefficient. For instance, there seems to be confusion around whether the EMS management is concerned with quantity or with quality when it comes to patient care. This confusion may be the result of ineffective organisational communication. The final two types of communication, namely mass and public communication, also features in the EMS system. One example is the suggestion that the EMS should use mass communication to educate the public about what to do in case of emergencies and how to go about contacting the EMS.

Evidently communication in the EMS system is very complex, multifaceted and is manifested in a number of intricate and meticulous ways. As such, the researcher concludes that certain models of communication, such as the Linear Model of Communication (Shannon & Weaver, 1948, in Wood, 2009) and the Interactive Model of Communication (Schramm, 1955, in Wood, 2009) is too simplistic to describe communication within the EMS system. However, the Transactional Model of Communication, which depicts communication as interdependent (Wood, 2009), seems to be more appropriate to the EMS context, which is multifaceted and complex. This model suggests that communication is a continuous process, where there is a speaker and a listener that are both simultaneously sending and receiving messages. In addition, the model proposes that each person involved in the communication is influenced by external, physiological, psychological and/or semantic factors can disrupt communication. When applying this model to the EMS system, this point seems to be particularly important. External factors such as a bad telephone line may disrupt communication right from the start when the caller speaks to the call-taker, and this will have negative repercussions for the rest of the EMS chain. Physiological factors, such as a person's accent or voice may become a barrier to communication, as the EMWs revealed in the focus groups. Semantic factors or misunderstandings also seem to be a concern in the EMS context. For example, if a call-taker misinterprets the seriousness of an emergency, the incorrect vehicle might be sent to the patient. Or if a dispatcher does and an EMW do not speak the same language, they might not understand each other, which could ultimately prevent the EMW from reaching the correct patient. Finally, the EMWs talked a lot about internal factors such as a person's education and training or practical experience and/or the person's personality, mood or attitude and how this can affect intrapersonal, interpersonal, small group and organisational communication.

Upon considering the results of this study, the researcher decided to apply some of the results of this study to the Transactional Communication model proposed by Wood (2009). Specifically, the interpersonal interaction between the EMWs and the dispatchers was

applied. In the figure below, notice what the EMWs' field of experience is, as revealed by the results of this study. Also notice what the EMWs think the dispatchers' field of experience should be and that we are unsure of what their field of experience actually is. Finally, the researcher wishes to point out that we are also unsure of what the shared field of experience is between the dispatchers and the EMWs. However, it appears as if the "ideal dispatcher" that was described by the EMWs does or will have a greater shared field of experience with the EMWs, which, according to the Transactional model, will promote better communication. Lastly, the figure also illustrates the types of noise or interferences that obstruct efficient communication between the EMWs and the dispatchers, as revealed by the participants. Formal, structured team-training programmes, that incorporate some practical elements, may assist in increasing the shared field of experience between EMS role-players and may also assist in eliminating some of the interferences to communication, particularly psychological noise.

Furthermore, the results revealed how the participants felt in and about their roles as EMWs. Firstly, it became evident that the EMWs are dedicated to and passionate about their jobs and as such they can be described as engaged in their work. As such, they are particularly concerned with quality care of their patients. Yet, the EMWs pointed out on numerous occasions that they are uncertain if the EMS management actually wants them to provide quality care to the patient, or if management is concerned with quantitative factors, such as time targets. In other words, there seems to be confusion around which model of EMS the Western Cape EMS system is making use of, because what the EMWs seems to be saying is that they do not know if they should “stay and stabilise” (as with the Franco-German model) or “scoop and run” (as with the Anglo-American model). As was mentioned previously, this confusion may be the result of inefficient communication at the organisational level. Whatever the cause for this apparent confusion, it seems to be a concern for the EMWs. Another apparent issue for the EMWs is what the researcher has termed their “conflicted” or “situational” identity, which is a matter that could possibly affect their psychological well-being and in turn it could affect the EMS system. As it were, the EMWs did indicate that they feel that their physical and psychological well-being is placed at risk by their occupation. This study highlighted the need for a formal debrief by a competent professional after every critical incident. The EMWs may also benefit from regular individual or group counselling sessions to assist them in dealing with daily occupational stress and to increase their psychological well-being in general. The researcher believes that the psychological well-being of EMWs could possibly affect their attitudes towards their job and their job performance.

For instance, the researcher found it interesting to note that laughter featured frequently in groups 1 and 2, but rarely in group 3. Moreover, as mention in the introduction to the results, based on the content of the focus group discussions, the members of groups 1 and 2 evidently had a more positive attitude towards and perception of the EMS system as a whole. In contrast to group 3’s members, who displayed more negative attitudes and opinions and at times seemed to be rather unsatisfied with their jobs. Consequently, the use of humour as a coping mechanism might be related to overall attitude and job satisfaction for EMWs, which may mean that the psychological, mental or emotional state of an EMW could have an effect on his/her attitude and job satisfaction. Yet more empirical investigation will be required to scrutinise this idea.

What is more, the results of this study pointed out that the EMWs felt like the most important information that they need to get from the call-takers and the dispatchers is the correct address of the patient. However, they also indicated that getting or locating the correct address is in many cases a great struggle for them. This is due to socio-economic state and infrastructure of South Africa, which is a particular challenge for a public EMS system, because the public health sector predominantly serves the poor, who live in areas with a poorer infrastructure. Moreover the EMWs stated that battling to find a location has implications for their time limit targets and if they do not meet these targets, they get penalised. It seems as if this study confirms O'Meara and Boyle's (2012) finding that the majority of time delays can be attributed to external factors that are outside of the EMWs' control. Yet, if the majority of time delays are in fact due to factors that are outside of the EMWs' control, is it fair that they are penalised? In addition, this again raises the question of which EMS model the Western Cape EMS system is using: the "stay and stabilize" approach or the "scoop and run" approach? At this point the researcher would like to draw attention to the fact that the Anglo-American EMS model or the "scoop and run" model is typically used in countries where emergency medical services is well-established and accepted as a distinct medical speciality. Yet the Franco-German or the "stay and stabilise" model is usually implemented as a sub-system of a wider health system in countries where emergency medical services is a relatively young field. Thus, since South Africa is a country where emergency medical services is a relatively young field, one would expect the "stay and stabilise" model to be used. Yet with the emphasis on time, can this be the case in the Western Cape? From what the EMWs revealed in the focus group discussions, the Western Cape seems to be employing a bit of both models, yet Al-Shaqsi (2010) specifically pointed out that the two models seem to not be comparable, since they function in different contexts and have different demands to meet. Nonetheless, this study highlighted that time issues are often linked to address issues, according to the EMWs.

Finally, the results of this study indicated that the EMWs perceived the EMS system to be highly influenced by the socio-economic and political context of the Western Cape. Firstly, the reported community deception raises some important questions around how the community perceived the public health system: why do they feel the need to exaggerate an emergency? Perhaps this would be an interesting topic for future research. Secondly, the EMWs pointed out that in their opinion the EMS system is highly influenced by politics. The EMWs believed that the government used the EMS system as a poster child in an attempt to

gain the public's favour. They also believed that this was the reason for what they perceived as the great emphasis on time targets in the EMS system.

To conclude, the EMS system is not only complex, but because it is so complex, the system as a whole is also sensitive to issues or changes in even its smallest components. The researcher feels that this point is pivotal: the EMWs pointed out that it is the small things in the EMS system that can lead to big negative effects for the whole system. Thus, in order for the EMS system to function as a successful whole, it needs to make sure that all its components are in a good working condition. It must also take into account that the majority of its components are in fact human components, which adds to the complexity of the system.

Chapter 8: Limitations and Recommendations

Limitations of the study:

- A limitation of this study is that it looked into one provincial EMS system in a country with nine provinces. Moreover, it looked into an EMS system in the only province run by the Democratic Alliance (DA), as opposed to the African National Congress (ANC). As such, results from this study, could differ from results obtained in another province.
- A possible limitation is that the level of training of an EMW may have an effect on his/her perspective of the EMS system and his/her experiences as an EMW. The gender and culture of an EMW may also have affected their perspectives in this study. This matter may be investigated with future research.
- Another possible limitation is the fact that the focus group discussions were held on different days (the first two on a Monday and the third on the following day, Tuesday). This may have influenced the results obtained. For instance, either of those days could be busier for EMS, which could have affected the mood or the mind-set of the participants.
- Although the research was conducted at the EMS base, which is familiar to the EMWs, and was intended to make the participants feel at ease, it could have had the opposite effect. The environment may have affected the opinions that the EMWs expressed in the discussions.

Recommendations for future research:

- Future research can thus look into government EMS systems in other provinces.
- Future research can also look into perspectives of EMWs on private EMS systems.
- The gender, cultural background and other demographical characteristics of an EMW may determine the views and experiences of the EMWs in the EMS system. This study may thus be reproduced in part to investigate whether demographical characteristics have an effect on the experiences of EMWs in the EMS system.
- Future research can explore the hierarchies in the EMS system in more detail.
- Future research could look into the rescue personality using qualitative and quantitative methods.

- Future research can investigate the use of humour as an informal coping mechanism at the Western Cape EMS.
- Future research could look into the political influences on public health, particularly Emergency medical services.
- An opportunity for future research is to discover and explore the insights of the dispatchers and the call-takers, as well as how these link to the EMWs' perception.

Recommendations for policy and practice:

- Given the interdependence of the EMS system, all role-players could be made more aware of the fact that their quality of work has a direct effect on the quality of work that the next role-player in the EMS chain is able to offer. All role-players can also be made more aware that they ought to be working towards the same mutual goal of getting the correct ambulance to the correct patient.
- The EMS could incorporate formal team-training programmes into the existing training for all role-players in the EMS system. This team-training should involve some practical elements. For instance, role-playing exercise, actually swapping roles or shadowing another role might be useful to give the role-players a better understanding of each other's frustrations and struggles. It might also result in more respect for each other's roles.
- More attention could be paid to "soft skills" of role-players, such as how to be respectful and how to speak clearly over the telephone or two-way radio.
- Call-takers could be trained on the geography of the area and might benefit from practical training in this regard.
- Call-takers could receive some basic medical training to assist them in correctly identifying the priority of a patient. Call-takers could also be taught about the geographical area of the province.
- New dispatchers could be trained to be well familiar with the geographical areas that they are working with.
- The EMS management could try to improve organisational communication, for instance, hold regular meeting to listen and find solutions to complaints or issues, to inform personnel of the EMS model used and so forth.
- Given the problem in South Africa of ALS migration, the EMS might want to look into more or better retention strategies.

- The researcher feels that the EMS should somehow nurture the existing dedication and work engagement that the EMWs have. Perhaps one small way of doing so could be to simply express that the dedication of the EMWs does not go unnoticed or unappreciated by management.
- Formal measures of job satisfaction could help to identify and solve personnel issues.
- The EMWs might benefit from a democratically elected representative, who will be willing and able to take up their complaints, questions and issues with management and who will make sure solutions are found to pressing issues.
- The EMS management could make it clear that the well-being of the EMWs' is a priority. One way of doing this could be to monitor critical incidents and to offer formal debriefing procedures following critical incidents. Regular counselling sessions can also be made available to assist personnel in dealing with everyday occupational stress.
- To assist the EMWs with the address issue, the call-takers could be taught to ask for a geographical landmark with every emergency. Perhaps the EMS could look into tracking the location of a caller, but this will of course have ethical issues to overcome.
- In addition, the EMS could possibly partner with local government to find a way of mapping informal settlements more efficiently and to possibly create landmarks that both the EMS and the residents can use as a reference in case of an emergency.
- The EMWs feel like the EMS should be less strict when it comes to time targets. As was mentioned previously, perhaps this is due to a communication gap or confusion around what the goals of the EMS are.
- The EMS could launch a campaign to educate the public on what to do during an emergency and how they should go about contacting the EMS.

Key recommendations:

- 1) Incorporate formal team-training programmes with practical elements into the existing training for all role-players in the EMS system. These training exercises can perhaps be repeated annually.
- 2) More attention should be paid to the job satisfaction and well-being of employees. A number of real and tangible efforts from the EMS system to attend to the physical and psychological needs and welfare of the EMWs will be advantageous.

3) Launch a campaign to educate the public on emergency protocol (e.g. how to make an emergency call, how to divulge your location, etc.)

Chapter 9: Conclusion

This study set out to explore the perceptions of EMWs on a South African EMS system. By using a qualitative approach the researcher was able to meet the aims of the study. The semi-structured focus groups allowed for interesting and unexpected discussions, which were analysed using a data-driven approach. Specifically, the combination of a thematic, matrix and saliency analysis allowed for a rigorous and organized analysis that ultimately led to the discovery of interesting patterns and salient concepts in the data.

Overall, this study revealed how EMWs viewed the Western Cape EMS system as a whole: they see it as a hierarchical and interdependent system. This study also showed how EMWs perceive their role and position within the EMS system. Specifically, this position seems to be two-fold: the EMWs see themselves as highly qualified, highly capable and carrying a lot of authority and responsibility, but they also see themselves as the last link in the EMS chain and thus they reportedly often felt powerless. In addition, it was found that topics around communication were inextricably linked to other topics and thus the researcher concluded that communication permeates the entire EMS system, both in a more widespread and prominent manner, yet also in more subtle ways than expected. The study further found that the EMWs battled with a number of supposedly ‘small’ issues (such as whether the dispatcher speaks clearly, whether they are allowed to spend a little extra time with a patient to show that they care, whether their managers show an interest in their physical and emotional wellbeing et cetera), which ultimately have big effects on their ability to do their jobs well. In a way, for the EMWs, the devil lies in the details and they feel like the softer, human, qualitative issues are too often overlooked by the other role-players in the EMS (including management) and so, in a way, the different role-players seem to have different issues and priorities. As such, it might be worthwhile to incorporate a team-training program into the existing training procedures of the EMS. In addition, this study found some evidence for work engagement and possibly even the rescue personality, based on the EMWs’ talk about themselves. Given the South African context, where communicable diseases, violence and assault is rife, it was not surprising to find that the EMWs have all been exposed to critical incidents. Yet the EMWs reportedly found debriefing in response to critical incidents to be absent or inadequate. Instead, the EMWs seemed to make use of informal coping mechanisms such as humour. This study also showed that the EMWs’ major issues were

getting and/or finding the correct address for a patient, as well as meeting the time targets set by management. These two issues went hand-in-hand, as geographical issues apparently often results in time delays. Finally, the study revealed that the EMWs also thought of the bigger picture surrounding the EMS system. Specifically, it was found that the EMWs attributed certain procedures of the EMS system to political influences.

To conclude, this study provided a new understanding of a South African EMS system from an insider's perspective and thus adds to the limited body of knowledge on South African EMS systems. The results also shed light on the communication practices of the EMS system. These insights may be used to improve the operation of the Western Cape EMS system and possibly also other South African EMS systems. The explorative nature of this study has also shed light on a number of topics for future research.

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Addendum A: Invitation Letter and Consent form

You are hereby invited to participate in a study on the perceptions of Emergency Medical Workers on an Emergency Medical Services System:

Researcher: Juanita Pelzer

Contact: 072 951 4945/juanita07@mweb.co.za

Purpose of this Study

This study is being undertaken in fulfilment of a Master's Degree in Research Psychology at the University of the Witwatersrand. The specific purpose of the study is to gain insight into how you, as an Emergency Medical Worker, perceive the Emergency medical services System. The researcher is also interested in your perspective on communication practices within the EMS system. Should you wish to participate in this study the researcher will ask you to take part in a group discussion along with 4 to 9 of your colleagues. During this discussion the researcher will ask the group a number of questions pertaining to the above mentioned topic. The discussion will be audio taped. The researcher will transcribe the discussion verbatim (word for word) and will then analyse the discussion. Please note that agreeing to participate in this study will require of you to also agree to the below terms and conditions.

This study will operate on strict ethical principals in order to ensure that your integrity and well-being as a participant is protected. Specifically, you have the following rights and responsibilities:

- 1) Your involvement in this study is completely voluntary and you have the right to withdraw from the study at any time, should you feel so inclined.
- 2) Since the topic of EMS system might be of a sensitive nature, confidentiality will be a high priority for this study. Thus the researcher assures you that your identity, as well as anything that you reveal in the focus group discussion, will be kept confidential. Hence only the researcher and the moderator will have access to this information and a pseudonym will be assigned to you during transcription and analysis of the discussion. Furthermore, nothing you say in the group discussions will be revealed by the researchers to anyone outside of the particular focus group. We also ask that you as a participant not share this discussion with members of another group, other colleagues, management, friends or family. If you feel that you are not able or willing to comply with the above terms, you reserve the right to withdraw from the study. Furthermore, we the researchers will promise not to link anything that is said in the group today to any individual. However please be aware that there are limits to

confidentiality in a group setting, so please do not say anything that you do not want persons outside of this group to know.

- 3) There are certain risks and benefits to participating in this study. Benefits of taking part in this study could include an opportunity for you to raise important points or concerns regarding the topic at hand, as well as a chance to make suggestions for improving communication within the EMS system. Risks might include participating in or being exposed to heated discussions or conflicts of opinions regarding the topic at hand. However, you reserve the right to excuse yourself from the discussion at any point in time and should experience any significant distress, the researcher will refer you to a competent counsellor.

I, _____, hereby agree to voluntarily participate in the research project of Juanita Pelzer (the researcher). I declare that I have read and understood my rights and responsibilities as a participant as is set out above. In particular, I understand that the purpose of this study is to gain my perspective of what constitutes as facilitators and barriers to communication within the EMS system and that I will be asked to participate in a group discussion around this topic. I give my permission to the researcher to audio record the above mentioned discussion and to subsequently transcribe and analyse the discussion. I also hereby confirm that I will not in any manner publicly reveal the information disclosed during the course of the focus group discussion, nor will I discuss any information pertaining to this study with anyone outside my fellow focus group members, the researcher and the moderator. I do however understand that confidentiality is limited in a group setting.

Participant signature: _____

Date signed: _____

Researcher signature: _____

Date signed: _____

Addendum B: Demographic Questionnaire

Dear Participant,

Please answer the following questions about yourself. This information will be kept strictly confidential and your identity will only be known to the researcher as a pseudonym will be allocated to you.

- 1) Please write down the number that was assigned to you (see sticker): _____
- 2) Age: _____
- 3) Sex: _____
- 4) Race: _____
- 5) What is your Home Language: _____
- 6) What other Language/Languages do you speak? _____

- 7) On what level are you qualified? BLS, ILS or ALS? (please circle)
- 8) Where did you obtain your qualification? _____
- 9) For how long have you been working in the Western Cape EMS?

Thank you for taking the time to answer these questions.

Addendum C: Ethical Clearance Certificate

M110301M110301

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

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R1A/49 Professor Claire Penn

CLEARANCE CERTIFICATE

M110301

Facilitators and Barriers
in South African Context

PROJECT

Identifying Communication F
in emergency Medical Call

Prof. Penn.

INVESTIGATORS

Professor Claire

Psychology & Audiology/SHCD

DEPARTMENT

Speech path

011

DATE CONSIDERED

25/03/25

Approved unconditionally

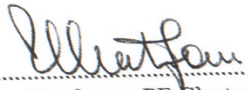
DECISION OF THE COMMITTEE*

App

Clearance is valid for 5 years and may be renewed upon

Unless otherwise specified this ethical clearance
application.

APPROVED BY



(Professor PE Cleaton-Jones)

DATE

CH

Consent' attached where applicable

*Guidelines for written 'informed c
cc: Supervisor :

DECLARATION OF INVESTIGATOR(S)

DECLARATION OF INV

Application and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor,
University.

To be completed in dup
Senate House, Univer
I/We fully understand
research and I/we
contemplated for
Committee. I

and the conditions under which I am/we are authorized to carry out the abovementioned
guarantee to ensure compliance with these conditions. Should any departure to be
from the research procedure as approved I/we undertake to resubmit the protocol to the
agree to a completion of a yearly progress report.
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES...

Addendum D: Thematic Map

Addendum E: Extracts from Matrix Analysis

<u>Team-Work</u>	<u>Links</u>	<u>Status</u>	<u>C</u>
The importance of good solid team work and mutual support on the road and in general	Interdependence	NB + Recurrent	1
.	Partnerships		1
.			1
.			1
.			2
.			2
.			3
.			3

<u>At Risk</u>
Situations where they are physically in danger. They seem to feel like the station has a general disregard for their safety and welfare

Addendum F: Participant Details

Nr	Pseudonym	Languages (Home & second)	Level of qualification	Time in service
Focus Group 1				
1	pA	English & Afrikaans	ALS	11 years
2	pB	Afrikaans & English	ILS	12 years
3	pC	Afrikaans & English	BLS	8 years
4	pD	English & Afrikaans	ILS	2 years
Focus Group 2				
1	pE	English & Afrikaans	ALS	11 years
2	pF	Afrikaans & English	ALS	2 months
3	pG	Afrikaans & English	ILS	10 years
4	pH	Afrikaans & English	BLS	11 months
Focus Group 3				
1	pI	English & Afrikaans	ALS	8 years
2	pJ	Afrikaans & English	BLS	1 year
3	pK	English & Xhosa	ILS	13 years
4	pL	Xhosa, English & Afrikaans	BLS	9 years
5	pM	Xhosa & English	BLS	7 years
6	pN	Xhosa, English, Zulu & Sotho	ILS	11 years
Additional				
	Fa	Facilitator		

Note: Although the demographic questionnaire did include questions around the participants' age, sex and race, this information will not be disclosed in this report as the information could possibly be used to identify the participants.

Addendum G: Definitions of Key Concepts

Advanced Life Support (ALS) Practitioner – Four levels of ALS practitioners exist in South Africa. Critical Care Attendants (CCAs) or Paramedics undergo a nine month training programme and the Emergency Care Technician (ECT) undergoes a two year programme. One can also obtain a National Diploma in Emergency Medical Care (which takes three years to complete) or a Bachelor of Technology in Emergency Medical Care (which is a postgraduate qualification after the National Diploma and takes one to two years to complete). ALS practitioners are allowed to administer a wide range of medications and complicated medical procedures such as endotracheal intubations and cardioversions (Kriek, 2008).

Ambulance – A vehicle licensed under the Road Traffic Act as such, designed or adapted for the treatment and conveyance of patients in an emergency care situation, marked as such, appropriately equipped, and staffed with a minimum of two emergency care providers (Government Gazette, 2014).

Ambulance Service - The objective of the Ambulance Service is to get the correct patient to the correct hospital within the shortest possible period of time (O’Meara & Boyle, 2012). In addition, injured or ill patients are often in need of pre-hospital intervention and stabilization which is provided by the EMWs (Sanders & McKenna, 2012).

Basic Ambulance Assistants (BAA) – An EMW that is qualified to provide basic life support to a patient. Training as a BAA involves a four week training course in basic human anatomy, the management of trauma patients and cardiopulmonary resuscitation (CPR) (Kriek, 2008).

Dispatcher – The individual in charge of dispatching the ambulances to the scene of the incident. The dispatcher thus directs the movement of the ambulances (Kriek, 2008).

Emergency Care - the rescue, evaluation, treatment and care of an ill or injured person in an emergency care situation and the continuation of treatment and care during the transportation of such person to or between health establishment/s (Government Gazette, 2014).

Emergency Call-Taker – The individual who works in the emergency call-centre. This person is the first point of contact for anyone who phones the EMS to seek emergency medical care and is responsible for capturing the relevant details of the patient (i.e. name, telephone number, address, nature of the emergency, etc.) (Government Gazette, 2014).

Emergency Medical Services (EMS) - The EMS can be defined as a broad system consisting of the personnel, facilities and equipment required to assure the effective, coordinated and timely delivery of health and safety services to victims of unexpected illness or injury (Al-Shaqsi, 2010). The function of EMS can be broken down into four basic tasks, namely, providing access to emergency care, providing care in the community, providing care during transportation of the patient, and care upon arrival to a receiving health care facility.

Emergency Medical Workers (EMWs) - The first responders to the ill or injured patient and provide 24 hour medical response, pre-hospital care and the service of transport to the nearest health care facility to the public (Western Cape Government, 2012a).

Health Professions Council of South Africa (HPCSA) – the statutory body established in terms of the Health Professions Act, 1974 (Act no.56 of 1974) (Government Gazette, 2014).

Intermediate Life Support (ILS) practitioners - Training at this level involves a four month training course, after which the individual is able to administer certain medications and to provide defibrillation, chest decompression and intravenous (IV) fluid therapy (Kriek, 2008).

Medical emergency - An acute medical condition requiring immediate attention, such as a heart attack, stroke severe asthma attack or a diabetic emergency (Kriek, 2008).

Response time - the period from the time a call is received to the time that the first medical responder arrives at the patient (Government Gazette, 2014).

Trauma emergency - A situation caused by external force, such as a motor vehicle collision, shooting incident, assault or burn (Kriek, 2008).

Triage - The process of categorizing patients according to their need of medical care. In 2004 the Cape Triage Group (CTG) produced a triage system suitable for the South African context, namely the Cape Triage Scale (CTS) to prioritise patients both in the pre-hospital

setting and in Emergency Care Units. In pre-hospital care, the triage scale uses the instability of a patient's vital signs to differentiate between the priorities of patients (Gottschalk, Wood, De Vries, Wallis & Bruijns, 2006). Accordingly, the abbreviations P1, P2 and P3 are used to refer to the priority of the patient. A P1 patient is seriously injured and in a critical condition, a P2 patient is seriously injured, but not critical and a P3 patient is mildly injured.

Western Cape EMS – The Western Cape provincial (public) EMS where this study took place. The EMS system is divided up into three divisions, namely the ambulance service, rescue services and Healthnet (which provide non-emergency inter-facility transport). This study focused on the ambulance services (Western Cape Government, 2012a).