Retention Strategy of Paramedics in South Africa

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ABSTRACT

Purpose

The pre-hospital industry is faced with many challenges, one of which is the skills shortage of advanced life support paramedics in the country. The industry has naturally dictated competition both nationally and internationally for the recruitment of these advanced life support paramedics. Staff turnover has increased as a result of this issue which also has financial implications on the individual business of constant recruitment and turnover.

The purpose of this study is to investigate problems that currently exist in the industry with regards to the advanced life support paramedic employment which will provide valuable information on retention strategies and reduce staff turnover.

Methodology

A qualitative research method was used through the dissemination of a survey questionnaire that had to be completed by advanced life support paramedics around the country. The questionnaire was informed through the literature review and was made up of both a Likert scale type questions and some open ended questions which provided paramedics the opportunity to freely express their opinions. The responses obtained had provided information to achieve the objectives of the research study and enhance retention strategies of paramedics in South Africa.

Findings

There is certainly a skills shortage of paramedics in South Africa where many paramedics migrate both nationally and internationally between organizations.

Advanced life support paramedics play a vital role in the pre-hospital industry and retention of these scarce skills are therefore also vital.

There are many problems that exist with paramedics in the pre-hospital industry which was revealed in a questionnaire survey but from the many reasons, only the key reasons that require urgent attention are identified for resolution initially before proceeding to the other existing problems. The key reasons that were found in the survey are remuneration and salary, support from management within their organization, personal development and career advancement. It is recommended that these key problems obtain urgent attention contributing towards the retention strategy of paramedics in South Africa.

Further findings indicated that job satisfaction of paramedics in South Africa is not at the level to maintain retention of these scarce skilled workers despite them loving their profession and the job they do. Basic needs to enhance job satisfaction are an area that requires further development within the pre-hospital industry. Many of the responses received in the questionnaire survey had displayed negativity and therefore resolution of these current issues requires immediate attention in order to improve retention of paramedics in South Africa.

DECLARATION

The author hereby certifies that the content of this research project is the author's own unaided original work, except where specific indication is given to the contrary by reference. This work has not been previously submitted to the University of South Africa or any other University. No survey questionnaires were disseminated to any person working for opposing organizations without prior consent being granted.

Signature: _____ Date: 05 April 2011

DEDICATION

To all the advanced life support paramedics in the field of emergency medicine that are committed to the industry and strive to make a difference in someone's life.

ACKNOWLEDGEMENTS

To my loving wife, Aysegul, whose support through the last three years has been instrumental in me completing this project and course. You have made many sacrifices in improving my pressurized environment and without you all would be impossible. I thank you sincerely.

To my children, thank you for your understanding and making me feel at ease in times of need. Putting a smile onto my face has always been the remedy I needed and I hope that you will view me as an example to live by through your many years to come. I love you guys madly.

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Finally, to all the paramedics who took the time to respond to my questionnaire and survey. Thank you for your contribution into this very important topic. This research project with your input and engagement tells your story and will contribute to enhancing the industry standards. I hope I have done the justice it deserves.

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ACRONYMS AND ABBREVIATIONS

HPCSA: Health Professions Council of South Africa

SAMDC: South African Medical and Dental Council

ALS: Advanced Life Support

ILS: Intermediate Life Support

BLS: Basic Life Support

EMS: Emergency Medical Service

CCA: Critical Care Assistant

IV: Intra Venous

RRV: Rapid Response Vehicle

AIDS: Acquired Immune Deficiency Syndrome

HIV: Human Immunodeficiency Virus

AEA: Ambulance Emergency Assistant

BAA: Basic Ambulance Assistant

EMT: Emergency Medical Technician

KEYWORDS

Retention of Paramedics Advanced Life Support, Paramedics in South Africa, Skills Shortage of Paramedics.

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

'As a paramedic, I cannot believe that there was not a single ambulance, paramedic response car or fire engine with emergency medical staff on board available for the call' (News24, 2008). These are the type of complaints received against emergency services in South Africa. Emergency Medical Rescue Services director Shank Maharaj said there were only 19 advanced paramedics employed by Metro Ambulances (Dispatch, 2009). This is certainly a cause for concern when there are only 19 paramedics working in a province and to make matters worse, these 19 paramedics have to share a four shift system to accommodate the necessity of maintaining a twenty four hour emergency service to the public.

Given that there is a shortage of paramedics in South Africa; competition has resulted between organizations in the recruitment of these skilled professionals. These competitive recruitment processes have allowed price wars between organizations to occur with the winning employer offering the better price. It is presumed that these price wars that exist between organizations both nationally and internationally will result in reducing the financial viability to maintain these paramedics thus impacting negatively on service delivery to the community. Some strategy has been implemented in an attempt to retain these paramedics and rectify the problem through formal and informal training methods however this strategy is only a short term solution.

Improving retention strategies will provide many benefits to the national industry and unfortunately, little research has been conducted on this problem in South Africa in comparison to research being conducted internationally. Some of the

questions being asked to obtain a better understanding behind the problem include:

- What was the paramedics' initial motivation to become a paramedic?
- What professional issues exist that influence the retention of paramedic?
- Is quality of life for paramedics being affected in South Africa?
- Are there succession programs in place to assist in the retention of paramedics?
- Are family considerations important in the retention of paramedics?
- Can training and development affect the retention strategy?

1.2 THE PROBLEM IN CONTEXT

Through the assistance of modern technology and internet, healthcare workers are pursuing employment opportunities globally like never before (Pagett & Padarath, 2007). This migration flow is one way from poor countries in Africa to wealthier countries in the north like the Middle East (Pagett & Padarath, 2007). Advanced life support paramedics are migrating and working abroad resulting in a shortage of skilled personnel in the country. 'These are scarce skills which are also very sought-after overseas' (Dispatch, 2009). The problem of having paramedics leave the country without retention strategies has resulted in an aftermath of problems which include eroded supervision, mentorship and support from the referral system (Kirigia, Gbary, Muthuri, Nyoni & Seddoh, 2006).

It is evident that paramedics are migrating from the country, and because of the moving employment between organizations it is therefore safe to presume that barriers exist with the retention of paramedics in the country. Failure to retain staff will result in disadvantaging the poor, rural and under-served populations (Pagett and Padarath, 2007) especially in the government sector of emergency medical services.

Paramedics are expected to work longer hours due to the lack of paramedics that are operational which increases the chances of job burnout. The current work environment being offered to the paramedic may not be ideal or the issue of remuneration may be the leading issue around the migration of paramedics.

The problem however has impacted the industry as a whole and is not limited to any specific organization. The paramedic as indicated is responsible for greater efficiency in patient management as per their scope of practice depicted by the Health Professions Council of South Africa but also provides supervisory support to other treating pre-hospital medical personnel. It is then evident that levels of efficiency in the pre-hospital arena are compromised. Patient management in totality is affected negatively extending the problem to the patient who is the one ultimately bearing the existing problem. Often paramedics are never available and ambulances are required to respond directly to hospitals for assistance with patients that require advanced life support interventions which only paramedics are able to do. If paramedics are available, their response times are far too long to access patients as there are fewer paramedics working in larger areas to ensure some coverage.

Mentorship programs are suffering as there are not enough paramedics in the country to take on the responsibility. This further diminishes the quality of future paramedics of the country. Training of paramedics through the short course programs will soon come to an end which will be of greater detriment to the industry. Tertiary training of paramedics however will continue but have changed their curriculum to a four year degree. The advantage here is that there will be improvement in the quality of paramedic exiting the institution however there are greater possibilities of minimum quantities of students being able to complete the curriculum. This coupled with closure of the short course for paramedics will impact the industry further in sustaining paramedics in the country.

The problem extends further than just patient care. As a private business in the pre-hospital industry, these paramedics is relied upon for their supervisory contribution and levels of efficiency offered to a client. They assist in increasing revenue obtained in patient treatment and provide comfort in obtaining new business in terms of a level of service that is able to be offered. Some clients like a medical scheme would contract a private ambulance service due to the fact that they are able to cater for their client and ensure that their client receives optimal patient care from resources like paramedics. If paramedics are lacking in the system, the possibility of obtaining new business like medical schemes can be affected.

1.3 PROBLEM REVIEW

The problem review is based on many different factors but more pertinent are the facts of remuneration, international offerings, and dangers of the industry and job satisfaction. Annexure B is reference to the problem review discussed.

1.3.1 Remuneration

Remuneration is a common issue and is no doubt a possible cause in this specific problem. Despite the competitive turmoil in attracting paramedics in the industry within South Africa, the skill remains scarce with many paramedics accepting more lucrative remuneration packages nationally and internationally. Paramedics do not receive additional benefits to their employment which may make a difference like compensation for dangers in the job.

1.3.2 International Offering

Many paramedics from South Africa work internationally. They are recruited into these positions due their experience in trauma and emergency care through volumes of emergency cases experience within South Africa. Attractive

remuneration packages are offered together with international work experience in remote site clinics and oil rigs.

1.3.3 Dangers

HIV and disease rates are extremely high in the country making it more difficult to practice with ease of mind. The crime rates within the country are also high and affect the paramedic in their daily job routine, especially when attending to patients in areas that may be considered as being high risk. Other dangers may include the risk of being involved in motor vehicle accidents due to the nature of the industry in comparison to working the international arena where many contracts are offered as site based work.

1.3.4 Job Satisfaction

Other than working in a thankless profession, the paramedic is often left in a situation where they work with other staff in the industry with lower standards of knowledge due to poor education. It adds to the frustration of working with patients in need of emergency medical attention where assistance is required of people who possess the 'know how'.

1.4 PROBLEM STATEMENT

Paramedics are critical to pre hospital care and retaining these paramedics is proving to be difficult, hence the retention of paramedics is vital to the healthcare industry. Based on the problem in context as well as the problem review, the problem statement is:

Paramedics play a vital role in the business of emergency medical services through its management structure and service delivery to patients and therefore

necessitate strategies for the retention of paramedics in order to mitigate their migration both nationally and internationally.

1.5 OBJECTIVES

- Identify key reasons for the migration of paramedics both internationally and nationally

- To evaluate levels of job satisfaction and needs of paramedics within South Africa

- Identify relevant strategies and recommendations for the retention of paramedics in South Africa

1.6 IMPORTANCE AND BENEFITS OF THE STUDY

Paramedics play a vital role in the pre-hospital environment in the treatment of patients and transportation thereof. With this key role that they play, retention of paramedics will ensure that the standards of the pre-hospital industry will be maintained at higher standards not only from a patient perspective but from a business point of view where staff turnover will be reduced. Retaining paramedics will fill the gaps more efficiently in the management structure and will result in enhancing the business through mentorship, clinical governance, increasing revenue and quality assurance to mention but a few.

This study will provide recommendations after an investigation is done to assist in understanding and identifying problems which will provide areas of concentration to improve the retention strategies of paramedics. For example, remuneration and benefits may be one of the main causes for poor retention of paramedics

which must be targeted by the organizations as an area that requires development. There may be a possibility that there will be more than one cause in the study but it will prove beneficial in identifying these causes to pave a pathway forward towards some resolution.

1.7 DEFINITION OF TERMS

IV Insertion: The placement of a cathetor with the use of a needle into the vein to allow for the administraion of fluid and drug substances. It is commonly known as a 'drip'

Fluid administration: Fluid being administered into the body through a 'drip' that flows from a 'drip bag'

Electrocardiogram: an interpretation of the electrical activity in the heart commonly known as ECG

External Cardiac Pacing: A procedure that causes contraction of the heart muscles to achieve a regulated heart rate

Defibrillation: Is a definitive treatment for life threatening heart rhythms where electrical energy is delivered through the heart in an attempt to re-establish a normal heart rate.

Cardioversion: Is the treatment of cardiac arhythmias with electrical energy or drugs to re-establish a normal heart rate

Medical Emergency: When an injury or illness results in an immediate life threatening circumstance

Scope of practice: Procedures, actions or processes that is defined by a regulating body where the law specifies the limitation to practice in ones profession. This is dependant on qualifications and education.

Intubation: The insertion of a flexible tube into the trachea or windpipe to maintain an open airway.

1.8 UNDERLYING ASSUMPTIONS

- The author possesses the qualification of National Diploma in Ambulance and Emergency Medical Care and is therefore considered an advanced life support paramedic. It is therefore assumed that the author understands general aspects of the industry like the operation of vehicles, levels of practitioners, scope of practice and avenues for further learning

- All paramedics are registered with the Health Professions Council of South Africa and can therefore comment on the industry they are employed in. In the unfortunate circumstance that a paramedic is not registered, they will not be legally permitted to practice operationally

1.9 BRIEF CHAPTER OVERVIEWS

Chapter 1

This chapter serves as an introduction to the study of retention strategies of paramedics in South Africa. It is important to understand the background of the paramedic and the reason in researching the problem that currently exists. Factors like the problem in context, problem review, objectives of the research project and benefits of this study are defined.

Chapter 2

Theoretical considerations are discussed regarding the retention of paramedics where well grounded theory like that of Maslow and Hertzberg are used to strengthen the argument of retention.

Chapter 3

This chapter contains the literature review where a more detailed background to the pre-hospital industry is described. Further to this, the benefits of paramedics to the industry is also detailed coupled with influences on retention from previous literature is detailed.

Chapter 4

Chapter 4 details the design of the project and survey questionnaire. The reasons behind using a qualitative method are also further discussed in this chapter. As in almost every project, limitations and ethical considerations exist. These factors are listed and considered through discussion.

Chapter 5

This chapter forms the pivotal part of the research project where the results of the questionnaire are analyzed and discussed. Through this analysis, key reasons and problems were identified that influence the retention of paramedics in South Africa.

Chapter 6

In this final chapter, a conclusion to the research project is made which contributed towards information for the recommendations to organizations or influential readers in the industry to utilize or implement.

CHAPTER 2: THEORETICAL CONSIDERATIONS

2.1 INTRODUCTION

There are three models that can be utilized to assess whether paramedics needs are being met, are they motivated to do the job and are they satisfied with the current jobs in the country. These models are Maslow's hierarchy of needs, expectancy theory and the two factor theory. In utilizing these models, reasons can be ascertained into paramedics leaving their current employment. Analysis of these models will be done in the form of questionnaires.

2.2 MASLOW'S HIERARCHY OF NEEDS

In a basic analysis of this model, attention is immediately drawn to the first level of the hierarchy where the wages, working conditions and other basic physiological needs may not be present. This is a basic need, and if not met, will affect other needs in the hierarchy leading to paramedics that are not as motivated as they should be.

Assuming that the needs in the first level of the hierarchy are achieved through analysis of the questionnaires, safety needs of the paramedics can be questioned. In the current status of the country in terms of illness, disease, HIV and crime, are these needs being addressed? If so, is it efficient? The issue of HIV in Africa is a well established problem where paramedics working in the pre-hospital industry are exposed to these forms of medical emergencies. It is a medical risk that they expose themselves to influencing them to create a mindset of emigration. HIV and crime if proven in the model to be reasons for emigration will hinder the recommendations for retention strategies as it is a massive issue in the country with a prevalence of 5.6 million people of the population being infected with HIV (TAC, 2009).

2.3 EXPECTANCY THEORY

Analyzing the three links of the expectancy theory may provide useful information into the motivation of the paramedic in their job. The link between effort and performance can be investigated in more detail allowing greater information in the job design and job characteristics model.

Skills variety, task identity and task significance form the core job dimensions which provide insight into the meaningfulness of the job. It can be assumed that paramedics do a meaningful job but does the individual paramedic share the same thought. There is potential for the paramedic to believe that the job has no significance which will affect the job design and expectancy theory model resulting in lower motivation for the job.

The value of outcomes expected by the paramedic may not coincide with the effort placed in the job. This also influences the expectancy theory negatively demonstrating a decline in motivation of the paramedic.

2.4 TWO-FACTOR THEORY

The two-factor theory (Hertzberg, 1959) is a model that can be used to assess the motivation as well as job satisfaction of the paramedic. The two factors are motivation factors and hygiene factors.

2.4.1 Motivation Factors

Motivation factors include achievement, recognition, the work itself, responsibility and advancement and growth (Moorhead & Griffin, 1995). Information gained from the questionnaires will enable us to assess the level of satisfaction that the paramedic gains. It would be interesting to investigate what paramedics perceive as achievement. There are many variables here at a glance which could be regarded as an achievement which include saving a life, maintaining a

professional and efficient team and management of business. There are a variety of achievements that can be achieved on a daily basis and assessment of the recognition coupled with this may determine the level of job satisfaction received.

Advancement and growth in a specialized field may be difficult especially moving through the management structure. Competition exists for paramedics against employees of lower medical qualifications for management posts. Assessing this may also produce useful information towards job satisfaction and assessing its importance in the migration of paramedics.

2.4.2 Hygiene Factors

Supervision, working conditions, interpersonal relationships, pay and job security and company policies form part of the hygiene factors (Moorhead & Griffin, 1995). Hygiene factors won't improve job satisfaction and do indicate the basics that should be present to maintain a fair level of satisfaction and motivation.

Supervision for example, as just mentioned above, may be a factor of concern where the paramedic is being supervised by an employee of lower medical qualification. This may impact the working conditions and hinder interpersonal relationships making the hygiene factors a cause for concern.

Assessing these factors of the two-factor theory may provide valuable information towards the development of retention strategies for paramedics within South Africa.

2.5 CONCLUSION

Maslow's hierarchy of needs, expectancy theory and the two factor theory as theoretical considerations provide a solid foundation in the determination of needs, motivation and job satisfaction that can influence the retention of paramedics in South Africa. These theories originated through brainstorming and

the use of a fish bone diagram as per annexure A and annexure B respectively. The theoretical considerations discussed have allowed the formulation of the questionnaire which provided information about the possible causes in the migration of paramedics. These theories have therefore added value to the project where the responses from the questionnaire can be compared to well established theories as discussed to determine the status of needs, motivation and job satisfaction that currently exists.

CHAPTER 3: LITERATURE REVIEW

3.1 INTRODUCTION

There is a need to understand the pre-hospital industry in more detail together with the importance and the role that a paramedic plays. This chapter therefore provides a background to the literature that is discussed. This includes the different levels of practitioners in the industry, scope of practice of the different practitioners and provides information on the types of emergencies each type of practitioner is capable of dealing with.

Importantly, literature of previous research regarding retention and factors that affect retention is discussed. Valuable concepts, like various push and pull factors are explored in the literature review and the study of needs in emergency care practitioners is investigated to provide greater foresight into the retention of paramedics in South Africa. Other factors included in the literature review are job satisfaction, motivation, remuneration and working conditions.

3.2 BACKGROUND LITERATURE

3.2.1 The Pre-hospital Industry

The pre-hospital industry is an area where medical practitioners deal with trauma and medical emergencies on a daily basis (Kriek, 2008). It is a relatively new system of structure as we know it today in comparison to the past. The industry has transformed itself into a complex system over the last twenty years (MacFarlane, van Loggerenberg and Kloeck, 2004:145) where pre-hospital management of patients are catered through three levels of medical practitioners which are basic, intermediate and advanced levels of care.

Since 1992, all medical practitioners must be registered with the Health Professions Council of South Africa (HPCSA) or the South African Medical and Dental Council (SAMDC) as it was called then (Christopher, 2007). The Health Professions Council of South Africa is the governing body that regulates the medical industry and governs the Emergency Medical Service (EMS) who also determines the scope of practice of Emergency Medical Practitioners in the pre-hospital industry. The table below indicates the various levels of emergency service practitioners together with a brief description of length of study and examples of their individual Scope.

Table 1 Qualification, Description and Scope (**Source:** Lambert, 2006)

Qualification	**Description**	**Brief Scope of Practice**	**Practitioner Level**
Basic Ambulance Assistant (BAA)	Four week course	- Basic patient management - Assistance to AEA	Basic Life Support
Ambulance Emergency Attendant (AEA)	Four month course with the pre–requisite of BAA and one thousand operational hours	- Intra Venous (IV) insertion - fluid administration - basic medication administration - Electrocardiograph (ECG) & Defibrillation	Intermediate Life Support
Critical Care Assistant (CCA)	Nine month emergency course with the pre-requisite of	- drug administration - External Cardiac Pacing	Advanced Life Support

	one thousand operational hours	- Cardioversion - advanced IV access; advanced airway management	
National Diploma in Emergency Medical Care	Three year full time tertiary qualification at the relevant institution	- drug administration - External Cardiac Pacing - Cardioversion - advanced IV access; advanced airway management	Advanced Life Support
Bachelors in Technology Emergency Medical Care	Four year tertiary qualification at the relevant institution	Greater scope of practice in drugs and emergency procedures	Advanced Life Support

As indicated in Table 1, the advanced life support practitioner has greater capabilities than other practitioners in terms of scope of practice as well as knowledge which can be assumed from the duration of the study courses. The advanced life support practitioner is more commonly known as the paramedic or the Advanced Life Support (ALS), whilst Ambulance Emergency Assistant (AEA) and Basic Ambulance Assistant (BAA) medics are known as Emergency Care Practitioners intermediate and basic respectively.

Both the emergency care practitioners intermediate and basic are the persons working on ambulances. They are primarily responsible to respond to medical emergencies and transport patients to hospital or definitive care. Patients are treated within the scope of practice as set out by the HPCSA and briefly described in Table 1 above. If further management is required for a patient that falls out of the scope of practice of the basic and intermediate emergency care practitioners, the paramedics or advanced life support practitioners then intervene to enhance patient management. The paramedic is usually found responding to medical emergencies in a light motor vehicle rather than an ambulance. This vehicle is often known to be the rapid response vehicle (RRV) which is more versatile to get to more scenes and more ambulances that require medical assistance.

The pre-hospital industry provides medical assistance to the public via a provincial or private service. The private services are 'for profit' organizations and generally found to be more technologically equipped to render a service to paying clients. Some private emergency services have the fortune of a hospital group who are better positioned financially to ensure greater capital is deployed into this sector of the business. 'The private health system is excellent. South Africa's private health system is highly rated and respected by the international health fraternity for its technological innovation and achievement' (Van Der Westhuizen, 2008).

Provincial emergency services vary with regards to resources of fleet and its distribution through the nine provinces in the country (Clarke, 1998). Clarke (1998) further states that provincial services are largely dependent on the financial budget provided and national distribution and allocation of these funds. This results in areas like metropolitans being allocated more funds and resources than others. The provincial service being funded by government naturally provides a free or low cost service to the public.

The pre-hospital industry undertakes medical transportation of patients through two broad categories which are emergency medical response and inter-hospital patient transfers (MacFarlane, van Loggerenberg & Kloeck, 2004:145). An emergency medical response can be defined as a call for medical assistance to a person or member of the public that is ill or injured either at work, home or public area and may be life threatening (Department of Health, 2008). In the case of a life threatening emergency, paramedics or ALS are dispatched to these emergencies due to their greater scope of practice to enhance mortality and morbidity. 'Advanced Life Support (ALS) practitioners are a scarce resource and are usually only assigned to respond to emergency calls that are deemed to be immediately life threatening' (Christopher, 2007).

An inter-hospital patient transfer is defined as the transfer of patients between hospital facilities where there may be a lack of staff or beds to accommodate a patient at the hospital. There may also be a requirement of specialist management of patients in these inter-hospital transfers (Driscol, 2006). In the case of specialist management, these patients may fall into the scope of practice of paramedics that will be required to undertake the inter-hospital transfer. There is an increasing demand for intensive care beds due to the improving resuscitation and surgical techniques (Driscol, 2006). This results in an increase in inter-hospital transfers where paramedics may be required due to this specialist care that will be required.

3.2.2 Benefits of Paramedics

The paramedic is a healthcare professional whose primary focus is to provide advanced emergency medical care for critical and ill patients. The role of the paramedic to be reiterated is not the same as that of the Intermediate Life Support (ILS) and Basic Life Support (BLS) practitioners found working on ambulances. The paramedic possesses complex knowledge and skills necessary to provide patient care and transportation. These skills are also limited to scope of

practice determined by the HPCSA but are effective and can be performed safely in an out-of-hospital setting. They also possess the capability in assisting the ambulance personnel who are normally at the levels of ILS and BLS where patient care falls out of their current scope of practice. The application of clinical skills in the pre-hospital environment is not always straight forward (Gregory & Mursell, 2010) and the paramedic must therefore rely on his skills of complex decision making and advanced assessment, including treatment of patients to ensure favourable outcomes in the pre-hospital industry.

The medical knowledge and oversight that the paramedic possesses allows them to predetermine destinations for patients to hospitals of differing speciality depending on the injury or illness of the patient. This ensures appropriate definitive care for a patient. These instructions provided are iterated to ambulance personnel by the paramedic who ensures that standards of patient care and clinical governance are adhered to from their supervisory positions. Being a more senior ranking medical person in the pre-hospital industry, the paramedic automatically assumes the supervisory role over incidents and patient care.

Stielle (2007) had researched the effects of advanced medical care on the treatment of patients who had suffered from respiratory distress. The patients were treated at both basic and advanced levels of care. Through the administration of intravenous drugs in 15% and intubation in 1.4% of the patients, it was concluded that the rate of death had reduced by 1.9% of all the 8138 patients treated. These skills used to reduce the death rate in the research cannot be used by ILS and BLS practitioners in South Africa as set out by Health Professions Council of South Africa. This fact was further reiterated by Kahn (2011), ‘Patients in respiratory distress who received advanced life support (ALS) treatments show improved higher survival rates and higher functioning cerebral performance scores at discharge than patients receiving basic life support’.

3.2.3 The Paramedic Industry

According to the HPCSA statistics (2010), there are 1384 registered paramedics in South Africa. These paramedics are at the qualifications of National Diploma, critical care assistants and emergency care practitioners. Roodt and Eddy (2010) in their interview with Mr D Stanton who is the chairperson of the Paramedic Association of South Africa states that the industry requires 2000 paramedics of which only 500 are currently active. In a basic analysis of these figures, 884 of the paramedics currently registered with the HPCSA are not working within the operational environment as paramedics. It is evident that had all the paramedics who are registered with the HPCSA been working in the country and in the pre-hospital industry, a shortage of this skill would still exist and gives an understanding of the severity of the problem regarding paramedics in South Africa.

The paramedic world is also changing in that the Critical Care short course and the National Diploma in Emergency Medical Care will soon seize to exist (HPCSA, 2011). These courses are being replaced with a new structure that is currently being introduced into the pre-hospital industry. Instead of the current three levels of emergency medical care practitioners, there will, in the near future exist two levels of qualifications. The first is a two year program which will be at a higher level than the current ILS but not as high as the current ALS level. The second level is the Bachelors degree which is a four year degree and will be the advanced life support level. This creates the possibility of impacting the paramedic industry in that no ALS short courses will be in place to run concurrently with tertiary institutions. This would result in fewer advanced paramedics being qualified annually. Although the standards of the future paramedics may improve, the short term solution of having too few paramedics still stands for resolution.

3.3 INFLUENCES ON RETENTION

Paramedics are vital in the pre-hospital industry due to their scope of practice and supervisory capabilities in the field. Their capabilities and benefits which has already been described coupled with the little pool of paramedics left in the country makes them even more valuable to any organization they work for. 'In times of increasing demand for Emergency Medical Technicians (EMTs) and paramedics, the Emergency Medical Service (EMS) profession cannot afford to lose valuable human resources' (Chapman, Blau, Pred & Lopez, 2009). It is therefore necessary for organizations to reduce turnover of this staff and promote retention of these paramedics within the organization and country.

Chapman, Blau, Pred and Lopez (2009) had researched factors that related to EMS and paramedic workers either leaving their job or the pre-hospital industry. The approach used related to job satisfaction in their work environment and involved both intrinsic and extrinsic factors. Extrinsic factors in the research included remuneration and benefits, opportunities for advancement and supervision. The intrinsic factors included factors like achievement, autonomy in the job and interest of the work. It was concluded in the study that both intrinsic and extrinsic factors were affected. It was identified that remuneration and benefits were critical factors that lead to staff turnover in the EMS industry. Other factors like job growth opportunities and quality of supervision were found to be equally important. Chapman, Blau, Pred and Lopez (2009) further stated that personal health and well being is critical to the EMS industry, EMS workers and paramedics. Employers need to focus on health promotion and wellness programs for staff to decrease turnover of staff in the industry.

'Health professionals in both private and public sectors leave to work in more developed countries to obtain higher pay, better working conditions, an overall better quality of life and improved opportunities for them and their families' (Labonte, 2009, 219). The factors that encourage this migration of health workers

could either be pull factors, push factors or both. Listed below in Table 2 are the push and pull factors from Pagett & Padarath (2007).

Table 2**:** Push and Pull Factors that Promote the Migration of Health Workers (**Source**: Adapted from Pagett and Padarath, 2007)

Push Factors	Pull Factors
Resource-poor health systems	Available jobs
Low salaries	Good pay
Deteriorating work environments	Regular workload
Poor human resource planning	Reasonable conditions of work
HIV/AIDS	Economically and politically stable country
Diminishing social systems (education, pension etc)	Safe living environment
	Good quality of life
	Better social systems
	Better opportunities

Push factors are the reasons that motivate people to leave their country of origin whilst pull factors are the attractive reasons for people to go to the recipient country. The push and pull factors identified in the table are consistent in that salaries, quality of life and improved opportunities are pivotal reasons for health workers migrating to more developed countries (Dovlo, 2004; Labonte, 2009; Rogerson & Crush, 2008; Van Der Westhuizen, 2008).

Paramedics globally may work in different environments but deal with common concerns which act as barriers to retention. These barriers include inadequate emotional support after an incident, family commitments, fear of disease and excessive training requirements (Patterson, Probst, Leith, Corwin & Powell, 2005). It is further identified that the career of a paramedic entails high levels of stress with the potential of having lower job satisfaction through pay

dissatisfaction, administration and a lack in further education (Patterson, Probst, Leith, Corwin & Powell, 2005). This study was conducted in the United States, but Kriek in 2008 had investigated job stress and needs of paramedics within South Africa.

Kriek (2008) had conducted a detailed investigation into these needs of emergency medical practitioners which included the working conditions, remuneration, appreciation, competence and respect. Kriek's field of study was originally that of psychology which lead her to her new passion of EMS. This had happened when she found interests in gaining an understanding as to why emergency practitioners are unable to cope with aspects of the career. She had then studied the relevant short courses up to the level of ILS and practiced pre-hospital medical care ever since. This process had allowed her greater insight into the industry and developed positive relationships with emergency service practitioners. It had also provided her more answers into her research after building up a trust relationship with the practitioners.

As part of her study and methodology, she had conducted unstructured interviews with emergency service practitioners that were based on her own experiences that she obtained while volunteering in the industry. Her interview led to categorical discussions and questions on the following to name most:

- The task
- Job Motivation
- Enjoyment of the work
- Remuneration
- Work Conditions
- Appreciation and Respect
- Management
- Training and development

It was recommended on completion of the study that needs of paramedics be fulfilled to accomplish positive well being and motivation of paramedics in South Africa. Employers are required to engage into satisfying these needs of emergency medical practitioners which may assist in retaining paramedics within the country.

Patterson *et al*. (2005) indicated inadequate emotional support after an incident further supporting the investigation conducted by Kriek in 2008 thereby proving that the need for emotional support is at present acting as a barrier to retention (Patterson *et al*., 2005).

Further, in the study by Patterson *et al*. (2005), three findings in particular influenced the retention of paramedics. These are pay, administration and educational underdevelopment. All three findings were also identified in the interviews of Kriek (2008). Pagett and Padarath (2007) had also identified crime, political insecurity and safety concerns as pull factors of healthcare workers to migrate abroad. Pagett and Padarath (2007) also identified that remuneration and salary within Southern Africa were in fact push factors not only for healthcare workers migrating abroad but migration between public and private sectors within South Africa. According to Dambisya (2007), salary and remuneration benefits to health workers in South Africa were improved but the issue of migration still persists. The possibility that the remuneration and salary benefits although improved are not adequate. Alternatively, other pull or push factors exists where remuneration and benefits are not the primary reason for the migration of Paramedics abroad.

Training can be a strategic recruitment and retention tool (Fahey, Walker & Sleigh, 2002). In this research by Fahey, Walker and Sleigh (2002), data was gathered across the state in Tasmania from Ambulance Officials regarding recruitment, retention, training and support. The method of research used included both qualitative and quantitative data that was retrieved through ten

focus groups and a questionnaire that was disseminated to all ambulance officers. Many respondents indicated that that they would like to upgrade to the next level in their career and poor training made them lose confidence in their ability to manage emergencies adequately. In fact it is mentioned that participants in the survey possessed a fear of being inadequate in emergency situations and desired training to enhance their competencies and capabilities. 'Training should be considered not only as a recruitment tool, but also as a strong retention tool' (Fahey, Walker & Sleigh, 2002). Respondents to this survey indicated that they had enjoyed training, and Fahey, Walker and Sleigh (2002) states that if the EMS staff is happier through the means of training and enjoying these activities then providing quality training to these staff can be a powerful retention tool.

Lambert (2006) had researched the vocational applicability and promotability of emergency service workers and their perceptions thereof. These emergency service workers included fire fighters and platoon commanders of the Johannesburg Fire Department. The emergency service workers of Johannesburg Fire Department have a dual function in that although they are fire fighters, they are also medically trained in the pre-hospital industry and possess the BLS, ILS or ALS level qualification. The participants of this research were interviewed and were asked questions on their perception of education on vocational applicability and promotability. It was concluded that qualifications and courses were vocationally applicable and that there is a perception that there is a significant deficit that exists in the training that currently exists. There also seemed to be confusion in terms of the best training course to assist the worker in achieving promotion in their organization and industry. In this case, both promotion and training were identified as areas where improvements need to be made. These improvements could be assisting staff with career pathing, educating them on course applicability and requirements in achieving promotability.

If training is a powerful retention and recruitment tool as researched by Fahey, Walker and Sleigh (2002), and Lambert (2006) indicates that deficits may exist within an area of South Africa specifically Johannesburg with regards to the training. The probability then exists that poor retention may exist due to poor training methods or courses being offered to emergency service workers.

Another factor influencing the retention of paramedics is that of employee motivation. Kriek (2008) did research the motivation and needs of emergency care workers. However, Ramlall (2004) had investigated employee motivation and its effects on employee retention. Ramlall (2004) also looked into the impact on an organization that loses its critical employees where the employee leaves the organization taking away the knowledge and expertise with them. According to Ramlall, the combined direct and indirect cost of a critical employee departing from a company may range between one to two years of that employees salary and benefits. Beside the skill and knowledge they possess, the financial impact as evident on the organization is substantial and therefore retaining staff with critical qualities will be valuable to the organization. Below, in Table 3, are critical factors with some theories of motivation and detail for the development of retention strategies within an organization.

Table 3: Critical Factors with Theories for the Development of Retention **(Source:** Adapted from Ramlall 2004)

Critical Factors	Detail
Needs of Employee	Employees and people have many needs based on factors like their individual, family and cultural values. These needs also depend on their current and desired economic, political, and social status. They may need to balance career, family, education, community and religious factors.

Work Environment	Employees want to work in an environment that is productive, respectful and provides a comfortable setting.
Responsibilities	Given that one feels competent to perform in a more challenging capacity and has previously demonstrated such competencies. An employee may feel a need to seek additional responsibilities and challenges but be rewarded for it after demonstrating their competency in previous responsibilities.
Fairness and Equity	Employees want to be treated and rewarded in a fair manner regardless of age, gender, disability, sexual orientation or geographic location. Employees that perform well also expect to be rewarded more generously than other employees who perform below the norm. If these rewards are significant enough, it will encourage higher performance from employees.
Employee Development	Employees prefer environments that provide a challenge in their job, offers learning opportunities as well as career advancement opportunities and the chance for personal development.

Feedback	Employees enjoy open communication and feedback from their line management structure and should be ongoing. It must not be limited to sessions like performance reviews only.

3.4 SUMMARY

The pre-hospital industry is certainly experiencing a shortage of paramedics in the country. These paramedics are beneficial in the country and the industry not only to enhance patient management and treatment but to improve individual businesses. It is clear that pushes and pull factors play a pivotal role in the migration of paramedics which included factors like basic needs, motivation and job satisfaction which certainly impacts the theoretical considerations discussed earlier in the previous chapter.

Some of these needs, motivational factors and job satisfaction criteria include remuneration and benefits, opportunities for advancement, autonomy in the job, appreciation, working conditions and respect. These criteria were found to be important in studies pertaining to retention strategies of pre-hospital medical practitioners globally.

CHAPTER 4: THE METHOD

4.1 INTRODUCTION

This chapter details the methodology that is used in this research project. It includes the design of the research, the research instruments used to obtain data, the validity and reliability of the data collected, sample strategies, limitations that were encountered and ethical considerations.

4.2 RESEARCH DESIGN

In obtaining perceptions and opinions of paramedics, the qualitative approach being more people orientated was used which allowed for perceptions of paramedics to be explored and analyzed in greater detail. The qualitative approach had accommodated the fact that people are different with their own opinions, attitudes and values. This project is also a survey based research design where information from a limited number of individuals is required. These individuals possess the necessary information and represent the greater group of paramedics from around the country (Hofstee, 2006). It is further stated by Hofstee (2006) that surveys are an excellent means of obtaining information regarding feelings, desires and attitudes of people. This is in keeping with the objectives of the project where feelings, desires and attitudes need to be explored further to provide answers, resolution and understanding of the problem.

Being a qualitative study, it displayed both exploratory and explanatory factors. Exploratory factors were visible in that new insights and hypothesis were gained into this phenomenon of retaining paramedics (Uys & Basson, 2005). Explanatory research serves the purpose in revealing causes of variables (Uys & Basson, 2005). Together, both factors exploratory and explanatory had provided insight

and understanding of what is going on as well as ideas and methods of improving the current problem.

This information and data was received through the dissemination of an online survey web link which when delivered and opened had revealed a questionnaire to the respondent. Prior to the dissemination of the questionnaire, it was piloted through the same method of delivery to ensure that respondents had received it and that the main questionnaire when disseminated would add value to the research. In other words, the questionnaire could be changed, enhanced or edited from feedback received on the pilot questionnaire before disseminating as part of the main project. All questionnaires including the pilot questionnaire used in the study was disseminated with a cover letter that introduced the researcher, explained the purpose of the study together with the aims and objectives of the study.

The use of questionnaires in this research survey provided the ideal means of obtaining data from respondents. Being a survey based research design, Hofstee (2006) states that structured questionnaires or unstructured interviews form the basis of this survey research design. Investigating retention strategies of paramedics in the country would require opinions and feelings of participants around the country and there is no better way of obtaining this information other than the utilization of questionnaires. Interviews would not have been as successful due to paramedics always working shifts and are often out attending to emergencies. Opinions, feelings and desires of paramedics will differ around the country due to private and local provincial services having their own methods and cultures depending on the area. It would therefore be necessary to travel extensively to ensure greater reliability and validity of the survey to capture these opinions more accurately and fairly because of the change in cultures and the survey being one that is national.

The interview would also have been an extremely costly exercise in travel and communication with no guarantee of spending time with the paramedic to obtain the answers required. Time would have undoubtedly been a problem as interviewing paramedics from around the country and travel between cities would be nearly impossible to obtain the information within reasonable time frames for the survey. It is therefore concluded, based on Hofstee (2006) that the two forms of conducting a survey are through interviews and questionnaires. Interviews for this survey were not appropriate and therefore used the option of questionnaires.

4.3 METHODOLOGY

4.3.1 Research Instruments

The research instruments used in this survey project, as already mentioned, was the questionnaire. However, the questionnaire was piloted prior to dissemination, both of which will be discussed further.

4.3.1.1 The Questionnaire

The questionnaire was structured, and can be seen as a form of interview where all respondents answered the same questions and were provided the same options as answers in which the most appropriate answer was selected on a Likert scale (Hofstee, 2006). This would allow some ease in analyzing the survey, but more importantly would not take up too much time of the paramedic to complete. Operational paramedics are people that are more practically orientated due to the nature of the job they do and therefore the researcher opted for a Likert scale type of question that can add value to the project with more information and lesser administration. There are however a few open ended questions as per annexure G to gain a little more information to create a better understanding of how organizations can retain the paramedic and keep in line with the objectives of this project. Hofstee (2006) indicates that open ended

questions may give respondents the opportunity of expressing their opinion and provide them a sense of control. In this case, it may even allow paramedics of venting the reasons of them wanting to leave their current employ. It is these reasons that will pave the way for organizations to gain ideas for the retention strategies required to keep paramedics.

The questions were kept simple with minimal instructions to keep the respondent focused. The open ended questions were also kept brief but specific and received brief and specific answers. To provide some structure to the questions, the questionnaire was broken into sections which contained subheadings for clarity. Prior to the any questionnaire being disseminated, the respondent was provided with information regarding the project and its benefits together with an introduction of the author and the purpose of the project as per Annexure B.

The design of some of the questions itself was developed on information obtained from previous research on retention strategies of paramedics. In accordance with the literature review in Chapter three, authors like Chapman, Blau, Pred and Lopez (2009), Labonte (2009), and Patterson, Probst, Leith, Corwin and Powell (2005), have all indicated common problems in the retention of paramedics. Using similar questions in this project would therefore enhance validity of the research project. These included questions around remuneration and salaries, benefits, autonomy and job satisfaction to name but a few as evidenced in Annexure C. Questions in the questionnaire were also based on research done locally like that of Kriek (2008), where consideration around the needs of paramedics were taken into account. This study by Kriek (2008), and theoretical considerations of needs by Maslow (1954), had also informed the questionnaire.

The questionnaires were disseminated through the use of technology. People in general have easy access to the use of computers and electronic mailing systems. For the purpose of this survey, an available online survey software system was used to improve the amount of respondents for the survey. A web

link was disseminated to advanced life support paramedics around the country who then had access to the questionnaire. The software system only allowed one response per user to improve the reliability and validity of the survey. This means that it prevented people from responding to the questionnaire more than once. The questionnaire was also distributed to key people within the industry who assisted in monitoring, mediating and ensuring that ALS paramedics within their employ or colleague had completed the questionnaire. The questionnaire was also continuously sent out to non responders as reminders in the chance of maximizing the response figures obtained. This had occurred repeatedly until the data collection period has been terminated.

'Web-based questionnaires are inexpensive and fast and can cover wide geographical areas' (Denscombe, 2006). The advantages of using the internet for the dissemination of questionnaires have been documented comprehensively in comparison to their paper-based equivalents (Denscombe, 2006). Denscombe (2006) had concluded in his research that researchers should be encouraged to use web-based questionnaires with confidence and that the substance of data received in web-based questionnaires and paper-based questionnaires were equivalent. The same was concluded by Samuel, Vazire, Srivastava and John (2004) who also state that the data received through internet methods is not as flawed as was originally believed to happen.

4.3.1.2 The Pilot Questionnaire

In order to enhance the outcome of the study with quality and efficiency, a pilot questionnaire was disseminated to test the logistics. The pilot study was implemented to reveal any problems that may arise with regards to the survey and save valuable time should there be problems that require to be rectified. This had involved the gathering of information which informed the questionnaire and later formalized the questionnaire. The pilot questionnaire was then disseminated via survey monkey, which is the same method used for the questionnaire to

ensure that the system works. The reasons behind conducting a pilot questionnaire were:

- To test the time it will take in completing a questionnaire
- To ensure that there is no ambiguity in the questions
- To ensure that the instructions and questions in the questionnaire are clear and concise
- Appropriateness of the questions
- To ensure that respondents provide the answers and information required for the research

The Dissemination

The questionnaire was piloted on five paramedics in the industry which is a much smaller dissemination in comparison to the primary project. 'With pilot testing a questionnaire, a sample of five or six pilot interviews will give much valuable information' (Taylor, Sinha & Ghoshal, 2006). They had received the pilot questionnaire via a web link together with a covering letter and details of the research project. The responses received from the pilot questionnaire are stored separately to that of the main survey questionnaire and therefore will not influence the main research project. The pilot questionnaire was disseminated on the 20th February, 2011 and all five respondents had completed the pilot questionnaire on the 25th February, 2011.

The Feedback

These five paramedics were then briefly interviewed regarding the questionnaire when they were completed and were asked the following questions:

- How long did it take the respondent to complete the questionnaire?
- Were the instructions and directions clear in the questionnaire?

- Are the questions simple and easily understood?
- Were any questions unclear or ambiguous?
- Were there any reasons for not answering any questions?
- What was their opinion of the layout of the questionnaire?
- Did they think that the questions were relevant to the topic?
- Any other comments?

The answers to the questions as per Annexure E indicated that there were no problems with regards to the pilot questionnaire. No changes were required before dissemination and nothing additional was to be added. According to the feedback, questionnaires were quick to complete and had fallen within the specified time frame. The questionnaire was simple and easily understood with clear instructions and directions. The pilot respondents were happy with the layout and found that the questions were relevant to the subject.

4.3.2 Data

Procedure

After the design of the questionnaire, it was piloted and once the feedback was received it was disseminated to key people in the pre-hospital industry around the country to assist in the completion of the questionnaire survey through snowball sampling. Consent for conducting the study and dissemination of the questionnaires were then made available to the relevant organizations and persons participating in the research survey.

The survey being web based could then be completed at the leisure of the respondent to increase the chances of participation (Sax, Gilamartin & Bryant, 2003). Once the respondents completed the questionnaire, the data will then be made available to the author for access and analysis via the internet.

Population

The population to be targeted is the advanced life support paramedics in the industry nationally. There are approximately 1205 paramedics registered with the Health Professions Council (HPCSA, 2011) of which not all are practicing or operational. As mentioned previously, David Stanton (Carte Blanche, 2009), the chairperson of the Paramedics Association of South Africa says that there are approximately 500 paramedics in the country that can be considered as practicing. These include all paramedics that are administrative, operational, management, lecturers and in other professions like medical sales. The population size of paramedics is unknown exactly within the country and will unfortunately be estimated.

Sample Strategy

Hofstee (2006) iterates that survey based research designs retrieve information from respondents or individuals who are assumed to have the information that is required. These respondents are able and willing to communicate this information with the intention of representing a larger group. In this project, not all the paramedics in the country had access to the questionnaire but did obtain information from respondents that worked in different parts of the country. The select group of paramedics that responded are all advanced life support paramedics and represent the larger group of paramedics in the country.

The survey was distributed to no more than twenty five key people within the pre-hospital industry around the country who assisted in obtaining responses from ALS paramedics only. Majority of all responses obtained were as a result of managers within the respective organizations disseminating the questionnaires to paramedics in their employ only. This contributed to ensuring reliability of the responses. This form of dissemination of the questionnaire known as snowball sampling is acceptable especially in cases where respondents are difficult to locate or identify and contact details are difficult to obtain (Engel & Schutt, 2010).

It can be safely assumed that not all paramedics around the country know each other and using the snowball sampling technique assisted in retrieving information within a specific group of pre-hospital emergency practitioners which is the advanced life support paramedic.

As already mentioned by David Stanton (Carte Blanche, 2009), there are only five hundred paramedics practicing in the country. The amount of responses received excluding the responses from the pilot questionnaire were fifty three responses. The entire response was used as a sample for analysis. This would certainly enhance reliability and variables that exist within the data as well as adequately represent the paramedic population through the survey based and qualitative research design (Hofstee, 2006).

Validity and Reliability

The questionnaires were completed by ALS paramedics only and were distributed via trustworthy colleagues in the industry. This reduces the opportunity for emergency medical staff of other qualifications to complete the questionnaire - therefore enhancing the validity and reliability of data received. The implementation of the pilot questionnaire and its positive feedback has also contributed to the validity where paramedics were given the opportunity to challenge the questionnaire and its validity. This positive feedback on the pilot questionnaire has informed the project of reliability and validity.

From a reliability perspective, due to the size of the sample that can be obtained relative to the amount of respondents, there is greater reliability in the data gathered. Taking into consideration that a large part of a possible sample was removed due to non participation of a large national private emergency service, reliability of the data still exists because the research project is based on a survey research design and is qualitative in nature, therefore the data obtained will be

representative of the entire population of paramedics in South Africa (Hofstee, 2006).

To maximise the quality of the research as well as to further improve the validity and reliability, the entire sample received from respondents pertaining to the questionnaire was reviewed. This improved the representation of paramedics around the country fulfilling the characteristics of a survey based research project.

4.3.3 Data Analysis

The key objective of the project is to identify relevant strategies into the retention of paramedics in South Africa. Retention of this scarce skill in the country may be dependent on many factors like job satisfaction, remuneration and benefits offered. These factors formed the basis of the questionnaire and were informed by the literature reviewed above. The Likert scales in the questionnaire include these factors which provide a clear understanding through the nature of trends. The data is also analyzed and compared to that of the literature to ascertain whether similarities exist between the retention of paramedics in South Africa and countries abroad. These trends will assist locating key areas of concentration for organizations in the industry nationally and help develop management strategies in the improvement of retention.

The first five questions of the survey contain the Likert scales. The data from these questions are analyzed as ratios of each respondent to a question choice which provides a clear comparison of the results. The results are also analyzed as graphs which make the process simpler in identifying trends. The open ended questions are investigated for similarities between responses. Due to each respondent producing an individual opinion to these questions, similarities in these answers provide further evidence of specific issues that may contribute toward the retention of paramedics in South Africa.

4.4 LIMITATIONS

The emergency medical industry around the country differs to some extent in the way they may operate. This will include the differing remuneration packages offered, the way patients are treated and the policies with which they operate. This may influence the study, but the problem of retention of paramedics is a national problem.

The amount of paramedics that are currently in the country and practicing is unknown and is approximated to be in the region of five hundered according to er David Stanton, the chairperson of the Paramedics Association of South Africa (Carte Blanche, 2009). These include all paramedics that are administrative, operational, management, lecturers and in other professions like medical sales. Many of these paramedics will not receive the survey questionnaire to increase the sample size of respondents for the survey.

The project being internet based may have many problems associated with its usage. In order to access the questionnaire survey, the web link for this site needs to be mailed through to the possible respondent. There are possibilities that the respondent may have a problem accessing the questionnaire through this web link and does not notify the author. In this case, the author will not be aware of the problem and by not notifying the author, will result in one less survey respondent contributing to the project. The mail with the web link being sent out may also be distributed to a recipient as spam, in which case he/she will not receive the questionnaire.

A vital limitation to this study was the denial of authorization to approach the staff of a major private emergency medical organization to complete the questionnaire. This organization is one of the largest emergency medical services in the country with a national network of resources. The amount of paramedics that is currently in their employ would have been valuable not only to this project but to the industry in totality.

4.5 ETHICAL CONSIDERATIONS

Respondents in the study had completed the questions voluntarily and are based on informed consent. This was achieved through each questionnaire and covering letter explaining the purpose of the study, disclosing which institutions is behind the study, anonymity of respondents, and disclosure or sharing of the results with participant responders and organizations prior to the survey being completed.

Identities of all respondents were kept confidential and in fact kept unidentifiable due to the nature of some of the questions being asked but pertinent to the project. Information and details of the author was distributed together with all questionnaires to respondents who were provided the option to obtain further information regarding the research project. The questionnaire being web based also gave the opportunity to respondents to complete the questionnaires in their own time in a private setting.

In cases where opposition organizations were involved, authorization had to be obtained from their management team prior to dissemination of the survey questionnaires and in no way attempted to approach any paramedic in their employ had authorization been denied. Outcomes of the research project will be made available to participating respondents and organization.

4.6 SUMMARY

A qualitative approach was used in this research project as it respected the fact that people are different with differing opinions and values. The scope of population used for the project was advanced life support paramedics nationally where online survey questionnaires were made available. A pilot project was undertaken prior to the dissemination of the survey questionnaire to mitigate any

problems that may arise from the actual project. This was achieved through feedback questionnaires from relevant paramedics that were part of the pilot project.

The dissemination of the survey questionnaire was done through snowball sampling. The questionnaire had contained both open ended questions for freedom of expression as well as a Likert style scale. Despite the limitations encountered in this research project, an adequate sample size was retrieved to represent the population of paramedics in South Africa. Ethics were considered in dissemination and design of the questionnaire.