The development of a framework to retain migrating South African undergraduate Advanced Life Support paramedics

by:

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DECLARATION

The author hereby declares that the content of this research project is by the authors own unaided original work, except where specific indication is given to the contrary (by reference). This work has not been previously submitted to the Durban University of Technology or any other university.

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FOREWORD

In South Africa, the prehospital Advanced Life Support (ALS) paramedic forms the pinnacle of the qualification structure in Emergency Medical Care. The qualification is attained after successful completion of either a 3-year National Diploma in Emergency Medical Care or the Critical Care Assistant qualification. The role that the ALS paramedic plays is a vital role in the South African health system and contributes to the country's overall ability to provide effective and efficient health care.

As the constituent element of the Emergency Medical Services (EMS), primarily responsible for the provision of advanced pre-hospital care, ALS paramedics are equipped with specialised knowledge and skills to deliver life saving pre-hospital care to the critically ill or injured patients. The education and training programmes that lead to these qualifications are intense and rigorous and are currently offered by two accredited colleges and four Universities of Technology.

In the last five years the number of ALS paramedics leaving the profession and South Africa has increased dramatically. Public and private EMS in South Africa have been unable to retain or influence the return of ALS paramedics whose training and skills are highly sought after internationally. There is evidence that the attrition of these paramedics is a result of migration out of South Africa, however, this remains speculative, as no specific and official data exists.

The Health Professions Council of South Africa is an autonomous entity established in terms of the Health Professions Act No. 56 of 1974. Through the twelve Professional Boards, it is committed to:

- setting and maintaining fair standards of professional practice
- determining standards of professional education and training and,
- promoting the health of South Africa's population.

The Professional Board for Emergency Care (PBEC) is one of the twelve professional boards that fall under the jurisdiction of the HPCSA. The mission of the

PBEC is to protect the interests of the public by effectively and efficiently controlling the quality of training in Emergency Care and to promote the principle of excellence in professional practice. The Board however, also supports and encourages endeavours that ensure continued growth of the Emergency Care profession, particularly in areas like communication, training and development, and research.

With the unimpeded exodus of ALS paramedics, the mandate of the HPCSA to promote the health of South Africa's population is affected. The HPCSA modus operandi is regulation and clinical governance, ultimately legally protecting the public from professionals that practice unethically or illegally. However, it would be reckless not to consider the negative impact that the attrition of health care workers (in this case the ALS paramedic) would have on the health of the South African population. The result could prove detrimental to the ability of the EMS to provide adequate pre-hospital care.

Although retaining and encouraging the return of health care workers is not a core responsibility of the HPCSA, it does support and encourage tangible, credible, sustainable and constitutionally acceptable measures to do so. For measures to be tangible and credible however, it has to be underpinned by a foundation of understanding. A study of this nature is a perfect conduit to contribute to this understanding. An understanding of the factors that contribute to the ALS paramedic's decision to leave the profession and or South Africa, as an objective of this study equips policy makers within the EMS with the knowledge to identify appropriate and congruent measures to counteract the attrition and so stem the exodus.

The PBEC supports this study and its objectives as it will contribute to the understanding of the phenomenon associated with the attrition of ALS paramedics in South Africa.

Mr. Lloyd Christopher
Chairperson Professional Board for Emergency Care
Health Professions Council of South Africa
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ABSTRACT

South Africa currently has 1631 registered Advanced Life Support (ALS) paramedics to tend to the pre-hospital advanced life support needs of just under 50 million people. Compared to the globally accepted ratio of 1:10 000, the number of ALS paramedics in South Africa is grossly inadequate. The current shortage of South African ALS paramedics may be ascribed to migration. However, although literature on health worker migration in general abounds, there is a marked lack of national or international statistics and information on migration of ALS paramedics and their migration. Current measures to manage migration appear to be ineffective. The success of future strategies is dependent on an understanding of the migration of South African ALS paramedics - an understanding that presently does not exist.

Purpose

The purpose of this study was to describe the migration of South African undergraduate Advanced Life Support paramedics who qualified between 2001 and 2006, and to then develop a framework of retention strategies. In particular, it determined the extent and nature of their migration, identified the factors that have contributed to their decision to work outside South Africa and identified strategies to retain or encourage the return of ALS paramedics to practice exclusively in South Africa.

Methods

The study consisted of a two-phase mixed method descriptive survey. Paramedics with ALS undergraduate diplomas who qualified in South Africa between 2001 and 2006 made up the study population. Quantitative data (Phase One) was obtained from a web-based survey distributed to the accessible population (N=97). Thereafter, qualitative data (Phase Two) was gathered through in-depth interviews with selected information rich participants (n=10) also from within the accessible population. Through methodological triangulation, data from Phase One and Phase Two were

integrated to obtain an in-depth understanding of South African ALS paramedic migration.

Results

Significant differences existed in the distribution of age *(p=0.035)*, and years of experience post-graduation (*p=0.007*) and the ALS paramedic deemed most likely to migrate were individuals between the ages of 21 – 30. 15 (55%) of the participants working outside the country were engaged in short term contracts while all 24 (100%) of participants working inside South Africa were permanently employed. 18 (75%) of respondents working inside South Africa intended migrating, 12 (67%) of which intended to do so within 0 to 2 years. Nine major factors or reasons for migration were identified by participants. Working conditions, physical security and economic considerations were ranked as the top three major factors most likely to contribute to the decision or intended decision to migrate.

This study also found five primary decisions that likely emerge during the life of a South African ALS Paramedic. The outcome of each decision is a result of facilitators weighted against barriers. Facilitators are factors that supported each of the primary decisions while barriers weakened or rejected them. Findings indicated that many barriers existed which rejected or weakened the decision of ALS paramedics to work inside South Africa, return to South Africa or remain in South Africa. On the converse, a vast number of facilitators existed which spurred continued migration.

Conclusions

As the decision to migrate may be conceptualised as early on as when individuals decide to become ALS paramedics, the constructs of return and retention strategies have to extend as far as revising recruitment policies. Preference or places into training programmes should be given to individuals who are less inclined to migrate, these include: military personnel; those already employed in the EMS, older mature candidates; candidates with families that have already settled in SA; and recognition of prior learning (RPL) candidates who are predominately obligated by contract to remain in South African EMSs.

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- **Crystal,** my beautiful wife. Thank you for enduring this journey with me. Without your constant motivation, advice and unconditional love, I would have never have completed this study.

GLOSSARY OF TERMS

- **Emergency Medical Service (EMS):** A health system component that functions to provide emergency care to critically ill and injured patients and to deliver these patients to definitive health care facilities. The component is also responsible for transporting patients between health care facilities. The term is inclusive of both private and public services.

- **Emergency Care Practitioner (ECP):** Non official collective title given to any individual who works in the South African EMS. *See below for official titles.*

- **Paramedic**: In lay terms the term 'paramedic' globally refers to any individual who works in an Ambulance Service offering care and transportation to the sick and injured. Within the South African context however, the term is restricted to an individual that has trained in the provision of Advanced Life Support (ALS) and is licensed to provide such care as advanced airway, breathing, circulatory management, and the administration of drugs such as morphine and adrenaline. According to a 2008 draft regulation repealing Government Notice No. 1213 of 22 October 2004, personnel within the South African Profession of Emergency Care are currently recognised as Basic Life Support Providers, Intermediate Life Support Providers or Advanced Life Support Providers. The Advanced Life Support Provider includes Paramedics, Emergency Care Technicians and Emergency Care Practitioners (South Africa, Department of health, 2004; South Africa, 2008). In SA, training to the level of an Advanced Life Support Provider can be obtained through two training routes: the Critical Care Assistant (CCA) route *via* an accredited training college or the Undergraduate National Diploma in Emergency Medical Care (NDEMC) route, *via* an institution of higher learning. It is this latter category of diplomates that make up the study population for this investigation, hereafter referred to as **undergraduate ALS paramedics.**

- **Migration:** For the purposes of this study, migration refers to the movement of an individual from South Africa (SA) to another country for the purposes of employment. Three types of migration were investigated:

- short contract migration: short term movement out of SA for contractual work followed by their return to SA upon completion of the contract

- temporary migration: movement out of SA for up to two years followed by their return to SA upon expiry of a contract or work visa

- permanent migration: movement out of SA for a period exceeding two years to take up permanent residency or full emigration from SA.

- **Framework:** In the context of this study, a framework is defined as a set of supporting, guiding and steering principles that constitutes a way of viewing ALS paramedic migration and is used as the basis for the retention and return strategies being constructed.

- **Health Professions Council of South Africa (HPCSA)**: A regulatory body whose role is to protect the public and to guide health professionals.

- **Professional Board for Emergency Care (PBEC)**: A professional body within the HPCSA that regulates emergency care practice in SA.

TABLE OF CONTENTS

CHAPTER 4

Study design and research methodology

CHAPTER 5

Analysis and interpretation of Phase One data

CHAPTER 6

Analysis and interpretation of Phase Two data

CHAPTER 7

The development of a framework to retain SA ALS paramedics

CHAPTER 8

Conclusions and recommendations

LIST OF FIGURES

LIST OF TABLES

LIST OF ANNEXURES

CHAPTER 1

Study orientation and overview

1.1. Introduction

The shortage of health care workers (HCWs) in South Africa (SA) is not a new issue. A myriad of media reports and literature detailing this crippling phenomenon has already been published. The literature on the shortage of HCWs has focused primarily on doctors and nurses (Padarath, Chamberlain, McCoy, Ntuli, Rawson, and Loewenson, 2005). As a result, very little is known about the extent of HCW shortages in relation to the allied health care workforce in general, and the Advanced Life Support (ALS) paramedic in particular.

South African ALS paramedics have become attractive candidates to global recruiters and developed countries (Chanda, 2002) as their training and experience is equivalent to international standards and they use English as their medium of communication in both training and clinical practice. This global demand has enticed South African ALS paramedics to leave the country in search of employment outside. South Africa has fast become a country with a dire and growing shortage of Advanced Life Support paramedics (Disney, 2007) as a result of continued migration and with no tangible resolve in sight.

1.2. Background to the study

At the commencement of this study, according to the health registry for South African Emergency Care Personnel (ECP), 1631 ALS paramedics were registered and eligible to work in South Africa (Health Professions Council of South Africa, 2008). There was however much uncertainty as to whether this number was in fact representative of the number of ALS paramedics actually practising in SA, particularly because it seems that many people with valid health registrations no longer worked as health professionals in SA or had emigrated (Worrall–Clare, 2009). As no other data on SA ALS paramedics existed, except that which was available at the Health Professions Council of South Africa (HPCSA), it was impossible to assess

the accuracy of these records. Due to the paucity of reliable data on SA ALS paramedics, alternative sources including: key informants (both nationally and internationally) closely associated with the SA ALS community, and global recruitment specialists were interviewed; and a variety of SA Emergency Medical Services (EMS) organisational reports were studied. Three conclusions were drawn as follows:

- The HPCSA did not track the movement of SA ALS paramedics (Daffue, 2008) and because South African ALS paramedics could take up global employment through their registration with the HPCSA (Keating, 2008; Naidoo, Y. 2008) the 1631 names appearing on the ALS paramedic register was likely to include paramedics working inside SA, outside SA, and those working in other industries or were inactive but remained registered.

- South African ECP attrition appeared to be highest amongst ALS paramedics as evidenced by the high staff turnover regarding ALS posts both in private and public EMS (Disney, 2007; Boaz, 2008).

- Statistics and literature on the extent and causes of the attrition were lacking (Health System Trust, 2008). As a result of the paucity of reliable information on this group, the extent, nature and reasons behind the attrition were inferred and largely conjectured.

In view of the foregoing conclusions, this study seeks to fill in the gap of knowledge using a mixed method study with a purpose as indicated below:

1.3. Purpose of the Study

The purpose of this study was to describe the migration of South African undergraduate Advanced Life Support paramedics who qualified between 2001 and 2006, and then develop a framework of strategies on how to retain them.

1.4. Objectives of the study

The objectives of this study were to:

- determine the extent and nature of the migration of ALS paramedics from South Africa;

- identify the factors that have contributed to their decision to work outside South Africa; and

- identify strategies to retain or encourage the return of ALS paramedics to practice exclusively in South Africa.

1.5. Motivation behind study

The ALS paramedic plays a pivotal role in the EMS of any country (Ball, 2005). In SA this role becomes paramount as the availability and provision of advanced prehospital care becomes a fundamental component in the continuum of managing morbidity and mortality for a large portion of the country's citizens (MacFarlane, Van Loggerenberg, and Kloeck, 2005).

The country's reliance on a fully staffed and resourced pre-hospital emergency medical service is a result of the country's high incidence of interpersonal violence and equally high incidence of pedestrian and animal related motor vehicle accidents (Redelinghuys and van Rensburg, 2004). This reliance is made greater because of large disparities in the availability and distribution of health care resources throughout SA (Hall and Erasmus, 2003; Mathivha, 2002). For these reasons the EMS in SA has, by default, become a patient's first point of contact with the country's health system and is regarded as the most important interface between communities and primary health care services and hospitals in times of crises (Provincial Government Western Cape, 2006).

Although research into the long term consequences of skilled labour emigration is inconclusive, economists and sociologists agree that the phenomenon has both long and short term effects that can be very serious (Lowell and Findlay, 2001). According to the World Health Organization (WHO) (2006a) the effects will ultimately be measured in terms of lives lost.

Strategies implemented to manage migration or retain skilled human health resources have only been minimally successful in reducing the number of ALS paramedics leaving South Africa (NetcareUK, 2008; Disney, 2007). According to Brown and van Staden (1998) the success of control measures or retention and return strategies is dependent on many factors. The most important of these factors according to them includes the appropriateness and specificity of control measures. The question asked therefore is: are control measures that are currently implemented in SA specific, appropriate and effective to manage the problems perpetuating SA ALS migration? As there is no published research that specifically investigated the migration, flow, immigration, emigration, or brain drain of SA ALS paramedics, that question remains unanswered.

1.6. Background of the researcher and interest in the study

The researcher qualified as an ALS paramedic in 2003. He currently lectures at the Durban University of Technology, training learners in ALS. The researcher has over 10 years experience working in both pre-hospital and hospital settings, seven of which have been at the level of ALS. He has worked in an array of clinical settings, including primary health care clinics, hospital intensive care units, and advanced rapid response units in ambulance services. He has worked in both public and private funded services, both nationally and internationally. These ranged from isolated and remote sites in developing countries to established EMS in developed countries. The researcher migrated from South Africa in 2003 to take up short contracts in a variety of countries including, Mozambique, Sudan, Chad, Dubai, Abu Dhabi, Qatar, UK, Gibraltar, Malta, and the Canary Islands. The researcher's decision to migrate was made early on in his career in SA when he was motivated by factors associated with aspirations of global experience and financial success.

While traversing the globe working in different clinical settings the researcher soon became aware of the increasing number of South African paramedics that were also working abroad. Following contact and discussion with key informants within the South African EMS regarding this, it was soon realised that the option of SA ALS paramedics taking up jobs outside SA had become a nationally accepted phenomenon within SA's EMS. The effects of "this nationally accepted

phenomenon” was not known, nor was anything else, including which countries were employing these individuals and more importantly why they were deciding to leave. What was known though, was that Kwazulu Natal, the province with a health care structure, sufficient resources and a large human capital pool, arguably representative of all provinces in SA, had just 40 ALS paramedics left in the public sector to cater for the pre-hospital needs of more than 10 million people.

Based on the anecdotal evidence, discussions and firsthand experience, it became clear that migration of SA ALS paramedics was a problem which needed to be investigated.

1.7. Outline of dissertation

A brief overview of the remainder of the dissertation is given below.

Chapter 2 gives a local and international overview of migration of health care workers (HCW) in general. The study's foundational and in-depth literature review is presented and discussed. A global profile covering the factors generally associated with HCW migration and the subsequent implications of this migratory phenomenon are identified. The chapter ends with an investigation of globally proposed and endorsed strategies to manage migration. The significance of this chapter lies in its ability to provide a theoretical framework that underpins this study.

Chapter 3 focuses specifically on the South African ALS paramedic. It explores the role of the ALS paramedic in SA and investigates the current distribution of these individuals in respect to this role. This chapter looks closely at the tendency that ALS paramedics have for migration and investigates the influence that specific factors have on this tendency. In addition, the chapter investigates the measures of performance that have already been implemented in an attempt to manage ALS paramedic migration in SA. The chapter concludes by identifying appropriate and sustainable control measures for the retention and return of ALS paramedics.

Chapter 4 explains the methodology and the research design used in this study. This study's mixed method approach is presented followed by the study population, the sampling design, data collection, and data analysis of each of the two approaches.

This chapter concludes by discussing issues relating to validity and trustworthiness of the findings and the ethical considerations undertaken in this study.

Chapter 5 provides a detailed description of the quantitative findings of the study. A full descriptive analysis and discussion of the quantitative data elicited in Phase One of the study is presented. This includes tables, figures and inferential statistics of notable importance.

Chapter 6 provides illumination and clarity on the findings not made explicitly clear in Phase One of the study. In addition, the chapter presents new information that emerged from the qualitative data analysis techniques.

Chapter 7 presents a detailed framework of suitable and appropriate strategies to retain and contribute to the return of South African Paramedics.

Chapter 8 presents the conclusions and recommendations of the study.

CHAPTER 2

An overview of health worker migration

2.1. Introduction

In order to determine the extent and nature of migration of ALS paramedics from South Africa, it is imperative to first understand the fundamentals of migration as well as the migration of Health Care Workers (HCWs) in general. This chapter therefore begins with a review of the existing body of knowledge related to local and international migration of HCWs. The types of HCW migration as well as the impact of migration are examined in this chapter. In addition, a global profile of factors generally associated with HCW migration, referred to as "push" and "pull" factors are also highlighted. Finally, the chapter concludes by reviewing globally proposed strategies that could contribute towards managing HCW migration. The role of this chapter is to provide a theoretical framework that underpins this study. By showing what is known and unknown about the topic and determining gaps or inconsistencies in the existing body of research, this chapter creates a background for understanding current knowledge around migration of HCWs and therefore highlights the significance of this study.

2.2. Literature search strategy

In order to identify, retrieve, and extract existing knowledge relevant and appropriate to the information needs of this study from the plethora of information that already exists on migration in general, a literature search strategy had to be formulated. A two pronged approach in the form of an extensive online search supported by a comparably in-depth hard copy review was taken to source previous knowledge. Information was considered to be relevant if it focused on migration of HCWs from South Africa, this included all health care workers i.e. paramedics, nurses, doctors etc. Information was considered as appropriate if it concerned the factors associated with migration of HCWs, the effects of migration of HCWs and proposed strategies that could manage migration of HCWs in general. The information had to originate after the year 1997 to be considered recent, and information sources were mainly

primary research reports i.e. descriptions of studies on migration of HCWs written by the researchers who conducted them.

When original documents could not be located, descriptions of studies prepared by people other than the original researcher in the form of literature review articles were considered. Although not a substitute for primary research reports, studies that had limited distribution in the form of dissertations and unpublished reports otherwise known as grey literature were also considered. The search strategy allowed a wide enough net to be cast over the existing body of knowledge but also guided the type of knowledge recovered. Through this search strategy knowledge significant to a thorough and clear understanding of the fundamentals of migration as well as migration of HCWs in general was obtained.

2.2.1. Internet search

An online search was conducted over the course of 34 months, continuing up until the last stages of the study. Online searches were initially conducted using electronic databases and online journals, as these had the assurance of comprehensive bibliographic information. The search was then expanded through the search engines of Google and Google Scholar. Initially, specific terms such as “paramedic”, “emergency health care worker” and “migration” were used as key words or search identifiers. However, it became evident that there was a notable lack of information on migration of paramedics. Because of this increased paucity of literature on migration of paramedics, the search had to be widened using more general search terms, as reflected in Table 2.1 on page 9.

The online journals, British Medical Journal and Emergency Medical Journal were extensively searched as were the databases of SAe, Science Direct, Proquest, BioMed Central, Human Resources for Health, and Pubmed. Other sources searched included: the World Health Organization; Health Systems Trust of South Africa, the Regional Network for Equity in Health in Southern Africa (EQUINET); sites of the South African Government (the Department of Health; the Department of Home Affairs); Statistics South Africa (SSA); recruitment agency websites; international ambulance service websites; the South African Migration Project (SAMP); and the South African Network of Skills Abroad programme (SANSA). Databases managed and updated by South African institutions of higher learning

were also searched. These included the Durban University of Technology, the University of KwaZulu-Natal and the Cape Peninsula University of Technology. These databases stored unpublished studies, often termed “grey literature” that had been conducted as part of Master’s and Doctoral studies. Other sources of grey literature searched included: the Cumulative Index; Nursing and Allied Health Literature (CINAHL); and Excerpta Medica Databases (EMBASE).

Table 2.1 Search terms used

SPECIFIC SEARCH TERMS	GENERAL SEARCH TERMS
Migration advanced life support paramedics	South African health care worker shortage
Advanced life support paramedic shortages	Migration allied health care workers
Advanced life support	Strategies to manage migration
Paramedic brain drain	Health care worker brain drain
Paramedic emigration	South Africa health brain drain
Paramedic South Africa	Prehospital care in South Africa
Ambulance personnel migration	South African Advanced life support
Emergency care service personnel migration	Causes of health care worker migration
Emergency medical technician brain drain	Migration push and pull factors
Paramedic shortages	Strategies to manage migration
South Africa Emergency Medical Services	South African health care workers
Reasons paramedics migrate	
Reasons health care professionals migrate	
Paramedic distribution in countries	
Paramedic satisfaction surveys	

2.2.2. Hard copy search

To expand the search for literature, hard copy literature was also conducted. This included government press releases and published articles that appeared in weekly

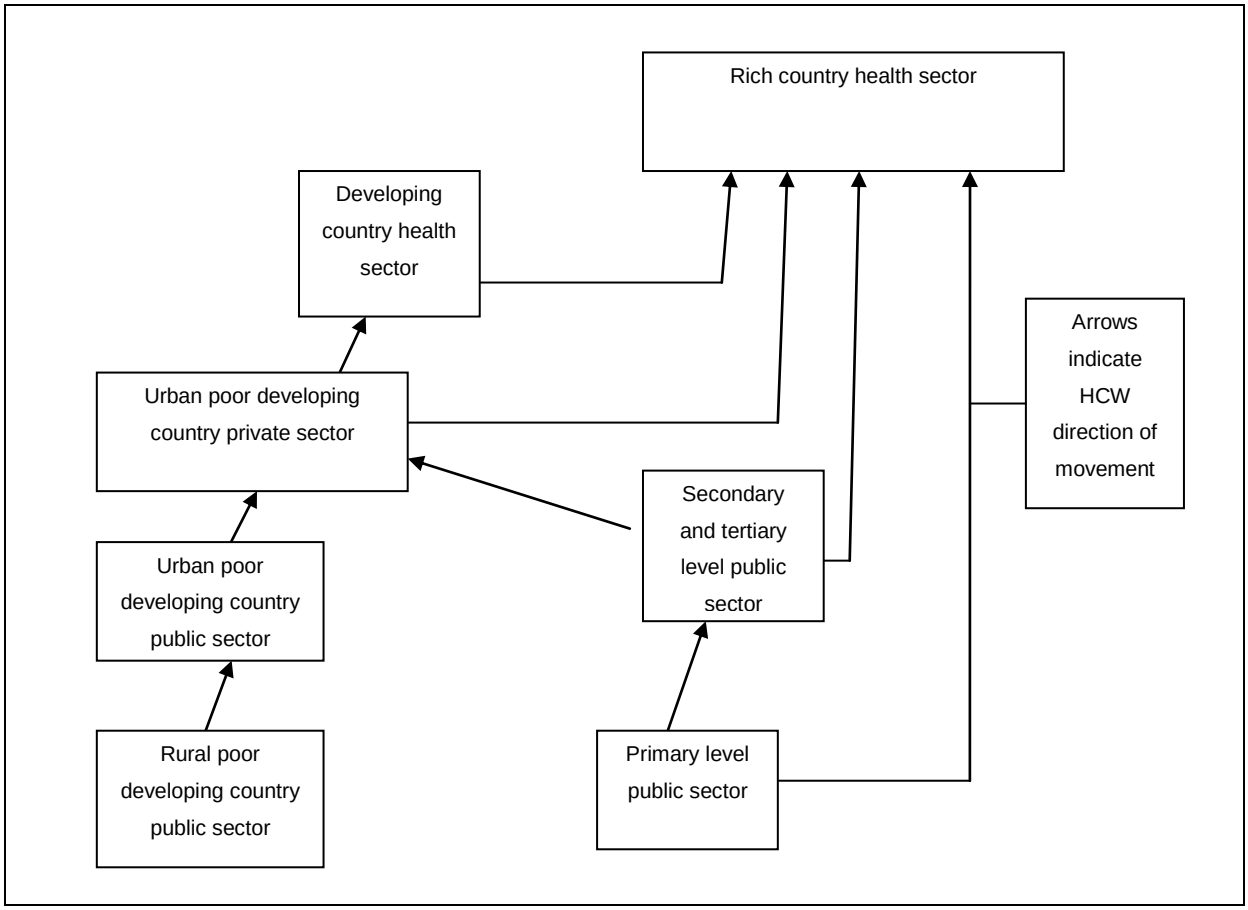
and monthly nursing and paramedical journals, namely the African Journal of Nursing and Midwifery; Policy, Politics and Nursing Practice; Emergency Services SA; Journal of Emergency Medical Services (JEMS); and Journal of Paramedic Practice and Pre-Hospital Emergency Care SA. Articles published in newsletters released by the Health Professions Council South Africa (HPCSA), the Democratic Nursing Organisation of South Africa (DENOSA), and the Global Occupational Health Network (GOHNET) were also reviewed.

Although not used as a substitute for good quality literature, articles on migration of health care workers that appeared in local newspapers were also reviewed. These articles were often supported with research found in unpublished grey literature (such as dissertations) or literature with limited distribution (reports from PBEC and DENOSA). In the latter case, an expert in the field of emergency medical care who is also a member of the PBEC at the HPCSA and an expert in nursing care in South Africa who is also a member of DENOSA were consulted to check if such supportive sources were likely to have emanated from these bodies. Both these organisations are responsible for the continuing education, research and development of their professions. If they confirmed that this was so, the primary research reports associated with the articles were retrieved and reviewed.

2.3. Types of health worker migration

The 2006 World Health Report *(Chapter five of the report titled: "managing exits from the workforce)* WHO (2006a) described migration as a pattern of movement usually occurring in three phases. Phase One of the pattern typically begins with rural HCWs moving to urban settlements. This is then followed by public HCWs moving to private health care institutions. The pattern concludes with the HCWs from poorer developing countries moving to richer ones. An illustration of this pattern of movement according to Loewenson and Thompson (2004) is presented in Figure 2.1, on page 11.

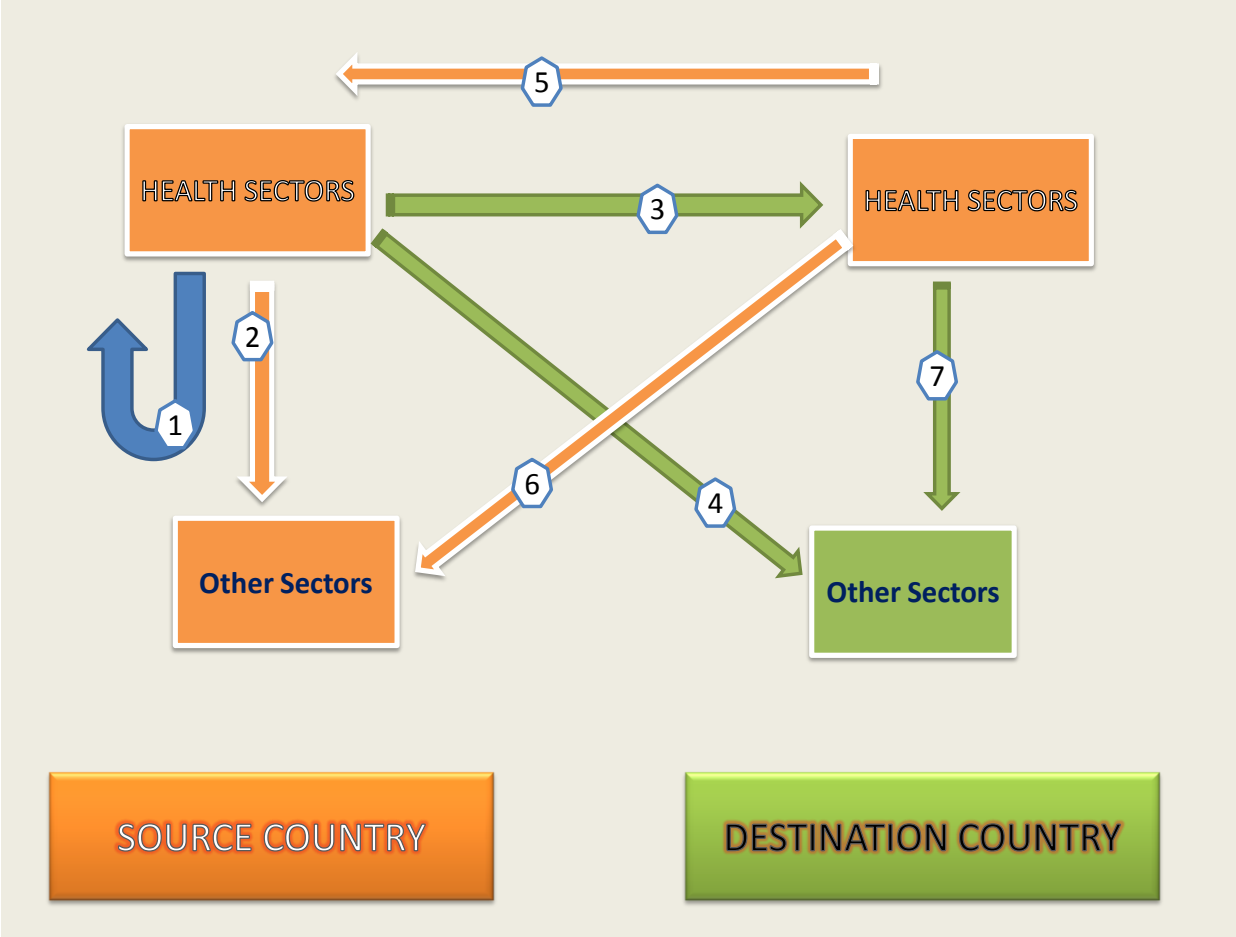
Figure 2.1 Pattern of movement and migration of HCWs



(Source: Loewenson and Thompson, 2004)

According to Diallo (2004) the pattern of migration does not end after HCWs leave home or “source” countries. He explains that HCWs are often also lost to other health sectors and even sectors not related to health. He suggested that a more representative and global description of the movement of HCWs is one that categorises migration as either internal (within the country), international (out of the country) or cross-industry (when a HCW leaves the health system to work in areas outside their specific profession or areas not related to health at all). He adds that the return of HCWs to source countries is part of this pattern of movement. He concludes by highlighting the fact that migration of HCWs may not necessarily be a step up pattern of movement, but one that can occur at any time, across any setting. Figure 2.2, on page 12 presents this pattern of movement illustrated by Diallo (2004). For presentation purposes Table 2.2, on page 12 is a legend to identify the directional arrows in the Figure 2.2, on page 12. In addition, different colours have been used to differentiate and emphasise key movements.

Figure 2.2 Movement associated with HCWs



(Source: Diallo, 2004)

Table 2.2 Legend for directional arrows in Figure 2.2

Arrow	Legend
1	Internal migration within the source country, mainly from public to private or rural to urban
2	Cross industry migration within source country from health sector to other sectors
3	International migration of HCWs to source countries
4	Skills from health sector are lost as HCWs migrate to other international sectors
5	HCWs begin to return to source country health sectors
6	HCWs return home but move to other sectors within source countries
7	HCWs don't return home and move to other sectors internationally

According to Awases (2007) although the pattern of movement associated with migration of HCWs varies from country to country, similarities are found in the type of migration that usually occurs. The movements involved in HCW migration discussed by Diallo (2004) appear to be typically representative of three types of migration. These three types of HCW migration are subsequently presented.

2.3.1. Internal migration

Internal migration involves the movement of HCWs from rural health sectors to urban health sectors, and also indicates the movement of HCWs from urban public to urban private health care settings. Some evidence does suggest that HCWs sometimes migrate from rural health sectors directly into cross industry sectors or even internationally (Diallo, 2004); however this is not usually the case. Padarath, Chamberlain, McCoy, Ntuli, Rawson, and Loewenson (2002) explained that in most cases, rural HCWs, especially those from developing countries have very little knowledge and exposure to international jobs. This limits them moving directly from rural settings to cross border jobs. In addition, according to Statistics South Africa (2006) certain factors usually associated with rural HCWs prevent immediate or unplanned migrations. These factors are often limited resources i.e. money, computers to access online global jobs or requirements necessary for cross border movements like passports or visas. Diallo (2004) suggests that the likely reason for this is, unlike rural HCWs, urban public HCWs may have an increased knowledge, exposure, and more global contacts that make an immediate move to international migration more accessible.

Both rural health sectors and urban public health sector facilities in developing countries have less than adequate health infrastructures (Crush, 2004). Rural health sectors are typically areas that are remote and have limited accessibility. According to the WHO (2006a) this remoteness and limited accessibility dissuades HCWs from choosing to work there. The remoteness and inaccessibility often causes massive delays in delivery of consumables, medicines and upgrades or repairs to basic utilities like electricity and water. This often results in HCWs in rural areas feeling like they have been forgotten by government and the health system in general (Padarath, *et al*. 2002). As a result, rural HCWs become dissatisfied with their current conditions, become dispassionate about their current job situations and begin to look at moving on. Rural urban imbalances are seen globally but are worst in developing countries. According to Kingma (2007), in Tanzania, the city of Dar-es-Salaam alone has nearly 30 times as many doctors and specialists as other rural districts, while in other African countries like Uganda only about five of the country's 100 or so surgeons work outside of urban areas. Diallo (2004) suggests that rural HCWs may have

intentions to migrate internationally but are more likely to move to urban public or urban private health sectors first, as this may appear to them as being more realistic. The need for rural and public HCWs in South Africa can be quantified. The last rural/ urban census indicated that 44% of South Africans lived in rural areas (Statistics South Africa, 2006). According to the Health Systems Trust in 2008, 86% of South Africans depended on public funded health care (2008a). Based on these figures, it is clear that the rural and public health care facilities in South Africa may require the majority of human health care resources. In 2008 however, the number of doctors registered with the HPCSA was 34 687, of that only 10 653 worked in the public sector. Of the 103 792 professional nurses that were registered with the SANC only 47 834 worked in the public sector. Table 2.3 below further illustrates the inequitable distribution of HCWs between public and private health care sectors in SA which is a result of internal migration.

Table 2.3 Distribution of seven types of HCWs in South Africa

HCW	Public sector	Private sector	Total
Doctors	10653	24034	34687
Professional nurses	47834	55958	103792
Dentists	762	4348	5110
Psychologists	433	6055	6498
Radiographers	2141	3619	5760
Physiotherapists	903	4411	5314
Pharmacists	1853	10052	11905
Total	64579	108487	173066
Distribution	36% of HCW Public	64% of HCW Private	100% of HCWs in SA

(Source: Health Systems Trust (HST), 2008a)

2.3.2. International migration

International migration involves the movement of an HCW to a location outside their country of birth or training to find work (Padarath, *et al*. 2002). No country has been spared from migration of its HCWs. Saravia and Miranda (2004) show that countries

like Australia, Canada, the Russian Federation and those in the European Union, who were once host countries predominately receiving HCWs from developing source countries, are also losing HCWs to migration. However, according to Pagett and Padarath (2007) the flow is largely one way, from poor countries, like those in Africa, to wealthy industrialised countries, like the United Kingdom, Australia, and the United States of America. Chanda (2002) estimated that 56% of all migrating physicians flow from developing countries to industrialised ones, while only 11% migrated in the opposite direction, it was further estimated that this flow imbalance was significantly greater in the case of nurses.

The number of people living outside their country at any one time had more than doubled since 1965 but as a percentage of the world's population, the growth was much smaller, rising from 2.3% in 1965 to 2.9% in 2000 (United Nations population database, 2002). The rise in the number of individuals migrating internationally is significant for resource poor countries because they are losing their better educated nationals to richer countries: around 65% of all economically active migrants who had moved to developed countries had been classified as highly skilled, i.e. individuals that had completed tertiary education and had a professional job (Stilwell, Diallo, Zurn, Dal Poz, Adams, and Buchan, 2003).

It is against this background that international concern has been expressed about the loss of skilled HCWs from health systems that are already weak. Unlike internal migration (discussed in section 2.3.1) where the skills, knowledge and experience invested in HCWs are usually transferred to other sectors still within the country, in international migration, the loss is absolute. The only benefactors to the time, resources, skills, knowledge and experience invested in HCWs, are the host countries that HCWs migrate to.

The WHO (2006a) estimated that the combined shortage of doctors, nurses and midwives in sub-Saharan Africa alone as a result of international migration, was around 818 000. According to Packer, Labonte and Spitzer (2006) at least 11 000 physicians who trained in sub-Saharan Africa were licensed and practising in the UK, USA and Canada. It is evident that countries in sub Saharan Africa have become significant contributors of HCWs to the international market. See Table 2.4.

Table 2.4 Nurses born in developing countries that are working abroad

Sending Country	TOTAL DOMESTIC	Top Nine Receiving Countries									OUTCOME	
		UK	USA	France	Canada	Australia	Portugal	Spain	Belgium	South Africa	Total Abroad	Fraction of Population %
Botswana	**3636**	47	28	0	0	0	0	0	0	5	80	2%
Angola	**14976**	22	135	12	10	4	1639	8	11	0	1841	12%
DRC	**19257**	44	207	206	50	0	9	4	1761	7	2288	12%
Lesotho	**1302**	5	6	0	0	0	0	0	0	25	36	3%
Malawi	**2248**	171	171	0	10	14	0	0	0	11	377	17%
Mauritius	**7160**	4042	107	86	75	195	1	0	22	3	4531	63%
Mozambique	**4517**	12	64	0	10	0	748	2	6	11	853	19%
Namibia	**2806**	18	6	0	0	4	1	0	6	118	152	5%
Seychelles	**597**	80	28	8	30	29	0	0	0	0	175	29%
South Africa	**95830**	2884	877	20	275	955	58	3	33	-261	4844	5%
Swaziland	**3441**	21	36	0	10	4	0	0	0	25	96	3%
Tanzania	**26976**	446	228	0	240	32	2	1	0	4	953	4%
Uganda	**10973**	714	291	0	75	29	0	1	0	12	1122	10%
Zambia	**12097**	664	299	0	25	68	2	0	0	52	1110	9%
Zimbabwe	**15363**	2834	440	0	35	219	14	3	0	178	3723	24%

According to the 2001 South African census the figure (-261) in South Africa refers to the number of nurses that were born in the other eight receiving countries. This is a negative number termed "netting out".

Source: Clemens and Pettersson (2006) "Medical Leave: A new database of health professional emigration from Africa"

According to Pagett and Padarath (2007) the Caribbean, South-East Asia, and South Asia are prominent source countries, but most source countries are in Africa. Many factors that will be discussed later in this chapter seem to favour developed countries and their efforts in recruiting HCWs from Africa to deal with their domestic HCW shortages. However, another factor that favours the international recruitment of HCWs from Africa is what experts describe as globalisation, i.e. the "process of closer interaction of human health activities across a range of spheres" (Spiegel and Yassi, 2005). Globalisation is both an indication and a result of the changing times. A primary contributor to globalisation is the World Wide Web and its ability to connect people from all over the world (Maruja, 2007). As discussed in section 2.3.1., the

immediate shift from rural health sectors to international migration was largely inhibited by HCWs lack of resources, knowledge and contacts usually available through the internet. In urban sectors this is less likely the case. Instantaneous access to other people all over the world together with information on international jobs, international recruitment agencies, and international migration requirements appears to be easier (Diallo, 2004).

While some countries in Africa appear to be harder hit by HCW migration than others, e.g. in Mauritius where 63% of the total number of nurses are working abroad, South Africa appears to have become both a source and a host country for international migration. See Table 2.4 on page 16. Other Countries like the Philippines and India transformed from primary host countries that lost HCWs to international migration, to countries that produce HCWs to meet this international demand. Diallo (2004) explains that countries with sufficient stocks of HCWs such as the Philippines, export their personnel mainly to benefit from the remittances sent back to the country. In 2005, the total number of Filipino nurses was 332 206 while the total demand was 193 223, 163 756 of which were employed internationally, and 29 467 were employed nationally. This resulted in an oversupply of 139 083 nurses. The international demand for Filipino nurses has in many ways commercialised nursing education in the Philippines. In 1970, 40 nursing colleges existed, while in 2006, 441 existed compared to 30 for medicine, 31 for dental, and 35 for pharmacy (Maruja, 2007).

Until recently the international migration of HCWs had not been studied extensively (Stilwell, *et al*. 2004). It is evident that international migration of HCWs has never been as high as it is now (WHO, 2009). The reality is that international migration is a feature of globalised labour markets and it may therefore be here to stay (Spiegel and Yassi, 2005). The other reality is that developed countries anticipate large shortfalls in the numbers of HCWs they will need over the next 10 – 20 years (Buchan and Sochalski, 2004). It may therefore be such that with limited reasons existing to hamper a HCWs decision to migrate internationally, the number of HCWs deciding to migrate internationally may continue to grow.

2.3.3. Cross industry migration

Cross industry migration describes the process where HCWs leave their usual activities for more attractive or different activities in non-health related fields. It also includes HCWs that move to other health fields that they had not initially trained for (Diallo, 2004). This may include a nurse leaving the health system to work as a medical representative to sell hospital based products, or a doctor leaving his physician duties to work as a nurse because more international jobs exist for nurses as seen in the Philippines (Maruja, 2007).

Figure 2.3 Doctors migrating abroad to work as nurses

Source: Maruja (2007). *Patients' waiting outside a doctor's office in the Philippines. The doctor is abroad working as a nurse.*

Cross industry migration has a similar effect as international migration. In both cases, HCWs are lost together with their knowledge, experience and skills (Diallo, 2004). Cross industry migration within a country (internal migration) limits the loss to the health sector whereas cross international migration results in a total loss of HCWs and the skills and knowledge that they possess. According to the WHO (2006a) cross international migration is less likely to occur with HCWs from developing countries than it would with HCWs from developed countries. Stilwell, *et al*. (2004) suggests that a probable reason for this exists in the fact that HCWs from developing countries often have more invested in their decisions to migrate and therefore more to lose. These HCWs are more likely to migrate when they are reasonably sure that they will find employment in destination countries. The majority of HCWs from developing

countries therefore typical take up international jobs through recruitment agencies where placements in international health sectors are confirmed prior to their migration (Maruja, 2007). This does not mean that HCWs from developed countries do not migrate to international jobs outside the health sector, it means that if cross industry migration does occur, it usually occurs after HCWs have first settled in health care jobs abroad (WHO, 2006a).

In the United States, 136 000 nurses were working in non-nursing occupations despite the fact that the estimated number of vacancies exceeds 100 000 (Lafer, Moss, Kirtner and Rees, 2003). Closer to home, in 2004 South Africa had about 35 000 registered nurses who were inactive or unemployed despite the fact that there were 32 000 vacancies (Organisation for Economic Cooperation and Development, 2004). There is no particular reason behind cross industry migration. Duffield, O'Brien-Pallas and Aitken (2005) suggest that the decision a HCW takes to move to a field outside health care, is varied and complex but is primarily dependent on three broad categories of influences. The first being personal characteristics and goals like the need for personal growth and financial expansion and options they view as not widely available in many health sectors in many countries. The second broad category involves factors specific to the health sector like the increased exposure to HIV or other diseases, unhygienic working conditions or unsafe working environments that the HCW feels that they would not be exposed to in a field outside health care. The third broad group are usually factors compelling cross industry migration, these are factors that create an environment or situation were a HCW is forced to look for jobs outside the health sector. This could involve factors like the lack of jobs in the health sector or factors that involve a HCW needing to relocate because of family or spousal commitments to an area where no health care jobs are available.

The World Health Organisation (2006a) notes that over the last few decades, the working lifespan of HCWs has decreased because of changes in their working and living patterns. Findings suggest that the growth in the nursing profession from a technical and skills position may be a contributory factor propagating the ease of cross industry migration (Padarath, *et al*. 2002). Studies suggest that HCWs have very little difficulty crossing over to non-health related fields. Their skills, both on the technical front and those they gain from continued social interactions with people

often equip them with the ability to adjust to roles outside health care with relative ease (Duffield, O'Brien-Pallas and Aitken, 2005).

2.4. Quantifying health care worker migration

One way to measure migration of HCWs, whether it is internal, international or cross industry is through migration statistics. In the late seventies, in response to the WHO's first international call for information on the migration of health sector manpower, Meija, Pizurki, Royston, (1979) conducted a multinational study of the international migration of physicians and nurses. Meija and his colleagues admitted that although their efforts to collect this data were as rigorous as possible, it was difficult to ensure reliability of the study's results. In addition, they admitted that it was equally difficult to obtain qualitative data on the effects of migration on people and health systems. According to Diallo (2004) these difficulties of obtaining reliable qualitative and quantitative data probably account for the lack of research in this area. Those results that are available have over the years appeared to misrepresent the HCW crises. This misrepresentation appears to be on both sides of the spectrum, i.e. in destination and source countries (WHO, 2006a).

The 2006 World Health Report noted that to date, 4.5 million HCWs had migrated and were not working in their home countries (WHO, 2006a). This figure however does not differentiate between those source countries that sent their HCWs voluntarily, like the Philippines, and those that involuntarily lost them, like sub-Saharan Africa. This differentiation is important because the subsequent impact on each, is different.

According to Stilwell, *et al*. (2004) data from countries that recruit or accept HCWs appear to be more reliable than data from home countries of the professionals who travel to work abroad. Brown and van Staden (1998) highlighted the comparison of South African emigration data for the period 1984 to 1993 and immigration data possessed by the United Kingdom (host/destination country) for the same period. The data the United Kingdom had on immigrants from SA for that period was three times the figure that SA had of emigrants to the UK for the same period.

This underestimation was further emphasised by a study undertaken by the University of Cape Town and the Higher Scientific Research Council (HSRC). The study looked at South African emigration to the five most popular destinations: Australia, Britain, Canada, New Zealand, and the United States. The study found that close to a quarter of a million South Africans had settled in those countries between 1989 and 1997 (HSRC, 2004). This figure was four times higher than official statistics suggested.

There are a few reasons behind South Africa's inaccurate or "lack of" migration statistics. The amendment to the immigration Act of 2002 that did not require the figures of South Africans leaving the country to be recorded is one of them. Although the act was rescinded two years later, a large gap in the reporting of general emigration statistics had been created (Esbach, 2007). According to Cohen (2007) another important reason is that South Africans seem more prone to under declaring their emigration intention. This means that systems which require South Africans to volunteer their emigration details may be less successful than a system that systematically collects details though information from visa applications, foreign embassies and passport control.

With regards to HCWs, evidence suggests that because no reliable system exists which accurately details the number of HCWs currently working in SA, estimating the void caused by migration is impossible (Esbach, 2007). Worrall-Clare, (2009) is of the opinion that many people with valid health registrations no longer work as health professionals in SA or have emigrated and he believes that statutory health registries like the Health Professions Council of SA (HPCSA) and other nursing councils are successful in registering new members but fail to clean up regularly by removing nonactive members. In addition, many members remain on registers but work outside the country and because statutory bodies do not collect this information, these members are reflected as still actively employed within SA (Keating, 2008). By way of illustration, according to the South Africa payroll system PERSAL, 105 000 nurses were employed in the public sector in 2008 Worrall–Clare (2009). Compared to the council figure of 213 000, the difference of 108 000 nurses was incorrectly attributed to nurses working in the private sector. Worrall–Clare (2009) notes that the actual figure of nurses employed in the private sector was closer to 35 000 indicating that the actual number of active nurses would therefore be closer to 140 000 as opposed to 213 000 as indicated by council figures.

Crush and Williams (2001) state that a country's ability to provide evidence of HCW migration lies in its capacity to produce and use statistics. While many host countries have fairly good systems to record HCW migration, the WHO recognises that source countries which are usually developing countries, often struggle because of limited resources, insufficient administrative staff and unco-ordinated administrative techniques (WHO, 2006a). According to Diallo (2004) many developing source countries cannot afford the financial burden of recording migration and information on the whereabouts of its citizens, and largely depend on country censuses that permit analysis of HCW migration. However Diallo adds that because censuses are performed every five to ten years in most countries, they do not capture temporary migration that occurs between censuses, population growths often dilute migration findings, and also because of the time lag, they are not able to react quickly to changes.

The WHO recommends that better statistics on migration of HCWs can be obtained by standardizing, collecting, and analysing data on a regular basis (WHO, 2006a). It further suggests that countries should use existing data more effectively. According to Diallo (2004) if a country cannot afford administrative systems to record migration, it should use data that is already available. Data from teaching centres that produce HCWs, professional councils that necessitate registration, embassies, and even receiving countries themselves have information that could be used for tracking migration. These include data from graduation numbers, registrations and payrolls, work permits, entry visas, and associations with professional organisations. Collecting this information need not be extensive or sophisticated and mechanisms can be adjusted to the specific needs and capacities of each country.

2.5. The impact of health care worker migration

2.5.1. Positive impacts

Although few, there are some redeeming features of HCW migration. Each year, source countries receive hundreds of millions of dollars in remittances from HCWs working abroad. The WHO (2006a) noted that in 2005 the total remittances generated by HCWs working abroad was approximately 232 billion American dollars, it also noted that a further 50% of that amount should be added to account for

remittances not recorded. With over 72% of recorded remittances going to developing countries, it can be logically concluded that HCWs working abroad contribute significantly to the resultant decline in poverty in poor countries. According to Stilwell, *et al*. (2004) the value of remittances continues to increase and in many countries it has become the most stable source of external finance. The International Monetary Fund (2003) estimated that remittances constituted between 2 to 14% of the gross domestic product (GDP) in countries like Uganda, the Philippines, Jamaica, and India (Amir, Khaliq, Robert, Broyles, Ari and Mwachofi, 2009).

Another redeeming feature of HCW migration is the resultant skills and expertise that returning HCWs bring back to source countries. These often result in progression and advancement in the respective sectors of developing countries (Chandra, 2002). Many experts have argued against this, saying that when a country has a fragile health care system, the costs of training HCWs outweigh any remittances sent back to the country. Furthermore, studies suggest that the resultant effects of mass migration of academic and experienced HCWs is never completely reversed by new knowledge and skills brought on by returning HCWs (Amir, *et al*. 2009). It is thus further suggested that the resultant impact of HCW migration is usually associated with negative economic, social and health implications for the source country (Padarath*, et al.* 2002).

2.5.2. Negative impacts

2.5.2.1. The economic impact

The biggest economic losses following migration of HCWs is the loss or wastage of healthcare investments (Cohen, 2007). These healthcare investments are made in the training and mentoring of HCWs. When HCWs migrate to find work in other sectors (cross industry) or internationally, both the capital (money used to train HCWs) and potential returns on training investments (money that will be generated from the skills and experience of HCWs while working within the health sector) is lost. Kaplan, Meyer and Brown (1999) estimated that migration of skilled workers from SA cost the country R67.8 billion of its investment in human capital and GDP by 0.37%. Dovlo (2007) showed that the economic loss to South Africa due to the migration of doctors between 1989 and 1997 was estimated to be in the range of 5 billion USD.

Ghana lost 6 billion dollars in tuition fees alone, after 61% of graduates from one medical school emigrated between 1985 and 1986 (Amir, *et al.* 2009). While some developing countries may have the financial structures and resources to overcome such large investment losses, in other developing countries with lesser resources, such large investment losses may have a collapsible effect on the entire health training system (Maruja, 2007).

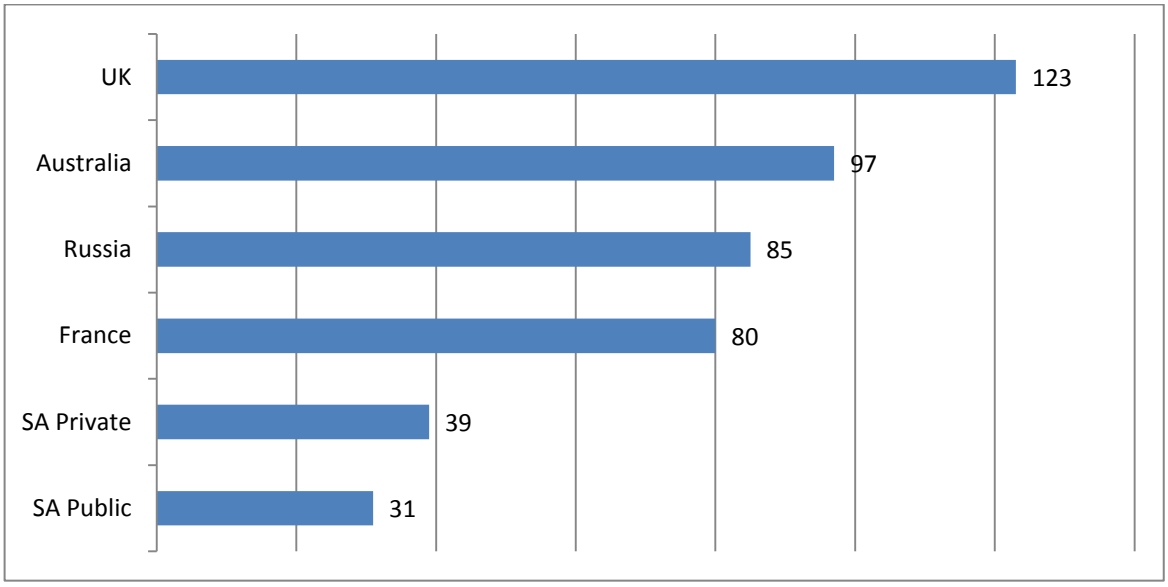
Apart from direct economic losses, migration of skilled workers reduces a nation's capacity to develop as a "knowledge society" and therefore compete effectively in the global economy (HSRC, 2004b). In addition, indirect loses in the form of capital investment wastages also occur. As HCWs in specialised health care fields migrate, expensive specialised equipment that can't be operated by untrained staff becomes and remains inoperable (Martineau, Decker, Bundred, 2002).

2.5.2.2. The impact on remaining HCWs and health care delivery

There is no doubt that HCW migration negatively affects a country's capacity to deliver healthcare to its citizens (Crush, 2004). The WHO (2006a) found that countries with the lowest relative health care need usually have the highest numbers of HCWs, while countries with the greatest burden of disease are typically left with fewer numbers of HCWs. It also noted that this disparity in the distribution of HCWs is largely a result of migration. The WHO presented the example of Canada and the United States of America. Together these countries have only 10% of the global burden of disease, yet almost 37% of the world's HCWs reside there. Africa on the other hand with over 24% of the global burden of disease had only 3% of global HCWs.

There is no doubt that the reduced access to health care and overburdening of the existing workforce are the direct result of HCW migration (Kingma, 2007). Amir, *et al*. (2009) found that an inverse relationship existed between the number of HCWs and maternal mortality, infant mortality and under-five mortality rates in various countries. In South Africa the ratio of public nurses with midwifery training was 31 per 100 000 population. Figure 2.4 overleaf illustrates this finding and compares it with ratios in four other countries.

Figure 2.4 Nurses with midwifery per 100 000 population



(Source: WHO. 2009. *WHO statistical information system* (WHOSIS)

Yan (2006) noted that HCW shortages result in increased workload and high patient-to-HCW ratios for remaining HCWs. In some countries, these ratios had increased three to four times over the last 20 years because of HCWs migrating (Kingma, 2007). According to Hall and Erasmus (2003) the high patient-to-HCW ratios in turn contribute to low morale, high stress levels, absenteeism and counterproductive behaviours with the outcome being an even further decline in the delivery of health care.

South Africa is a typical example of this cycle. Padarath, *et al*. (2002) noted that the production of HCWs in the country will not meet the demand created as a result of migration and that with continued shortages and budget constraints preventing mass re-recruitments, the remaining few HCWs are compelled to work with extremely high patient ratios. See Table 2.5 on page 26.

Table 2.5 Ratio of seven types of public sector employed HCWs in South Africa per 100 000 people

Health care worker	Public sector: per 100 000 population
Doctors	28:100 000
Professional nurses	116: 100 000
Dentists	1.9: 100 000
Psychologists	1.1:100 000
Radiographers	5.2:100 000
Physiotherapists	2.2: 100 000
Pharmacists	4.5: 100 000
Public HCW: 100 000	**22:100 000**

(Source: HST, 2008a)

2.5.2.3. The impact on future health care workers

HCW migration does not just have direct implications. According to Crush (2004) knock on or indirect implications also exist. As migration continues, the skills, knowledge and expertise usually associated with older experienced HCWs are also lost. The implication of this usually surrounds the training and education of future HCWs. Padarath*, et al.* (2002) presented the example HCW training in Malawi. As skilled and experienced tutors began to migrate from the country and adequate replacements could not be found, nursing training colleges were forced to significantly lower its yearly intake of nursing students. HCW migration not only negatively affects the future production of HCWs that are required to fill the void left by migration itself, but also contributes to lower the quality of education of those few that are eventually trained. The loss of academic health professionals in Ghana for example, has impaired the country's ability to train HCWS to higher levels of training ultimately resulting in a diminishing “knowledge society” (Padarath, *et al.* 2002). A countries knowledge society is a key component in attracting foreign investment in the form of research grants and loans from abroad. These are financial resources

that can be used to advance and develop more and better quality HCWs (WHO, 2006a).

2.6. Factors contributing to the migration of HCWs

Several studies have identified two groups of factors generally associated with HCW migration, namely those that have a push influence and those that have a pull influence (Buchan and Sochalski, 2004). Kupfer, Hofman, Jarawan, Mcdermott and Birdbord (2004) describe push factors as factors that usually encourage, contribute to or influence a person to dislike their current work situation. Pull factors are factors or situations that allure or attract an individual to the decision to migrate (Hamilton and Yau, 2004). Table 2.6 below presents a list of general push and pull factors identified by the WHO (2006a).

Table 2.6 General push and pull factors associated with HCW migration

Push factors	Pull factors
No jobs available	Better salaries
Low salaries	Jobs available
Deteriorating work environments	Reasonable workloads
Inadequate medicines	Reasonable conditions of work
Inadequate equipment	Economically stable country
Political instability	Politically stable country
Gender discrimination	Safe living environment
Lack of personal security	Good quality of life
HIV/AIDS	Better social systems
Poor housing	Better opportunities for families
Lack of transport	Attainment of experience
Diminishing social systems	Opportunities to study
Security concerns for family	Opportunities to travel abroad

(Source: WHO, 2006a)

Push factors are wide and varied and although each HCW may present a different list of factors that contributed to their decision to migrate, Pagett and Padarath (2007)

note that the push factors of low salaries, deteriorating working conditions and safety and security concerns are often common across HCWs lists. The WHO (2006a) noted that push factors are also often the basis for which HCWs identify pull factors. This means that in some cases a pull factor is merely the opposite of a push factor. Padarath, *et al.* (2002) presented the example of an HCW citing crime and violence as primary push factors. These HCWs would usually look towards a country with pull factors that ensure their safety and security like a country with no or a very low crime rate.

2.6.1. Push factors

It becomes evident that different studies term or categorise push factors differently. For example, some studies have identified “deteriorating working environments”, “too long working hours” and “deteriorating working conditions” as three independent push factors (WHO, 2006a). Others have included “deteriorating working environments” and “too long working hours” under the broad umbrella of “working conditions” (Buchan and Sochalski, 2004). Although not wrong, these different terms and categories are usually a result of the way in which data was collected. Studies of this nature generally use questionnaires with already identified push factors. Respondents would just have to tick the push factor or factors that had contributed to their decision to migrate (Pagett and Padarath, 2007). Certain push factors do however appear to be common across the majority of studies. These commonly identified and cited push factors are presented below.

2.6.1.1. Poor remuneration

In many developing countries HCW salaries are similar to other professions in that country, however when compared to the same profession abroad, the difference is often significant. A widely publicised study of migrating HCWs from six African countries, namely Cameroon, Ghana, Senegal, SA, Uganda, and Zimbabwe, found that meagre remuneration and wage differentials were such a strong push factor that small increases in wages in these source countries were unlikely to significantly affect the migration of HCWs (Vujicic, Zurn, Diallo, Adams, and Dal Poz, 2004). However, such exponential differences do not exist in the case of every HCW. Maruja (2007) found that although a ten-fold increase in the salaries existed in Filipino HCWs who moved to the UK to practice as professional nurses wage

differentials for HCWs from SA were in general only as twice as much. Zurn, Dolea and Stilwell (2005) emphasized that although the impact of poor remunerations appears to be mixed, it is likely that wage increases in developing countries will have a greater impact on HCW retention and recruitment than in developed countries.

According to Hamilton and Yau (2004) poor salaries are often cited as push factors because HCWs are aware that higher salaries can be earned for the same job elsewhere. They also added that because money plays such an important part in people's lives, it becomes normal for them to cite it as a push factor even if this was not the case. In addition, Vujicic, *et al.* (2004) claims that because people usually associate their material possessions with their levels of remuneration, an inability to acquire assets like better housing or a vehicle, or obtaining private education for their children, appears to them to be a result of poor remuneration when in reality the remuneration that they receive is market and industry related.

2.6.1.2. Unsafe working environment

This usually refers to issues around the safety and security of HCW's at their place of employment. This could include issues around intimidation, violence and even physical assaults as a result of unruly patients or disgruntled members of the community (Henderson 2003). In addition it could also include issues around an increased exposure to infectious diseases and unhygienic conditions (Cooper and Swanson, 2002).

HCWs are at a particularly high risk of violence at the workplace and as Zurn, *et al*. (2005) highlighted, attempts at reducing violence in the workplace must be considered in order to reduce HCW attrition. A poll covering 179 different HCWs studying violence as an occupational hazard, found that 95% of the respondents reported incidents of verbal abuse, while 33% reported actual physical violence, and 8.9% reported incidences of sexual harassment (Iildiz, Abadai, Balkan, Baisal, Bekhrem, Sakisi, Kaiia and Nazmi, 2008). An earlier study looking into the resultant effects of violence that HCWs are subjected to, found a direct link between aggression and the fear of confrontation, and increases in HCW sick leave, burnout, and overall staff turnover (Farrell, 1999). Findings also showed that support from other HCWs or administration in addressing this issue was non-existent or inadequate. It concluded that the degree of abuse suffered by HCWs did not only

have implications for the HCW's health and safety but also for the profession as a whole especially in its ability to attract and retain HCWs.

Over the recent years, the perception amongst HCWs of contracting infections and diseases at the work place has increased (Hamilton and Yau, 2004). This perception is usually compounded by inadequacies around inappropriate medical waste disposal practises, sanitation, or when there are no or limited supplies to protect workers from diseases like HIV/AIDS and tuberculosis (Padarath, *et al.* 2002). Another factor that has brought this situation to the fore now as opposed to before, is the increases in the number of HCWs who are immuno-compromised already. The WHO (2006b) found that areas where rates of HIV/AIDS are high, attrition rates of HCWs due to illness and death are equally high. HCWs have become aware of their increased vulnerability to opportunistic diseases and infection, and would rather migrate than move to other jobs outside the health sector where access to medical care and benefits may not be adequate.

2.6.1.3. Deteriorating living conditions

The push factor of living conditions usually encompasses the HCW's home and private life. In most developing countries, more particularly in rural areas, living conditions play a significant contributory role in HCW migration (WHO, 2006a). Many developing countries and rural areas as seen in section 2.3.1 do not possess the type or level of infrastructures usually seen in developed countries or urban areas. According to Meng, Yuan, Jing, and Zhang (2009), these infrastructures are inclusive of basic necessities like clean water, ablution facilities, electricity, roads, as well as other essentials like shopping centres, schools, universities and recreation facilities for children. Deteriorating living conditions may often also be a result overlapping push factors like crime, safety and security (Padarath, *et al.* 2002).

2.6.1.4. Deteriorating working conditions

Crush (2004) suggested that working conditions are probably the single most important pre-disposing factor for health care professionals migrating. The term working conditions is often used in the collective sense though, outlining conditions from an unsafe (physical danger) working environment, heavy workloads, a lack of equipment, bureaucratic inefficiencies, and inadequate managerial support (Padarath

et al. 2002). Although not incorrect in its use, working conditions is usually associated with increased workloads that HCWs are subjected to in regard to extended hours or shifts and high patient care ratios (WHO, 2006a). As discussed in 2.5.2 increased patient workloads have detrimental effects, not only for the patients who now receive suboptimal care, but also for the HCW who has to work even harder. Kingma (2007) highlighted the vicious cycle that begins with HCWs migrating. As HCWs leave, the remaining staff are burdened with the extra patients that are left unattended. These staff eventually burn out and either migrate themselves or leave the profession altogether, augmenting HCW shortages.

2.6.1.5. Increased workloads

Increased workloads may also be a result of HCWs moonlighting, working overtime, or even remaining on standby after normal working hours (Zurn, *et al.* 2005). In most cases, this is by choice, to earn extra money. However, as the increased burden of extra work is experienced by HCWs in their primary jobs, many are too tired and too stressed to continue working during their off days. This means more work with ultimately less income (Schroeder, 2006). HCWs may also find themselves in jobs where they are compelled to work extra hours or shifts. Often, these HCWs find themselves in situations where they are not adequately remunerated for the extra work, but fail to object because of fear of subordination, reprisals or even job losses (Artazcoz, Cortès, Escribà-Agüir, Cascant, and Villegas, 2009). In many of these cases, the increased workloads often lead to HCWs burning out, becoming dispassionate and ultimately look towards migrating, either cross industry or internationally.

2.6.1.6 Lack of facilities

This is usually associated with the absence of structures or utilities necessary for adequate and effective patient care (Kingma, 2007). As HCWs are at the service level of health care delivery, they are the ones who have to account for the inefficiencies in the system and deal with resultant patient dissatisfactions. These could include the lack of appropriate building structures needed to accommodate patients, lack of beds or theatres necessary for surgical procedures, lack of pharmacies to dispense medications, or even lack of diagnostic equipment like X-ray machines or equipment found in rehabilitation centres (WHO, 2006a).

In most cases, the lack of facilities is due to funding issues, but often poor infrastructures are a result of bureaucratic inefficiencies and inadequate managerial support (Padarath, *et al.* 2002). According to Pillay (2008) the severe lack of management capacity within the South African public health sector is a primary reason behind the systems reduced ability to provide efficient and effective health care delivery. HCWs in general become aware of this and often challenge and pressure governments or shareholders for funding and better facilities. Many of these challenges go unheard, while some attract reprisals for HCWS that presented them. HCWs ultimately surrender to the lack of facilities and declining health service and are often compelled to become complacent with substandard health care delivery. Over time, many HCWs lose interest in work, stay away, or ultimately migrate (Chaudhury and Hammer, 2003).

2.6.1.7. Lack of promotion and career advancements

In most developing counties lack of promotion and career advancements is usually a result of HCWs not having the appropriate education or experience to upgrade qualifications (Crush, 2003). This may be the result of not having enough time to study because of increased workloads as discussed in section 2.6.1.3, or them not having the funds to study because of poor remuneration as discussed in section 2.6.1.1. However, over the recent years political barriers like those seen in South Africa and India, in the form of affirmative action, employment equity acts, and Broad Based Black Employment Equity mandates have also been identified as limiting or preventing promotion or career advancements and subsequently pushing up the rate of migration (Desai, Kulkarni, 2008). Furthermore, as Colborn, Kent and Leon (1995) found, affirmative action policies also affect the admission of potential HCWs into training colleges, which in turn affects the output of HCWs and therefore the profession as a whole.

2.7. Pull factors

As stated in 2.6, pull factors are factors or situations that allure or attract an HCW to the decision to migrate. In addition to the pull factors identified in Table 2.6 , tax-free salaries, career development opportunities, paid career advancement training and opportunities to obtain international experience are other examples of these attractive

"pull factors" (WHO, 2006a). Fully inclusive contracts that allow emigrants to take their families abroad, offering their children free and safe schooling, and the chance to work in fully resourced environments with reduced workloads, are some of the attractive "situations" that attract HCWs to the decision to migrate (Padarath, *et al*. 2002). As discussed in section 2.6, pull factors or pull situations are often the opposite of push factors or push situations. For this reason it becomes more important to identify the nature and the characteristics of pull factors than to describe in detail each possible pull factor.

2.7.1. Characteristics of pull factors

Pull factors are similar to push factors in that they differ for each HCW. The difference however is that unlike push factors, which are usually experienced firsthand by the HCW, pull factors are often speculative based on promises for the future. Although the majority of these promises pan out, the WHO (2006a) found that HCWs have often been exploited, employed on false premises or have realised that although the remuneration offered to them may appear huge when compared to the salaries paid back home, it usually is not enough to survive in the now host country (WHO, 2006a).

Another difference between pull and push factors is that the time taken for a pull factor to become less attractive is usually much shorter than the time taken for a push factor to become less unattractive. What this means is that pull factors lose their appeal quite quickly, especially as more HCWs enter the international job market, making it more competitive (Maruja, 2007). A HCW who had migrated from sub-Saharan Africa to Canada ten years ago would have probably earned between 15 to 20 times the salary he or she earned back home (Vujicic, *et al*. 2004). Recently HCWs have seen salary differentials between home and abroad substantially decrease with salaries abroad, not looking as attractive. However, because the salaries back home are still meagre in comparison and have not improved much in the time that salaries abroad have decreased, HCWs are willing to settle for the less attractive salaries (Keating, 2007).

The appeal of push factors also depends on the motivations behind a HCWs decision to migrate. Recently the global economy has experienced a notable decline. The Nursing Times (2008) noted that the recent economic meltdown has caused many

HCWs who are working abroad to re-evaluate their decisions of staying abroad. It concluded that if HCWs migrated with the sole intention to work abroad, earn money and return to their countries, many would have remained abroad during the economic meltdown. The reason for this is that the declining economy favoured HCWs earning overseas currencies allowing them to get more local currency when money was transferred across in remittances (The Economic Times, 2009). However if the HCW chose to migrate with the intention to emigrate and obtain citizenship abroad, the declining economy could have resulted in many finding themselves experiencing financial difficulties because they did not have assets or savings to help them through the tough period (Nursing Times, 2009).

The Homecoming Revolution, a resource centre for South Africans wanting to return home, noted that the number of South Africans that enquired to return home had grown to equal those that enquired to leave. It was estimated that at the beginning of 2008 more South Africans returned home than those that had left (Schaffer, 2008). Whether this was a result of pull factors losing their general appeal in the economic downturn, is unknown. However, studies do suggest that mass returns of HCWs to home countries are usually associated with pull factors that allured HCWs abroad, exhausting or changing (Padarath, et al. 2002). This was usually seen in individuals who were attracted abroad by advancement training opportunities, career progression, financial goals or the attainment of international experience. Once the primary reason for them to remain in the host country was exhausted, many invariably returned (Chanda, 2002).

Pull factors are usually associated with rich developed and industrialised countries (WHO, 2006a). Recently however, many developing countries have adopted or created pull factors of their own. Dovlo (2007) highlighted some of the economic incentives that countries in sub-Saharan Africa had implemented to “pull” HCWs back to these regions. These included “rural allowances”, “a scarce skills allowance” and an “additional duty hour’s allowance”. HCWs became eligible for these incentives if they decided to return and took up work in designated rural areas or had skills that were in short supply. Pull factors have not just been limited to economic incentives, Amir, *et al.* (2009) noted that countries like, Ghana, Malawi, Botswana and Mozambique created schemes that guaranteed housing or transportation loans to returning HCWs. They also promised opportunities to further or upgrade

qualifications guaranteeing admissions into nursing schools and fellowship programmes.

Studies also suggested that pull factors do not necessarily have to be new attractive factors or situations. Dovlo (2007) noted that fixing a push factor may often be all that is needed to pull HCWs back to the country. He presented the example of improved and streamlined recruitment and promotion processes adopted by Tanzania and Uganda. These processes were not new developments, they were a result of the steps taken to reduce bureaucratic inefficiencies in the health care system in these countries. They promoted the return of many HCWs but also contributed to HCWs remaining in the country.

2.7.2 Overview of factors contributing to migration

As discussed in section 2.6, the factors contributing to the migration of HCWs can be categorised into two groups. These groups were identified as factors that have a push influence, discussed in section 2.6.1, and those that have a pull influence, discussed in section 2.6.2. According to the WHO (2006a) these factors are usually related to each other and the degree of influence that push factors have on a HCWs decision to migrate is typically reinforced by the availability of pull factors.

It however becomes difficult to identify which group of factors generally have a greater influence on the HCWs decision to migrate. Padarath, *et al.* (2002) and Dovlo (2007) explained that a variety of factors including the HCWs country of origin, job title, personal needs and circumstances typically dictate this level of influence. For example, Malawi has high levels of unemployment because of political instability. A female HCW with three children, living in rural Malawi earning a meagre salary and working in unhygienic conditions may not want to leave her family. However, she is "pushed" to do so because the chance of finding a better work situation that would allow her to stay in Malawi and take care of her children is unlikely to occur .In contrast, a single South African male HCW without dependants, is more likely to be "pulled" by the opportunities of an above average income lifestyle, further education opportunities and career development prospects that are available in the more advanced, industrialised countries of the world. This does not mean that the female HCW in Malawi would not be ""pulled" by these factors as well. It does however mean that the degree of influence a push or pull factor may have on a HCW's

decision to migrate is dependent on many factors. As these factors differ for every HCW, the degree of influence of push and pull factors on the decision to migrate, also differs (HSRC, 2004).

2.8. Strategies to manage migration of HCWs

Strategies to meet current and future challenges in human resources are urgently needed. According to the WHO (2009) the greatest challenge is realising that no generic retention and return strategy does, can or will exist. Each health system must identify and implement a package of retention and return strategies that will meet its needs as it is unlikely that one retention or return strategy will be right for all organisations or contexts. Stilwell, *et al.* (2004) explains that strategies that focus on the training of individuals and that do not take into account work environment and worker mobility can only enjoy limited success. The 2006 World Health Report recommended that fresh retention and return strategies for human resources planning must adopt a comprehensive perspective addressing recruitment, training and education of HCWs. In addition, retention and return strategies should be developed with engagement with health systems which employ HCWs, and labour markets that facilitate the movement of HCWs. Diallo (2004) and Dovlo (2007) explain that in addressing the above, the key factors that determine the human resources needs of an organisation or context which are the supply, demand and the mobility of HCWs must also be managed. These three key factors are discussed below.

2.8.1. The supply of health care workers

Padarath*, et al.* (2002) state that the production of HCWs within a source country is a key factor usually determining the availability and distribution of HCWs within the health system of a country. If the rate of new HCWs entering the health system is equal or more than the rate of those that leave, there should not be an overall decline in the availability of HCWs. This was highlighted in the case of Filipino HCW production in section 2.3.2. However, many experts in human resource management believe that simply producing more HCWs to fill the voids caused by migration may not be the answer. Stilwell, *et al.* (2004) and Dovlo (2007) explain that in the absence of retention and return strategies, continued production of HCWs will invariably lead

to further losses. The production of HCWs should be increased but the focus of training and education should be on meeting the needs and demands of the country (WHO, 2006a).

2.8.1.1 Training future health care workers

According to the WHO (2006b) training should focus on the needs and demands arising from the negative effects of migration. Training should include the recruitment of local workers with skills and knowledge specific to local conditions. Buchan and Sochalski (2004) add that in some cases this may lead to credentials not gaining international recognition thereby limiting migration. In a recent study conducted by the Harvard School of Public Health, HCW graduates from institutions with better quality medical training were found to have a greater likelihood of emigrating. The study highlighted the close link that existed between the quality of medical training a HCW received and the decision to emigrate (Kaushik, Roy, Bang, and Mahal, 2008). This does not mean that lowering the quality of medical training a HCW receives may be the only answer to managing migration.

According to Saravia, *et al.* (2004) more investments in education and in research and development to promote opportunities at home are needed to discourage migration. Countries like Brazil and China worked to counter migrating HCWs by increasing investment in high quality education, opportunities in research and development. This has resulted in Brazil's education system currently graduating more than 6000 doctoral students each year and has become a focal point for training foreign students from other Latin countries (Nchinda, 2002). In China, in response to the "knowledge brain drain" researchers developed an innovative way to attract graduates back to the country through world class graduate education programmes with incentives covering all expenses. China has thus seen a number of graduates returning to the country (Saravia, *et al*. 2002). In some cases redirecting capital and investments to education and training may not be immediately available. The WHO (2006a) recommends that in countries where this is not possible, other avenues should be examined.

2.8.1.2. Recruitment and admission of HCW into training organisations

Some architects of strategies that could manage migration advise that changing the recruitment or admission policies at institutions that train HCWs would prove more beneficial to a country than changing the training standards. An example of this is seen in an institutional case report study conducted by Wheat, Brandon, Leeper, Jackson, and Boulware (2007). Their study showed that the number of physicians that took up rural placements had increased after admission requirements at the University of Alabama School of Medicine changed in response to the decreasing number of rural doctors. Changes in admission policies required the school to give preference to applicants living no less than eight years in rural Alabama and showing an affinity to rural lifestyles.

Evidence also suggests that in many cases an urban and middle class bias exists in the recruitment of potential students (Padarath, *et al.* 2002). For example, the lack of training centres in rural settings, the long duration of proposed courses and financial costs involved in the actual training, discourages many students from poorer sections of the community planning to enter training colleges. Glasser, Hunsaker, Sweet, MacDowell, and Meurer (2008) presented the characteristics of a Rural Medical Education Program which addressed HCW needs in rural areas. The program was comprehensive in that it recruited candidates from rural areas with rural backgrounds and offered a rural focused curriculum through rural based training centres. The program was successful as measured by the increase in the numbers of HCWs taking up jobs in rural areas as compared to before the programme was implemented.

Making a special effort in trying to recruit rural inhabitants for HCW training programmes may decrease poorly staffed rural health care facilities. However, this may not be the case for all countries experiencing rural HCW shortages. A rural inhabitant from Alabama USA may share the same geographical definition of rural when compared to an inhabitant living in rural South Africa, but that may be where the similarity ends. Wheat, *et al.* (2007) explains that rural areas in developed countries usually have better-quality infrastructures similar to those seen in the larger metropolitan cities, however it is the growing aversion inhabitants develop to rural lifestyles that become the contributory factor behind rural HCW shortages. This aversion is usually associated with newly graduated HCWs preferring to work in

larger cities or towns. Recruiting rural inhabitants with an affinity for rural lifestyles would therefore increase the number of HCWs that may decide to stay in rural areas, however as discussed by the WHO (2006a), this stay is usually short lived especially when no improvements are seen in living and working conditions, poor or inadequate infrastructures and lack of facilities as discussed in section 2.3.1.

2.8.1.3. Adjusting training standards

According to the 2006 World Health Report, the international recognition of qualifications and experience is the primary reason behind global HCW recruitment. One of the key recommendations made by the WHO in this regard was for source countries to look towards ensuring that training curricula and staffing was in line with local needs (WHO, 2006a). Many scholarly authorities in migration of HCWs agree with this stance suggesting that training and curricula in source countries be adapted to cover the health care needs and diseases of that country, rather than adopting curricula from Western Countries (Packer, Labonte, and Spitzer, 2007).

As curricula are changed to meet the needs of a country specifically, the duration of training programmes would become shorter, therefore producing more graduates to meet local demands in a shorter period. According to Packer, Labonte, and Spitzer (2007) several African countries have already embraced this concept. Countries like Tanzania, Zambia, and Malawi are either actively or planning to train auxiliary HCWs whose skills are less marketable globally to meet the immediate and urgent demands of their respective domestic health systems. This has also occurred to an extent in South Africa where pharmacy assistant, and dental therapist programmes were developed in response to the shortages of dentists, and pharmacists in the public service (Tshabala-Msimang, 2008). Recently, the Clinical Associate Programme was introduced to attend to the severe shortages of doctors in rural and public hospitals. The programme is a three-year degree based on the medical curriculum with a focus on the skilled clinical procedures, and diagnostic and therapeutic knowledge necessary for the clinical associate to function in a district hospital. According to the then South African Minister of Health a needs survey of district hospitals was conducted to inform the development and content of the curriculum for this cadre of healthcare providers (Tshabala-Msimang, 2008).

While studies suggest that this approach may prove beneficial in the short term and that it may meet the immediate human resource demands of a health care system, it could also have disastrous implications, largely macroeconomic and beyond the scope of the health sector (Padarath, *et al.* 2002). Decreasing the quality of training invariably diminishes its academic ranking in a global arena (Huddart and Picazo, 2003). If training standards are not internationally recognised, international investments, medical and science advancement directives, and continued global health research initiatives and funding would decline as the credibility of a country's knowledge society is usually measured by their standards of training and education. As Dovlo (2004) notes, a country may generate enough workers to meet its demands by limiting their migration credentials. In lowering its education and training standards however, the consequences would be the stunting of any further creation of intellectual and scientific networks that are necessary to nurture and support local development of science, industry and commerce.

2.8.1.4. Internships and community service programmes

Instituting an element of internship and/or community service does have the ability to meet the immediate demands of a health system by affording the system the option of distributing HCWs to areas where they are urgently needed (Cohen, 2007). The policy on internships ensures that the supervised training of newly qualified health care professionals occurs before they can register for independent practice (South African Department of Health, 2008b). Countries often hope that through exposure to clinical and experiential care undertaken by graduates, many would want to remain in the country (Padarath*, et al.* 2002). Although the aim of an internship is not to get graduates to replace skilled staff, this generally happens. Because of the massive skilled health care shortages, graduates are invariably exposed to heavy workloads and in most cases without supervision and support. The abrupt and concentrated exposure to heavy workloads, harsh working conditions and poor remuneration often result in graduates migrating immediately after mandatory internships (South African Department of Health, 2008b).

Internship differs from community service in that health practitioners are qualified and fully registered as independent practitioners and they also have a choice as to where this service can be offered (Padarath, *et al.* 2002). Community service became a policy in SA in 1996. Doctors, and later dentists and pharmacists, were required to

offer their services to the community by being employed by the government sector. It was further expanded to include other health care disciplines, amongst others were radiographers, physiotherapists, and dieticians.

The idea behind community service was to improve health service in the country and to engender a sense of social solidarity and responsibility among new graduates (Padarath, *et al*. 2002). However, owing to South Africa's fragile health care system, the exponential numbers of ill and diseased individuals, the heavy workloads compounded by poor remuneration and huge study loans most graduates have to pay after qualifying, the advent of community service appears to have added to the number of health care professionals leaving the country. In SA, the number of doctors planning to work overseas increased from 34% in 1999 (the year community service came into action) to 43% in 2001 (Padarath, *et al.* 2002).

According to Cohen (2007) both internship and community service programmes in SA have been largely unsuccessful in retaining practitioners in rural areas or where they are most needed, post-graduation. The reason for this is suggested to lie in the nature of these programmes which are invariably restrictive policies preventing HCWs from migrating rather than having them choose to remain in the country of their own volition (Packer, *et al.* 2007).

With HCWs being restricted from migrating and then subsequently subjected to the unresolved issues around poor remuneration, unsafe working environments, unhygienic practices, and heavy workloads, they end up stressed, fatigued, and emotionally exhausted. As Packer, *et al.* 2007 says, these environments cause HCWs to become dispassionate and resentful of their employment statuses, ultimately leading to increased absenteeism and burnout with many staying away for long periods or even choosing to migrate even if no global demand for them exists.

2.8.2. The demand for health care workers

The WHO (2006a) recognised that the demand for HCWs is likely to increase over the next decade. The fact that developed countries have the resources and climate to attract HCWs, and developing countries lack the infrastructure and capacity to retain or contribute to the return of HCWs, the disparity in the distribution of health care human resources is likely to be even greater. According to Stilwell, *et al.* (2004) and

Dovlo (2007) HCWs do not usually migrate to an area or organisation where demand is greatest, they typically migrate to an area or organisation from which they are most likely to benefit. The WHO (2006a; 2006b) thus highlighted the importance for developing countries where demand is greatest, to identify and create incentives to promote HCWs remaining and returning to the country. An incentive is defined as a "reward that is intended to achieve some specific change of behaviour, act as a motivation to perform better, or stay in the job through better job satisfaction" (Zurn, Dolea, and Stilwell, 2004).

2.8.2.1. Incentives for areas where demand is greatest

In South Africa, like virtually every other country in the world, it is impossible to forbid migration of HCWs (Cohen, 2007). It is therefore essential to identify retention and return strategies that do not infringe on a HCWs right to freedom but which is also ambitious enough to prevail in the provision of adequate human resources to meet the health care demands of a country. According to the WHO (2006a), providing HCWs with incentives either financial or non-financial, has been seen as a strategy that showed much success in improving the number of HCWs staying or returning to a country.

Many developing countries however, do not have the financial reserves to create incentives that could remunerate the return of HCWs. This subsequently results in HCWs moving away from areas or organisations where demand is usually the greatest (Diallo, 2004). Evidence of incentives originating from developing countries do exist, however, they usually originate from the private health care sector. In the few instances when incentive packages originate from the public health care sector, they are typically limited to specialist doctors (Padarath, *et al.* 2002).

Awases (2007) found that financial incentives promote the return of HCWs and often create a mechanism for retention through pay back agreements. Non-financial incentives have been found to put less strain on the country's finances and are usually successful in promoting appropriate deployment of HCWs to areas of the heath care sector where the demand is the most. Dambisya (2007) highlighted a list of non financial incentives used and found to be successful in many African countries.

Table 2.7 Non-financial incentives used in African countries

Countries	Training and Career Path Measures	Social Needs Support	Working Conditions	Health and ART access	HR and Personnel Management Systems
Angola			✓		✓
Botswana	✓		✓	✓	✓
DRC	✓				✓
Kenya	✓		✓	✓	✓
Lesotho	✓	✓	✓		✓
Madagascar					
Malawi	✓	✓	✓	✓	✓
Mauritius	✓		✓		✓
Mozambique	✓	✓	✓	✓	✓
Namibia	✓				✓
South Africa	✓		✓	✓	✓
Swaziland	✓	✓	✓	✓	✓
Tanzania	✓	✓			✓
Uganda	✓			✓	✓
Zambia	✓	✓	✓	✓	✓
Zimbabwe	✓	✓	✓		✓

(Source: Dambisya, 2007)

2.8.2.2. Training and career path measures

Training and career path measures have been used by many countries as non-financial incentives (WHO, 2006a). HCWs are offered opportunities for further training within the profession or in outside related professions where HCW shortages exist (Dovlo, 2007). Bursaries, scholarships and research opportunities together with bonding agreements have also been used and have been effective mechanisms to guarantee returns on training investments (Saravia, *et al.* 2004). HCWs are usually required to work time back to offset the resources invested in their training (Padarath, *et al.* 2002).

2.8.2.3. Social need support

Social need support looks at incentives provided by governments or health institutions to address basis necessitates that are often lacking in developing

countries and rural areas (as seen 2.3.1.) These could include the provision of basic housing, staff transport, childcare facilities, food, subsidies on water and electricity bills, and even tax rebates (Dambisya, 2007).

2.8.2.4. Working conditions

Working Conditions are significant push factors in a HCWs decision to migrate. Often measures to correct them are all that are required to promote the retention and return of HCWs (Dovlo, 2007). As cited in 2.6.1 the terms working conditions are often used in the collective sense and could include the need for better equipment and facilities, better security measures for HCWs, assurances for a clean, hygienic working environment with enough protective equipment limiting exposure to illness of injury. It could also include smaller patient loads with higher HCW to patient ratios, better working hours with higher remunerations for extra time (Padarath, *et al.* 2002).

2.8.2.5. Health and ART access

Access to health and anti-retroviral treatment (ART) is frequently offered as an incentive to work and live in developing countries. In response to the high number of HCWS who have HIV and AIDS, many developing countries have employed specific programs to ensure that HCWs and their families have access to health care and ART. Even in countries where ART is made available through the public sector, large numbers of people including HCWs often have difficulty accessing it, because of funding issues and bureaucratic inefficiencies. According to Dambisya (2007), programmes employed by health care institutions dealing specifically with the health of HCWs and their families and ensuring access to health care and ARTs have the potential to contribute significantly towards retaining HCWs, especially in developing countries. No literature was located to indicate whether such an incentive has been successful in South Africa.

2.8.2.6. Human resource and personnel management systems

Human resource and personnel management systems involve all administrative aspects around the employment of HCWs and enforcement of their rights as employees in the workplace. Clearly stipulated rules, standard operating procedures and frameworks that outline remunerations, benefits, leave entitlements, pension

funds and overtime requirements, have not only been beneficial in strengthening human resources management, but has been instrumental in improving HCW motivation through better management (WHO, 2006a).

2.8.2.7. Overview of incentives

Beyond HCW motivation and better job satisfaction, incentives are used to attract and retain HCWs to areas of the greatest demand such as rural or remote areas with poor infrastructures and poor populations. Incentives are often financial, including sign-on bonuses, reimbursed travel expenses and increased pay. Developing countries that do not necessarily have the extra resources to provide financial incentives could offer returning HCWs opportunities to study or train further, flexible working hours, and other non-financial incentives as illustrated in Table 2.7 on page 43. While there is evidence of a wide use of such incentives, Dambisya (2007) notes that such incentives as listed in Table 2.7, are not systematically "documented in terms of their aims, design, implementation, monitoring and evaluation and timeframes," and also the categories of HCWs targeted, are not provided. This means that such incentives lack the formal mechanisms for monitoring and evaluation through periodic reviews and performance appraisals, therefore the success of such incentives in attracting and retaining HCWs may be difficult to assess. Incentives, whether financial or non-financial are ultimately funded by money that could be used to increase health care delivery (Diallo 2004). It is against this background that the WHO (2006a) has embarked upon the process of recommending only evidence based guidelines on attraction and retention incentives and suggests that before incentives are employed to retain and attract HCWs, proper consultative planning must occur. Without proper planning and long term health care budget plans, a country's health system may suffer. This may occur as money needed for consumables, medication, remunerations and the essential functioning of the system is used to fund incentive schemes that institutions have entered into with HCWs, and are often contractually obliged to provide.

2.8.3. The mobility of health care workers

According to Dambisya (2007) the implementation of incentives may significantly contribute to attracting HCWs back to source countries, however incentives alone may not be enough. Factors outside the control of the health system are also

primary determinates of whether a HCW would want to return to a source country or not. These include: ensuring their safety and security, and giving some assurance of career development in spite of certain barriers like affirmative action (Crush, 2004). Other factors may include the improvement of living conditions including transport, housing and education for extended family members (Dovlo, 2007). However, despite the availability of these factors, experts agree that the effects of globalization should also be appropriately addressed (WHO, 2006a).

According to Spiegel and Yassi (2005) the challenge lies in acknowledging that globalization (as discussed in section 2.3.2) is a proponent of change and is unlikely to disappear in the near future. This does not mean that the negative effects of globalization on human resource disparities should be ignored. However it does mean that any efforts to address globalization must emerge from a collaborative effort from both the destination country and the international community.

2.8.3.1. Actions at the level of the destination country

Countries that take on migrant HCWs must be concerned about their rights and welfare and must be responsive to the adverse consequences suffered by source countries because of their absence (WHO, 2006a). Five years ago, the Commonwealth Code of Practice for International Recruitment of Health Workers was formed. Padarath, *et al.* (2002) noted that this code adopted a consensus approach in dealing with international recruitment of HCWs. The guiding principles of the code looked specifically at receiving countries remaining transparent in their recruitment activities and acknowledging and upholding bans placed on HCWs who have outstanding obligations to their home countries entering their countries. It also pointed out that receiving countries should explore fairness and mutuality of benefits indicating that receiving countries should look at ways in which they can provide assistance to source countries.

It was also decided that bilateral agreements between health ministries of source and receiving countries be developed. This would guarantee responsible recruitment policies to provide an explicit and negotiated framework to manage migration (WHO, 2006a). Such agreements should include source country compensation by recruiting countries, educational support for more training facilities or returning better-trained staff as part of a donor package (Buchan and Sochalski, 2004).

2.8.3.2. Actions at an international level

As an international level response to migration the WHO (2006a) suggests that international organisations that deal with temporary movement of people between countries play more active and enforcing roles, remaining aware that poorer countries may be less able to effectively represent and defend their interests. Such organisations are those that assess the fairness of trade agreements relating to health services; develop polices on ethics of recruiting health professionals between countries and the relevant human right issues for those who have already migrated; and manage migration in general. Many experts however believe that international intervention in response to the migration crises should interventions already implemented by source and destination countries and should not be solely relied upon (Dolvo, 2004). Countries are ultimately responsible for developing and retaining their healthcare professionals. Turning a blind eye to migration or waiting for a global strategic plan to manage migration or even viewing migration as a simple matter of improved workforce planning, may have irreparable consequences for the health system of a country and the people within it (WHO, 2009).

2.9. Conclusion

This chapter presented an overview of HCW migration. Through this overview, obtained from an in-depth literature review spanning over 30 months, a foundational understanding of migration in general was obtained. According to scholarly authorities researching this phenomenon, HCW migration could be classified as internal, international, or cross-industry. It was uncovered that the decision to migrate is usually associated with “push” and “pull” factors. According to the WHO’s World Health Report 2006, poor salary, poor living and working conditions, and unsafe living and working environments are examples of push factors. Pull factors range from better remunerations, improved standards of living and safer living and working environments. As HCWs migrate, there is a resultant impact on the health system they leave behind. The impact is largely negative and is both immediate and long term, with the ultimate consequences typically measured in lives lost. Although a wealth of research and literature exists on the subject of HCW migration, a globally accepted strategy to manage migration does not exist (WHO, 2009).

Chapter 3

The South African Advanced Life Support paramedic

3.1. Introduction

The South African ALS paramedic is an operational human resources entity within the country's Emergency Medical Services (EMS). According to the South African Qualifications Authority (SAQA) 2008, the ALS paramedic training programme was designed to produce an individual who would be able to provide emergency care services at an advanced pre-hospital level within SA. This meant in contexts ranging from rural disadvantaged communities, to primary care centres, to sophisticated technological urban areas. Naidoo (2008) explains that, the qualification aimed to produce an individual who would take cognisance of South African history and be able to adapt to the unique circumstances of a changing country with the emphasis on equity in health care and the reduction of the burden of disease. This chapter examines the role of the ALS paramedic in SA and investigates the current distribution of these practitioners in relation to this role. The supply, demand and mobility of ALS paramedics and an investigation of the specific factors that influence their decision to migrate, are also explored. The chapter concludes by investigating measures proposed or already implemented and sustainable control measures that could work towards the retention and return of these practitioners.

3.2. Defining the South African ALS paramedic

In lay terms, 'paramedic' globally refers to any individual who works in an Ambulance Service offering care and transportation to the sick and injured. Within the South African context however, the term is restricted to an individual that has trained in the provision of Advanced Life Support (ALS) and is licensed to provide such care as advanced airway, breathing, circulatory management, and the administration of drugs such as morphine and adrenaline. In SA, training to the level of Advanced Life Support can be obtained through two training routes: the Critical Care Assistant (CCA) route *via* an accredited training college or the Undergraduate National

Diploma in Emergency Medical Care (NDEMC) route, *via* an institution of higher learning (see glossary of terms on page viii).

The Health Professions Council of South Africa has to date accredited three training colleges and four institutions of higher learning that can provide the qualification after which graduates can register with the statutory council and practice at the level of ALS within South Africa (Daffue, 2008), see Table 3.1 below.

Table 3.1 List of accredited ALS training institutions in SA

Institutional name	Type	Route	Province
Lebone College of Emergency Care (Pretoria)	COL	CCA	Gauteng
Netcare 911 School of Emergency and Critical Care	COL	CCA	Gauteng
Kwa -Zulu Natal College of Emergency Care	COL	CCA	KZN
University of Johannesburg	IHL	NDEMC	Gauteng
Durban University of Technology	IHL	NDEMC	KZN
Cape Peninsula University of Technology	IHL	NDEMC	Western Cape
Central University of Technology	IHL	NDEMC	Free State

(Source: Daffue, 2009)

3.3. Identifying the role of the South African ALS paramedic

The South African ALS paramedic plays a fundamental role within the EMS and the country's health system as a whole (SAQA, 2008). According to Ball (2005) a country's EMS is a key component and an important interface between communities and primary health care services and hospitals in times of crises. This is especially true for SA because of the country's high rate of trauma, a consequence of the many motor vehicle accidents (Molla, 2008), and violent crimes (Cohen, 2007) and in light of the disparities in the distribution of health care facilities and trauma centres.

There is however a paucity of literature and research examining the added value of this role within South Africa. According to Macfarlane and Benn (2003) developing general indicators to measure the added role of pre-hospital care is generally difficult because a number of variables have to be considered. In their 2003 paper titled "evaluation of emergency medical service systems", Macfarlane and Benn presented

four scenarios with vastly different considerations and implications for the EMS involved. According to MacFarlane and Benn, these scenarios typically form the basis for a more accurate and realistic assessment of the appropriateness and value of EMS systems. The four scenarios are:

- a situation where a comparatively short pre-hospital time existed and the receiving institution is a sophisticated trauma and emergency centre,
- a situation where a comparatively long pre-hospital time existed and the receiving institution is a sophisticated centre,
- a situation where a comparatively short pre-hospital time existed but patients had to go to a small unsophisticated receiving centre, and
- a situation where a comparatively long pre-hospital time existed and patients had to be taken to a small unsophisticated receiving centre.

Most of the literature highlighting the limited value of pre-hospital ALS emanates from North American urban teaching trauma centres. According to MacFarlane and Benn (2003) these are usually well-resourced institutions which are served by EMS able to attain short prehospital times, a situation that is typically representative in the first scenario. In this scenario there appears to be little or no benefit in delaying rapid transportation for the initiation of pre-hospital ALS in trauma related cases (Demetriades, Chan, and Cornwell, 1996). According to Liberman, Mulder, and Sampalis (2000) where time and distance to definitive care is minimal, the value of prehospital ALS is surmounted by the value of primary stabilization and rapid transportation.

When comparatively long pre-hospital times exist and receiving centres are unsophisticated institutions like clinics or secondary management centres, situations increasingly prevalent in South Africa (Mathivha, 2002), then the role of pre-hospital ALS becomes of exponential value (Klemen and Grmec, 2006). The role of the SA ALS paramedic was recently brought to the fore when the findings of a novel study were presented at the 2009 Prehospital Emergency Care Conference in SA. The study, the first of its kind in SA investigated thrombolytic therapy for acute myocardial infarction and early patient outcomes in Durban and surrounding areas in South Africa (Naidoo, Ranjith, Singh, and Castle, 2007). In summary the study examined the impact of time on treatment with lifesaving clot dissolving drugs in patients

presenting with certain degrees of heart muscle death. The study showed that the mean time from symptom onset to the time patients actually received clot dissolving drugs was 8 hours 36 minutes. When compared to the onset of symptom time to administration of clot dissolving drug time recommendation of <60 minutes presented by the American Heath Association (2005), the study's findings of 8 hours 36 minutes constituted a major delay - a delay that typically translates into increased morbidity and decreased survival rates.

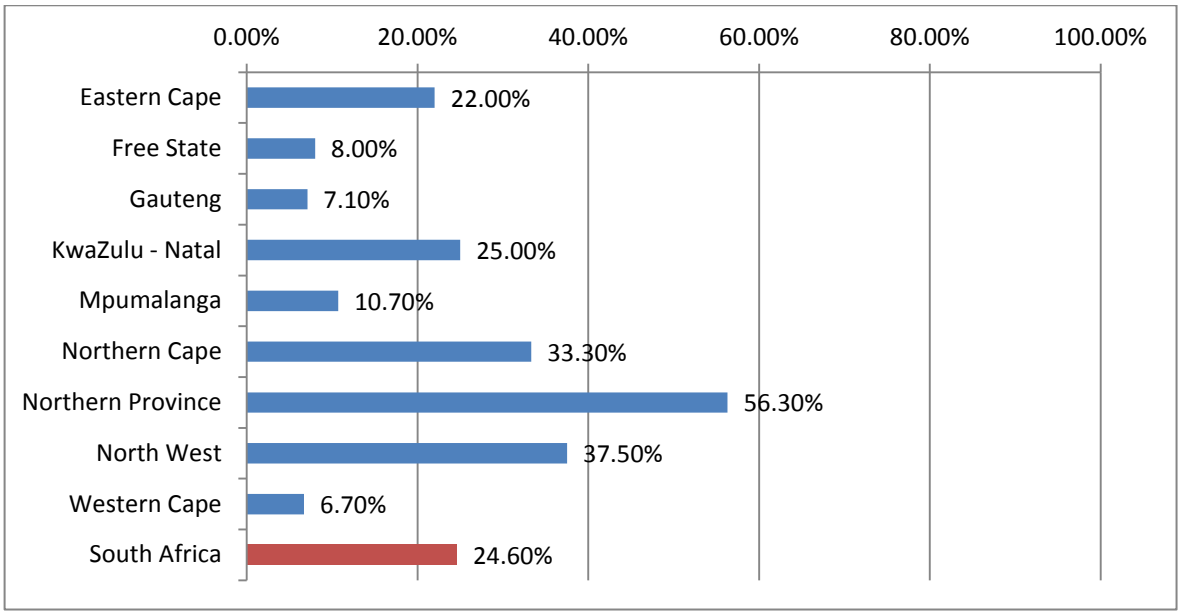
One of the recommendations emerging from Naidoo, et al's. (2007) study was the importance of prompt recognition and shortened time intervals from first patient contact to the administration of these clot dissolving drug infusions. According to Naidoo, et al. (2009) this could be achieved through the advent of pre-hospital thrombolysis. With thrombolysis performed before a patient gets to a hospital the overall time to definitive treatment can be drastically reduced thereby decreasing morbidity and improving survival. De-Waal, Naidoo, and Christopher (2008) supported this recommendation indicating that pre-hospital thrombolysis can be safely and effectively initiated and administered by suitably qualified ALS paramedics in the South African EMS.

The country's EMS services the needs of those subject to the country's high levels of trauma and medically related illnesses and who by themselves cannot access timely medical care (HST, 2008c). In addition, the SA EMS is also depended upon to provide the non-emergency service or secondary role of transporting sick or injured individuals from primary health care clinics or smaller hospitals to institutions that offer higher levels of care (Mathivha, 2002). Many citizens are increasingly dependent on the EMS for specialised ALS transportation because they are either geographically or economically disadvantaged in not being able to access sophisticated medical care by themselves (Tshabala-Msimang, 2005).

The role and subsequent value of pre-hospital ALS has been at the fore for many years. The debate around the benefit of on-scene pre-hospital ALS versus rapid transportation to hospital, still exists (Wishart, 2008). The one thing that is consistent however, is that the role and value of pre-hospital ALS is subject to the geography, health care needs, resources, and medical and social culture of the country involved (Ball, 2005). The imbalance in the distribution of health care institutions, especially 24–hour emergency facilities (see Figure 3.1 on page 53), increased EMS response

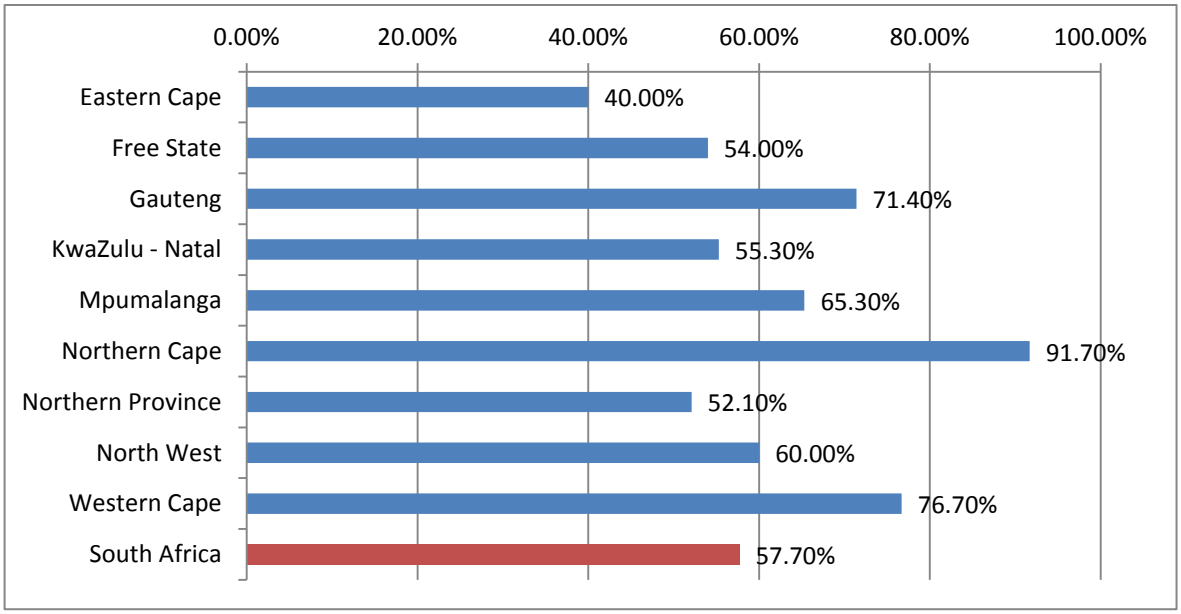
times from dispatch to patient access (see Figure 3.2 below), and the increased burden of violence, trauma and diseases in SA presents a scenario where the value and role of prehospital ALS is indeed warranted and needed.

Figure 3.1 Clinics in SA that have a 24-hour emergency facility



(Source: Health Systems Trust (HST), 2008b)

Figure 3.2 Clinics that had an emergency vehicle response less than an hour.



(Source: HST, 2008b)

3.4. Distribution of South African ALS paramedics

According to the Health Professions Act (Act No. 56 of 1974), a recipient of an ALS certificate for a CCA or a NDEMC, must subsequently register with the statutory council to be eligible to practice in SA (South Africa, Department of Health, 2005). Currently, 1631 ALS paramedics are registered with the HPCSA (Daffue, 2008), 613 having trained as CCAs and 737 who hold undergraduate diplomas. No details are available regarding the training route of the remaining 281.

According to Pieters (2008) the HPCSA does not require ALS practitioners to state their current place of employment when registering as new members or when re - registering. For this reason the HPCSA is unable to determine the actual whereabouts of all ALS paramedics that appear on their registers. As discussed in Chapter 2, section 2.4, the number of HCWs that are registered with a health council does not necessary represent the number of HCWs working inside the country. Many HCWs work outside the country, but still remain on health registers (Hall and Erasmus, 2003) while in other cases, some remain registered but do not actively practice within the profession (Worrall–Clare, 2009). According to Keating (2008) this scenario is increasingly prevalent within the population of ALS paramedics. He adds that over the recent years global employment agencies that offer SA ALS paramedics work contracts abroad do not necessitate country of placement registration. SA ALS paramedics can work abroad through their registration with the HPCSA. The figure of 1631 ALS paramedics that appear on the registry for SA ALS paramedics is therefore likely to include paramedics working inside SA, outside SA, and those working in other industries or those that are inactive but remain registered.

The Health Systems Trust (HST) is an information resource hub for statistics on the distribution of HCWs in the health care system in South Africa. Although statistics are available on a wide range of HCWs, no statistics on the number of ALS paramedics currently employed in South Africa, could be located (HST, 2008a). With the obvious disparity existing in the number of ALS paramedics registered with the HPCSA, those that are actually practising in SA, and the lack of official national statistics on ALS paramedics (South African Health Review, 2008), it may be accurate to conclude that the number of ALS paramedics practising in SA is not known. In addition, because there is an international deficiency in any reportable statistics that detail the flow of

HCWs (WHO, 2006a) and available emigration statistics are found to typically underestimate figures (see chapter 2, section 2.4), the number of SA ALS paramedics that work outside the country as a result of migration, is also unknown.

3.5. Factors contributing to the migration of ALS paramedics

According to the WHO (2006a) all migrating skilled workers typically share the same common basic desires for economic prosperity and personal professional development. They would all ultimately look towards a few common pull factors including better remuneration and working conditions, increased job satisfaction, and prospects of further education. They would presumably share the same negative views on "push" factors like poor working conditions, meagre salaries, and lack of promotion opportunities or career advancement (Muula, 2005). For this reason it would not be wrong to presume that the factors that had contributed to ALS paramedics deciding to migrate are likely to be similar to those factors that had contributed to HCW migration in general. These factors were discussed in Chapter 2, section 2.6. Examination of the operational activities that SA ALS paramedics normally engage in reveals that the job description of an ALS paramedic often differs significantly from the job of a conventional HCW like a doctor, nurse, pharmacist, or dentist. It may therefore be reasonable to assume that because operational activities differ, factors that contribute to migration of HCWs may also differ from those factors that contribute to the migration of ALS paramedics, be it entirely or by the degree of contributory influence. As research in this field is lacking (see Chapter 1, motivation for study), this is unknown.

3.5.1. The degree of influence factors have on the decision to migrate

The increasing global demand for South African ALS paramedics follows their high level of training and experience (MacFarlane and Benn, 2003). Having English as their language of communication increases their attractiveness to international recruiters (Chanda, 2002). SA ALS paramedics, unlike doctors or nurses who are often restricted to health care institutions, are versatile human health resources that can function in a variety of settings (SAQA, 2008). This is typically a result of their skills in emergency care, disaster management, and technical rescue. They are also noticeably cheaper than doctors to employ (Keating, 2008).The versatility of their

operational capacity leads to employment in international emergency care services, on oil rigs, in health and safety positions, teaching, and management of remote treatment centres (Frontier Medical Services, 2008). The downside however, is that many of these international placements necessitate extremely difficult working conditions, heavy workloads, long periods of time away from families, and an increased personal risk to danger and illness (Frontier Medical Services, 2008).

It may therefore be reasonable to assume that ALS paramedics invariably share the same exogenous (country specific) push factors as other HCWs, like increased societal crime, political insecurity, and lack of proper education opportunities for their children. Endogenous (industry specific) push factors like difficult working conditions, heavy workloads, and increased risk to personal danger and illness may have with it the potential of having no or a lesser degree of influence to the ALS paramedics decision to migrate, particularly as these factors exist on a greater scale in destination countries that SA ALS paramedics decide to migrate to.

3.5.2. Likely factors to ALS paramedic migration

No previous studies specifically describing factors associated with the migration of SA ALS paramedics could be located. Studies examining factors associated with burnout, job satisfaction and work motivation in paramedics did however exist. The importance of these studies lies in the close relationship between burnout, job dissatisfaction and no work motivation and the subsequent decision to leave the profession or even migrate (Padarath, *et al*. 2002). Hammer, Matthews, Lyons and Johnson (1986) found that operational road paramedics are typically subjected to higher levels of stress than their HCW counterparts that are hospital based. According to Boudreaux, Mandry and Brantely (1997) this higher level of stress usually translates into a depressive, anxious and hostile state on which decisions to leave the profession are often based.

Christopher, Krishna, and Louren's' (2007) South African study entitled "Burnout Syndrome and Job Satisfaction: The effects of Occupational Stress on Emergency Care Practitioners" reported a high prevalence of burnout and job dissatisfaction amongst ECP. The factors most contributory to this dissatisfaction were salary, promotion, contingent rewards and communication in the organisation. The study was a non-experimental descriptive study that analysed 42 anonymous

questionnaires received from Emergency Care Practitioners (ECP) employed by the provincial government of the Western Cape. The term ECP was cumulative description of the three levels of practitioners working in the SA EMS. This included the Basic Life Support (BLS) provider, Intermediate Life Support (ILS) provider and Advanced Life Support provider (see glossary of terms on page viii).

The findings of Christopher, et al's. (2007) study are therefore representative of ECPs in general and not ALS paramedics specifically. According to Naidoo (2008) ALS paramedics in South Africa typically earn higher salaries and have different operational duties when compared to their ECP counterparts with lower levels of training. In addition, the organisational structure of the SA EMS is such that the position of an ALS paramedic is typically one with a management directive and capacity. As there is a significant difference between the circumstances around which an ALS paramedic operates and other ECPs within the EMS with lower levels of training, the degree of influence certain factors would have on their levels of dissatisfaction would presumably also be different.

Naidoo's (2006) study titled "Work motivation amongst public sector emergency care practitioners in the UMgungundlovu health district of Kwazulu Natal" was an example of another study that presented findings representative of ECPs in general and not ALS paramedics exclusively. Naidoo's study did present however, a more convincing description of the factors associated with work motivation and ultimately work performance. The study was also successful in identifying and ranking the main causative factors that influenced work motivation levels among ECPs. These causative factors may be closely related and associated with an ECPs decision to migrate, however as only 4% of the total respondents were ALS paramedics, the findings of the study were less likely to be representative of ALS paramedics in general.

The Longitudinal Emergency Medical Technician (EMT) Attributes and Demographic Study (LEADS) was a 10-year longitudinal study of the EMT workforce supported in part by the National Highway Traffic and Safety Administration (NHTSA) of the US Department of Transportation and administered by the National Registry of EMTs (NREMT). The primary purpose of this study was to describe the EMT population, their work activities, work conditions, and job satisfaction (LEADS, 2002). The study provided valuable information about the EMS workforce, the level, and determinants

of job satisfaction, however it did not show why personnel left the EMS. Many of the study's questions regarding satisfaction were limited to those persons currently working as EMTs therefore the inputs of those who have temporarily or permanently left the field were obviously omitted. The high satisfaction rates may simply indicate that individuals who are dissatisfied with the field left either because as volunteers there was nothing to hold them or because as employees they had other more attractive employment options.

There is an increased likelihood that factors contributory to ALS paramedics migrating from SA are similar to those contributory to general HCW migration. There is also evidence that the SA ALS paramedic is typically employed in working environments and conditions that conventional HCW would not necessarily choose to work in. There is a likelihood that certain factors may contribute to HCWs deciding to migrate however these same factors may have no effect on the SA ALS paramedic's decision to migrate. Finally, in addition to factors that contribute to the migration of ALS paramedics, the relative ease with which migration becomes possible, may also be an increasingly influential factor.

3.5.3. Recruitment through agencies

The attrition of skilled HCWs is undoubtedly amplified by the active and aggressive recruitment drives undertaken by global agencies acting on behalf of host countries and industrial institutions (Padarath, *et al.* 2002). Allied Health Care and International SOS are two of the many South African based recruiting agencies that take on ALS paramedics for international placements. Medical Support Solutions and Frontier Medical Services (both based in the United Kingdom), Immunity Medics (Canadian based), Red Crescent (United Arab Emirate based), and Transocean International (USA based) are just a few of the many agencies that also employ South African paramedics regularly. Facilitation and support of the entire migration process including visa applications and flights, job sourcing for spouses, school enrolment for children and paid up accommodation are all aspects of an enhanced recruitment strategy employed by these agencies (Muula, 2005).

Recruitment agencies are reluctant to divulge just how many South African paramedics are on their payroll. With reasons that range from confidentiality clauses which aim to protect their employees, to having no records because job contracts

“are so short and inconsistent that keeping records would be difficult”, the reality is that these agencies are legal and so are their practices. They are just organisations that service the needs of their clients like any other business in the free world (Hall and Erasmus, 2003). However as Saravia, *et at* (2004) noted, the moral regard of this issue cannot go unrecognised. According to Stilwell, *et al.* (2003) the dilemma is ultimately to find strategies that can control or manage the outflow of HCWs while balancing their personal autonomy, their right to economic prosperity, their right to personal professional development with the expectations and needs of the public in relation to the provision of an adequate and effective health care delivery.

3.6. Strategies to address ALS paramedic shortages in SA

In 2006, in response to the growing shortage of ALS paramedics in the public sector and the resultant negative affect it had on the provision of pre-hospital emergency medical services, the South African Department of Health (DoH) identified accelerated training of ECP personnel with lower levels of training in the EMS to the level of ALS as a solution to the staff shortage crisis (South Africa, Department of Health, 2008a).

According to South Africa, Department of Health (2008b) accelerating the training of EMS personnel fell within the mandate of the National Human Resources Plan (NHRP) for health and the plan was to be implemented at provincial level. The performance of the NHRP in respect of training EMS personnel is therefore reviewed at provincial level. Unfortunately the progress and performance of the NHRP for all nine provinces in South Africa could not be located. The NHRP for Kwazulu-Natal was however available and is presented. Kwazulu-Natal (KZN) is the largest populated province in South Africa with just over ten million people and 20% of the country's total population (Statistics South Africa, 2006).

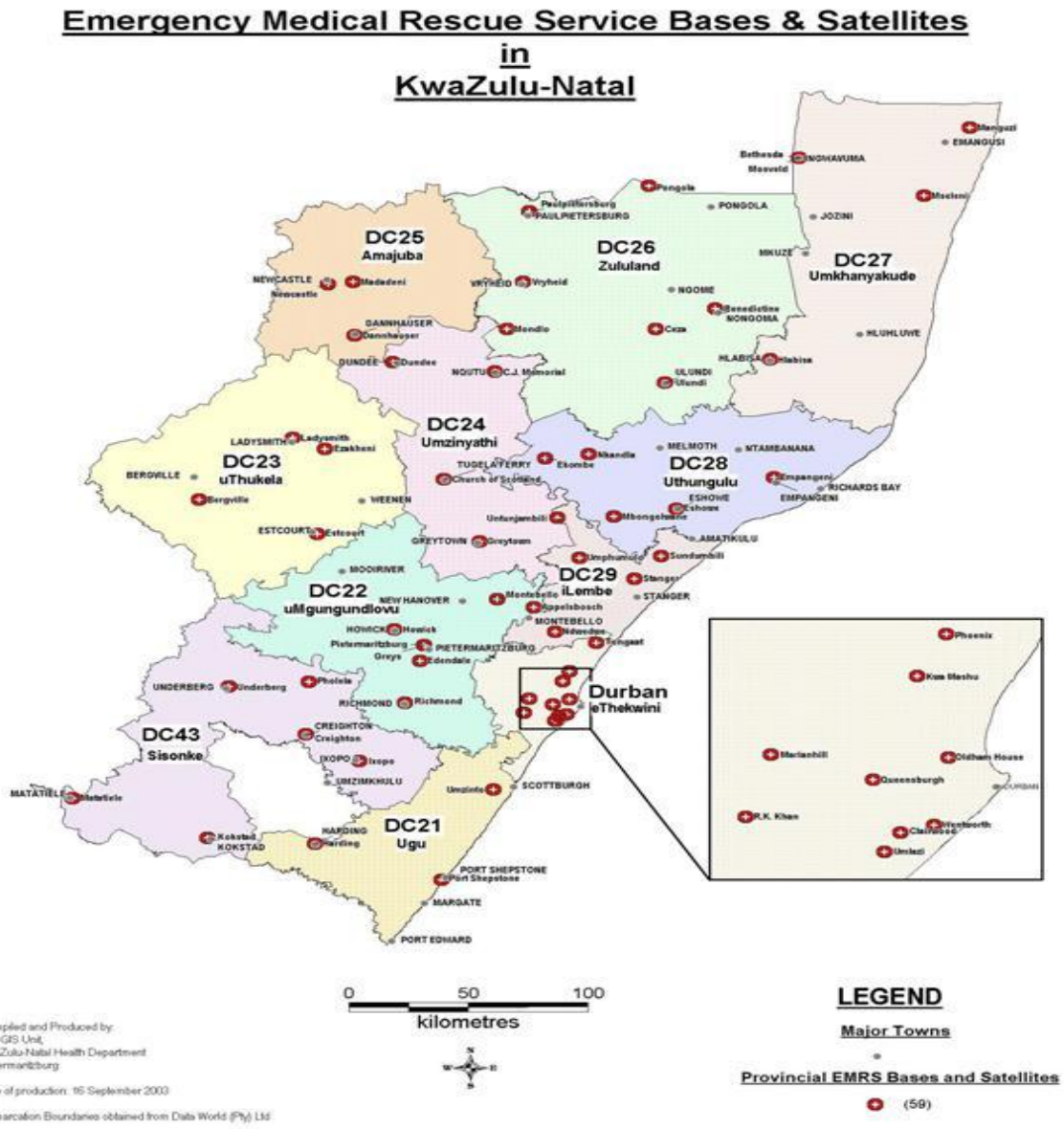
KZN appears to be a good representative for assessing the performance of the NHRP particularly because it is the province with the largest health budget and resource allocation in SA (Annual National Health Plan, 2007). It has the highest rate of individuals with HIV, AIDS and tuberculosis (HST, 2008c). It is the province with the highest mortality rate amongst obstetric patients with a lack of adequate ambulances cited as one of the primary causes (Moodley and Pattinson, 1998), and

the highest rate of trauma related motor vehicle accidents (Molla, 2008). It is therefore an ideal representative province to investigate the need, implementation, and impact of the NHRP, particularly as a tool to strengthen human resources in the EMS (South Africa, Department of Health, 2008b).

3.6.1 The need, implementation and impact of the NHRP in KZN

According to the KZN's Emergency Medical Rescue Services Annual Report (2007), the province is divided into eleven sub districts. See Figure 3.3 below. eThekwini is the largest sub district with over three and an half million people.

Figure 3.3 Distributions of Emergency Medical Services in KZN



(Source Kwazulu Natal, Department of Health, 2007)

Table 3.2 below shows the distribution of emergency service vehicles (ESVs) throughout the nine sub districts. In addition, the recommended target for ESVs in each sub district is shown as well as the current ALS paramedic status, i.e. actual and vacancies.

Table 3.2 Distribution of EMS and status of ALS paramedics in KZN

District	Population (Pop)	ESVs (Target)	ESVs (Actual)	ESV (Actual) to Pop Ratio	ALS paramedics (Actual)*	ALS paramedics Vacancies**
Amajuba	725,198	72	19	1:38,168	1	2
eThekwini	3,500,000	350	48	1:72,916	15	8
Ilembe	772,692	77	16	1:48,293	6	2
Sisonke	492,002	49	19	1:25,894	2	1
UGu	705,562	70	18	1:39,197	4	10
UMgungundlovu	995,030	99	18	1:55,279	9	13
UMkhanyakude	600,000	60	18	1:33,333	0	6
UMzinyathi	495,600	49	17	1:29,152	0	0
UThukela	770,000	77	19	1:40,526	0	3
UThungulu	902,820	90	25	1:36,112	3	6
Zululand	872,856	87	24	1:36,369	0	4
Total	10,831,760	1080	241	1:44,945	40	55

(Sources: Kwazulu Natal, Department of Health, 2007; *Boaz, 2008;**Finlayson, 2008)

Table 3.3 overleaf examines the status of ALS paramedics in KZN. By comparing the number of actively employed ALS paramedics (this includes those paramedics employed but away because of injury on duty status, absent from duty or on leave) with the number of people in a sub district, the relative need for ALS paramedics can be assessed. By comparing the percentage of staff trained to the level of ALS with the percentage target for a year, the progress of addressing staff shortages by accelerated training as implemented by the NHRP can be assessed.

Table 3.3 Status of ALS paramedic distribution in KZN

Number of ALS in the province (Target)	No of ALS in Province (Actual)	Active Vacancies 2008	Ratio ALS: Population (Target)	Ratio ALS: Population (Actual)	Local staff with training to ALS (Target)	Local staff with training to ALS (Actual)
680***	*40	**55	1:15,929	1:270,794	5%	2.1%

(Sources: *Boaz, 2008;**Finlayson, 2008;***Kwazulu Natal, Department of Health, 2007)

Tables 3.2 and 3.3 provide an adequate description of the distribution of emergency medical services in KZN. It becomes evident that when comparing the number of ESVs proposed (Target=1080) and the number that actually serviced the emergency service needs of KZN, a deficit exists. In addition, when compared to the target set by the DoH of 1 ALS paramedic to a population of 15 929 population (Target ALS***/ population of KZN) the number of ALS paramedics available to the KZN population was grossly inadequate (1: 270 749).

In the case of the NHRP and its goal of accelerating training of EMS personnel, an annual goal of training 5% of local staff to the level of ALS was set. According to the KZN Emergency Medical Services Annual Report (2007) only 2.1% of local staff was trained in 2007, to the level of ALS. This amounted to a 42% success rate. By way of illustration the impact made by the NHRP accelerating training of local staff to the level of ALS in KZN, is presented.

Based on the staffing norm of 10 ECPs per ESV providing a 24 hour service (Naidoo, 2006), KZN should have 2410 staff available to work on ESVs according to figures extrapolated from the annual review (241 ESVs, see Table 3.2, multiplied by 10 staff per ESV). For ease of presentation, all 2410 staff are shown as eligible for training to the level of ALS but in reality this will not be the case as many of the ESV staff may not have the minimum requirements to proceed to ALS training, i.e. they may be at the level of an ECP Basic or Intermediate and not have a thousand hours experience (Naidoo, 2008). The goal of training 5% of local staff (2410) annually means that it

would take approximately 5.6 years to reach the target of 680 ALS paramedics (Table 3.4). With the current success rate of 2.1%, the number of years increases to 13.4 years.

The NHRP to accelerate training address staff shortages in the KZN EMS was indeed justified and needed. There was a clear shortage of emergency service vehicles and staff to service the population of KZN in addition, a gross inadequacy of ALS paramedics had existed (see Table 3.3). As evidenced in Table 3.4, the implementation of the NHRP as a tool to accelerate training of ALS paramedics to meet the target demand for ALS paramedics in KZN only managed to achieve a 42% success rate. At this continued rate the time proposed to address ALS paramedic staff shortages in the KZN EMS will have essentially doubled.

On a national scale, the NHRP's target for human resources for health production proposed that the national production of ALS paramedics with NDEMC be 1000 annually (South Africa, Department of Health, 2008b). Considering that altogether only 157 ALS paramedics graduated nationally between 2001 and 2006 with a NDEMC, it may be safe to conclude that the NHRP's target may be overly ambitious especially as no new institutions offering the NDEMC have been created or accredited

3.7. Identifying strategies to manage migration of ALS paramedics

In Chapter 2, section 2.8 the supply, demand and mobility of HCWs was found to be the key components that should be considered when developing strategies to manage migration of HCWs. This trimodal approach could also prove beneficial when managing ALS paramedic migration from SA.

3.7.1. The supply of ALS paramedics

Producing more ALS paramedics may be the simplest way to manage the shortages of ALS paramedics in SA, however as discussed in Chapter 2, section 2.8.1, in the absence of retention strategies, continued production would spur on migration and cause continued economic losses to the country (Dovlo, 2007). Lowering training standards as discussed in Chapter 2, section 2.8.1.1.2, has with it the potential to

limit migration by preventing ALS paramedic credentials from being internationally recognised but as highlighted by Padarath, *et al.* (2002) this also has the potential to have disastrous implications, largely macroeconomic and beyond the scope of the EMS.

According to Saravia, *et al.* (2004) the focus should be on production of HCWs that are less likely to migrate. In Chapter 2, section 2.8.1.1.1, changes in recruitment policies where shown to increase the number of HCWs deciding to stay in rural areas. Currently, entry into the ALS paramedic training programme, NDEMC is based on academic and physical aptitude testing. Learners with the highest scores are accepted into training programmes. With the current shortage of ALS paramedics probably due to migration, it is evident that current entry requirements are inadequate in screening ALS paramedics that are less likely to migrate. As no previous research has been done on this specific population with regards to migration, identifying attributes in paramedics more likely to migrate, was not possible.

3.7.2. The demand for ALS paramedics

As discussed in Chapter 2, section 2.8.2, the demand for HCWs both nationally and internationally is likely to increase over the next decade. The WHO (2006a) highlights that although developed countries have a smaller burden of disease than developing countries, HCWs will tend to move more towards developed countries from which they are most likely to benefit than where the demand is greatest, i.e. developing countries. Saravia, *et al.* (2004) and Stilwell, Diallo, Kurn, Dal Poz, Adams, and Buchan (2003) note that the demand for HCWs will continue to grow if issues around poor remunerations, bad working conditions and lack of job satisfaction is left unattended.

In Table 3.2 on page 61, 55 vacancies for ALS paramedics were available in the KZN EMS however, according to Finlayson (2008) these vacancies would only be advertised later in the year. Naidoo (2008) suggests that the likely reason for that is a budget constraint. Dambisya (2007) discussed the use of non–financial incentives in countries that do not have the finances to increase remunerations. In many developing countries the use of non–financial incentives has been shown to attract HCWs back to source countries. In addition, SA should look at meeting its demand for ALS paramedics with suitably qualified ALS paramedics from other countries.

South Africa does not support the recruitment of HCWs from any country belonging to the Southern African Developmental Community (SADC), this includes non-retention of foreign students who have completed their studies in SA (Packer, Labonte, and Spitzer, 2007) for ethical reasons. The country may however look outside the SADC towards the recruitment of international ALS paramedics wanting to work in SA. Current policies for recruitment of foreign ALS paramedics do exist (Naidoo, 2008) but this is often a laborious process discouraging many from applying (Keating, 2008).

Registration policies should be aware of training standards and qualification levels of foreign ALS paramedics. This often streamlines the process of accrediting foreign trained ALS paramedics to practice in SA. These exist for doctors and nurses but lack in most other health care professions (Cohen, 2007). According to the Diallo (2004) an adequate, effective and user friendly administrative system to process foreign work migrants wanting to work or return to source countries is likely to encourage many more to apply. The WHO (2006a) supports the decision of developing countries employing HCWs from countries not experiencing HCW shortages themselves, however it does believe that this mechanism should only be used as a temporary measure and all attempts must be made to prevent continued dependency on foreign HCWs.

3.7.2.1. The strength of recruitment back strategies to meet demand

In 1993, SA ran an initiative called the Return of Talent Program in conjunction with the International Organisation for Migration (IOM). The program aimed to recruit South Africans currently working abroad. The program was subsequently suspended because it was only able to recruit 52 individuals (Cohen, 2007). In 2008, a large South African private hospital group in conjunction with the Homecoming Revolution Organisation ran a similar recruitment drive attempting to lure nurses, ALS paramedics and pharmacists back to SA. The recruitment drive showed moderate success with nurses and pharmacists however, success in recruiting ALS paramedics back to SA ranged from minimal to non-existent (NetcareUK, 2008). The reason for this according to Keating (2008) was in the recruitment drives inability to reach the majority of SA ALS paramedics working in the UK. Keating (2008) states that only South African ALS paramedics working within the Netcare hospital groups in the UK which are in count very few knew about the recruitment back strategy.

Although the strategy was ambitious, it was vague, lacked information and marketed poorly.

Saravia, *et al.* (2004) highlights that retention and return strategies to manage migration must be aggressive, continuous, dynamic and closely monitored. In has to adopt the same aggressive nature used by recruitment agencies that take away HCWs. This typically includes resources invested in advertising return incentives globally, creating awareness around the ease of returning to SA and targeting areas where SA HCWs can be reached. In the case of the ALS paramedic, this may include remote areas like those mentioned in Chapter 3, section 3.5.1.

Strategies should also be dynamic and continuous, particularly because tactics in the global recruitment of HCWs will change continually. Retention and return strategies have to continuously adapt to changes made by global recruitment strategies (Stillwell*, et al.* 2003). Finally, retention and return strategies have to be closely monitored. Often strategies may not be effective and if they continue to run further losses in investment and human capital is likely to result. In cases where strategies included lowering training standards and qualifications, the impact could have disastrous implications (Dovlo, 2007).

3.7.2.2. The likely success of recruitment back strategies

According to the WHO (2006a) even if recruitment back strategies are executed appropriately there is little evidence that significant numbers of HCWs would return to their home countries to practice their profession, especially in cases where conditions that had contributed to their departure, remain unchanged. Individuals typically cite push factors over pull factors as the primary reasons for their intention or decision to migrate (Padarath, *et al.* 2002). Any attempt therefore to recruit HCWs back to a country would only be as successful as the assurance that those push factors that caused them to leave, no longer exist (Packer, Labonte, and Spitzer, 2007). This was evident in countries like Singapore, South Korea, Taiwan, and China. These countries had only experienced substantial increases in the number of expatriate professionals returning when local conditions started to change or had improved (Dovlo, 2007).

3.7.3. The mobility of ALS paramedics

Return strategies should include an easy and non-judgemental re-entry into the domestic health system for HCWs who had chosen to migrate temporarily (Cohen, 2007). According to Keating (2008) SA ALS paramedics are often subjected to laborious processes when re-registration to the HPCSA is undertaken. The “pillar to post scenario” process often discourages many applicants from returning, even if they initially had wanted to return. Buchan and Sochalski (2004) suggest that helping returning HCWs with statutory council registrations would dramatically decrease the time and effort required for this often laborious process. Help with registrations would also allow for returning ALS paramedics to be rapidly deployed to areas they are needed the most.

Assistance and funding through loans that can be paid back could be made available to ALS paramedics wanting to return. The extra money would go towards the migration process and all costs that are involved in them returning into the country as highlighted by Spiegel and Yassi (2005).

Keating (2008) suggests that many ALS paramedics would normally choose to return to South Africa for work but are unlikely to do so because of the risk of losing their citizenship that they have since acquired in host countries. Packer, Labonte, and Spitzer (2007) encourages source countries to allow migrated HCWs that want to return the option of retaining their dual citizenships for a period of time. This option encourages the return of those migrants that want to return but are doubtful because of the uncertainty they may have about the political and economical stability of source countries. These migrants may feel that if they return to host countries they would automatically lose their citizenship in the source country, and if things deteriorate, it would be difficult for them to leave again.

As discussed in Chapter 2, section 2.8.3 certain actions can be taken at the level of the destination country and from an international level. Agreements can be created between SA and the countries that ALS paramedics choose to migrate to. Such agreements could include compensation made by recruiting countries to SA when ALS paramedics migrate there. This may even include educational support for more training facilities or returning better-trained staff as part of a donor package (Buchan

and Sochalski, 2004). In reality, as discussed by the WHO (2009), SA is ultimately responsible for developing and retaining its ALS paramedics. Bilateral agreements have the potential to work but do not manage the core of the problem. If issues that have contributed to ALS paramedics deciding to migrate are not managed then no matter the strength and spread of restrictive policies, ALS paramedic migration will go on undeterred.

3.8. Conclusion

An important function of the SA EMS is the provision of ALS at pre-hospital level, a role and function of the ALS paramedic. As examined in section 3.3, it is a role that is essential and warranted, especially in a developing country like SA. Over the past few years however, SA has experienced a growing and dire shortage of ALS paramedics. Currently 1631 ALS paramedics are registered with HPCSA and as discussed in section 3.4 this figure may not be a true reflection of the number actually present and working in SA. Compared with globally accepted ALS paramedic to population ratios, a gross inadequacy of ALS paramedics was found to exist in SA. This Chapter investigated the government's current strategy in addressing this shortage. The National Human Resources Plan (NHRP), an initiative to address ALS paramedic shortages through accelerated training, was examined. As indicated in Table 3.3 the plan is ambitious and on its own, it may be inadequate and minimally effective in producing the numbers of practitioners required, and more specifically within the desired timeframe. Alternative strategies to offset the shortages of ALS paramedics in SA must be explored. Avenues that contribute to dissuading ALS paramedics from leaving and encouraging their return to SA seem to be most practical with minimal attendant problems.

Chapter 4

Study design and research methodology

4.1. Introduction

This chapter explains the research design and methods employed in this study. Polit and Beck (2006) define the overall plan a study employs in addressing a research inquiry or problem as the study design. This includes all specifications adopted to enhance the study's integrity. Polgar and Thomas (2001) define the research methodology as the steps, procedures, and strategies that are actually used to gather and analyse data from the inquiry or the investigation of the research problem. This is necessary as it contributes to knowledge essential in understanding the foundation on which the framework that best supports the retention and return of South African ALS paramedics.

4.2. Study design

This descriptive survey used a mixed method study employing both quantitative and qualitative research techniques. According to Polit and Beck (2006) mixed method approaches enhance a study in a number of respects. In this study the mixed method approach enhanced the study by the phenomenon of methodological triangulation or what some research experts define as complementarity. By integrating both quantitative data with qualitative data, the limitations of each approach were offset. In this study the mixed method approach was done in two phases. The first phase hereon referred to as “Phase One” gathered empirical evidence through a survey instrument in the form of a questionnaire. The instrument was developed so that data collected could be precisely measured and quantified. According to Polgar and Thomas (2001) these are principles typically associated with quantitative research techniques. In the second phase hereon referred to a “Phase Two” subjective interactions carried out through interviews with information rich participants were conducted - principles usually associated with quantitative research.

According to Polit and Beck (2006) the nature of surveys as the one used in Phase One of this study, have the potential to limit the depth of the data obtained. Phase

Two of this study therefore, had the primary intention of providing an increased understanding and illustration of the descriptions or relationships identified from the data in Phase One. The in-depth probing during the interviews allowed for clarification of the quantitative findings, i.e. incrementality which is another way in which mixed method studies are enhanced according to Polit and Beck (2006).

The study's descriptive survey had been devised to facilitate responses with the intention of gaining an overview of undergraduate ALS migration. These responses were intended to provide the data necessary for all three objectives of the study. The three objectives were to;

- determine the extent and nature of the migration of ALS paramedics from South Africa,

- identify the factors that have contributed to their decision to work outside South Africa, and

- identify strategies to retain or encourage the return of ALS paramedics to practice exclusively in South Africa

The questionnaire in Phase One had been structured such that it collected information exclusive to each of the three objectives. Information collected in Phase One that required clarification or information that had not emerged in Phase One was achieved and collected through Phase Two. Figure 4.1 on page 71 provides a graphic illustration of the study design and the mixed method approach employed in this study.

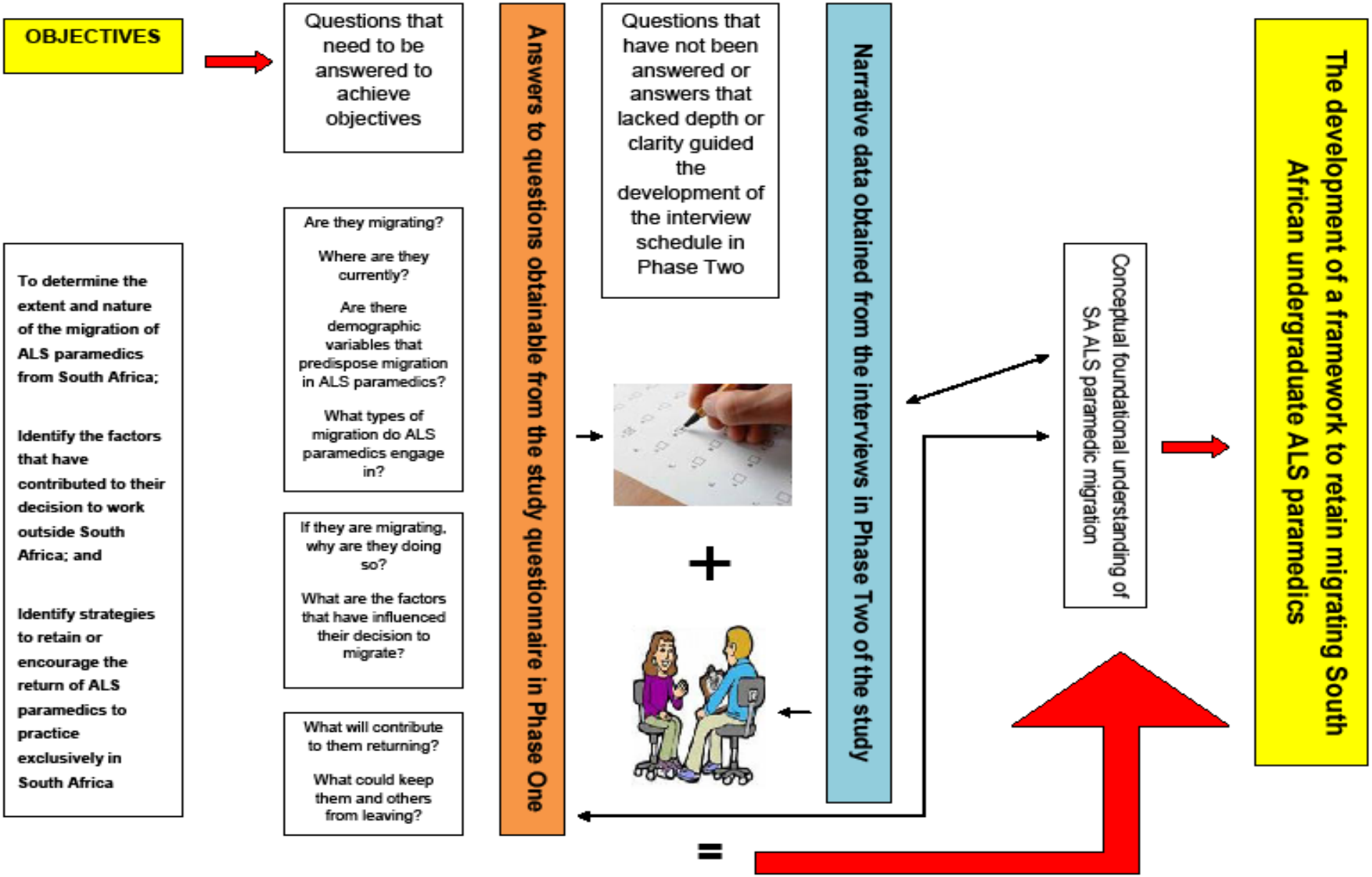


Figure 4.1 Graphical illustration of mixed method research design

4.3. Target population

4.3.1. Description of the population

All 157 ALS paramedics who qualified between January 2001 and December 2006 with undergraduate diplomas in Emergency Medical Care (NDEMC) from all SA institutions of higher learning providing such programmes, made up the study population. As identified in Table 3.1 on page 50 - the four institutions of higher learning (IHL) were the Cape Peninsula University of Technology (CUT), Durban University of Technology (DUT), University of Johannesburg (UJ), and the Central University of Technology (CUT). Table 4.1 below describes the distribution of ALS paramedics from the four IHLs.

Table 4.1 Distribution of ALS paramedics who have qualified between January 2001 and December 2006 according to institution of higher learning

Institution of Higher Leaning	**Number of diplomates**
Cape Peninsula University of Technology (CPUT)	23
Durban University of Technology (DUT)	61
University of Johannesburg (UJ)	67
Central University of Technology (CUT)	6
TOTAL	**157**

4.3.2. Population justification

Polit and Beck (2006) noted that there is no absolute method for ensuring that a sample is representative of the population under study. They added that the task is however laid onto the researcher to adopt a sampling plan that is less likely to result in a biased sample. The target population in this study was made of ALS paramedics who had qualified between a specified timeframe of 2001 and 2006 for the reasons states overleaf.

4.3.2.1 Population before 2001

It was necessary to focus on South African undergraduate ALS paramedics who were likely candidates for migration. CPUT and CUT, two of the four institutions of higher learning that trained and qualified undergraduate ALS paramedics, only started their respective programs in 2003 and 2004. Increasing the time frame to before 2001 would have resulted in more participants, but none from CPUT and CUT. This would have resulted in sample bias as the sample would have included the majority of participants from DUT and UJ and only a small number from CUT and CPUT essentially producing a non-representative sample or as noted by Polit and Beck (2006), a biased sample.

4.3.2.2 Population after 2006

International recruiters are less likely to recruit ALS paramedics who do not have some post-qualification experience (Keating, 2008). Furthermore, paramedics typically also choose to work the year after completing their undergraduate diplomas to gain experience (Chanza, 2006). In view of these points, it is unlikely that many paramedics who qualified after 2006 would have migrated. As the study sought a complete and contextualised portrait of the migration of ALS Paramedics, it was decided that the inclusion of graduate's post - 2006 might have the potential to dilute the extent and nature of migration and subsequently the overall findings.

4.4. Phase One

Phase One of the study consisted of a quantitative survey that systematically collected information that was needed to describe the extent and nature of migration of ALS paramedics and to then develop a framework to retain them. According to Polit and Beck (2006) surveys are particularly useful in describing what exists and they are also useful in determining the frequency and distribution of events and variables.

4.4.1. Data collection

During the preliminary stages of the study proposal, it was determined that study participants were all over the world. This presented many challenges around the administration of the survey especially regarding finances and logistics. For these reasons the survey was conducted using a structured self-report in the form of a questionnaire (Annexure One), which was less costly and required less time and effort to administer.

Research experts often highlight the drawback of the low response rate usually associated with questionnaires (Polit and Beck, 2006) however, while interviews could have overcome anticipated low response rates, in this study it was not feasible to interview all the participants given their likely geographic dispersion across the world. Furthermore, questionnaires can prevent the potential response bias that may occur with the presence of an interviewer. Study participants might respond to the reactions of the interviewer rather than to the questions themselves (Polit and Beck, 2006).

4.4.2. Development of the questionnaire

As discussed in section 4.2, the instrument used in Phase One was a questionnaire. It had been structured to have different sections, each section collected responses that provided all or part of the information necessary in achieving the objectives of the study. The different sections of the questionnaire collected data regarding:

- the total number of ALS paramedics that had migrated from SA,
- demographic data such as age, gender, work experience, type of work being performed and the type of migration they were engaged in,
- factors that had contributed to their decision to migrate, and
- the factors that would encourage them to return and or work exclusively inside the country.

Based on the researcher's knowledge and interactions with the population (discussed in Chapter 1, section 1.6) it was anticipated that participants may not provide detailed answers or not complete the questionnaire if they were required to give lengthy

written answers or divulge personal details which may reveal their identity. For this reason, questions were designed so that answers given would be adequate enough to divulge the required information but sufficiently general to reduce the likelihood of the participant's identity being revealed. The wording of the questions also took cognizance of the principles of clarity, simplicity and sensitivity to the respondents' psychological state as highlighted by Polit and Beck (2006).

4.4.3. Pre – test of questionnaire

The first version of the questionnaire was pre-tested. It was distributed to five ALS paramedics within and outside South Africa. All five were known to the researcher as candidates rich in information, they were experienced in the SA EMS and were also capable of providing valuable input. This was done so that the instrument could be critically appraised with emphasis on its validity and reliability. The instrument was also peer reviewed and critiqued by the Durban University of Technology's Faculty of Health Sciences Research Committee which includes researchers with expertise in instrument development, a statistician and the study supervisors, who are considered experts in the field of research and in the South African EMS.

4.4.3.1. Results from the pre – test

Participants found that the downloading of the questionnaire; completion of the questionnaire; saving of the completed questionnaire, and then attaching the completed questionnaire to a reply mail was a laborious process requiring much time, effort and a higher level of computer skills. The questionnaire was amended to appear on the electronic message's front page as opposed to an attachment. Study participants had to just click reply mail, fill in the questionnaire and click send.

Respondents were uncomfortable about stating whether they were registered with the HPCSA and this question was subsequently removed.

Respondents also felt that the question requiring an indication of their place of work by selecting a check box from a list of seven continents was confusing. They felt that as many paramedics worked on ships and oilrigs, which are not confined to a specific continent, this question would go largely unanswered. This was subsequently changed to an open-ended question.

Adjustments were made by the experts who reviewed the instrument prior to it being tested with the five participants and afterwards.

4.4.4. Pilot study

Babbie (2001) states discusses that no matter how carefully a data collection instrument is designed, there is always the certainty of possible error, and the surest protection against such error is pre-testing the instrument through a pilot study. Sarantakos (2000) differentiates between the pre-test and the pilot study. A pre-test comprises the testing of one or more aspects of a study, e.g. the questionnaire or the programme for the analysis of data. A pilot test comprises the "miniaturised walk through of the entire process of one or more aspects of a study", e.g. physically trying out procedures for assembling and mailing questionnaires or collecting, analysing and processing of data to generate results.

According to Bailey (1994) the pilot study must be executed in the same manner as is planned for the main investigation. Babbie (2001) mentions that the complete questionnaire or only a section of it can be tested during a pilot study. Neuman (2000) agrees, but adds that all apparatus such as computers, video cameras and tape recorders to be used during the study, should also be pilot tested. In this study, the pilot study tested the process of mailing and receiving the questionnaire to be sent out to participants in the main investigation. In the pilot test, a small number of people also form within the target population were used. It was discovered that when some people received the electronic mail (e-mail) the structure and visual appearance of the questionnaire had changed to the point where parts of the questionnaire had been cut off. With the help of a computer software programmer, this problem was remedied. The programmer "marked up" the questionnaire with certain text and tags that maintained its visual appearance regardless of the type of computer and programme that participants used to open and read it.

4.4.5. Instrument reliability and validity

Reliability is the consistency with which an instrument measures an attribute (Polgar and Thomas, 2001). In other words, it refers to a measuring instruments' ability to

yield consistent results each time it is applied. Since the instrument used in this study was developed for this study specifically and not used before, it was difficult to assess reliability of the questionnaire in its truest sense. Neumann and Kruger (2003) suggest that preliminary versions of an instrument should be used first and tested before applying it into the main investigation. In this study this was achieved to some extent through the pre-test and pilot study as discussed in section 4.4.3 and 4.4.4 respectively.

Validity is the degree to which an instrument measures what it is supposed to be measuring (Polit and Beck, 2006). Two types of instrument validity were addressed in the study: face and content validity. Some experts believe that face validity and content validity can be used interchangeably (de Vos, *et al.* 2005). Others disagree, arguing that face validity is technically not a form of validation since it does not refer to what an instrument actually measures but rather to what it appears to measure (Patton, 2001). In other words, it appears relevant to those who will complete or administer it. Face validity is a desirable characteristic of a measuring instrument.

According to Patton (2002) content validity has to do with whether a measuring device covers the full range of meanings or forms that would be included in a variable being measured. Owing to the paucity of literature on migration of ALS paramedics, literature around the migration of HCWs in general was used to construct a questionnaire that adequately represented all content available on this topic. Babbie (2001) mentions that content validity is established on the basis of judgements that is, researchers or other experts make judgements about whether the measure covers the universe of facets that make up the concept. In this study the questionnaire was judged to have both face and content validity by the researcher who is an ALS paramedic, (highlighted in Chapter 1, section 1.6), together with the co-supervisor who is a authority in the SA EMS and a board member of the Professional Board for Emergency Care (PBEC) in SA.

4.4.6. Strategy to locate and recruit participants

Both Stilwell, *et al.* (2003) and Dovlo (2007) emphasize that health registries are usually the most reliable place to obtain data on HCWs. It would have been ideal to utilise the HPCSA database to locate and recruit participants for this study but as

discussed in Chapter 3, point 3.4, the HPCSA was not able to provide the current addresses of diplomates, and particularly those that are not registered with the board. Participants were therefore recruited *via* the following ways:

4.4.6.1 List from respective institutions of higher learning

Lists and contact details of all ALS paramedic diplomates were formally requested from the respective institutions (Annexure Two). The request was accompanied by the study letter of information (Annexure Four) and the questionnaire (Annexure One). Prompt replies were received from all four institutions of higher learning (IHL) regarding their willingness to be a part of the study. All four IHLs supplied their lists of diplomates, which in total amounted to 157 people. This was the target population. There was however a noted deficit in the contact details available for most of the diplomates. It was discovered that the majority of graduates utilised the electronic mail addresses provided to them by the IHL during their training periods. Diplomates had invariably changed these after graduation and no updated records were available. The intention was to obtain contact addresses for the entire target population, however correct contact details were only available for 47 or 30% of the diplomates on the lists provided by the four IHLs. This 30% become part of the accessible population (see Table 4.3). Two other approaches were used to contact the target population as explained in 4.4.6.2 and 4.4.6.3.

4.4.6.2 Recruitment though social networking utility: Facebook

A discussion group called “ALS Paramedics, South Africa needs YOU**!**” was created on the web-based social network: Facebook. This specific interface was chosen as it appears to be the most popular and perused networking website for South Africa emergency medical care personnel. Besides having over 180 million global members, the social networking utility has thousands of EMS and paramedic discussion groups, both nationally and internationally. The title had been chosen because it was catchy, bold and was designed to provoke intrigue.

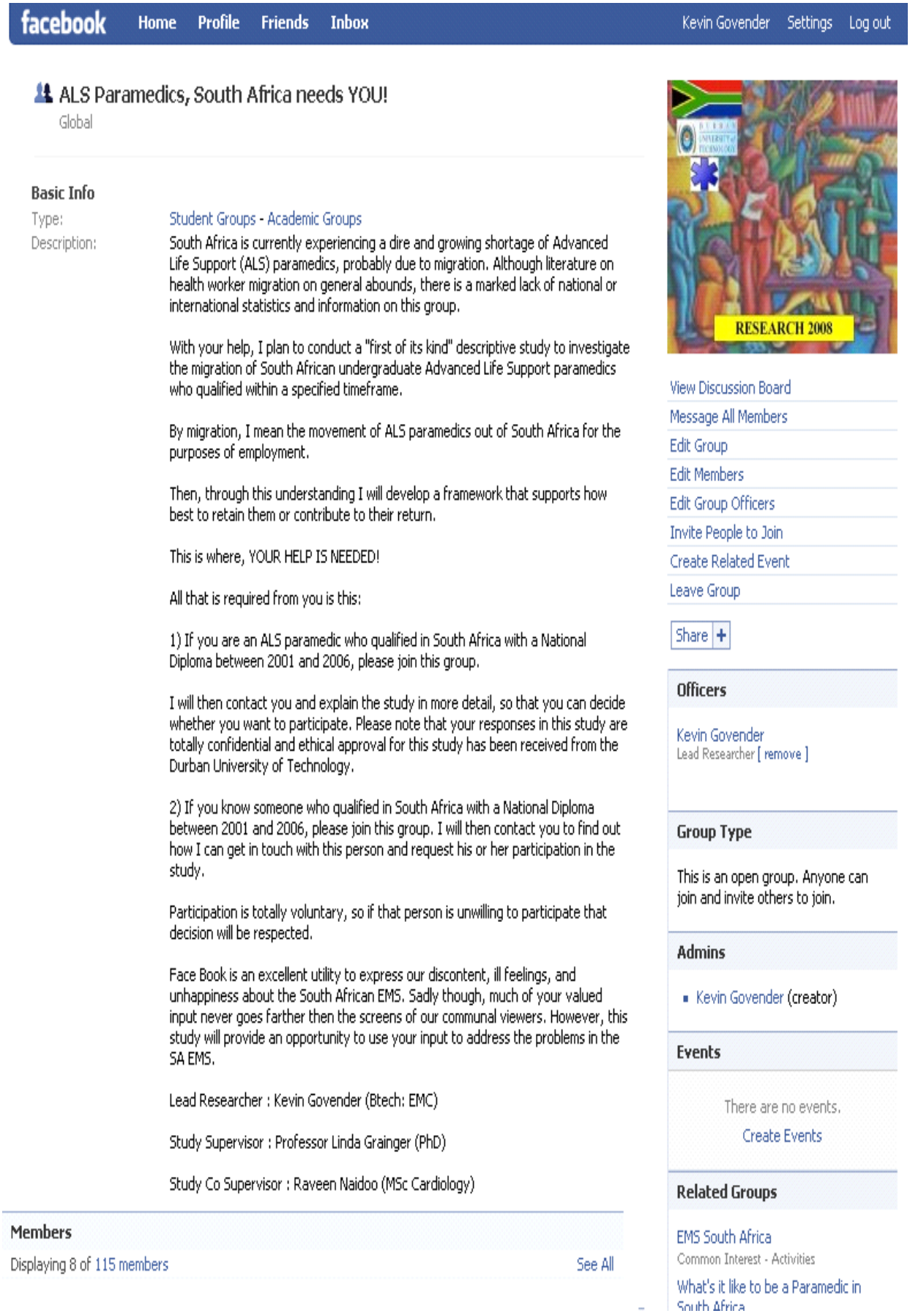
After “ALS Paramedics, South Africa needs YOU!” was created, invitations to join the group were sent out to fifteen specific discussion groups also on the social networking utility. These groups were identified using a search function of the

networking utility. The search facility presents a list of closely related groups that share similar title headings, discussion groups, members, and agenda. These related groups were both South African and international in creation. The discussion groups had a cumulative membership of over 50 000 emergency care personnel, 10 of the groups were created by South Africans while the remaining 5 were created internationally (see Table 4.2). An invitation was sent out to all members in each of the related groups. The message was clear in its purpose: it invited any SA undergraduate ALS paramedic that qualified between the specified time frame of 2001 and 2006 to join the group "ALS Paramedics, South Africa needs YOU!" It also invited persons that knew, or had contact with people that they thought fell within the study population. Figure 4.2 on page 80 is a snap-shot of the group created on Facebook. On the front page of the group, a summary of what the discussion group was about, was presented. This was accessible to anyone regardless of them joining the group or not. Within the description part of the discussion group more in-depth and specific details about the study was offered. Only individuals that voluntarily joined the group were subsequently contacted.

Table 4.2 List of related discussion groups to which invitations were sent

Related discussion groups	Group origin
Paramedic association of South Africa	South African
EMS South Africa	South African
TN/DIT/DUT graduates	South African
What is it like to be a Paramedic in SA	South African
Medics of Frontier Medical Services	International
Paramedics on Facebook	International
Emergency response personnel on Facebook	International
EMT – Emergency Medical Technicians	International
Facebook Paramedics	International
CCA versus NDIP	South African
SA paramedic vacancies	South African
Remote site medics	South African
KZN emergency services	South African
BLS ILS ALS Paramedics	South African
KZN paramedical action committee	South African

Figure 4.2.Snap shot of discussion group on Facebook



Once individuals joined the group, a notification email was sent to the study researcher *via* an automated email notification system also available on the networking utility. This allowed the researcher to contact members within 24 hours of their joining the group. Each member was contacted privately through the “send message” option on the utility. This option, unlike the wall correspondences, is private and is not viewable by other members of the group. The message contained a request for their private email addresses.

The list of members of the target population obtained from the IHLs was available to the researcher. If members who joined the Facebook group were identified as being from the target population, an information sheet clearly explaining the study together with the questionnaire was forwarded to them. In the case where members names did not appear on the list of the target population, a request for information and contact details for people they thought fell within the target population was sent to them. Once this information was obtained and confirmed with the target population list, a study information sheet together with the questionnaire was forwarded to them. It was understood that if a person voluntarily completed the questionnaire and forwarded back to the researcher, informed consent had been received.

The group recruited 115 members in total, 87 were South African ALS paramedics. Of the 87, 38 fell within the study population, and 28 were informants who provided the contact details of 8 other paramedics belonging to the study population (see Table 4.3).

4.4.6.3. Recruitment through multiple sources

The researcher actively identified and located potential study participants by contacting eligible people friends, colleagues, and South African EMS employers, and requesting contact details of other potential participants known to them. In cases were informants were unhappy about providing such information, the researcher sent the study information sheet to the informant to pass on to potential participants. If potential participants replied wanting to be part of the study, the study information sheet and the questionnaire were forwarded to them. A completed and returned questionnaire was taken as receipt of informed consent. In cases were no replies

were received, participants' right to privacy was respected and no further contact was made.

Active recruitment through multiple sources proved to be the least successful, however, some other interesting and pertinent information was discovered. Although contact details were recovered for 11 other people who fell within the study population (see Table 4.3), information on the whereabouts of 23 individual paramedics, 19 of whom fell within the target population was disclosed. Employers, families, and colleagues of 19 of the potential study participants confirmed that these people had definitely emigrated and that they had been gone for periods greater than five years. No contact details were available for them.

Table 4.3 presents an overall view of the three strategies used to recruit participants. A total of 199 names were obtained through the strategy to locate and recruit participants, however 42 were duplicates. As noted, the target population consisted of 157 diplomates (see 4.4.6.1). The contact details for only 97 of these were located, and these became the accessible population. They constituted 61.78% of the target population. All 97 members of the accessible population agreed to participate in the study.

Table 4.3 Recruitment strategy

Method to locate and recruit target population	**Result**		**Target population members that were locatable**
List obtained from respective institutions of higher learning	Number of diplomates names that were received (i.e. Target population)	157	47
Recruitment though social networking utility: Facebook	Members joining group on Facebook	115	42*
Recruitment through multiple sources	Names identified	11	8*
Total number of names identified (including 42 duplicated names)		199	**97= Accessible population**

*These were new contact details that had not been identified

4.4.7 Distribution and collection of questionnaires

The questionnaire was distributed by electronic mail. In an effort to encourage reply, the questionnaire was on the electronic message's front page as opposed to an attachment (as discussed in sections 4.4.3 and 4.4.4.) Study participants had to just click reply mail, fill in the questionnaire, and click send. The questionnaire would have taken between ten to fifteen minutes to complete. A mean time of 12 minutes was observed during the pilot test. Candidates were reminded that they should complete the questionnaire without the input of other people in order to obtain data specific to them. To improve response rates, the researcher sent out three reminders one week apart. The reminders were person specific rather than a bulk email to which people tend to pay little attention. The reminder was an informal, friendly email telling study participants about the data collection cut-off date. It also reminded them to contact the researcher should they have any queries or concerns.

The researcher had taken cognizance of the fact that some participants were not willing to have their contact details divulged. In that instance, the researcher sent the letter of information to them *via* a colleague. The questionnaire however was only submitted and received *via* the participants' personal contact email, this was in an effort to ensure that the data pertained to that individual and was kept confidential- this happened on two occasions. On both occasions, participants complied with the questionnaire receipt and return protocol.

The questionnaires were returned to the researcher by electronic mail. At no time during the study did one participant have access to another participant's questionnaire. Questionnaires were sent out individually, a bulk email was also sent out at the end of Phase One. This was to inform participants that the data collection cut-off date had passed. It also thanked them for their effort and time. In that event, the bulk email had the recipient box blanked off through the blank carbon copy (bcc) option thereby preventing study participants from seeing who else was on the distribution list.

Returned questionnaires were immediately checked for completion. Incomplete or inaccurately completed questionnaires possibly due to the study participants' misunderstanding the questions, were sent a follow up email giving an explanation of the relevant questions and study participants were requested in an informal friendly

manner to clarify or correct aspects of their questionnaire. This occurred four times, at no time was there any coercion to complete questions.

Overall, as illustrated in Table 4.4, a total of 97 undergraduate ALS paramedics qualifying in South Africa between 2001 and 2006 were accessible to investigation. Although all agreed to participate in the study, only 51 returned completed questionnaires for data analysis. This in effect became the sample, which represented 53% of the accessible population. It could similarly be stated that this was a 53% response rate to the questionnaire.

Table 4.4 Overall result of recruitment strategy

Recruitment method	Accessible population	Population from which returned questionnaires were received from i.e. sample
List obtained from respective institutions of higher learning	**47**	**36**
Recruitment though social networking utility: Facebook	**42**	**11**
Recruitment through multiple sources	**8**	**4**
Total	**97**	**51**

4.4.8. Data analysis

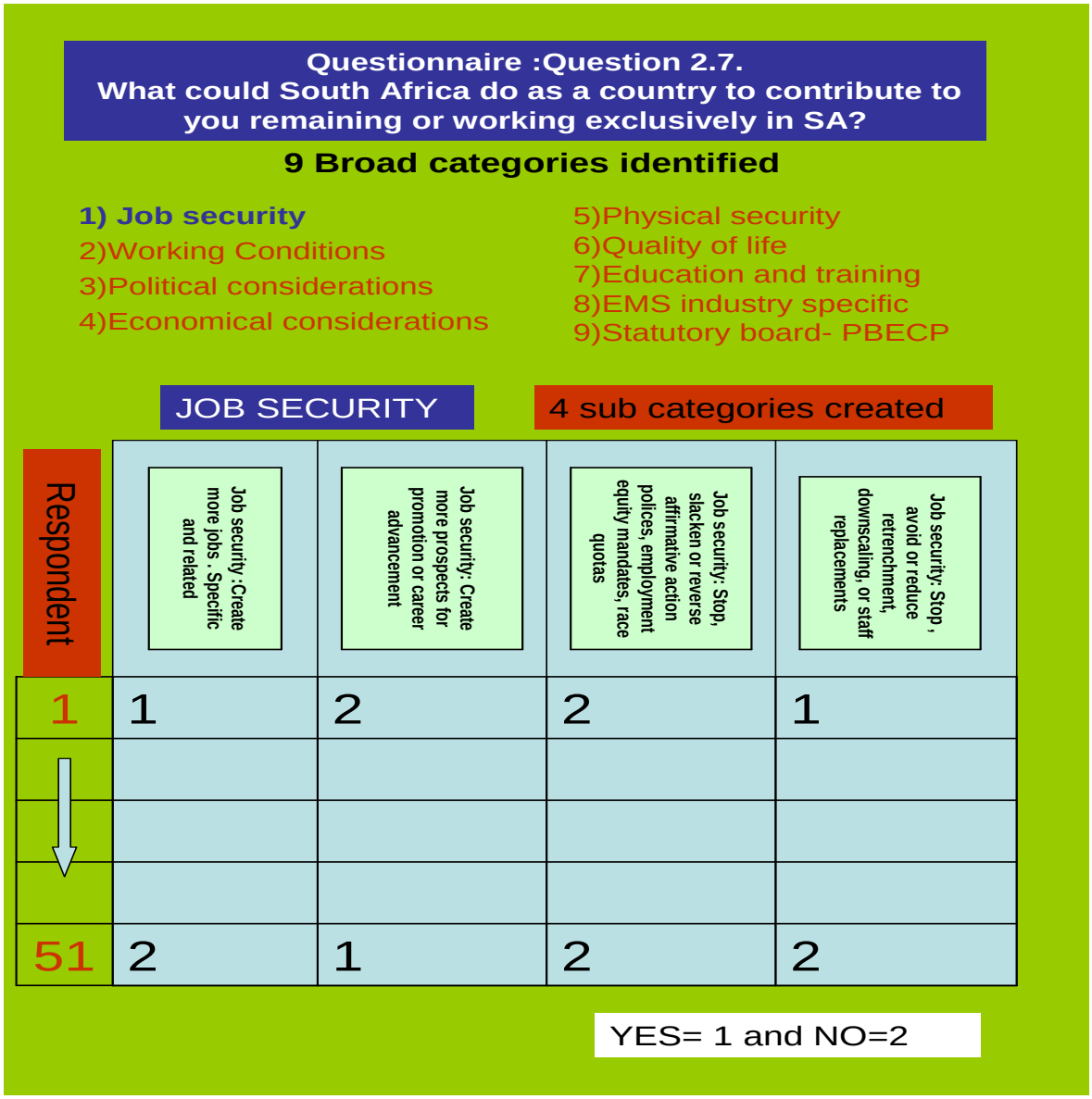
After each questionnaire was checked for completion, they were printed out and given a unique number. This was necessary to keep track of the documents.

Because the questionnaire comprised of many open-ended questions, it became necessary to first prepare the data so that it would become quantifiable.
A data collection workbook in Microsoft Excel format was created to achieve this. Each question asked in the survey had its own worksheet in the workbook. The questionnaires were then read in its entirety. Responses to the open-ended questions were then copied from each questionnaire and pasted in the worksheet with the corresponding question. After this was done, each question on a unique worksheet had every possible response recovered by the questionnaires for that specific open-ended question. The responses were then reviewed and categories were formed. Certain categories were collapsed into each other to make one sufficiently descriptive collective category. This was done to make the worksheet more manageable. Categories were then grouped to form major factors. The categories or sub factors as which they are also known as have been explicitly labelled to prevent the possibility of some responses which had been recovered from being diluted or lost. All categories were mutually exclusive.

A number of measures were used to ensure that the researcher did not introduce his own bias during the development of the categories. The category labels used the actual words of the respondents. Only in a few cases were quotes shortened to make them more manageable without losing the essence or nature of the comment or quote. Furthermore many were the same as those used in the literature around HCW push and pull factors. In addition, both study supervisors checked the categories against the raw data.

Once the major factors with the sub factors for each open-ended question were formulated (as indicated in Figure 4.3 on page 86) they were placed as headings over the sub factors in a Microsoft Excel worksheet. The sub factors were placed parallel to each other as columns along the x-axis of the Excel worksheet. Each row, on the y-axis of the worksheet represented a study respondent also known as a study participant.

Figure 4.3 Preparation of data for analysis



**Example - illustration to demonstrate data preparation for Phase One. Responses are not representative of the responses received from participant 1 or participant 51.*

Figure 4.3 is an example* of the major factors identified for question 2.7 of the questionnaire. The example shows the sub factors for the major factor "Job security". It also shows the assignment of numeric values with regard to responses present or absent for a certain sub factor. For example, if participant 1 (one) responded to question 2.7 by saying *"They should create more jobs[1] and stop retrenching[2] people".* Then s/he would have a "YES" which had been assigned the numeric value "1" in that two sub factors and a "NO" which was assigned with the numeric value "2" in the other two sub factors.

Once all the responses recovered from the survey had been prepared for data analysis, descriptive statistics consisting of summary statistics for variables in the form of measures of central tendency and dispersion, frequency distributions and standard deviations were performed. In addition, inferential statistics consisting of chi-squared tests which tested the strength of possible relationships existing between variables were also conducted. Both descriptive and inferential statistics were conducted through the Statistical Package for Social Sciences (SPSS) programme and verified by an independent statistician.

4.4.9. Internal and external validity of Phase One

According to Polit and Beck (2006), a useful framework for evaluating the adequacy of a research design in a quantitative study is an assessment of its internal and external validity.

According to Babbie (2001) internal validity refers to the extent to which it is possible to make an inference that the independent variable is truly causing or influencing the dependent variable. A study's internal validity can be threatened by many factors. In this study two threats were considered. The first was selection bias. In section 4.3.2 the justification for the chosen population was presented. The strict inclusion criteria of only NDEMC ALS paramedics qualifying between the specified time frame of 2001 to 2006 should have decreased the possibility of bias due to pre-existing differences between groups. Furthermore, vigorous efforts were made to recruit as large a sample as possible. The second threat, maturation, arose from the processes occurring with the participants as a result of the passage of time rather than the influence of a dependent variable. The cross-sectional design should have limited this threat.

External validity concerns the generalisability of a study's findings. Polit and Beck (2006) mention that often the demands for different aspects of validity conflict. For example if a study exercises too tight control to maximise internal validity, the setting may become too artificial to generalise to a more naturalistic environment. According to Babbie (2001) if the characteristics of a sample are representative of a population then the generalisability is enhanced. As indicated in section 4.3.2, a sample found to be most representative of the migrating ALS paramedics was identified and chosen.

4.5. Phase Two

As discussed in section 4.2, to further understand migration of SA ALS paramedics, subjective interactions in the form of interviews with information rich participants, also from within the study population were conducted. The intended outcome of Phase Two was to illuminate the findings obtained from Phase One and together produce a framework that outlines strategies to retain and contribute to the return of South African undergraduate ALS paramedics.

4.5.1 Sampling method

According to Sarantakos (2000) there are no established rules for sample sizing in qualitative research. Patton (2002) agrees, indicating that the quality of the participants and the purpose of the inquiry dictates the size of the needed sample. Polit and Beck (2006) concur mentioning that in qualitative research the sample is determined by the information needs of the study. In this study the information needs were set around that of gaining a detailed understanding of the factors and relationships identified in the quantitative output from Phase One.

To accomplish this, Phase Two used purposive maximum variation sampling. This qualitative sampling technique involved purposefully selecting participants based on the information needs that emerged from earlier findings (Polit and Beck, 2006). In this case, that would be Phase One.

Participants for Phase Two, which consisted of in-depth interviews were purposefully selected according to the following criteria.

- participants who had shown much interest in the study and believed to be rich with information specific to the SA EMS

- based upon the answers participants gave to an open-ended question in the questionnaire from Phase One. This question requested additional comments that the participant may have necessary to understand any aspect of their answers or migration of ALS paramedics in general. It was assumed that

those who provided detailed answers would be keen to expand on the issues or may have strong feelings on the subject.

- participants who could provide answers that covered the range of variation of the dimensions of interest in this study.

Ten participants were identified in accordance with these criteria. The selected participants were subsequently contacted using Annexure 5, and requested to be part of Phase Two. Eight of the ten participants agreed and process consent was obtained. In process consent, the researcher continuously renegotiates the consent, thereby allowing participants to play a collaborative role in the decision making process, regarding their on-going participation (Polit and Beck, 2006). This option was decided on because at the time of the initial request, the researcher was unaware of how the study would evolve, the exact nature of the data to be collected, and how much time and commitment would be required from the participants.

4.5.2 Sample size

Phase Two was guided by the principle of data saturation. During the latter stages of the collective interviewing process, it was identified that the selected participants were good informants. They reflected on their own experiences and had the ability to communicate effectively. From interview six onwards, it became evident that no new information was being obtained and information was predominately being repeated. According to Sarantakos (2000) redundancy in information is a clear indicator of data saturation. Polit and Beck (2006) agreed, indicating that when data saturation has occurred there is no need to recruit further participants in qualitative research. In total, eight of the ten participants were interviewed.

4.5.2.1 Sample realization

The individual interview method as opposed to a focus group discussion was chosen to provide protection for participants and to encourage them to speak candidly and freely. Respondents did have concerns around possible reprisals following their comments. However, they were assured of confidentiality regarding their identification and/or responses. It was reiterated that there was no way that they could be linked to the information that they had provided.

In keeping with the assurance of confidentiality, this study does not provide a background overview of the participants in Phase Two. This could not even be of a generic and vague nature, particularly because the South African ALS community is so small. Any specific background information or personal identifiers regarding qualifications, geographical position, or organisational affiliation would have with it the potential to render a respondent identifiable. To help distinguish participants in each of the two phases, participants in Phase Two are referred to as informants (inform).

In Table 4.5 on page 91- a tick box general overview of the informants is presented. It is evident that informants were also chosen to extend over the dimensions of the study population. This meant that besides being information rich and able to communicate that information effectively, the informants in Phase Two were made up of:

- newly qualified ALS paramedics as well as those qualifying very early on in the chosen time frame,
- respondents working inside and outside South Africa,
- respondents that had spent many years in the EMS, and remain operational,
- respondents that had spent many years in the EMS, but had moved onto either management or teaching positions (public and private sector within and outside SA),
- none of the respondents had any direct affiliation to the HPCSA. The only affiliation some of the respondents had was through their professional membership with the regulatory council as ALS paramedics.

Table 4.5 General overview of informants in Phase Two

INFORMANTS	ALS Paramedic	Qualified within 2001 and 2006	Qualified from a IHL	Operational ALS Paramedic	Management experience	Post-graduation studies in EMC	Employer of ALS paramedics	Contributor to ALS paramedic professional development	Worked as ALS paramedic outside the country	Human resources management expertise	Worked in other sectors related to the EMS
Inform 1	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Inform 2	✓	✓	✓			✓		✓			✓
Inform 3	✓	✓	✓		✓	✓		✓	✓		✓
Inform 4	✓	✓	✓		✓		✓		✓	✓	✓
Inform 5	✓	✓	✓	✓							
Inform 6	✓	✓	✓			✓		✓			✓
Inform 7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inform 8	✓	✓	✓		✓	✓		✓	✓		✓

4.5.3 Data collection and analysis

All informants were contacted telephonically. Given the geographic dispersal of participants and the researcher working outside SA, this was the most logistical and economically suited option. Two telephone calls were made. The first was to establish contact with the informant and invite them to be part of Phase Two of the study. The second call was the interview subsequent to them giving consent.

Annexure 6 is the semi-structured interview guide that was used to stimulate discussion during the interview process. According to de Vos, Strydom, Fouche', and Delport (2005) semi structured interview guides are especially suited where one is particularly interested in complexity or process, or where an issue is controversial or personal. Polit and Beck (2006) agree that in semi structured interviews the

researcher will have a set of predetermined questions on an interview schedule but the interview with be guided by the schedule and not dictated by it. The participant shares more closely in the direction the interview takes and the informant can introduce issues the researcher had not thought of (Polit and Beck, 2006). This was the intended outcome of Phase Two - to explain and clarify findings that emerged from Phase One, but also to examine issues that had not emerged in Phase One.

The interviews averaged about 28 minutes each. A memo was kept open during the interview, this was to note statements of particular interest, or facts or references that were made by the interviewee. At the end of the interview, the interviewee was asked to expand or clarify these statements. All interviews were voice recorded.

The transcribing of each interview took place immediately after the actual interview. This was necessary because, in the event that the respondent was needed to be contacted again to clarify or expand on certain issues, minimum time would have lapsed. None of the respondents were however contacted more the once.

After all eight interviews had been transcribed an editing analysis style was employed to search through the data for meaningful segments. This was undertaken by the study researcher with supervision from an expert in research methods in the social sciences. With the editing analysis style, specific interest was directed towards identifying data which could explain and clarify findings in Phase One that lacked depth. There was very little difficulty in identifying such data. The reason for this was that the responses in the interviews were wholly in reply to questions that were set in accordance to the information that was lacking in Phase One. It was assumed that the responses to set questions would not just contribute a further understanding to the findings of Phase One, but would reveal the key processes related to those findings.

4.5.3.1 Coding the data

According to Marshall and Rossman (1999) coding data is the formal representation of analytical thinking. Interviewee responses were first organised into sections corresponding to the questions asked in the semi-structured interview guide although it must be noted that analysis was not limited by question. For example, if in Phase One it was found that the increased working hours made a notable contribution to

paramedics deciding to migrate, it would be necessary to find out why working hours are not regulated, or if it had, why then were paramedics mentioning it as a problem. Is it in regard to normal working hours or extra or over time working hours? These questions would become the information needs that Phase Two intended to answer. The interview schedule in Phase Two therefore had specific questions to gain further understanding or clarification of working hours.

Once all data corresponding to all questions asked in the interview were collected, the organisational task was then to develop a method to classify and index the data. For example, all data segments pertaining to the example of work hours were identified and indexed across all transcribed interviews as shown in Figure 4.4 below. This allowed a means of gaining access to parts of data without having to repeatedly re-read the data in its entirety (Polit and Beck, 2006). The segments were then copied from the transcribed interviews and pasted in unique worksheets labelled with the name of the category or sub factor already established in Phase One, as shown in Figure 4.5 on page 94. With all data segments placed within corresponding categories, all data collected and available on a category were then available for analysis and deductions or further explanations and understandings of the concept could be made.

Figure 4.4 Data segments from transcribed interviews identified and indexed

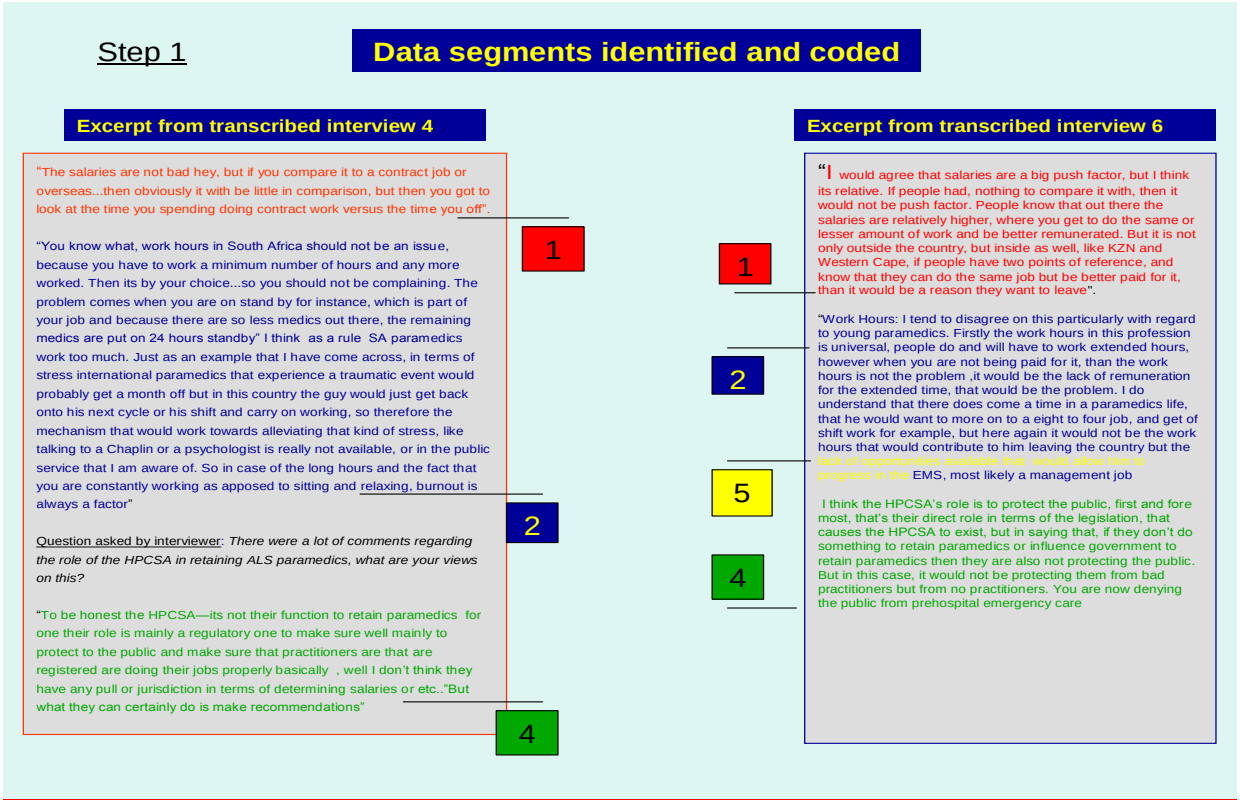
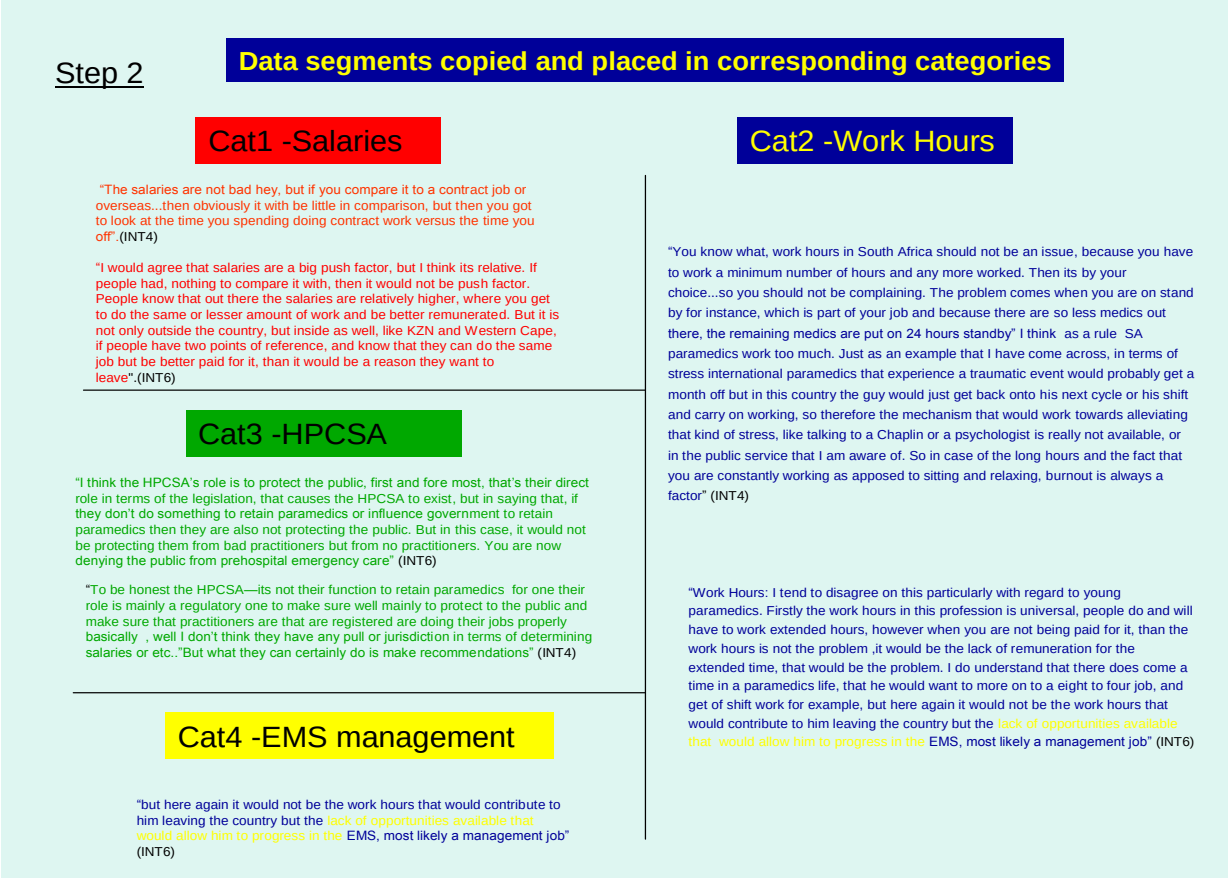


Figure 4.5.Coded segments moved into corresponding concepts



4.5.4. Trustworthiness of Phase Two qualitative data

This study adopted Lincoln and Guba's (1985) criteria for establishing trustworthiness of qualitative data and is described hereafter:

Credibility – According to de Vos, *et al.* (2005) the goal of credibility is to demonstrate that the inquiry was conducted in such a manner as to ensure that the subject was accurately identified and described. Lincoln and Guba (1985), note that the strength of the qualitative study, which is its credibility, is largely dependent on prolonged engagement which provides scope, persistent observation, and depth. In this study, considerable time was invested in the overall data collection activities. This was necessary to elicit an in-depth understanding of migration of ALS paramedics and also to identify misinformation. The prolonged engagement in the data collection phase, together with the social networking utility Facebook allowed constant communication between the participants and the researcher. This allowed a relationship of trust and rapport to develop.

Method triangulation – according to Polit and Beck (2006) the use of multiple methods to address a research problem enhances the credibility of a study. In this study (as explained in section 4.2), the use of qualitative and quantitative research techniques offset the limitations of each technique.

External checks – another technique for establishing credibility involves external checks on the inquiry. According to Lincoln and Guba (1985) this can be achieved through peer debriefings. Peer debriefings on the inquiry in this study were conducted with the study supervisor and co-supervisor who are experts in the fields of research and emergency medical care respectively.

Transferability – in Lincoln and Guba's framework (1985), transferability refers to the extent in which findings from data can be transferred to other settings or groups and is thus similar to the concept of generalisability in quantitative research. In this study Phase One was planned and conducted so that the findings would be generalisable to the population (as discussed in section 4.4.9.) Phase Two then sought to increase the understanding of aspects of the findings of Phase One. The findings for the latter are descriptive and should provide sufficient information to allow their applicability to other settings to be evaluated.

Confirmability and dependability – confirmability refers to the objectivity or neutrality of the data, such that two or more independent people would agree about the data's relevance or meaning. Dependability refers to data stability over time and over conditions. According to Polit and Beck (2006) inquiry audits can be used to establish both dependability and confirmability. Inquiry audits are usually a systematic collection of documentation that allows an independent auditor to come to conclusions about the data. All raw data, interpretations and conclusions collected in this study were reviewed by the study supervisors to establish confirmability and dependability.

Researcher credibility - Patton (2002) mentions that in qualitative studies, the researcher is the data collecting instrument., He or she is also the creator of the analytic process and therefore the researcher's training, qualifications and experience are important in establishing confidence in the data. As discussed in Chapter 1, section 1.6, the researcher is an ALS paramedic himself with many years

post-graduation experience and has worked both inside and outside SA in many different work and clinical settings.

4.5.5. Ethical considerations

4.5.5.1. Principle of beneficence

Freedom from harm

It was discovered earlier on that information collected in the study could have the potential to subject participants and informants to reprisals. For this reason participants and informants were ensured that their names or personal identifiers would not be made public. Only the researcher and study supervisor would be able to identify what information was extracted from which participant or informant. In Phase One the questionnaire was developed so that where close-ended questions were used, non-identifiable information was required, and where open-ended questions were used, participants could choose what information they wanted to reveal.

Only the researcher and the supervisors of the study had and continue to have access to the returned questionnaires. Although the returned questionnaires were forwarded from study participants' email addresses invariably revealing which participant sent which questionnaire, these records are kept strictly confidential and have not and will not be made available to anyone.

In keeping with that assurance of confidentiality offered to study participants, the study (as discussed in section 4.5.2.1) only provided a general background overview of the respondents in Phase Two. There were no personal identifiers that could compromise the confidentially offered to informants. Both Phase One and Phase Two were conducted such that both participants and informants were free from direct or indirect harm.

Freedom from exploitation

Participants were informed through the study information letter that enrolment and participation in the study was purely voluntary. Although reminders to respond were sent out in Phase One, these were not at all coercive.

Risk/Benefit ratio

There were no immediate and long term risks to study participants and informants as confidentiality was and will be maintained. The study does however aim to gain an

understanding of the migration of ALS paramedics which should facilitate the identification of effective counteractive measures and so improve their retention. This should benefit the South African health system.

4.5.5.2. Principle of respect and human dignity

Right to self determination

All study participants were free to enter and leave the study at any time. Study participants were not enticed, influenced, persuaded, or coerced in any way regarding responses on the questionnaires or during the interview process.

Right to full disclosure

The study letter of information sent out to participants explained the study in detail. This was necessary so that participants could make an informed decision to participate in the study. The contact details of the researcher and the research supervisors were made available for any queries that may have risen.

4.5.5.3. Principle of justice

All participants were treated fairly and their privacy was respected. Participants did not face prejudice from non-participation or incompletion of the questionnaires. Participants were made aware of how their responses would be analysed and how their confidentiality was and will be maintained.

4.6. Conclusion

The mixed method approach using both quantitative and qualitative research techniques provided this study with the investigative capacity necessary for producing a descriptive analysis of migration of SA ALS paramedics. From this analysis a foundational understanding was provided and through this, strategies that could contribute directly to the return and retention of ALS paramedics in SA were developed. As the target population does not appear to have been investigated before with regard to migration, establishing reliability in the sense of consistency with earlier findings was difficult. The methodology of the study enhanced the validity of the findings. Due regard was given to ethical considerations and whilst there were no risks to participants due to participation in this study, the findings could make a

notable contribution to the retention and return of ALS paramedics in SA and ultimately the health system in SA as a whole.

CHAPTER 5

Analysis and Interpretation of Phase One Data

5.1. Introduction

Phase One of the study consisted of a quantitative survey using questionnaires. This chapter provides a detailed description of the data collected by those questionnaires. The data will be presented in three sections, and in all sections the emphasis will be on presenting the information collected for each objective with regards to the location of participants in the study. The first section presents the demographic and work details of participants. This section provides information on the extent and nature of ALS paramedics from South Africa. The second section presents the factors associated with the migration of participants from South Africa and the third section presents the factors that would contribute to their return and retention. In addition, each section provides an analysis and interpretation of the data. Findings that are of notable importance to the objectives of the study are discussed obtaining guidance from literature of HCW migration critiqued in earlier chapters. Finally, inferential statistics, testing the statistical significance and strength of possible relationships existing between data is also presented.

5.2. Statistical analysis

Descriptive statistics, frequency distributions and measures of central tendency were used to describe the quantitative data and to determine whether frequencies differed between participants working inside SA and participants working outside SA.

Inferential statistics were used to determine the significance of identified differences. To measure this, a "probability" or (*p)* value was generated from a test statistic. The statistical test used was the Chi-squared test (χ^2). At a 5 % level of significance, statistical significance was achieved if the *p* value was less than 0.05. Inferential tests were conducted across all variables, however only where the result was of notable importance to the objectives of this study, are they presented.

5.3. Objectives revisited

The first objective in the study was to *determine the extent and nature of the migration of ALS paramedics from South Africa.* This information was obtainable through a complete and descriptive analysis of participant's demographic details.

5.4. Demographic details

5.4.1. Participant location

Fifty one (51) ALS paramedics replied to the survey sent out in Phase One of the study. This was a 53% response rate. Of those respondents (N=51), 24 (47.06%) were working inside South Africa, while 27 (52.94%) were working outside South Africa. The chi square (χ^2) p-value measuring the difference in location of paramedics was 0.674. This implied that there was no significant difference in the number of paramedics working inside and outside of South Africa.

5.4.2. Age distribution

Table 5.1 Summary statistics for age of participants

AGE	In South Africa		Outside South Africa		Total	
	n (24)	Percent	n (27)	Percent	N (51)	Percent
21 - 25 years	6	60.0%	4	40.0%	10	100.0%
26 - 30 years	10	62.5%	6	37.5%	16	100.0%
31 - 35 years	4	23.5%	13	76.5%	17	100.0%
36 - 40 years	3	50.0%	3	50.0%	6	100.0%
Older than 40 years	1	50.0%	1	50.0%	2	100.0%
Range	21		18		21	
Median	28.5		32		30	
Mode	33		33		33	
Mean	29.3		31.1		30.3	
STDEV	5.51		4.92		5.23	

Row wise percentages are presented to illustrate the distribution of age with regard to location. No significant differences were identified between the five individual age categories with respect to location of participants (i.e. inside or outside South Africa)

(*p>0.05* for all values). This was likely due to the small number of cases collected in each age category. As it was important to identify if a relationship existed between younger and older participants with respect to location, age categories were re-categorised into participants younger and older than the median age of 30. According to Polit and Beck (2006) the median, as opposed to the mean, does not take into account individual years and is thus insensitive to extreme values.

Table 5.2 Age categories of participants grouped

AGE CATEGORIES	In South Africa		Outside South Africa		Total	p- value
	n (24)	Percent	n (27)	Percent	N (51)	
21 - 30 years	16	61.6%	10	38.5%	26	0.035
31 years and older	8	32.0%	17	68.0%	25	

More participants aged between 21 and 30 years were found to be working inside South Africa (61.54%) than outside (38.46%), while among participants who were 31 and older, more were working outside the country (68.00%) than inside (32.00%). To determine whether there was a significant difference between participants' age with respect to location, i.e. inside or outside SA, a null hypothesis was made. The null hypothesis stated that no relationship existed between those younger than 30 and those older than 30 and the location.

As seen in Table 5.2 above, since the p-value is less than 0.05 (*p= 0.035*) the null hypothesis was rejected as there is a significant relationship between age categories and location of participants. Therefore, the paramedics who had were older than those who had not.

This finding is consistent with results from earlier studies. Hamilton and Yau (2004) explained that as individuals got older, especially those from developing communities and countries, the degree of influence a push or pull factor had on them was different to that when they were younger. Pagett and Padarath (2007) added that this was usually a result of individuals growing and becoming more family orientated. As individuals grow older, their passion for health care delivery is overcome by their responsibility to provide for their families, be it their family's safety, financial wellbeing, better schooling for their children, or just an overall better quality of life.

With findings in this study suggesting that participants 31 years and older are more likely to be found working outside the country, it may appear that commonalities exist in HCWs and ALS paramedics regarding their passion for health care being overcome by their responsibility to provide for their families as they get older.

In addition, these findings present important information that could be considered during the development of retention and return strategies outlined in the third objective of this study. With a significant difference found to exist between age categories 21-30 years and 31 years and older and location (inside and outside SA) it could be deduced that ALS paramedics under the age of 30 years old are more likely to migrate. This is an important finding for the South African EMS because it identifies that age category where paramedics are most susceptible to the decision to migrate i.e. younger than 30 years.

5.4.3. Gender distribution

Table 5.3 Gender distribution

GENDER	In South Africa		Outside South Africa		TOTAL	
	n (24)	Percent	n (27)	Percent	N=51	Percent
Male	15	44.1%	19	55.9%	34 *(66.7%)*	100.0%
Female	9	52.9%	8	47.1%	17 *(33.3%)*	100.0%
Total	24	47.1%	27	52.9%	51 *(100.0%)*	100.0%

Two thirds (34) of the participants were male. The χ^2 test statistic of *p=0.017* confirmed that the difference was significant indicating that there were more male ALS paramedics than females and that there was an increased likelihood that this would also be identified in repeated studies on ALS paramedic gender distribution. Published statistics on the gender distribution are not available. In 2006, the results of a study that assessed work motivation amongst emergency care practitioners in a district in South Africa showed that of the 97 participants recruited in the study, 84% of the participants were male and only 16% of participants were female (Naidoo, 2006). The finding regarding gender distribution of ALS paramedics in this study is consistent with the gender distribution identified by Naidoo's study and in all likelihood a representation of the gender demographic of ALS paramedics' in SA.

According to the WHO (2006a) over the recent years more female HCWs had migrated compared to males. The reason for this may be a result of the substantive number of nurses that had migrated, a profession that is largely female. When examining Table 5.3 it is evident that with regards to ALS paramedics more males had migrated, 19 versus 8. Naidoo (2008) explained that the gender disparity in the EMS is typically a result of the nature of the profession rather than any gender discriminatory barriers. Females in the past were generally dissuaded from joining the profession because of it being physically demanding with long hours and long shifts, working in dangerous and dirty areas, and heavy lifting, etc. However he continues to add that this is beginning to change.

Finally, a finding that was of particular interest was there was no significant difference *(p=0.234)* in the distribution of male and female participants inside and outside SA. The relative equality in the distribution of males working inside SA (44.12%) and outside SA (55.88%), and females working inside SA (52.94%) and outside SA (47.06%) may indicate that no one gender is more likely to migrate than the other. Again this is an important finding that has to be considered during objective three of the study.

5.4.4. Number of years post qualification

The number of years that had elapsed from the time participants had qualified ranged from two to eight years. The mean number of years post-graduation for participants working inside SA was 4.4 years $\pm$ *2.5*. For participants working outside SA, the mean was 4.6 years $\pm$ *1.7*. No significant differences were identified between the number of years post-graduation and location of participants (*p>0.05* for all values). Due to the small number of cases collected for each year, year's post qualification was collapsed into two categories. As 3 years post-graduation was the point in the distribution above and below which 50% of the cases fell (i.e. the median), the number of years post-graduation was categorised into 1-3 years and 4-9 years. See Table 5.4.

Table 5.4 Number of years post qualification

YEARS	In South Africa		Outside South Africa		Total	
	n (24)	Percent	n (27)	Percent	N (51)	p - value
1 - 3 years	11	55.0%	9	45.0%	20	0.007
4 - 9 years	13	41.9%	18	58.1%	31	
Mean	4.4		4.6		4.6	
STDEV	2.5		1.7		2.1	

Since the p-value is less than 0.05, *(p= 0.007)*, it implies that the null hypothesis is rejected. That is, there is a significant relationship between participant's number of years post-graduation and location of the participant.

In the 2006 World Health Report it was highlighted that with continued migration of skilled professionals, a country's pool of quality and experienced trainers and teachers diminishes. This has the effect of subsequently diminishing the quality of graduates produced and ultimately the quality of care offered to patients (WHO, 2006a). Results in this study suggest a similar finding and subsequent outcome for the SA EMS. Findings show that experienced SA ALS paramedics (4 – 9 years) are more likely to be working outside the country. This is a matter of concern as it indicates that the quality of supervision, teaching and clinical governance and guidance usually found with experienced paramedics, is also diminishing.

This finding is of notable concern with regards to the future training of ALS paramedics in SA. According to Naidoo (2008) work integrated learning programmes are integral in training ALS paramedics in SA. It is there that training is most "hands on", and often the place where the shift from class teachings to clinical care is made. Student paramedics work with already qualified experienced ALS paramedics from whom it is hoped that they will gain skills and experience not necessarily available during class teaching. In the scenario suggested by the study's findings, as experienced ALS paramedics continue to leave, students could be left to be mentored by less experienced younger paramedics whom have just entered the profession themselves. These individuals are often overtly passionate disregarding their personal health and usually take on more work than they should. This extra

work subsequently spills over onto students who become primary clinicians instead of trainee paramedics that should be supervised.

As concerning as this scenario is, it is not new. Crush and Williams (2001) noted that after the exodus of doctors from SA, interns and doctors undertaking community service were compelled to carry the extra work load. This caused young newly qualified doctors to become dispassionate and subsequently burn out. As this happened so early in their careers, migration seemed to be the only alternative. This not only perpetuated further losses of skilled HCWs to migration, but set in play a vicious negative cycle of continued losses.

5.4.5. Participant's current country of employment

To further understand the extent of migration of ALS paramedics, data on participants whereabouts post migration were collected. As identified in Table 5.5 below, participants that had migrated were found to be working in many different countries. The country with most participants was Australia with 5 (18.52%) followed closely by Angola with 4 (14.81%).

Table 5.5 Distribution across countries

COUNTRY	In South Africa		Outside South Africa		Total	
	n (24)	Percent	n (27)	Percent	N (51)	Percent
Angola	-	-	4	14.8%	4	7.8%
Australia	-	-	5	18.5%	5	9.8%
Canada	-	-	1	3.7%	1	2.0%
DRC	-	-	3	11.1%	3	5.9%
Guinea	-	-	1	3.7%	1	2.0%
Madagascar	-	-	3	11.1%	3	5.9%
Mozambique	-	-	1	3.7%	1	2.0%
Namibia	-	-	1	3.7%	1	2.0%
Netherlands	-	-	1	3.7%	1	2.0%
Russia	-	-	2	7.4%	2	3.9%
South Africa	24	100.00%	0	0.0%	24	47.1%

Tanzania	-	-	1	3.7%	1	2.0%
UAE	-	-	1	3.7%	1	2.0%
United Kingdom	-	-	3	11.1%	3	5.9%
Total	24	100.00%	27	100.0%	51	100.0%

According to Pagett and Padarath (2007) the international flow of HCWs is predominately one way - from poorer developing countries, like those in Africa, to wealthier developed countries like in Europe and the Americas. The World Bank (2009) categorises countries according to the country's gross national income per capita (GNI/C). In Table 5.6 countries identified in Table 5.5 above with low to middle GNI/C were grouped as poorer countries and countries with upper middle to high GNI/C were grouped as wealthier countries. This was done to establish whether Pagett and Padarath's findings on the typical international flow of HCWs was also true for ALS paramedics.

Table 5.6 Distribution across poorer and richer countries*

POORER COUNTRIES	Total		WEALTHIER COUNTRIES	Total	
	n (14)	Percent		n(13)	Percent
Angola	4	30.8%	Australia	5	35.7%
DRC	3	23.1%	Canada	1	7.1%
Guinea	1	7.7%	Netherlands	1	7.1%
Madagascar	3	23.1%	Russia	2	14.3%
Mozambique	1	7.7%	UAE	1	7.1%
-	-	-	Namibia	1	7.1%
Tanzania	1	7.7%	United Kingdom	3	21.4%
Total	13 *(41.14%)*	100.0%	Total	14 *(51.85%)*	100.0%

*(*In accordance with: World Bank classification, 2009)*

It is clear that a relatively equal distribution of ALS paramedics exists for both groups of countries, 13 (41.14%) working in poorer countries and 14 (51.85%) working in wealthier countries. This is an interesting finding as it suggests that the international flow of ALS paramedics could be different from conventional HCW migration flows. This finding could indicate that no country or cluster of countries may have any more of an attraction to SA ALS paramedics than another.

In keeping with Objective One, it became evident that to obtain a complete descriptive understanding of the "nature" of migration, data on the current work details of participants were necessary. In objective two the intention was *to identify the factors that have contributed to the ALS paramedics' decision to work outside South Africa.* According to Chanda (2002) and the WHO (2006b) the type of work and conditions a HCW engages in prior to immediate migration is usually where the decision to migrate is finalised. With the nature of migration still not completely understood and the factors that contributed to migration not as yet investigated, collecting data on participants current work details and work details post qualification had been deemed necessary.

5.5. Work details

5.5.1. Type of work done by participants

Data showed that participants had found work in seven different types of employment. This included working as or in a:

- Remote site medic - this involved paramedics working in small isolated environments, working in the capacity of an Advanced Life Support provider, primary health care facilitator and or emergency care rescuer. These environments could be constructions sites, oil rigs, shipping vessels or mines.

- Hospital setting - ALS paramedics working in hospitals were usually confined to trauma and intensive care units. They practiced within the capacity of a registered nurse or an ALS provider.

- Business, medical representative, product design and sales – this involves ALS paramedics using their medical skills and knowledge to solicit sales of equipment or consumables used in the pre – and – in - hospital setting.

- Occupational health and safety, industry related – ALS paramedics took on the roles of health and safety officers. This required ALS paramedics conducting health, safety and hygiene audits on remote sites, industries or construction sites.

ALS paramedics were also responsible for administering vaccines, medications and conducting health assessments on staff and crew on site.

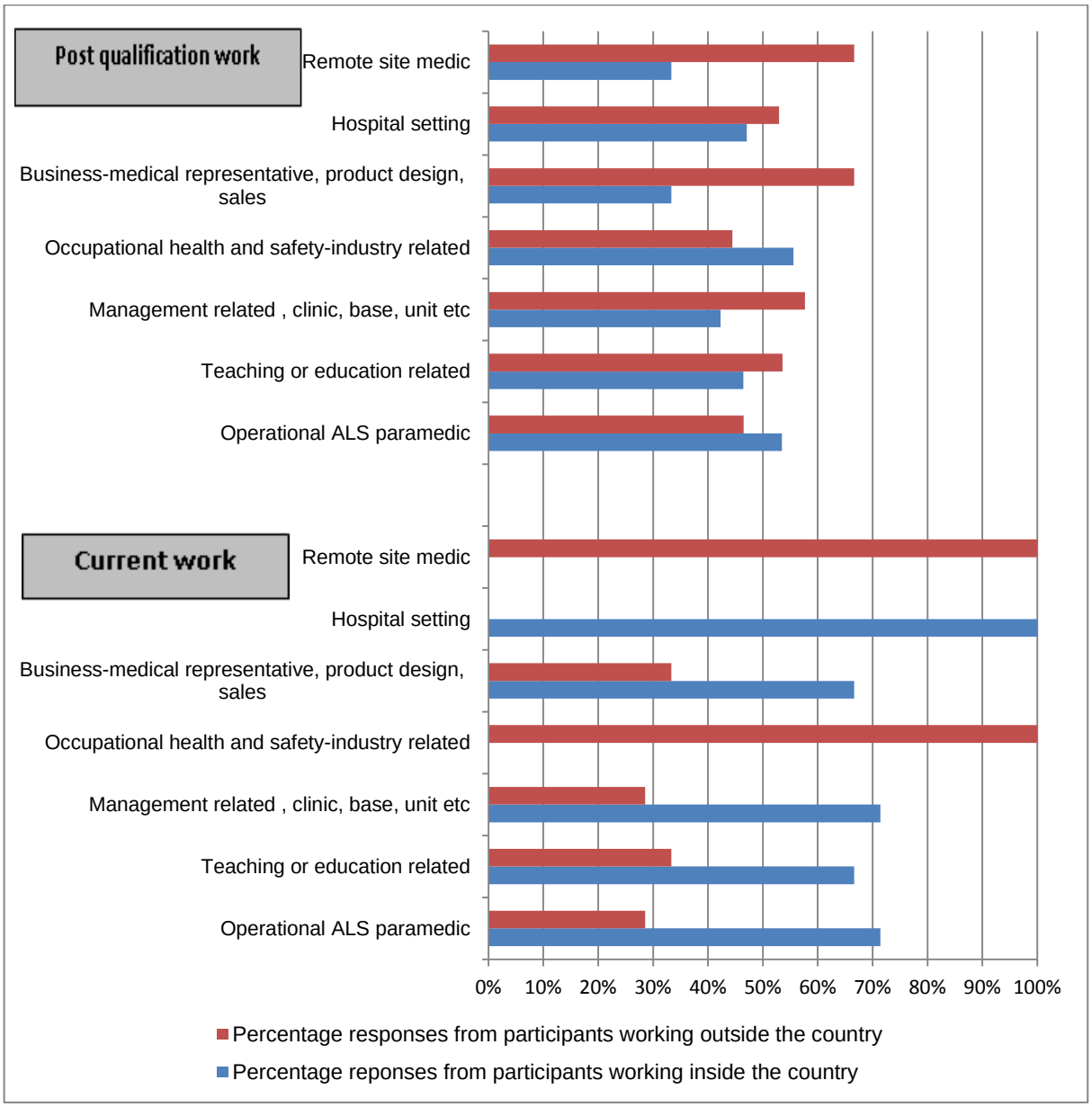
- Management related, clinic, base, unit, etc. – this involved ALS paramedics working exclusively in management positions. This included managing ambulance bases, clinics, trauma units etc. Management duties entailed procurement of stock and resources, payroll and human resources management.

- Teaching or education related – this involved ALS paramedics taking up teaching or lecturing positions in training centres or institutions of higher learning. ALS paramedics trained students at all levels of care within the EMS.

- Operational ALS Paramedic – this involved ALS paramedics working as operational entities within an ambulance service. Paramedics worked on primary response units usually on a shift cycle responding to emergency calls.

Participants were asked about the type of work which they had performed on two different occasions. The first being the type of work they had done in South Africa since they qualified and the second being the type of work that they were currently doing. In Figure 5.1 below these findings are presented in addition a comparison of work details with regards to location of participants (inside or outside the country).

Figure 5.1 Comparison of work currently done and work done in South Africa post qualification in relation to location (N =51)



Although participants may have cited more than one response, for example, a participant may have indicated that for work done post-graduation, they had worked as an operational ALS paramedic in a teaching or education related capacity as well as in a hospital setting, there is a clear indication that ALS paramedics have moved away from the jobs they were trained for and intended to perform. This scenario is referred to as cross industry migration. As discussed in Chapter Two, section 2.3.3, Diallo, (2004) noted that cross industry migration has the same negative effects as migration in general. The health system suffers the same degree of social, financial and negative health implications as if the HCW had migrated to a different country.

Ideally, in work done post qualification, the frequency bars should have been shorter in all work types except that of operational ALS paramedics as this work type was what ALS paramedics were trained for and intended to take up post qualification. This was however not the case with relatively similar frequency bar lengths across all work types done post-graduation, it becomes clear that cross industry migration is not just increasingly prevalent in the EMS but that it begins as early on as when ALS paramedics graduate.

On assessment of work currently done, it is evident that remote medic site work and occupational health and safety industry related work were work types exclusively performed by participants working outside the country. This is an interesting finding especially in light of the findings for work done post qualification. Regarding work done post qualification there were a number of participants working inside SA who had worked in remote site medic jobs as well as occupational health and safety – industry related jobs however with regards to work currently done there were no participants working inside SA doing these types of work.

In Naidoo's experience (2008) remote site medic jobs and occupational health and safety industry related jobs are by nature demanding jobs. These jobs demand long hours, extremely difficult and dangerous working conditions, and long periods of isolation from family and general society. The fact that some jobs are inside SA and some outside makes no difference as it is by their nature that they are demanding and by their location.

According to Keating (2008) the fundamental difference between these jobs with regards to them being inside or outside SA, is remuneration and the nature of their contracts. Remote site medic jobs and occupational health and safety industry related jobs outside SA pay substantially higher salaries than the same jobs inside SA. In addition these two particular jobs types unlike the others only require the ALS paramedic to remain outside the country for short periods of time and then return to SA. These characteristics make these types of work extremely attractive and in many cases paramedics working full time permanent jobs inside SA are also working these jobs on a part time basis outside SA.

Another interesting finding was the notable drop in the number of participants working outside SA that were currently working as operational ALS paramedics, (46.51% post-graduation to 28.57% currently). When investigating the actual setting that the current work was performed in, there is a clear indication that many participants had remained as operational ALS paramedics but had moved out of the conventional ambulance service type setting (see Table 5.10). This could mean that the dissatisfaction experienced by many ALS paramedics may have less to do with the operational duties of an ALS paramedic and more to do with the organisation that the ALS paramedic usually works for.

5.5.2. Nature of employment

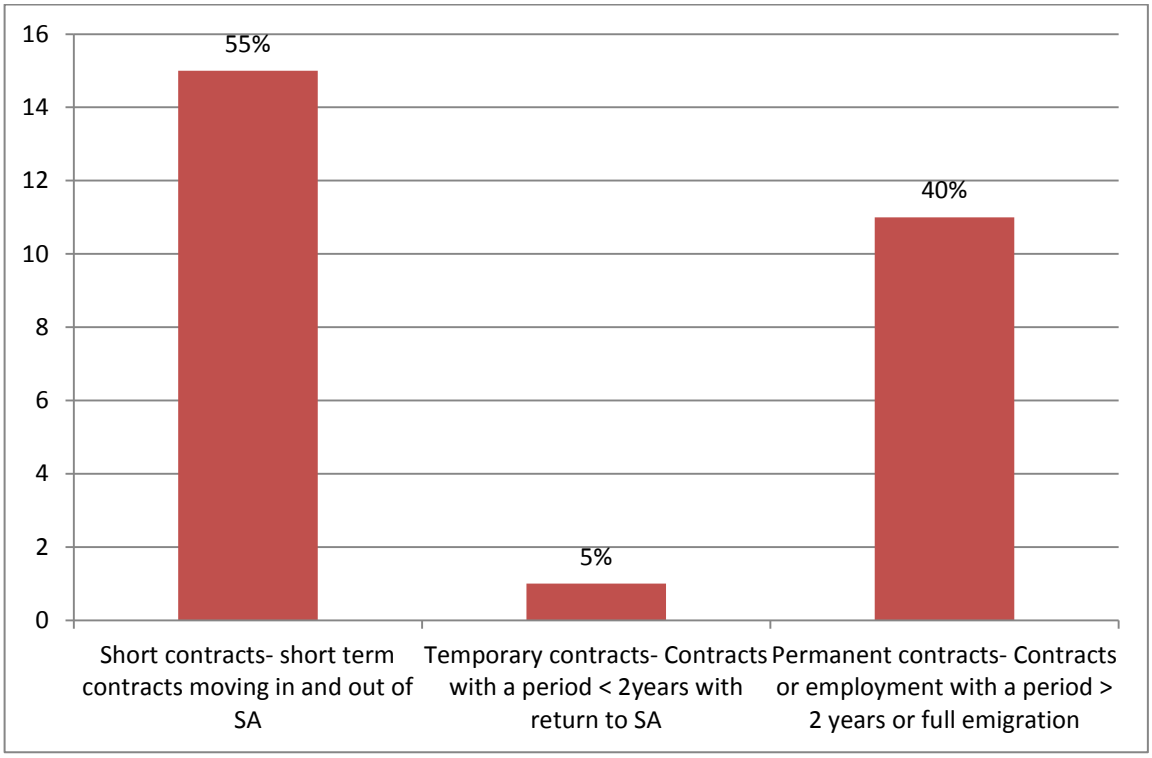
Short contracts made up the majority (55%) of contracts ALS paramedics working outside the country where currently engaged in (see Figure 5.2). Short contracts were defined as short term movement out of SA for contractual work, followed by immediate return to SA upon completion of the contract. An example of this would be a paramedic working in Angola for five weeks, returning to SA for two weeks and then returning to Angola for another five weeks. Temporary migration (5%) is similar to short term migration however information suggests that ALS paramedics often choose to stay outside South Africa for longer periods to avoid paying tax on their foreign income, or wasting funds on return air tickets back to SA, or risking the loss of contract bonuses that are usually paid to ALS paramedics at the end of yearly contracts.

Forty percent of participants working outside the country were in permanent contracts. Permanent migration usually follows short term and temporary migration and is usually a result of ALS paramedics identifying that the quality of life that they would want for their families is not attainable in South Africa.

According to Spiegel and Yassi (2005) HCWs taking up longer contracts are less likely to consider returning to source countries. A lot of this has to do with the mind-set and attitude that they adopt that is different from a HCW taking up a shorter contract. HCWs who take up short contracts usually also have at the back of their minds the intention to return and thus never fully settle into host countries. According to Chandra (2002) HCWs that take up longer contracts usually understand that if they don't fully embrace their stay in host countries then it would be extremely difficult to

last the length of the long contract. With this attitude, many subconsciously become accustomed to their new lifestyles and surroundings and begin to embrace host countries and start regarding the host country as home. This often makes the decision to remain in host countries easier.

Figure 5.2 Distribution of nature of employment for participants outside SA (n=27)



When the distribution across countries with respect to the nature of their contracts was examined (Table 5.7), short-term contracts (80%) predominated in poorer countries, whilst permanent contracts predominated (90%) in wealthier countries.

Table 5.7 Participant nature of employment distribution across countries (n=27)

Country	Short contracts	Temporary contracts	Permanent contracts
Angola*	4	-	-
DRC*	3	-	-
Guinea*	1	-	-
Madagascar*	3	-	-
Mozambique*	1	-	-
Tanzania*	-	-	1
UAE**	-	1	-
Australia**	-	-	5
Canada**	-	-	1
Namibia**	1	-	-
Netherlands**	-	-	1

Russia**	2	-	-
United Kingdom**	-	-	3
Total	15	1	11

*Poorer countries, **Wealthier countries

In accordance with World Bank classification (2009)

These findings are of particular interest. In section 5.4.5 it was identified that a relatively equal distribution of participants across poor and wealthy countries existed. This finding shows that the distribution differed when the nature of the contract in relation to the wealth of the countries was considered. It appears that the organisations employing the paramedics in the poorer countries tend not to offer permanent positions whereas the converse is so in wealthier countries.

5.6. Migration and retention factors

According to the WHO (2006a) an understanding of the factors associated with HCW migration is of paramount importance in the construction and success of retention and return strategies. The WHO (2006a) Kupfer, *et al.* (2004) and Hamilton and Yau (2004) concluded that two groups of factors are generally associated with HCW migration. The first group of factors are those that usually encourage, contribute to or influence HCWs to dislike their current work situation. These were termed “push factors”. The second group of factors are those that allured or attracted an HCW to the decision to migrate. These were termed “pull factors”.

Dovlo (2007) however mentioned that although two distinct groups of factors were generally found to be associated with HCW migrations, factors within the two groups have the potential to differ significantly. According to Padarath, *et al.* (2002) the reason for this is that there are many variables that dictate the degree of influence push and pull factors have on a HCW. These variables include the country of origin, job title, marital status, personal needs and goals, ambitions and so forth. As these variables differ per HCW, so too will the factors. In addition, Chanda (2002) mentions that pull and pull factors can often mirror each other. According to WHO (2006a) this is because push and pull factors are often closely related. The degree of influence that push factors have on a HCWs decision to migrate is usually reinforced by the availability of pull factors.

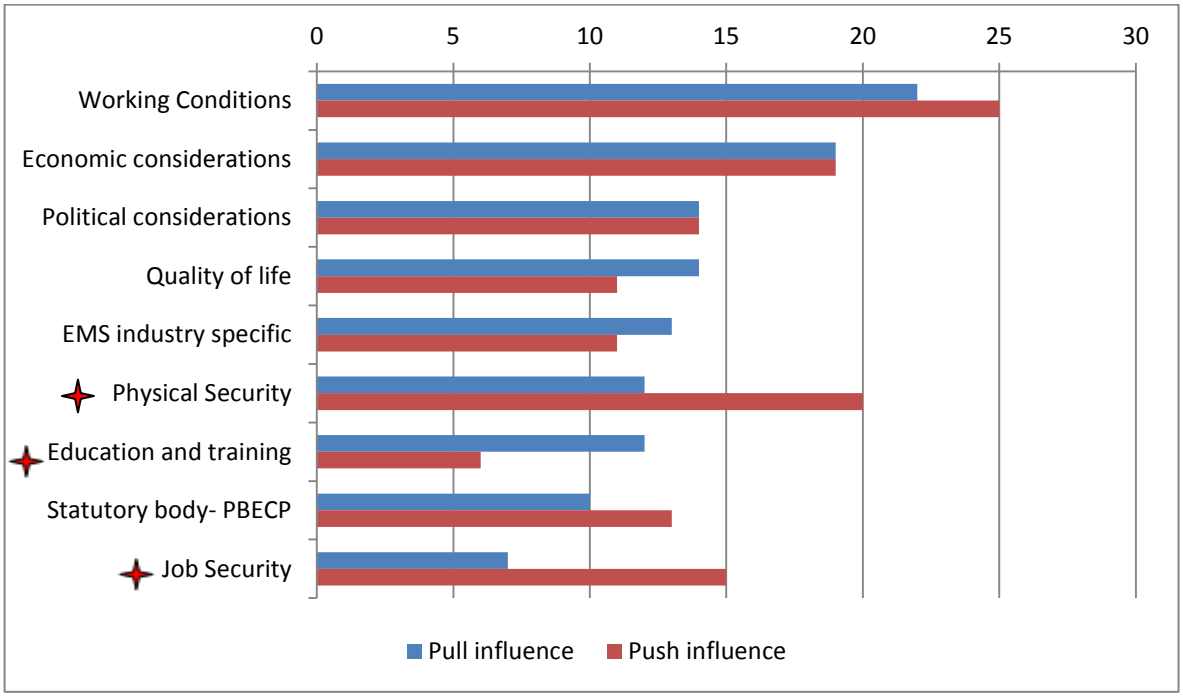
Objective two the investigation aimed at *identifying the factors associated with the SA ALS paramedic's decision to work outside the country*. Forty three categories or sub factors were identified by participants as being associated with their decision or intended decision to migrate. According to de Vos, *et al*. (2005) to reduce the number of units to which one has to work with, a process of grouping factors that pertain to the same phenomenon should be done. This process is defined as categorising (Polit and Beck, 2006).

With this in mind, two distinctive groups of factors were found, one group of factors having a "push influence" and another group having a "pull influence" on an ALS paramedic's decision to migrate. These factors were categorised into nine major factors. These nine major factors are listed in no particular ranking or weighted order.

- Job security
- Working conditions
- Quality of life
- Physical security
- Political considerations
- Education and training
- Economic considerations
- Statutory body – PBEC
- EMS Industry specific

Figure 5.3 below shows the frequency distribution of the nine major factors as indicated by participants. Two bars exist for each major factor. One of the bars represents factors having push influence and the other representing the factors having pull influence. The length of each bar represents the total number of times a factor was indicated by participants. Not all participants had indicated all the major factors. In many instances participants had indicated more than one sub factor within a major factor. In other instances participants had indicated sub factors ranging across many major factors.

Figure 5.3 Comparative analysis of push and pull major factors



= Notable difference evident in frequency distribution of push and pull factors

The first observation that can be made from Figure 5.3 is that working conditions, economic considerations and physical security are the top three major factors "pushing" ALS paramedics from SA. With regards to factors "pulling" or enticing ALS paramedics to work outside SA, working conditions, economic considerations, political considerations and quality of life ranked at the top.

These findings are not unique to the SA ALS paramedic. Similar results were obtained in a study included in the World Health Report (WHO, 2006a). In that particular study 250 HCWs from four African countries were asked to indicate the factors that had contributed to their decision to migrate. Better remuneration, safer working environments, living conditions and lack of facilities were indicated as the top four factors that had influenced their decision to migrate (see Chapter 2, section 2.7).

When comparing the group of push factors with the group of pull factors for each major factor, it is evident that other than physical security, education and training, and job security, the total responses for push factors and pull factors in each of the remaining major factors are notably similar in distribution.

As discussed in section 5.6, the 43 sub factors identified by participants were grouped into nine major factors. Each sub factor was a concise statement derived and representative of the answers captured from open ended questions in the study instrument. These sub factors showing push and pull influence are presented in Tables 5.8 to 5.16. The number of times (count) responses for a certain sub factor were collected as well the percentage (%) a certain sub factor contributed towards the major factor when grouped is also presented.

Table 5.8 Factors within working conditions that had contributed to participant migration (n=27)

WORKING CONDITIONS	Push Factors	count	%	Pull Factors	count	%
Work environment or work related facilities	*Deteriorating work environment or work related facilities*	*8*	*32.0%*	*Satisfactory work environment or work related facilities*	*3*	*13.6%*
Respect from patients , clients	*No or lack of respect from patients, clients*	*0*	*0.0%*	*Respected by patients, clients*	*3*	*13.6%*
Respect and acknowledgement from community	*Lack of respect and acknowledgement from community*	*1*	*4.0%*	*Respected and acknowledged by community*	*2*	*9.1%*
Professional respect and regard from other health care workers	*Lack of professional respect and regard from other health care workers*	*6*	*24.0%*	*Professional regard and respect received from other health care workers*	*1*	*4.6%*
Working hours	*Too many , or too long working hours*	*10*	*40.0%*	*Better or adequate working hours*	*13*	*59.1%*
TOTAL RESPONSES		*25*	*100.0%*		*24*	*100.0%*

Chaudhury and Hammer (2003) highlight extended working hours as a result of the vicious cycle of migration. Kingma (2007) agrees that it is a cycle that usually begins after HCWs migrate, as HCWs leave, the remaining staff are burdened with the extra patient load that are left unattended. The WHO (2006a) described the scenario where remaining staff are either often coerced into working extra hours or see it as an opportunity to earn extra money. According to Crush and Williams (2001) staff typically take on more work than they should, eventually burning out and either migrate themselves, or leave the profession altogether, augmenting HCW shortages.

According to Hamilton and Yau (2004) a deteriorating work environment often incorporates issues around safety and security. HCWs usually identify the

intimidation, violence, and physical harassment or assaults that they are subjected to as factors of their working environments. In addition, the lack of appropriate consumables, sanitation and safety barriers to protect against the increasing prevalence of diseases and infections also contribute to a deteriorating working environment. Chaudhury and Hammer (2003) found that absentee rates amongst HCWs were the highest when concerns around poor sanitation facilities, inadequate barriers to protect against increasing infections and diseases, and poor infrastructures resulting in no electricity and piped water were not met.

Lack of professional respect and regard from other HCWs was a new finding that did not appear in the literature, however it is a finding that comes as no surprise. In SA, there has always been a degree of subtle conflict that existed between pre-hospital ambulance personnel and in-hospital HCWs, especially nurses. Naidoo (2008) is of the opinion that the dispute has and often is a result of in hospital HCWs not fully understanding the EMS and the different levels of trained professionals that exist in the industry. The notion that all EMS personnel are mere “ambulance drivers” still exists and because of that, EMS personnel are treated with somewhat lesser degrees of respect and regard. Chandra (2002) explained that morale and job satisfaction are closely linked with the levels of appreciation, respect and praise experienced by a HCW when they are at work. Absence of these feelings often translate into low morale and dissatisfaction, proponents to the decision to migrate.

Table 5.9 Factors within job security that had contributed to participant migration (n=27)

JOB SECURITY	Push Factors	count	%	Pull Factors	count	%
Job availability	*Lack of or no jobs available*	*0*	*0.0%*	*More jobs becoming available. Specific and related*	*5*	71.4%
Prospects for promotion	*Lack of or no prospects for promotion*	*4*	*26.77%*	*More prospects for promotion or career advancement becoming available*	*0*	0.0%
Affirmative action policies, employment equity mandates, race quotas, etc	*Active affirmative action policies, employment equity mandates, race quotas, etc.*	*10*	*66.7%*	*No or slackening affirmative action policies, employment equity mandates, or race quotas*	*2*	28.6%
Retrenchment, downscaling or staff replacement	*Active retrenchment, downscaling or*	*1*	*6.7%*	*No retrenchment, downscaling, or staff replacements*	*0*	0.0%

	staff replacement					
TOTAL RESPONSES		*15*	*100.0%*		*7*	100.0%

It is clear that affirmative action policies, employment equity mandates, race quotas, etc. have contributed a great deal (66.7%) in "pushing" participants to the decision to migrate. With no (0%) cases indicating that lack of or no jobs available was a push factor, it could indicate that affirmative action policies, employment equity mandates, race quotas, etc. had more of an effect on restricting promotions and career advancements rather than restricting participants from obtaining entry level jobs as ALS paramedics.

Desai and Kulkarni (2008) explain that this is usually the case in many countries, and especially SA and India where affirmative action policies allow individuals access into entry levels jobs but limit or prevent promotions and career advancements subsequently resulting in many migrating as opposed to remaining in positions with no progress.

Table 5.10 Factors within physical security that had contributed to participant migration (n=27)

PHYSICAL SECURITY	Push Factors	count	%	Pull Factors	count	%
Crime	*Increased crime*	*13*	*65.0%*	*No or minimal crime*	*8*	66.7%
High risk and exposure to violence at place at work	*High risk and exposure to violence at place at work*	*3*	*15.0%*	*No or low risk and exposure to violence at place of work*	*1*	8.3%
High risk and exposure to infectious diseases at place at work	*High risk and exposure to infectious diseases at place at work*	*4*	*20.0%*	*No or low risk and exposure to infectious diseases at places of work*	*3*	25.0%
TOTAL RESPONSES		*15*	*100.0%*	*TOTAL*	*12*	100.0%

Crime has and will remain a major contributory factor to migration. As identified in Chapter 2, section 2.4, crime is an exogenous push factor, in that it is largely outside the direct management of retention and return strategies. However, the perceived high risk related to violence and infectious diseases at places of work should be addressed because according to the WHO (2006a) these factors contribute significantly to the level at which retention and return strategies are successful.

Table 5.11 Factors within EMS industry specific that had contributed to participant migration (n=27)

EMS INDUSTRY SPECIFIC	Push Factors	count	%	Pull Factors	count	%
Management	*Poor or ineffective management*	*2*	*18.2%*	*Effective management*	*5*	38.5%
Appropriateness and adequacy of management	*Inappropriate or inadequate management*	*1*	*9.1%*	*Appropriate or adequate management*	*1*	7.7%
Utilization of ALS staff	*Inappropriate utilization of ALS staff*	*3*	*27.3%*	*Appropriate utilization of ALS staff*	*2*	15.4%
Financial gains versus patient care and welfare	*More emphasis placed on financial gains than on patient care and welfare*	*1*	*9.1%*	*Health and welfare of patients priority over patient finances*	*1*	7.7%
Appropriateness and allocation of responsibilities to ALS paramedics	*Increased or inappropriate allocation of responsibilities to ALS paramedics*	*4*	*36.4%*	*Appropriate allocation of responsibilities to ALS paramedics*	*4*	30.8%
TOTAL RESPONSES		*11*	*100.0%*		*13*	100.0%

Participants identified two factors closely associated with management within the EMS industry. These included a management system or person that was ineffective (18.2%) and a management system or person that is inappropriate or inadequate (9.1%). These are not unique findings. Crush (2003) found that the management staff in health systems were often responsible for HCWs deciding to leave or migrate.

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According to Majura (2007) a management system or manager that does not perform at a level that a manager in the same position in the same organisation normally performs in, is usually perceived as ineffective. In addition, an inappropriate or inadequate management system or manager may be one that was appointed on the basis of policies like affirmative action (Crush, 2003).

Kaplan, Meyer, and Brown (1999) found that individuals that take up management positions as a result of affirmative action policies may often be resented by individuals that are more skilled and experienced but are prevented from career advancement because of equity policies.

The increased or inappropriate allocation of responsibilities to ALS paramedics is often a direct result of staff shortages but also a result of ineffective management. An example of this was seen when doctors had migrated. Crush and Williams (2001) found that instead of hospital managers prioritising the need to attract and employ more doctors they redistributed the workload to junior doctors and interns. This increased workload caused them to burn out and subsequently perpetuated the vicious cycle of further losses.

Table 5.12 Factors within Economic considerations that had contributed to participant migration (n=27)

ECONOMIC CONSIDERATIONS	Push Factors	count	%	Pull Factors	count	%
Remuneration	*Remuneration low ,inadequate or insufficient*	*11*	*57.9%*	*Remuneration much higher, higher or adequate.*	*17*	89.5%
Savings ,cost of living, interest rates, inflation	*Inability to accrue savings due to high cost of living, interest rates, or raising inflation*	*1*	*5.3%*	*Able to accrue savings due to lower cost of living, low interest rates, and low inflation rates.*	*1*	5.3%
Incentives given to staff following company growth or increased profits	*No or lack of incentives given to staff following company growth or increased profits*	*1*	*5.3%*	*More or better incentives given to staff following company growth or increased profits*	*0*	0.0%
Financial sustainability of the EMS, public or private	*Concerns around the continued financial sustainability of the EMS, public or private*	*6*	*31.6%*	*No or minimal concerns around financial sustainability of the EMS, public or private*	*1*	5.3%
TOTAL RESPONSES		*19*	*100.0%*		*19*	100.0%

Low, inadequate or insufficient remuneration accounted for 57.9% of the responses identified within economic considerations while remuneration much higher, higher or adequate accounted for 89.5%. Many studies suggest that salaries become a push factor more on the basis of HCWs knowing that higher salaries can be earned for the same job elsewhere, than it actually being meagre in quantity (Vujicic, Zurn, Diallo, Adams, and Dal Poz, 2004). The level at which SA ALS paramedics are remunerated

when working outside the country is considerably higher than when they are working inside the country (Keating, 2008). However, Keating also adds that the higher salaries that ALS paramedics earn outside SA cannot be used as a measure to compare salaries earned within SA.

He explains that the higher salaries are usually paid by jobs a paramedic would not necessarily perform if it was available in SA. Salaries should be compared to jobs in operations and teaching which ALS paramedics were trained for and intended to perform in SA. Naidoo (2008) agrees that in many cases when comparing SA salaries and the cost of living in SA with salaries and the cost of living in countries outside SA where paramedics have found jobs in operations and teachings it is often discovered that the standard of living with regards to finances are relatively similar. In some instances it is discovered that a better standard of living with regards to finances is enjoyed in SA where things are normally cheaper.

Participants had also identified concerns around the continued financial sustainability of the EMS as a push factor (31.6%). Diallo (2004) explained that concerns about the sustainability and growth of the organisation are usually factors mentioned by HCWs who would not necessary want to migrate but are concerned about not being employed and subsequently not being able to provide for their families. These HCWs would usually look first towards internal migration and cross industry migration within the source country and only thereafter may look towards international migration.

Table 5.13 Factors within Political considerations that had contributed to participant migration (n=27)

POLITICAL CONSIDERATIONS	Push Factors	count	%	Pull Factors	count	%
Racial discrimination	*Racial discrimination*	*2*	*14.3%*	*No racial discrimination*	*6*	42.9%
Gender discrimination	*Gender discrimination*	*0*	*0.0%*	*No gender discrimination*	*0*	0.0%
Political instability	*Political instability*	*5*	*35.7%*	*Stable political system*	*5*	35.7%
Corruption, nepotism	*Corruption, nepotism*	*7*	*50.0%*	*No corruption, nepotism*	*3*	21.4%
TOTAL RESPONSES		*14*	*100.0%*		*14*	100.0%

Appearing unique to this study is the notable effect of corruption and nepotism (50%) as factors of political considerations and contributors to migration. Pillay (2009) explains that corruption and incidences of nepotism have been highlighted in the

EMS in the past, and in many cases incidences of administrative inadequacies and results of recruitment processes that were guided by affirmative action policies were often interpreted as that of corruption and nepotism. However regardless of whether corruption was involved or not, corrupt activities may prevent individuals who may meet requirements for promotions and employment from obtaining them. These individuals may feel cheated and disregarded by the system, often looking towards migration as an escape, even if they initially had no intention of migrating.

Political instability, an exogenous push factor amounted to 35.7% of the responses in political considerations. The ability of a HCW to live in a safe and secure environment absent from war, civil unrest and political stability is often the single most important factor for most HCWs from developing countries (WHO, 2006a)

Table 5.14 Factors within statutory body - PBEC that had contributed to participant migration (n=27)

STATUTORY BODY- PBEC	Push Factors	count	%	Pull Factors	count	%
Administration processes regarding new or yearly registration	*Administration inadequacies regarding new or yearly registration*	*1*	*7.7%*	*Negligible or no administration inadequacies regarding health registries*	*9*	90.0%
Administration processes regarding CPD	*Administration inadequacies regarding CPD*	*4*	*30.8%*	*Proper system in place regarding CPD*	*0*	0.0%
Proactive clinical governance	*Minimal or no proactive clinical governance*	*2*	*15.4%*	*Proactive clinical governance in place*	*0*	0.0%
Information or correspondence disseminated to members	*Minimal or no delayed information or correspondence disseminated to members*	*3*	*23.1%*	*Transparent organisation that constantly informs members about the profession*	*0*	0.0%
Registration fees charged by the HPCSA	*Registration fees too high or disproportionate to services offered by the HPCSA*	*3*	*23.1%*	*Reduced or no registration fees*	*1*	10.0%
TOTAL RESPONSES		*13*	*100.0%*		*10*	100.0%

Participants identified activities associated with the Professional Board for Emergency Care (PBEC) as contributory to their decision to migrate (13 responses in total). The PBEC is the statutory health board, a subsidiary of the HPCSA regulating and offering clinical governance to staff employed within the SA EMS. According to

Pillay (2008) although the PBEC is not directly mandated to manage migration of ALS paramedics, their role in protecting the public is inclusive of this function. As ALS paramedics continue to leave the percentage of the public who benefit from the availability of prehospital life support diminishes. With the HPCSA facilitating the retention and return of ALS paramedics they would be invariably protecting the public from the situation of not having an efficient, effective and sufficiently staffed prehospital EMS.

Negligible or no administration inadequacies regarding registration (pull factor) accounted for 90% of responses within the major factor statutory body – PBEC. The PBEC is exclusive to SA paramedics, as paramedics migrate they would need to register with the health registry for paramedics in that country of practice. Keating (2008) explains that ALS paramedics do not need to be registered with statutory bodies that offer clinical governance to practice in most contract jobs outside SA. Registration with the SA HPCSA is often sufficient to allow SA ALS paramedics to practice internationally.

The 90% responses for negligible or no administration inadequacies regarding registration may be a reflection of the ease in renewing annual registration online with the HPCSA. This further highlights the point that the HPCSA register could have the names of participants working short contracts and not necessarily working inside SA. For this reason the HPCSA register is a representation of the number of ALS paramedics registered and not a representation of the number of ALS paramedics practising within SA.

Table 5.15 Factors within quality of life which had contributed to participant migration (n=27)

QUALITY OF LIFE	Push Factors	count	%	Pull Factors	count	%
Opportunities to acquire better housing or vehicle	*Limited or no opportunities to acquire better housing or vehicle*	*4*	*36.4%*	*Position to acquire a better house or vehicle*	*8*	57.1%
Roads, schools, hospitals, or places for recreation and rest	*Deteriorating roads, schools, hospitals, or places for recreation and rest*	*2*	*18.2%*	*Better roads, schools, hospitals, and places for recreation and rest*	*2*	14.3%
To live a decent life	*Inability to live a*	*2*	*18.2%*	*Ability to live a*	*2*	14.3%

	decent life			*decent life*		
Family, friends, or social network in SA	*No family, friends, or social network left in SA*	*3*	*27.3%*	*Family, friends, or social network abroad*	*2*	14.3%
TOTAL RESPONSES		*11*	*100.0%*		*14*	100.0%

The inability to progress financially to the point where ALS paramedics could acquire assets (36.4%) and/or enjoy a better quality of life (27.3%) also contributed to the decision to migrate. Some of the factors associated with quality of life coincided with the literature on HCW living conditions discussed in section 2.7 in Chapter Two. The quality of roads and access to schools, and recreation facilities, all considered essential for a decent life (Meng, Yuan, Jing, and Zhang, 2009) were push/ pull factors for two participants.

Another interesting finding, which Majura (2007) highlighted, was the factor of family, friends and social networks and its influence in contributing to HCW migration. Majura (2007) claimed that in many cases HCWs move because they may feel that they are the only ones not doing so. Spiegel and Yassi (2005) identify this as a growing trend among HCWs, mentioning that in some cases HCWs migrate because family and friends have done so but recently it appears as if migration is a step in growth and process in a HCWs life, a step that is often looked upon as essential.

Table 5.16 Factors within education and training that had contributed to participant migration (n=27)

EDUCATION AND TRAINING	Push Factors	count	%	Pull Factors	count	%
Training standards within the profession	*Training standards declining within the profession*	*3*	*50.0%*	*High training standards within the profession*	*2*	16.7%
Education and training opportunities within the profession	*Education and training opportunities within the profession available but inaccessible*	*3*	*50.0%*	*Education or training opportunities within the profession are available and accessible*	*10*	83.3%
TOTAL RESPONSES		*6*	*100.0%*		*12*	100.0%

Training standards declining within the profession (50%) may be directly related to the diminishing knowledge capacity that results from experienced older paramedics migrating a concept highlighted the WHO (2006a).

Inaccessibility of education and training opportunities accounted for 50.00% of the sub factors within the major factor education and training. According to Crush (2004) the inaccessibility of education and training opportunities are often a result of affirmative action policies and funding limitations. Padarath, *et al.* (2002) highlighted the importance of these factors and the contributory role they have on the decision to migrate. According to the WHO (2006a) very little emphasis is placed on the training needs of HCWs, and it is often an area that affects the progression and advancement of HCWs the most and area that is directly linked to their decision to remain in health institutions.

5.6.1. Age and gender in relation to major push factors contributing to migration

As discussed in section 5.6, all participants working outside SA (n=27) had provided responses with at least one sub factor within the nine major factors. Chi-squared tests (χ^2) were conducted to see whether there was a relationship between the age or gender of the participant and the major push factors. However, it must be acknowledged that these results could well be due to Type 1 or 2 errors due to the small size of the sample working outside SA.

The results for χ^2 tests are presented in Table 5.17 overleaf. Only one significant relationship was identified, namely between EMS specific factors and age (*p = 0.13*). From this it could be concluded that there was no significant difference between each of the other broad factors with respect participants' age or gender.

Table 5.17 Chi squared test (χ^2) results

Broad factors	Chi-squared test (χ^2) (5% level of significance)	
	Difference between Age categories 21-30 years and 30 and older	Difference between Gender
Working conditions	*p=0.693*	*p=0.340*
Job security	*p=0.212*	*p=0.716*
Physical security	*p=0.590*	*p=0.302*
Ems industry specific	*p=0.013**	*p=0.824*
Economic considerations	*p=0.365*	*p=0.561*
Political considerations	*p=0.883*	*p=0.901*
Statutory body- PBEC	*p=0.883*	*p=0.472*
Quality of life	*p=0.093*	*p=0.280*

Education and training	*p=0.241*	*p=0.215*

**Significant difference (p<0.05)*

Table 5.18 EMS industry specific factors in relation to age

EMS industry specific	Age categories		Total
	21-30 years	31and older	
Yes	1	10	11
No	9	7	16
Total	10	17	27

Participants 31 and older had identified EMS industry specific factors more times than the 21-30 year olds (10 cases versus 1 case). The difference was statistically significant (*p*=0.013) indicating that more older paramedics had indicated that factors specific to the EMS had contributed to their migration from SA.

Hamilton and Yau (2004) explained that as people spend more years in their occupations, they become less motivated and dispassionate. This may happen in all occupations, however it happens at a faster rate when working conditions are generally sub-standard. Padarath*, et al.* (2002) continued to add that work dispassion and job dissatisfaction among older HCWs often illuminates inadequacies or problems that they would not ordinarily identify with when they were younger and more passionate.

In Pillay's opinion (2008) based on his experience as an operational manager younger newly qualified paramedics are often sent out to carry the workloads at other bases or locations because of staff shortages. These younger newly qualified paramedics may often not immediately protest against the extra work and in many cases they may even enjoy the extra workload. However older paramedics in the same position are more likely to see the consequences of this continued behaviour with regards to their health and wellbeing. The situation may also evoke memories of similar situations that happened in the past that received little or no recognition or reward and because they are less passionate and less motivated in their work, they

would find no problem in complaining and abdicating themselves from a situation where they are performing more work than they would normally do.

5.6.2. Age and gender in relation to broad pull factors contributing to participants choosing the type of employment when migrating

The results for the χ^2 tests are presented in Table 5.19 below. No significant relationships were identified, i.e. all values for $p > 0.05$. From this it can be concluded that there was no significant difference between each of the other broad factors with respect participants' age or gender

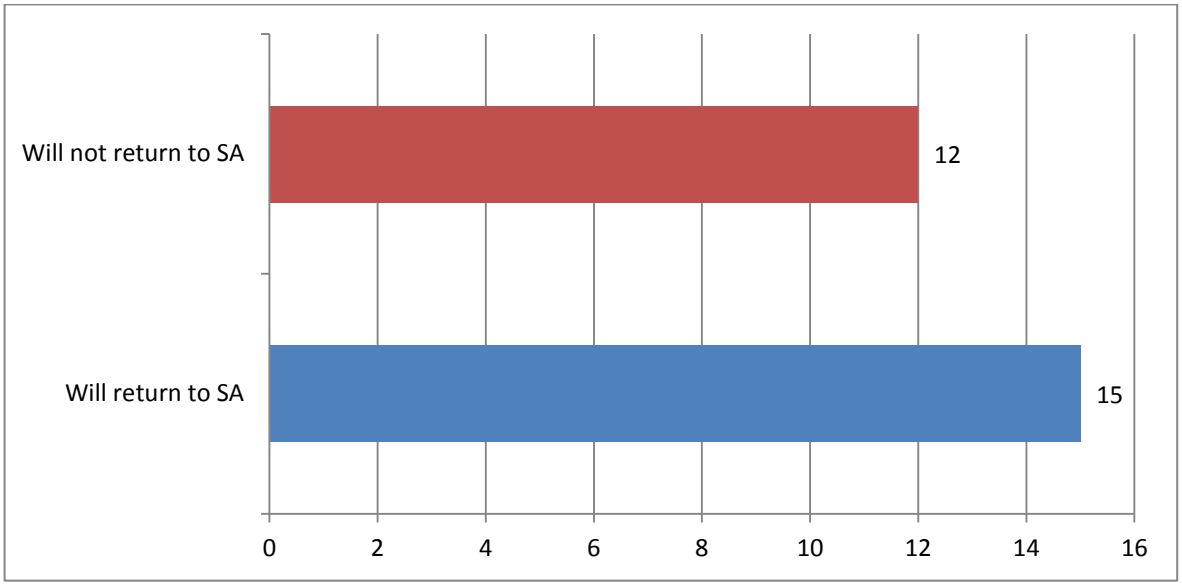
Table 5.19 Results for χ^2 results

Broad factors	Chi-squared test (χ^2) (5% level of significance)	
	Difference between Age categories 21-30 years and 30 and older	Difference between Gender
Working conditions	*p=0.879*	*p=0.601*
Job security	*p=0.148*	*p=0.943*
Physical security	*p=0.212*	*p=0.706*
Ems industry specific	*p=0.883*	*p=0.333*
Economic considerations	*p=0.974*	*p=0.732*
Political considerations	*p=0.148*	*p=0.901*
Statutory body- PBEC	*p=0.561*	*p=0.974*
Quality of life	*p=0.516*	*p=0.901*
Education and training	*p=0.656*	*p=0.706*

5.6.3. Analysis of participants outside the country planning on returning

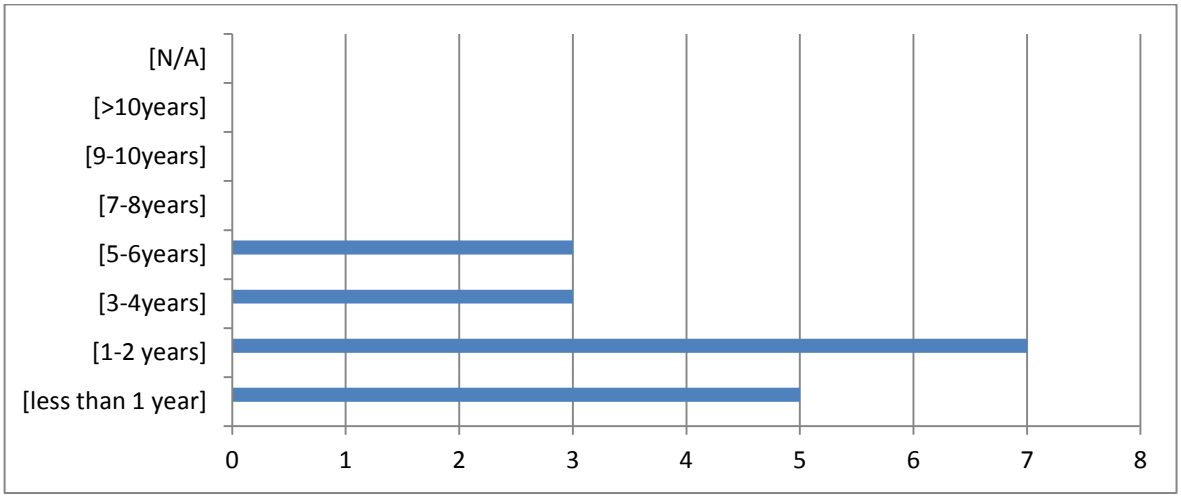
As shown in Figure 5.4 below, the majority of participants (15) working outside SA intend returning to SA. In Diallo's (2004) discussion around of the pattern of movement of HCWs, it was found that very often HCWs would prefer to remain in their home countries, however circumstances similar to those identified in Chapter 2, section 2.6 prevent this from happening. Evidence does suggest that as HCWs begin to meet certain goals be it financial, higher levels of training, or gaining of international experience many do return to their home countries (Dovlo, 2007). Often, as Crush (2004) highlighted, HCWs may also return after realising that work outside home countries is not as lucrative as they envisaged.

Figure 5.4 Participants planning to return to work exclusively in SA (n=27)



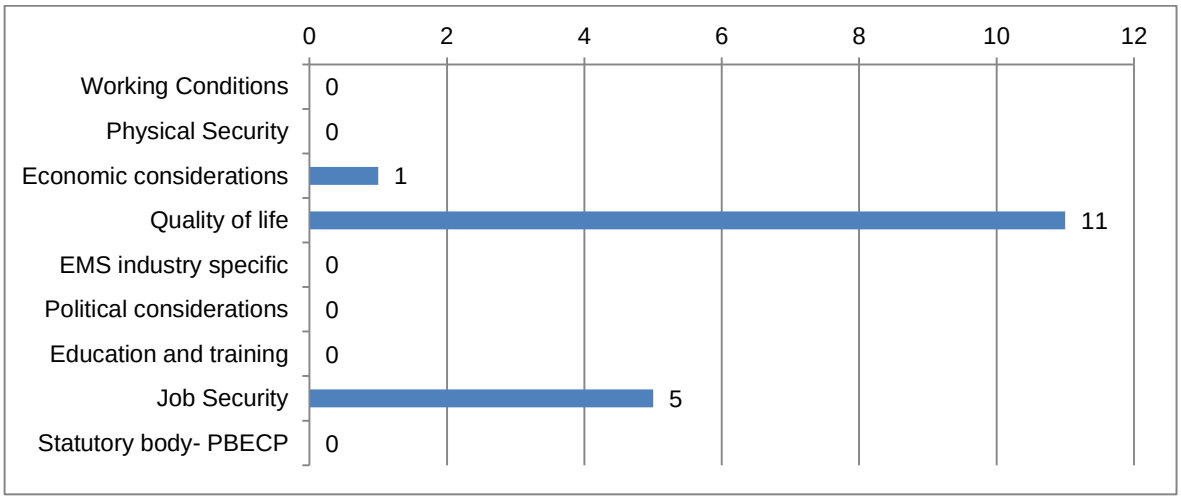
The time frame for those participants intending to return to SA ranged from less than a year to 6 years (Figure 5.5). Most of the 15 participants in this study, who intended to return, planned to do so within two years. Such migration may not have such serious consequences because short absences may be more easily addressed. Chandra (2002) found that HCWs with predetermined time frames of stay in host countries usually had certain specific goals (e.g. financial, higher levels of training). These HCWs do not fully embrace the lifestyles and environments in the host countries and many will not buy property or invest in vehicles or any assets of value. These individuals usually keep their properties in their home countries and in many ways bring skills and valued experience upon returning to source countries. Kingma (2007) however disagreed, concluding that the resultant impact of a migrating HCW is never fully repaid upon returning. As discussed in Chapter 2, section 2.5.2, the negative implications of HCW migration are both immediate and long term, and by implication can be measured in terms of lives lost.

Figure 5.5 Period of time until planned return to SA (n=15)



When examining the factors that participants attributed to their intention of returning to SA, two major factors that stood out (as shown in Figure 5.6 below) are quality of life (11) and job security (5). Except for one response citing economic considerations no other factors were indicated by participants has having a pull influence on their intended decision to return to SA.

Figure 5.6 Broad factors contributing to participants' intention to return (n=15)



The sub factor within the major factor of quality of life that stood out in Figure 5.6 is presented in Table 5.20 below. It is evident that the decision to return to SA was largely a result of participants wanting to return and be closer to their families - this is not unique. According to Diallo (2004) many developing countries experience increased numbers of HCWs returning every year despite no significant changes or

improvements having been made or implemented that would normally attract HCWs back to the country. He concluded that this return of HCWs to source countries is usually a result of HCWs missing the familiarity of home countries and relationships with immediate or extended family members.

Table 5.20 Factors within the broad factors quality of life and job security

QUALITY OF LIFE	count	%
Family, friends, or social network in SA	*11*	*100.0%*
TOTAL RESPONSES	*11*	*100.0%*

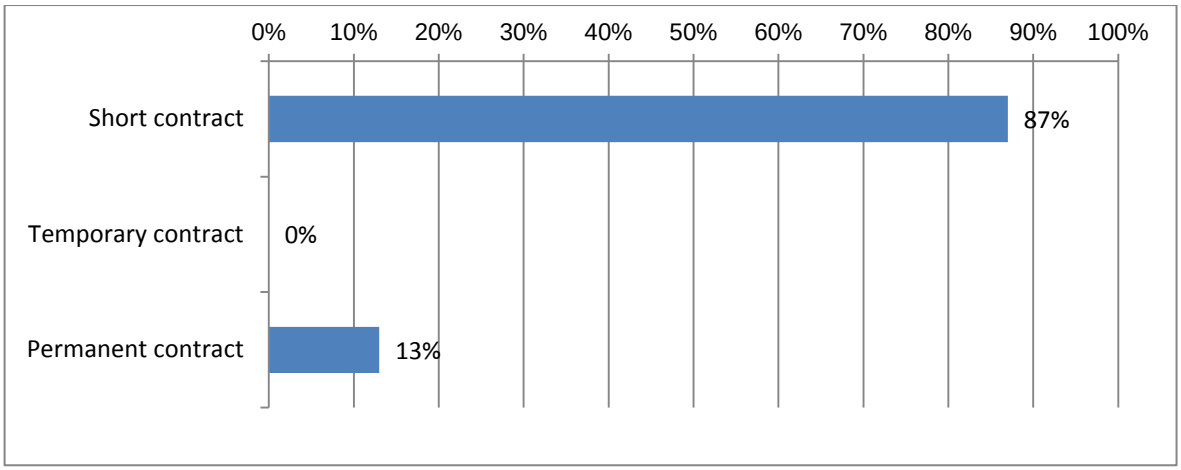
The sub factors within the second major factor i.e. job security that stood out in Figure 5.6, are presented in Table 5.21. The sub factor of more jobs becoming available specific (to operational ALS duties, e.g. Operational ALS paramedic) and related (e.g. health and safety), accounted for 80% of the total responses for job security. This is an interesting finding as it may reflect the increasing awareness of the many vacancies that exist in the SA EMS for ALS paramedics.

Table 5.21 Factors within the broad factors quality of life and job security

JOB SECURITY	Count	%
More jobs becoming available. Specific and related	*4*	*80.0%*
No retrenchment, downscaling, or staff replacements	*1*	*20.0%*
TOTAL RESPONSES	*5*	*100.0%*

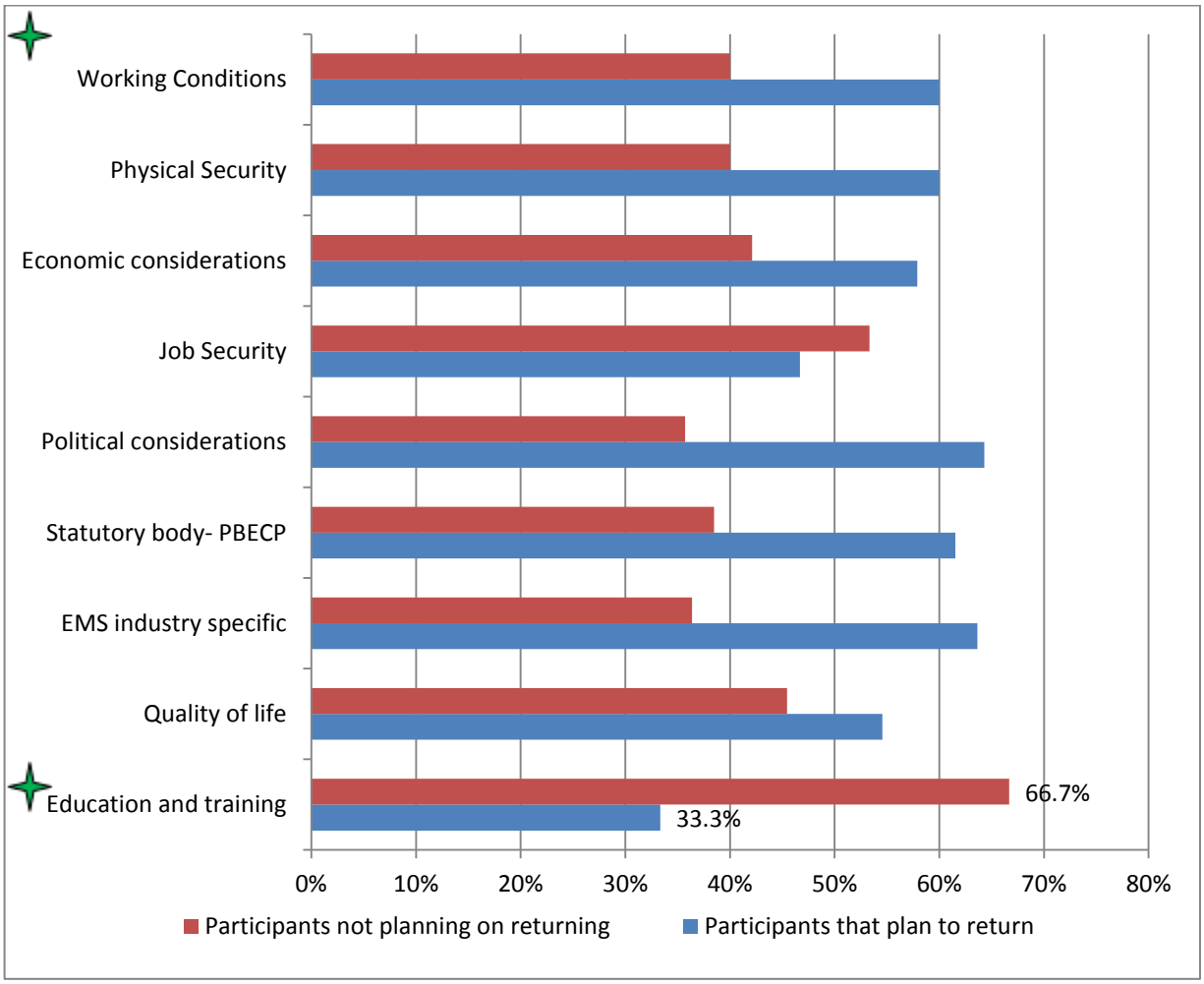
Of those participants intent on returning, 87.0% were employed through short contracts (Table 5.7). Short contracts tend to more often be undertaken in the so called “poorer countries” (see section 5.7). As discussed in Chapter 3, section 3.5 and highlighted by Frontier Medical Services (2008), short contracts in poorer countries usually necessitate difficult working conditions, heavy workloads, long periods of time away from families, and an increased personal risk to danger and illness. According to Padarath, *et al.* (2002) HCWs migrate for different reasons and therefore their returning is often based on different reasons, however a HCW will not remain or stay too long in positions where conditions are similar or are worse off than that which caused them to migrate in the beginning, regardless of how lucrative it may be.

Figure 5.7 Contract type of participants that plan on returning (n=15)



A comparison of participants intending to return and those not intending to return with respect to the factors that had contributed to their migrating was conducted to see if they differed. In Figure 5.8 overleaf it becomes evident that all the major factors that had contributed to a decision to migrate were present in both groups. However, with the exception in education and training, the greater proportion was in the group not intending to return. The factors relating to education and training were notably more common in the group intending to return

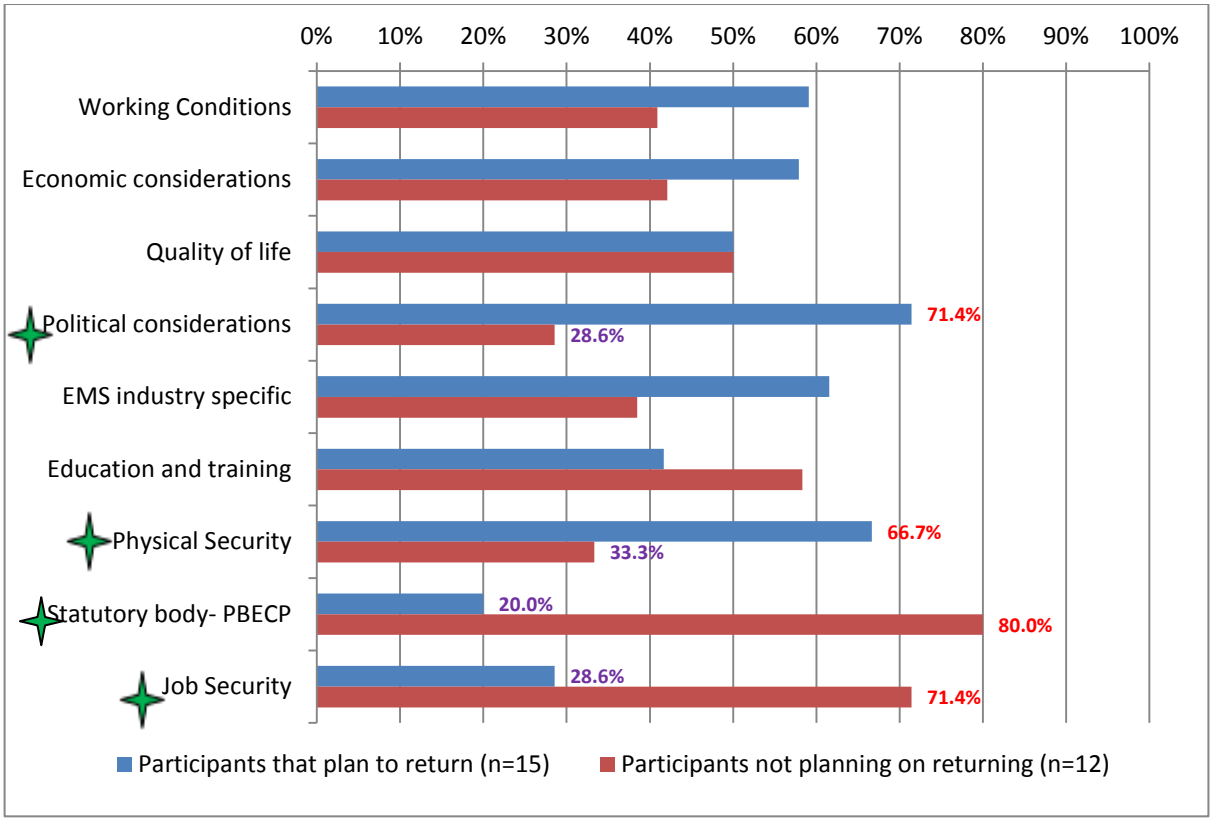
Figure 5.8 Comparison of participants intending to return and not intending to return with respect to factors that contributed their migrating from SA (n=27)



Major factors with notable differences

When comparing pull factors with regards to participants intending to return with those not intending to return however, notable differences in the frequency distributions of four major factors were identified (see Figure 5.9 on page 132). For statutory body-PBEC (80.0%) and job security (71.4%) a greater frequency existed among participants not planning on returning, while for political considerations (71.4%) and physical security (66.7%) a greater frequency existed in participants that planned on returning.

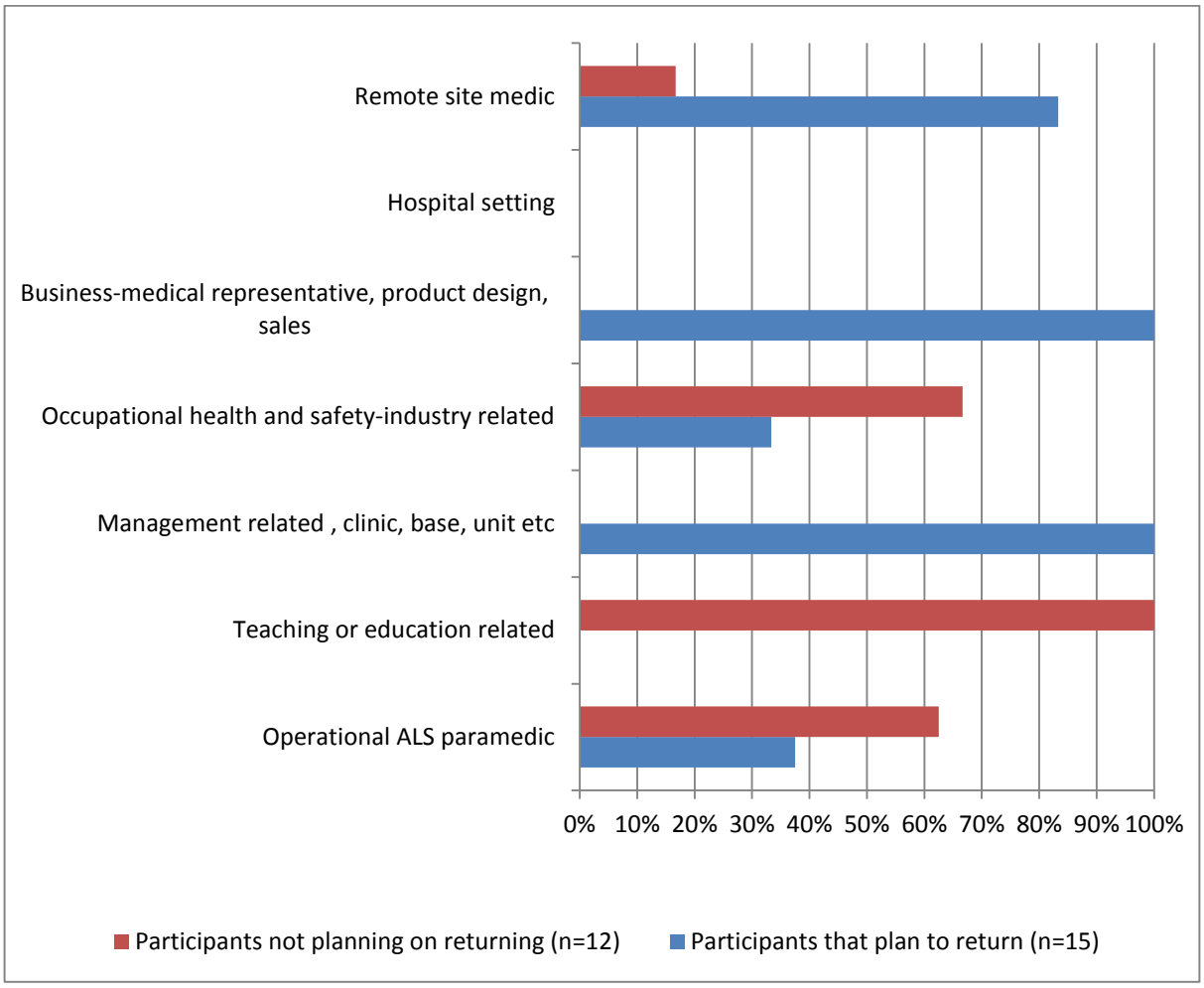
Figure 5.9. Comparative analysis between those planning to return and those that will not return with respect to the factors that contributed to their choosing to work in a type of employment outside SA (n=27).



Major factors with notable differences

Finally, when comparing the type of work participants were currently doing it becomes evident that the majority of participants that planned on returning were employed in jobs they were not necessarily trained for or intended to perform. This included remote site medical jobs, business related jobs, and management related jobs (see Figure 5.10 overleaf).

Figure 5.10 Comparative analysis between those planning to return and those that will not return with respect to the type of work currently done (n=27).



5.6.4. Analysis of participants working inside SA (n=24)

Figure 5.11 overleaf shows that 18 (75.0%) participants working inside SA plan on migrating, This may suggest that measures that are in place to manage migration of ALS paramedics have been largely unsuccessful. In addition the relatively small time frames shown in Figure 5.14 until planned migration (less than a year to 2 years) may also indicate that the decision to migrate is no longer a tentative one.

Figure 5.11 Participants working inside SA planning on remaining to work in SA

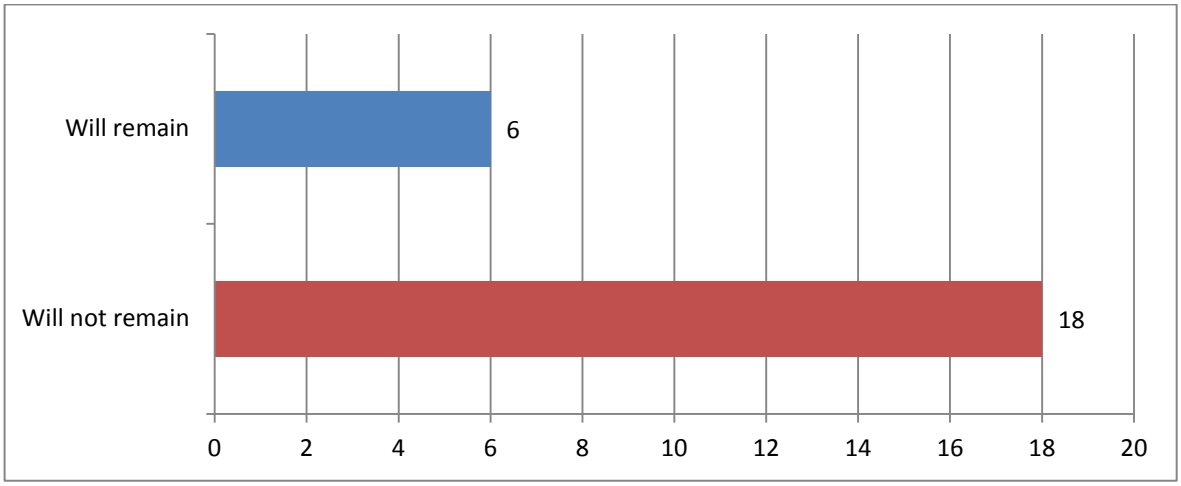
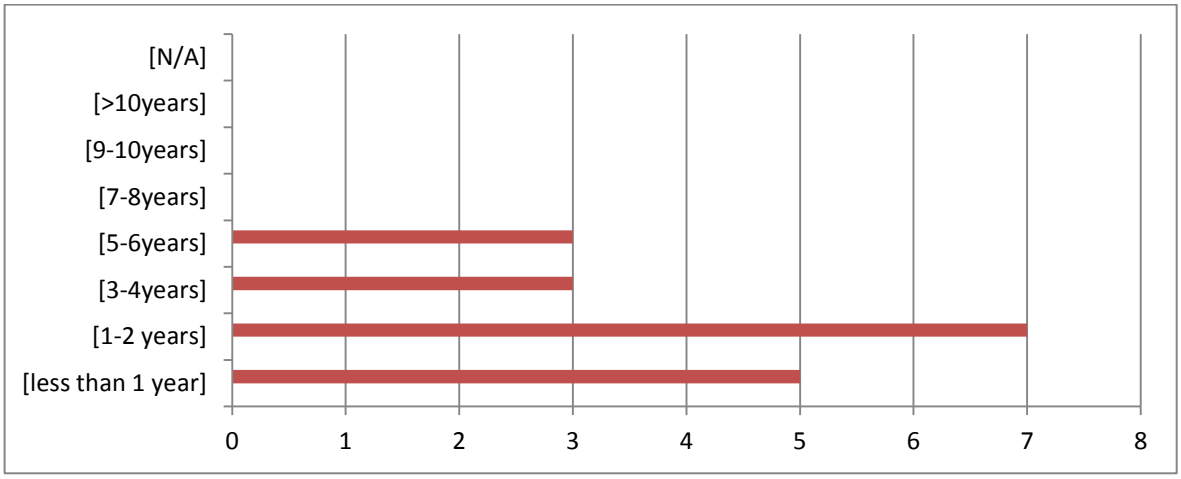


Figure 5.12 Period of time until planned departure from SA (n=18)

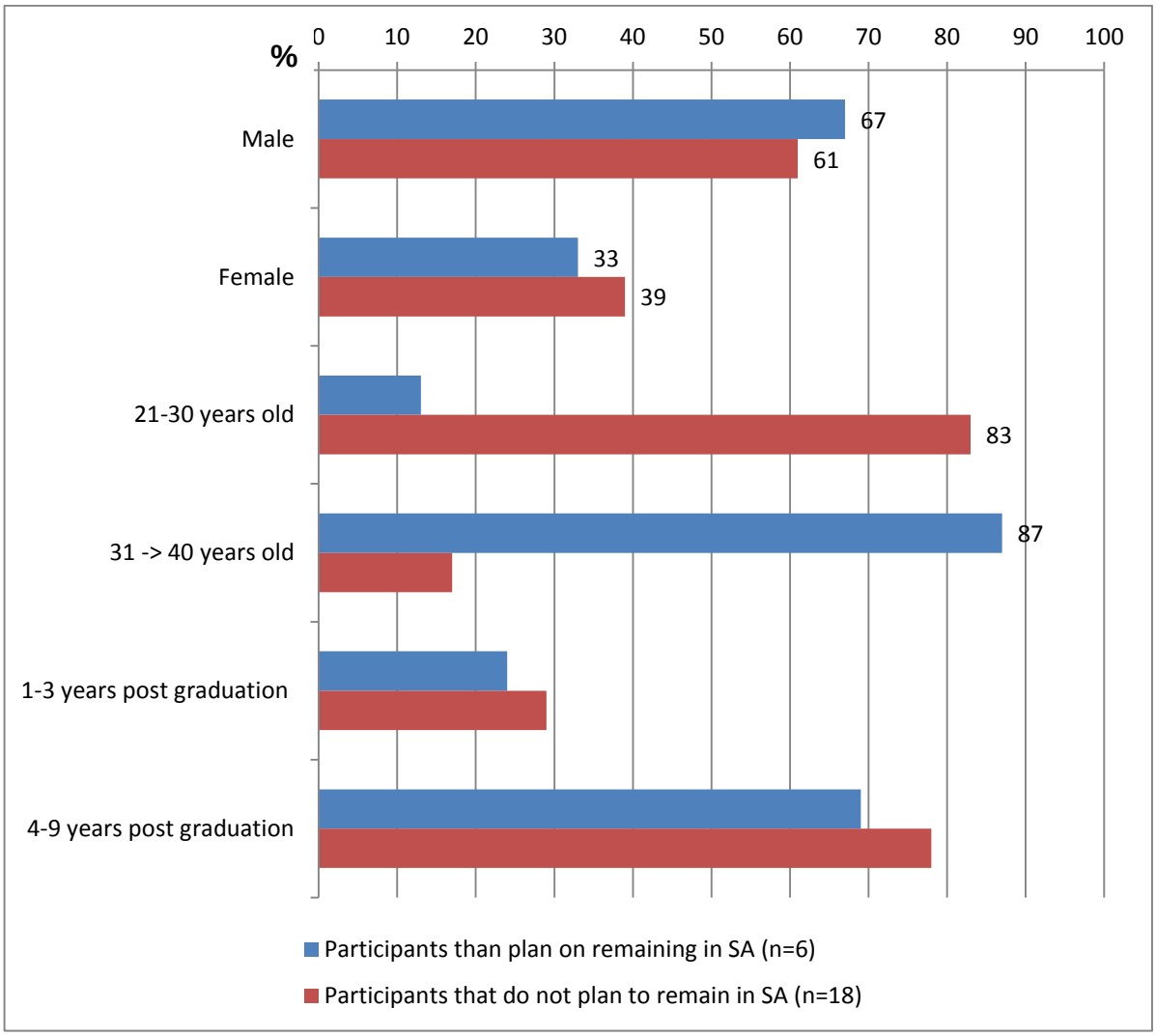


Findings presented earlier in this chapter showed that the paramedics who had migrated were older (30 years and older) (see 5.4.2) and the decision to migrate is likely being formulated in younger individuals (21-30 years) (see 5.6.3).

In Figure 5.13 overleaf it is shown that 83% of participants within the 21-30 years age category did not plan to remain in SA, while 87% of those 30 years and older planned to remain in the country. This could mean that the decision to migrate is formulated during the younger years and executed towards the end of that period, so that by the time they are 30 years and over they have already migrated. This would coincide with their need to meet certain goals, such as increased income generation, as their family responsibilities increase (see 5.6.3). Those that have not migrated by this time are less likely to do so thereafter.

It was found that no one gender was more likely to migrate than the other, findings consistent with that which was found earlier (seen in Table 5.3).

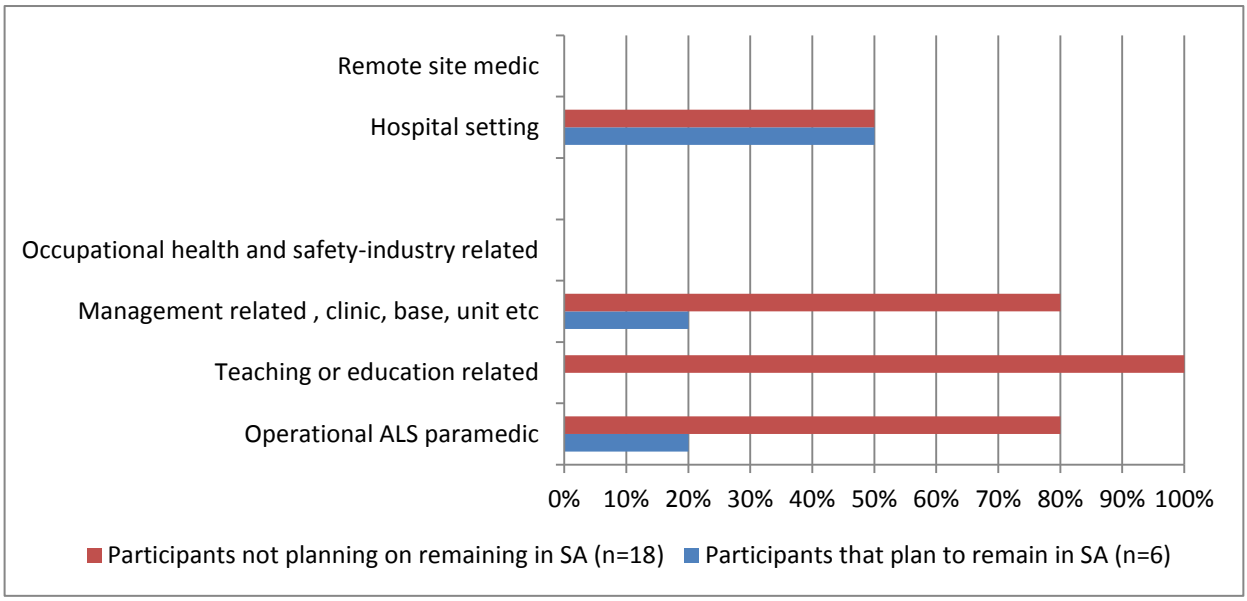
Figure 5.13 Demographic data distribution (n=24).



Comparative analysis of those planning to remain in SA and those that do not plan to remain in SA

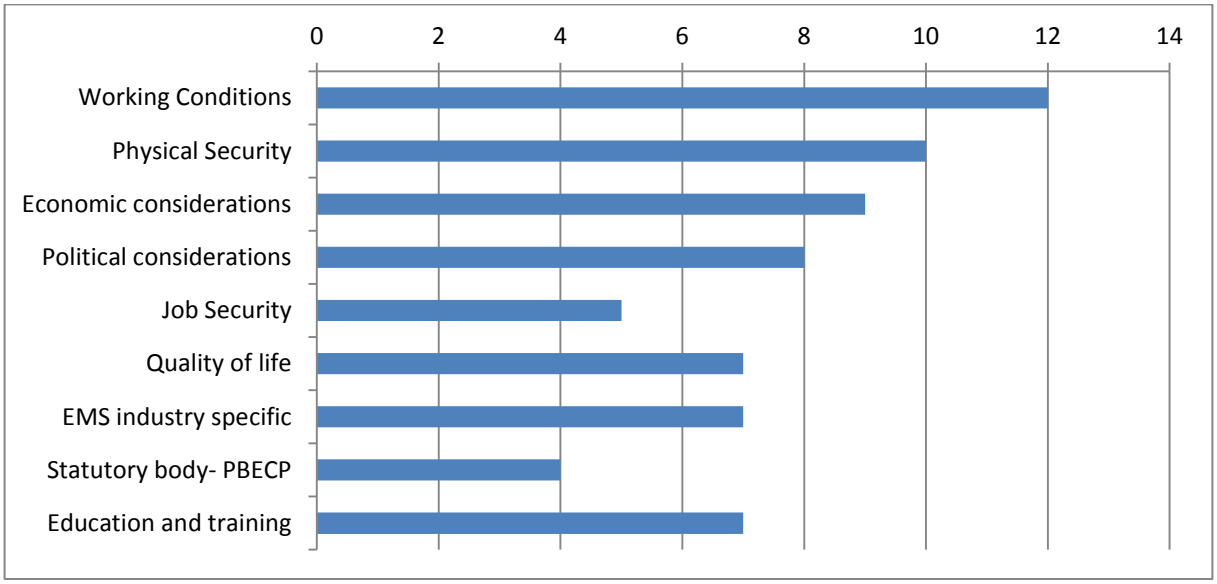
It is evident from Figure 5.14 overleaf that no work type ALS paramedics were typically found to be employed in, was totally immune from ALS paramedic attrition. It might be the case that push factors exist in all work types in SA that ALS paramedics are normally employed in.

Figure 5.14 Type of work currently done (n=24)



An assessment of these push factors show that working conditions, physical security and economic considerations are the top three major contributory factors to participants working inside SA intending to migrate. See Figure 5.15 below.

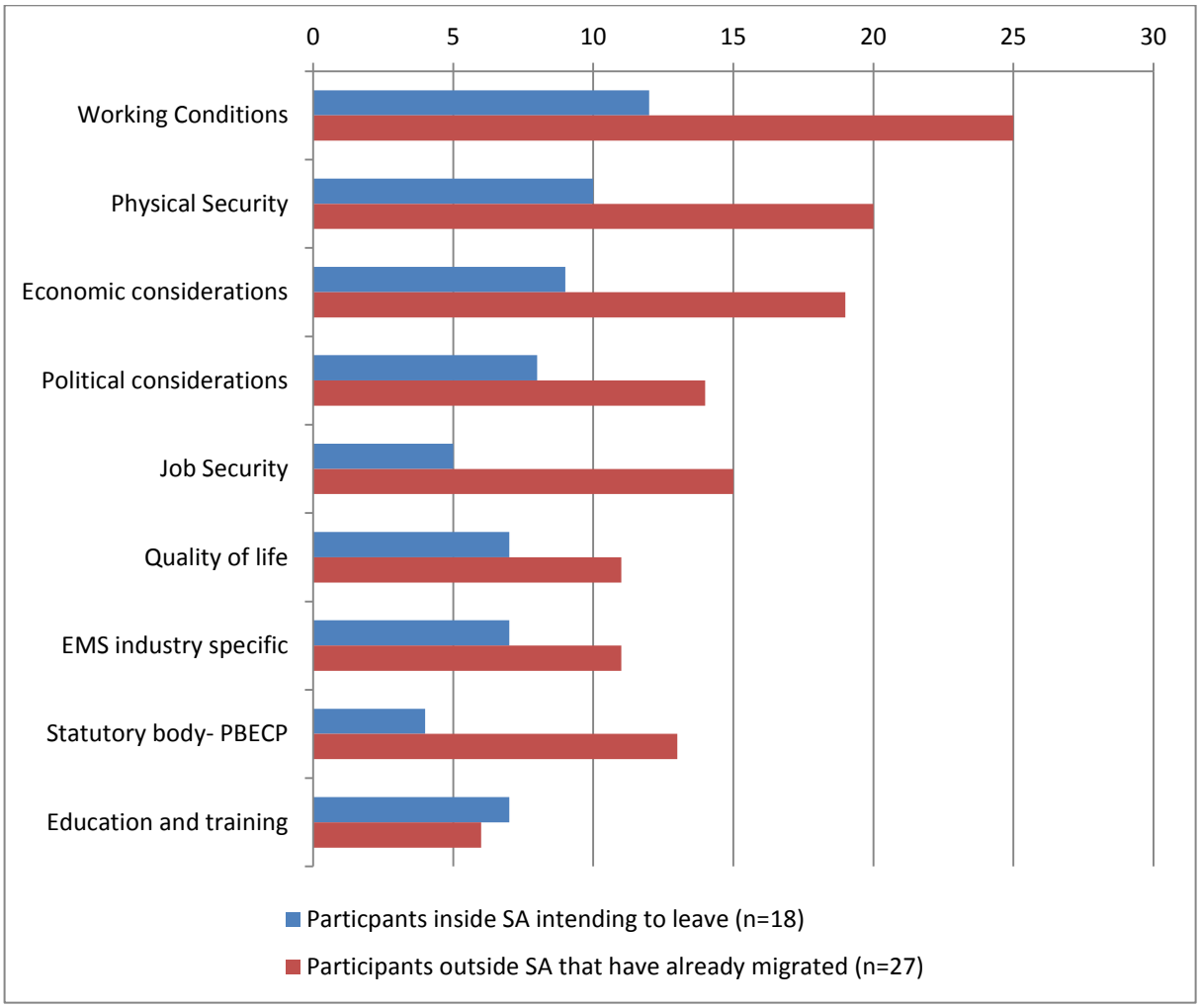
Figure 5.15 Factors contributing to planned migration from SA (n=18)



The frequency distributions of major factors shown in Figure 5.15 above were compared with the frequency distributions of the major push factors that participants working outside SA had indicated as contributory to their decision to migrate. By comparing the two frequency distributions (presented in Figure 5.16) an assessment

can be made to establish whether the major factors that had contributed to the migration of those participants working outside SA (n=27) were similar to or different from those major factors that had contributed to participants working inside SA intending to migrate (n=18).

Figure 5.16 Comparison of major factors in participants that have migrated (n=27) and participants that intend on migrating (n=18)



As previously noted, each major factor shown in Figure 5.16 consists of many sub factors. Frequency distributions of these sub factors are presented for the major factors in both populations:

- (n=27) which are the frequency distributions of those sub factors that had contributed to participants working outside the country and,
- (n=18) which are the sub factors that had contributed to participants working inside the country intending on migrating.

Important information and available literature around the major push factors identified in this study have already been discussed. If new information over and beyond that which was identified earlier emerges, this will be presented and discussed.

Table 5.22 Factors within working conditions that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

WORKING CONDITIONS	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Deteriorating work environment or work related facilities	*3*	*27.3%*	*8*	*72.7%*	*11*	*100.0%*
Lack of respect and acknowledgement from community	*1*	*50.0%*	*1*	*50.0%*	*2*	*100.0%*
Lack of professional respect and regard from other health care workers	*1*	*14.3%*	*6*	*85.7%*	*7*	*100.0%*
Too many , or too long working hours	*7*	*41.2%*	*10*	*58.8%*	*17*	*100.0%*
TOTAL	*12*	*32.4%*	*25*	*67.6%*	*37*	*100.0%*

Table 5.23 Factors within job security that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

JOB SECURITY	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Lack of or no prospects for promotion	*2*	*33.3%*	*4*	*66.7%*	*6*	*100.0%*
Affirmative action policies, employment equity mandates, race quotas, etc	*3*	*23.1%*	*10*	*76.9%*	*13*	*100.0%*
Retrenchment, downscaling or staff replacement	*0*	*0.0%*	*1*	*100.0%*	*1*	*100.0%*
TOTAL	*5*	*25.0%*	*15*	*75.0%*	*20*	*100.0%*

Table 5.24 Factors within physical security that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

PHYSICAL SECURITY	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Crime	5	*27.8%*	*13*	*72.2%*	18	*100.0%*
High risk and exposure to violence at place at work	1	*25.0%*	*3*	*75.0%*	4	*100.0%*
High risk and exposure to infectious diseases at place at work	4	*50.0%*	*4*	*50.0%*	8	*100.0%*
TOTAL	10	*33.3%*	*20*	*66.7%*	30	*100.0%*

Table 5.25 Factors within EMS industry specific that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

EMS INDUSTRY SPECIFIC	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Poor or ineffective management	*1*	*33.3%*	*2*	*66.7%*	*3*	*100.0%*
Inappropriate or inadequate management	*1*	*50.0%*	*1*	*50.0%*	*2*	*100.0%*
Inappropriate utilization of ALS staff	*2*	*40.0%*	*3*	*60.0%*	*5*	*100.0%*
More emphasis placed on financial gains than on patient care and welfare	*1*	*50.0%*	*1*	*50.0%*	*2*	*100.0%*
Increased or inappropriate allocation of responsibilities to ALS paramedics	*2*	*33.3%*	*4*	*66.7%*	*6*	*100.0%*
TOTAL	*7*	*38.9%*	*11*	*61.1%*	*18*	*100.0%*

Table 5.26 Factors within economic considerations that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

ECONOMIC CONSIDERATIONS	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Remuneration low, inadequate or insufficient	*5*	*31.3%*	*11*	*68.8%*	*16*	*100.0%*
Inability to accrue savings due to high cost of living, interest rates, or raising inflation	*0*	*0.0%*	*1*	*100.0%*	*1*	*100.0%*
No or lack of incentives given to staff following company growth or increased profits	*1*	*50.0%*	*1*	*50.0%*	*2*	*100.0%*
Concerns around the continued financial sustainability of the EMS, public or private	*3*	*33.3%*	*6*	*66.7%*	*9*	*100.0%*
TOTAL	*9*	*32.1%*	*19*	*67.9%*	*28*	*100.0%*

Table 5.27 Factors within political considerations that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

POLITICAL CONSIDERATIONS	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Racial discrimination	*3*	*60.0%*	*2*	*40.0%*	*5*	*100.0%*
Political instability	*3*	*37.5%*	*5*	*62.5%*	*8*	*100.0%*
Corruption, nepotism	*2*	*22.2%*	*7*	*77.8%*	*9*	*100.0%*
TOTAL	*8*	*36.4%*	*14*	*63.6%*	*22*	*100.0%*

Table 5.28 Factors within statutory body- PBEC that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

STATUTORY BODY- PBEC	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Administration inadequacies regarding new or yearly registration	*0*	*0.0%*	*1*	*100.0%*	*1*	*100.0%*
Administration inadequacies	*2*	*33.3%*	*4*	*66.7%*	*6*	*100.0%*

regarding CPD						
No or minimal proactive clinical governance	*0*	*0.0%*	*2*	*100.0%*	*2*	*100.0%*
No, minimal or delayed information or correspondences disseminated to members	*0*	*0.0%*	*3*	*100.0%*	*3*	*100.0%*
Registration fees too high or disproportionate to services offered by the HPCSA	*2*	*40.0%*	*3*	*60.0%*	*5*	*100.0%*
TOTAL	*4*	*23.5%*	*13*	*76.5%*	*17*	*100.0%*

Table 5.29 Factors within quality of life that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

QUALITY OF LIFE	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Limited or no opportunities to acquire better housing or vehicle	*4*	*50.0%*	*4*	*50.0%*	*8*	*100.0%*
Deteriorating roads, schools, hospitals, or places for recreation and rest	*0*	*0.0%*	*2*	*100.0%*	*2*	*100.0%*
Inability to live a decent life	*1*	*33.3%*	*2*	*66.7%*	*3*	*100.0%*
No family, friends, or social network left in SA	*2*	*40.0%*	*3*	*60.0%*	*5*	*100.0%*
TOTAL	*7*	*38.9%*	*11*	*61.1%*	*18*	*100.0%*

Table 5.30 Factors within education and training that had contributed to participants intending to migrate (n=18) and participants that had migrated (n=27)

EDUCATION AND TRAINING	In South Africa		Outside South Africa		Total	
	n(18)	%	n(27)	%	N(45)	%
Training standards declining within the profession	*2*	*40.0%*	*3*	*60.0%*	*5*	*100.0%*
Lack of or no training opportunities to advance within the profession	*3*	*100.0%*	*0*	*0.0%*	*3*	*100.0%*
Education and training opportunities within the profession available but inaccessible	*2*	*40.0%*	*3*	*60.0%*	*5*	*100.0%*
TOTAL	*7*	*53.9%*	*6*	*46.2%*	*13*	*100.0%*

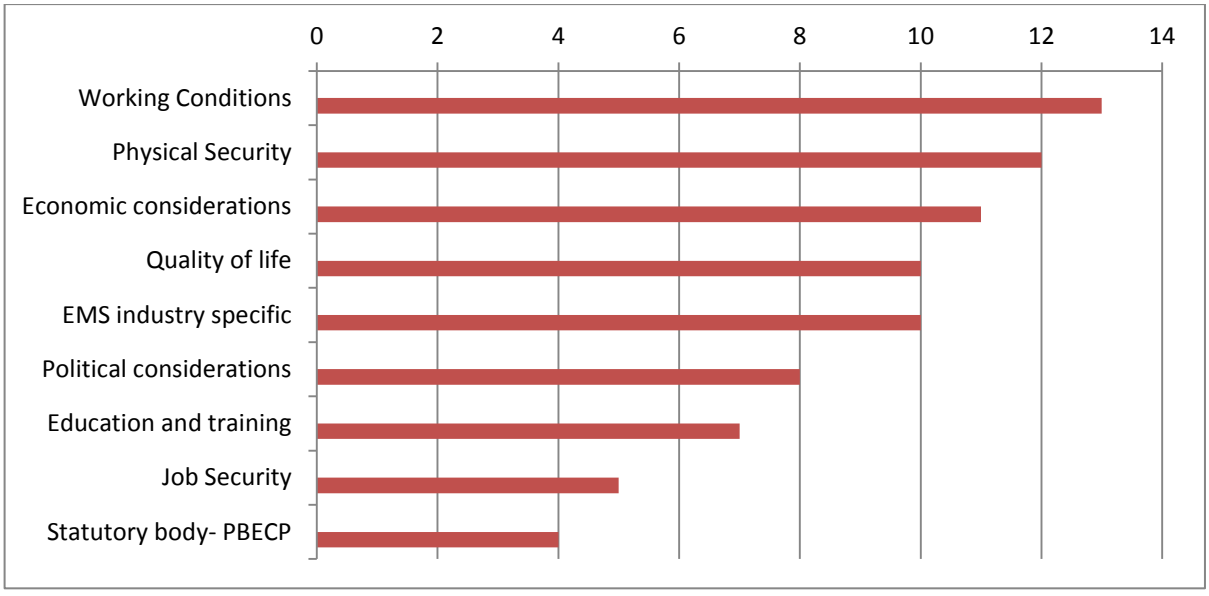
It is clear that a similar frequency distribution was identified for the major push factors in participants intending to migrate (n=18) and participants that had already migrated (n=27). This could indicate that the current location of a participant (i.e. inside SA or Outside SA) does not necessarily change the perception of how and what push factors are identified by participants as contributory to the decision to migrate. In addition, it could also imply that since no notable differences in the frequency distribution of push factors had been identified between participants that had migrated, and participants that intended to migrate, programmes that may have been

implemented to manage migration by improving conditions identified as push factors, have had very little impact.

As the factors that were associated with the migration of ALS paramedics began to emerge it was clear that the second objective of this study was being met. The third objective of this study was to identify *strategies to retain or encourage the return of ALS paramedics to practice exclusively in South Africa*:

The first step in achieving objective three was continuing the investigation that examined the population working within SA but had intended to migrate (n=18). These participants were asked to identify factors that could dissuade their intended decisions of migration. Factors around improvements in working conditions, physical security and economic considerations ranked as the top three major pull factors that participants had cited as having the ability to dissuade their intended decision of migration. These factors, ranked from most contributory to least contributory in dissuading them from migrating is shown in Figure 5.17 below.

Figure 5.17 Factors that could dissuade planned migration from SA (n=18)



Each major factor shown in Figure 5.17 consisted of many sub factors. Frequency distributions of these sub factors are presented in Tables 31 to Table 39.

Table 5.31 Factors within job security that could dissuade planned migration from SA (n=18)

JOB SECURITY	In South Africa	
	n(18)	%
More prospects for promotion or career advancement becoming available	*1*	*20.0%*
Slackening or no affirmative action policies, employment equity mandates, or race quotas	*4*	*80.0%*
TOTAL	*5*	*100.0%*

Table 5.32 Factors within physical security that could dissuade planned migration from SA (n=18)

PHYSICAL SECURITY	In South Africa	
	n(18)	%
Minimal or no crime	*9*	*75.0%*
Low or no risk and exposure to violence at place of work	*2*	*16.7%*
Low and no risk and exposure to infectious diseases at places of work	*2*	*16.7%*
TOTAL	*12*	*100.0%*

Table 5.33 Factors within working conditions that could dissuade planned migration from SA (n=18)

WORKING CONDITIONS	In South Africa	
	n(18)	%
Satisfactory work environment or work related facilities	*2*	*15.4%*
Respected and acknowledged by community	*1*	*77.0%*
Proper and adequate ablution facilities.	*1*	*77.0%*
Better or adequate working hours	*9*	*69.2%*
TOTAL	*13*	*100.0%*

Table 5.34 Factors within working conditions that could dissuade planned migration from SA (n=18)

EMS INDUSTRY SPECIFIC	In South Africa	
	n(18)	%
Appropriate or adequate management	*1*	*10.0%*
Appropriate utilization of ALS staff	*5*	*50.0%*
Appropriate allocation of responsibilities to ALS paramedics	*4*	*40.0%*
TOTAL	*10*	*100.0%*

Table 5.35 Factors within economic considerations that could dissuade planned migration from SA (n=18)

ECONOMIC CONSIDERATIONS	In South Africa	
	n(18)	%
Remuneration much higher, higher or adequate.	*11*	*100.0%*
TOTAL	***11***	*100.0%*

Table 5.36 Factors within political considerations that could dissuade planned migration from SA (n=18)

POLITICAL CONSIDERATIONS	In South Africa	
	n(18)	%
No racial discrimination	*6*	*75.0%*
No corruption, nepotism	*2*	*25.0%*
TOTAL	*8*	*100.0%*

Table 5.37 Factors within statutory body - PBEC that could dissuade planned migration from SA (n=18)

STATUTORY BODY- PBEC	In South Africa	
	n(18)	%
Proper system in place regarding CPD	*1*	*25.0%*
Registration fees reduced	*3*	*75.0%*
TOTAL	***4***	*100.0%*

Table 5.38 Factors within quality of life that could dissuade planned migration from SA (n=18)

QUALITY OF LIFE	In South Africa	
	n(18)	%
Position to acquire a better house or vehicle	5	50.0%
Better roads, schools, hospitals, and places for recreation and rest	2	20.0%
Ability to live a decent life	2	20.0%
Family, friends, or social network in SA	1	10.0%
TOTAL	**10**	100.0%

Table 5.39 Factors within education and training that could dissuade planned migration from SA (n=18)

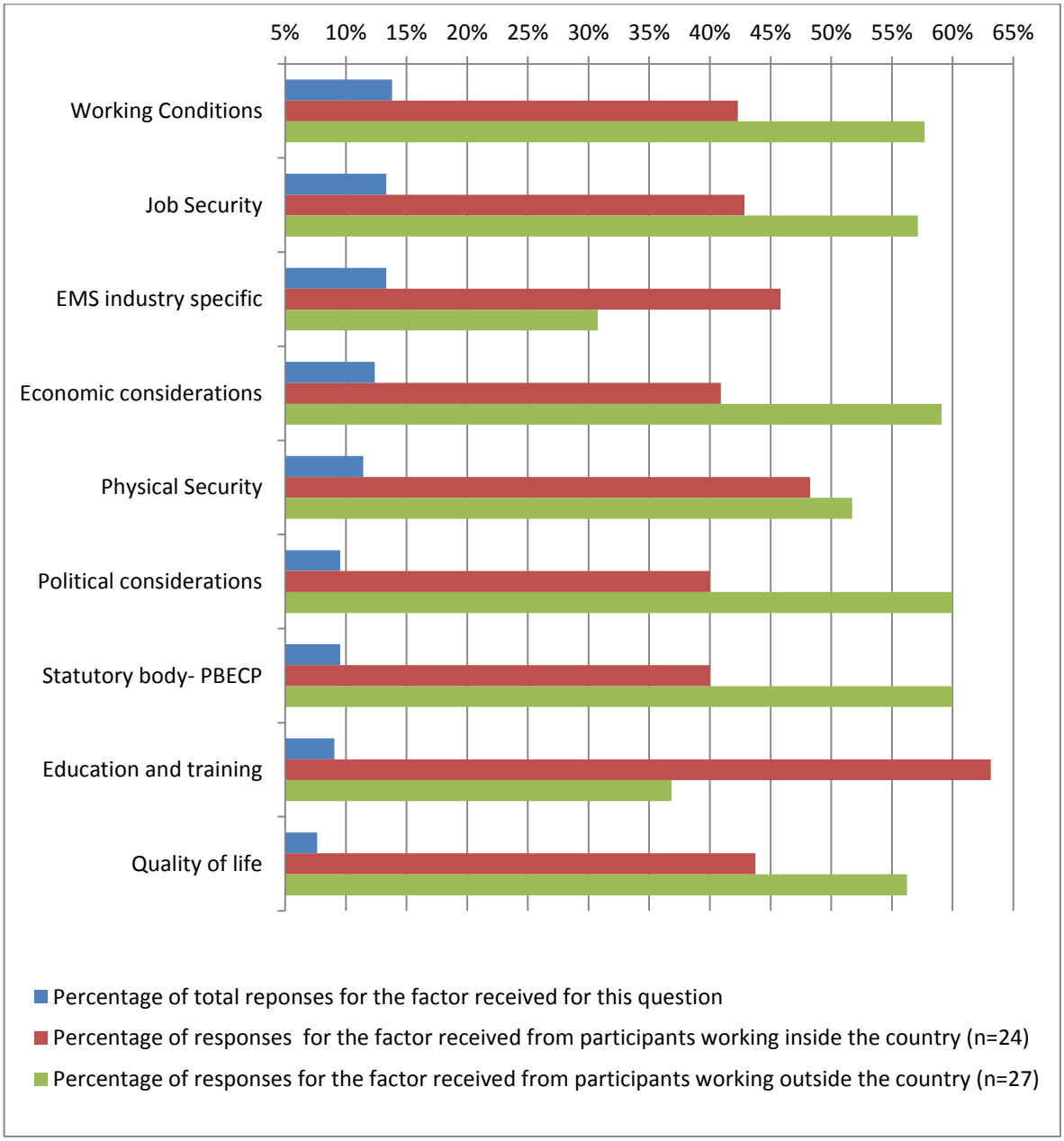
EDUCATION AND TRAINING	In South Africa	
	n(18)	%
High training standards within the profession	*1*	*14.0%*
More or better training opportunities to advance within the profession	*5*	*71.0%*
Education or training opportunities within the profession are available and accessible	*1*	*14.0%*
TOTAL	***7***	*100.0%*

5.7. Retention and return factors according to all participants working inside and outside SA (n=51)

Although the findings presented in Figure 5.17 on page 141 contribute toward an understanding necessary in the development of retention and return strategies, a more specific approach was undertaken through two similar but different open ended questions asked in the survey. The first question looked at identifying factors specific to the SA health sector that would contribute positively towards the return and retention of participants. The second open ended question tried to identify general factors non-specific to the SA health sector that would contribute positively towards the retention and return of participants.

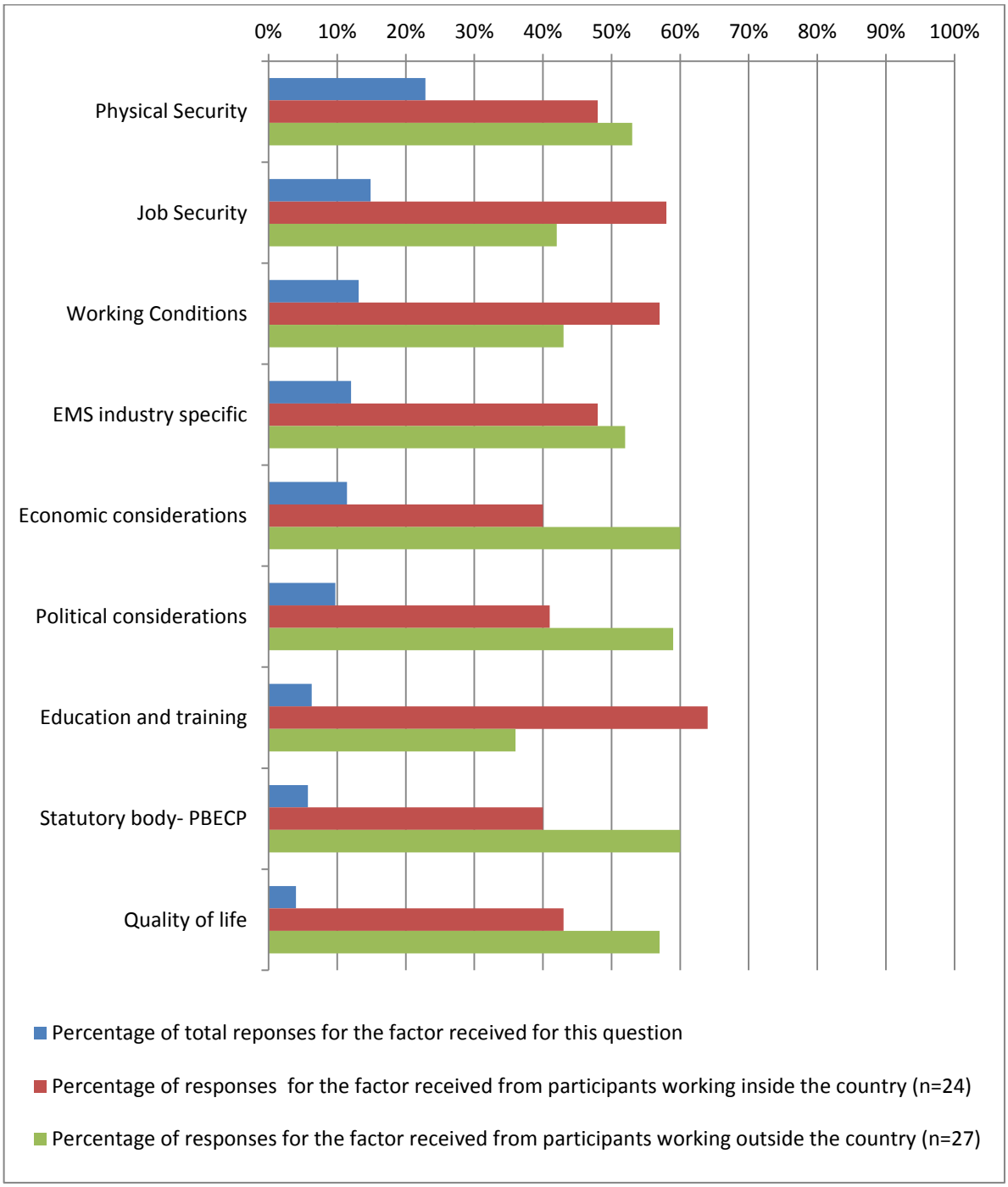
For the first open-ended question, the major factors: working conditions, job security and EMS industry specific factors ranked highest with regards to the number of responses collected (see Figure 5.18 below).

Figure 5.18 Factors specific to the South African health sector that could contribute to the retention and return of participants



For the second open-ended question, the major factors: physical security, job security and working conditions ranked highest with regards to the number of responses collected (see Figure 5.19 overleaf).

Figure 5.19 General factors that could contribute to the retention and return of participants to work exclusively in South Africa



It is evident that although both open ended questions tried to identify factors that could contribute to the retention and return of participants, the distribution of responses for each factor in each question was different.

The distribution of the sub factors within the major factors shown in Figure 5.18 and 5.19 are presented in amalgamated Tables 5.40 to 5.48. Notable differences

between responses for factors specific to the health sector and general factors are discussed after the corresponding tables.

Table 5.40 Health sector and general factors within physical security that could contribute to the retention and return of participants (n=51)

PHYSICAL SECURITY	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		General	
	n(24)	%	n(27)	%	n(24)	%	n(27)	%	n(51)	%	n(51)	%
Stop or reduce crime	1	9.1	4	30.8	12	63.2	16	76.2	5	20.8	28	70.0
Stop or reduce exposure to violence at place of work	5	45.5	6	46.2	4	21.1	4	19.0	11	45.8	8	20.0
Reduce and mitigate exposure to infectious diseases at place of work	5	45.5	3	23.1	3	15.8	1	4.7	8	33.3	4	10.0
Row totals	11	45.8	13	54.2	19	47.5	21	52.5	24	37.5	40	62.5

It is evident that physical security is and remains an important factor that could contribute to participants returning and remaining in SA. Of the total responses for physical security from both open ended questions, 40 (62.5%) of participants cited that ensuring physical security is largely a factor outside the direct control of the health sector. As discussed in Chapter 2, section 2.6.1.1 HCWs are at particularly high risk of violence and infections at the workplace mainly because administrative measures that need to be put in place are often regarded as non-essential and de-prioritised.

Table 5.41 Health sector and general factors within job security that could contribute to the retention and return of participants (n=51)

JOB SECURITY	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		General	
	n(24)	%	n(24)	%	n(24)	%	n(27)	%	n(51)	%	n(51)	%
Create more jobs. ALS specific and related.	3	25.0	1	6.3	1	6.7	1	9.1	4	14.3	2	7.7
Create more prospects for promotion or career advancement	5	41.7	4	18.8	5	33.3	2	18.2	9	32.1	7	26.9
Stop, slacken or reverse affirmative action policies, employment equity mandates, race quotas	3	25.0	10	62.5	6	40.0	6	54.5	13	46.4	12	46.2
Stop , avoid or reduce retrenchment, downscaling, or staff replacements	1	8.3	1	6.3	3	20.0	2	18.2	2	7.1	5	19.2
Row totals	12	42.9	16	57.2	15	57.7	11	42.3	28	51.9	26	48.1

Table 5.42 Health sector and general factors within working conditions that could contribute to the retention and return of participants (n=51)

WORKING CONDITIONS	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		Specific to the Health sector	
	n(24)	%	n(51)	n(51)	n(51)	n(51)	n(24)	%	n(24)	n(24)	%	n(24)
Improve working environments or work related facilities	3	25.0	4	23.5	2	16.7	2	25.0	7	24.1	4	16.7
Promote and inform community about profession promoting awareness and respect	1	8.3	1	5.9	2	23.3	2	25.0	2	6.9	4	16.7
Educate and inform other health care workers about profession to promote professional regard and respect	1	8.3	2	11.8	3	16.7	1	12.5	3	10.3	4	16.7
Create better or adequate working hours.	7	58.3	10	58.8	9	43.3	3	37.5	17	58.6	12	50.0
Row totals	12	41.38	17	58.62	16	66.66	8	33.33	29	54.72	24	45.28

Table 5.43 Health sector and general factors within EMS industry specific that could contribute to the retention and return of participants (n=51)

EMS INDUSTRY SPECIFIC	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		General	
	n(24)	%	n(27)	%	n(24)	%	n(27)	%	n(51)	%	%	n(51)
Ensure effective management	1	7.7	3	20.0	3	30.0	4	36.4	4	14.3	7	33.
Ensure appropriate or adequate management	2	15.4	2	13.3	1	10.0	1	9.1	4	14.3	2	9.5
Ensure appropriate utilization of ALS staff	2	15.4	2	13.3	1	10.0	1	9.1	4	14.3	2	9.5
Appropriate allocation of responsibilities to ALS paramedics	8	61.5	8	53.3	5	50.0	5	45.5	16	57.1	10	47.6
Row totals	13	46.4	15	53.6	10	47.6	11	52.4	28	57.1	21	42.9

Table 5.44 Health sector and general factors within political considerations that could contribute to the retention and return of participants (n=51)

POLITICAL CONSIDERATION	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		General	
	n(24)	%	n(27)	%	n(24)	%	n(27)	%	n(51)	%	n(51)	%
Stop racial discrimination	5	62.5	8	66.6	2	28.6	4	67.0%	13	65.0	6	35.3
Stop gender discrimination	0	0	0	0	0	0	1	100.0	0	0	1	5.8
Establish a stable political system	0	0	0	0	0	0	1	100.0	0	0	1	5.8
Stop corruption, nepotism	3	37.5	4	33.3	5	71.4	4	45.0	7	35.0	9	52.9
Row totals	8	40.0	12	60.0	7	33%	10	67.0	20	54.1	17	46.0

Table 5.45 Health sector and general factors within economic considerations that could contribute to the retention and return of participants (n=51)

ECONOMIC CONSIDERATION	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		General	
	n(24)	%	n(27)	%	n(24)	%	n(27)	%	n(51)	%	n(51)	%
Improve remuneration	6	60.0	8	50.0	5	62.5	6	50.0	14	53.9	11	55.0
Provide more or better benefits, e.g. housing allowances, rural allowances, meal allowances, pensions, overtime etc.	0	0.0	0	0.0	1	12.5	1	8.3	0	0.0	2	10.0
Provide more or better incentives in recognition of staff performance	0	0.0	3	18.8	1	12.5	1	8.3	3	11.5	2	10.0
Provide more or better incentives given to staff following company growth or increased profits	4	40.0	3	18.8	0	0.0	4	33.3	7	26.9	4	20.0
Ensure stability and continued financial sustainability of the EMS, public or private	0	0.0	2	12.5	1	12.5	0	0.0	2	7.7	1	5.0
Row totals	10	38.5	16	61.5	8	40.0	12	60.0	26	56.5	20	43.5

Table 5.46 Health sector and general factors within statutory body - PBEC that could contribute to the retention and return of participants (n=51)

STATUTORY BODY- PBEC	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		General	
	n(24)	%	n(27)	%	n(24)	%	n(27)	%	n(51)	%	n(51)	%
Stop, reduce administration inadequacies regarding registration	2	25.0	2	16.7	0	0.0	1	16.7	4	20.0	1	10.0
Establish and ensure proper system in place regarding CPD	1	12.5	0	0.0	1	25.0	0	0.0	1	5.0	1	10.0
Establish proactive clinical governance	1	25.0	2	16.7	1	25.0	1	16.7	3	15.0	2	20.0
Establish transparent organisation that constantly informs members about the profession	1	12.5	0	0.0	1	25.0	0	0.0	1	5.0	1	10.0
Reduce registration fees	3	37.5	8	66.7	1	1.0	4	66.7	11	55.0	5	50.0
Row totals	8	40.0	12	60.0	4	40.0	6	60.0	20	66.7	10	33.3

Of the total responses from both open-ended questions for the major factor statutory body - PBEC, 20 (66.7%) cited that the assurance of a more efficient and transparent statutory body is a role predominately under the control of the health sector. As discussed in Chapter 3, section 3.4, the data available from the HPCSA on the distribution of ALS paramedics in South Africa was found to incorrectly represent the number of ALS paramedics working inside the country as it did not collect this information. Dovlo (2007) explains that it may be necessary for health registries to begin playing a more important, visible and contributory role towards managing

migration of HCWs and in instances where this is not possible, a collaborative approach with government may be necessary.

Table 5.47 Health sector and general factors within quality of life that could contribute to the retention and return of participants (n=51)

QUALITY OF LIFE	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		General	
	n(24)	%	n(27)	%	n(24)	%	n(27)	%	n(51)	%	n(51)	%
Promote opportunities to acquire a better house or vehicle	0	0.0	1	11.1	0	0.0	0	0.0	1	6.3	0	0.0
Repair or build better roads, hospitals, and places for recreation and rest	1	14.3	3	33.3	1	14.3	0	0.0	4	25.0	1	12.5
Promote opportunities to be able to live a decent life	3	42.9	1	11.1	4	57.1	0	0.0	4	25.0	4	50.0
Encourage family, friends, or social network to remain in South Africa	1	14.3	2	22.2	2	28.6	1	100.0	3	43.8	3	37.5
Row totals	5	41.7	7	58.3	7	87.5	1	12.5	12	60.0	8	40.0

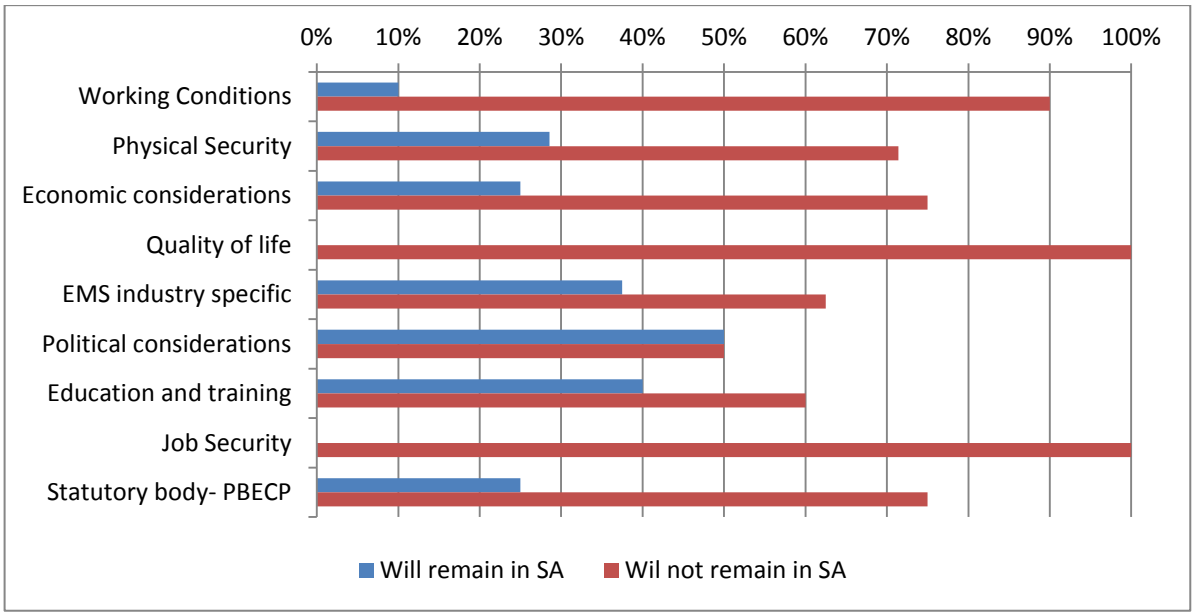
Table 5.48 Health sector and general factors within education and training that contributory to the retention and return of participants (n=51)

EDUCATION AND TRAINING	Specific to the Health sector				General				Total			
	In South Africa		Outside South Africa		In South Africa		Outside South Africa		Specific to the Health sector		General	
	n(24)	%	n(27)	%	n(24)	%	n(27)	%	n(51)	%	n(51)	%
Ensure high training standards within the profession	2	16.7	3	42.9	0	0.0	2	50.0	5	26.3	2	28.6
Establish and ensure more or better training opportunities to advance within the profession	5	41.7	4	57.1	3	100.0	2	50.0	9	47.4	5	71.4
Establish and ensure education or training opportunities within the profession are available and accessible	5	41.7	0	0.0	0	0.0	0	0.0	5	26.3	0	0.0
TOTAL	12	63.2	7	36.8	3	42.9	4	57.1	19	73.1	7	26.9

For the major factor education and training, 19 (73.1%) of the total responses collected claim that ensuring improvements in training and advancement within the profession is predominately a task achievable within the health sector. This finding is consistent with earlier findings. Padarath, *et al.* (2002) claimed that education and training opportunities for HCWs are fundamental in their retention and growth with the health sector and this should become a priority early on when finances and resources are allocated.

Finally, to investigate if a difference in the identification of major factors contributing to the retention and return of participants, between those intending to migrate (n=18) and those not intending to migrate (n=6) existed, a comparative analysis of the frequency distributions was undertaken. This included the frequency distributions of the responses regarding the second open ended question (see Figure 5.20 below). This was the question which tried to identify general factors non-specific to the SA health sector that would contribute positively towards the retention and return of participants was undertaken.

Figure 5.20 Major factors contributing to the retention and return of participants working in SA (n=24).



Comparative analysis between those planning to remain in SA (n=6) with those not planning to remain (n=18)

Figure 5.20 shows that the majority of responses came from participants who intended to migrate. The major factors quality of life and job security were only cited by participants intent on migrating. Interestingly, these two major factors were the same major factors identified by participants that planned to return to SA (as indicated in Figure 5.68). It is evident that factors *quality of life* and *job security* are increasingly important factors in both retention and return of ALS paramedics.

5.7.1. Age and gender in relation to push, pull and retention and return factors

When examining the data collected regarding factors associated with migration of ALS paramedics, three fundamental groups of major factors were identified in this study. Table 5.49 below describes the factors making up each group.

Table 5.49 Push, pull and retention and return factors grouped

Group 1	Factors that contributed to migration of participants working outside SA (n=27) as well as factors that have contributed to those working inside SA that plan to migrate (n=18)
Group 2	Factors that have contributed to those participants working outside SA that plan to return to SA (n=15) as well as factors that could discourage those participants working inside SA from migration (n=18)
Group 3	Factors that could contribute to the retention and return of all participants

A battery of Chi squared tests were conducted to see whether there was a significant relationship with each of group one factors and age, or gender or years post-graduation. The results for the Chi squared tests for factors in group one are presented in Table 5.50 overleaf. Two significant relationships were identified, namely between job security and years' post-graduation *(p = 0.001)*, and between job security and age *(p = 0.045).* From this it can be concluded that there was no significant difference between each of the other broad factors with respect participants' age, gender or years post-graduation.

Table 5.50 χ^2 results

Group 1 - Broad factors (n=45)	Chi-squared test (χ^2) (5% level of significance)		
	Difference between years post-graduation experience (1-3 years) and (4-9 years)	Difference between Age categories 21-30 years and 30 years and older	Difference between Gender
Working conditions	*0.945*	*0.322*	*0.168*
Job security	*0.001*	*0.045*	*0.832*
Physical security	*0.673*	*0.526*	*0.502*
Ems industry specific	*0.449*	*0.094*	*0.526*
Economic considerations	*0.884*	*0.175*	*0.140*
Political considerations	*0.884*	*0.449*	*0.833*
Statutory body- PBEC	*0.449*	*0.905*	*1.000*
Quality of life	*0.903*	*0.143*	*0.519*
Education and training	*0.256*	*0.124*	*0.660*

Table 5.51 Job security in relation to age

Job security	Age categories (21-30 years) (31 years and older)		Total
	21-30	31->40	
Yes	14	6	20
No	10	15	25
Total	24	21	45

- Job security and age categories

Participants between 21-30 years old had identified job security more times than participants 31 years and older (14 cases versus 6 cases). The difference was statistically significant *(p=0.045)* indicating that younger SA paramedics are more likely to identify factors associated with job security as contributory to the decision to migrate from SA.

The most frequent sub factor identified in job security was “affirmative action, employment equity mandates and race quotas”. This finding is consistent with many earlier findings. Studies conducted by Desai, and Kulkarnai (2008); Crush (2004); and Colborn, Kent and Leon (1995) highlighted affirmative action, employment equity

acts, and the recent, broad based black employment equity polices as primary contributors in pushing up the rate of migration.

As younger participants were found to be predominately working inside SA, it is expected that this would also be the group that would be most affected by these sub factors.

Table 5.52 Job security in relation to years' post-graduation

Job security	Years post-graduation experience (1-3 years) (4-9 years)		Total
	1-3 years	4-9 years	
Yes	4	16	20
No	18	7	25
Total	22	23	45

Ideally, if younger participants were most affected by job security, then this should also be the case for participants with 1-3 years' experience as participants with 4-9 years' experience are usually considered to be older. This however was not the case. It is evident that participants with 4-9 years post-graduation experience had identified this broad factor more times than participants with just 1-3 years post-graduation experience (16 cases versus 4 cases). The difference was statistically significant (p=0.001) indicating that SA paramedics with 4-9 years post-graduation experience are more likely to identify factors associated with job security as contributory to discouraging the decision of migration from SA.

The SA health sector like any other industry sector is subject to "affirmative action, employment equity mandates and race quotas" the sub factor most prevalent in job security. However with the health sector experiencing such a dire need for experienced and skilled workers, the effects of affirmative action policies, employment equity mandates and race quotas are not immediately felt at entry level jobs. This is especially true for the SA EMS. According to Naidoo (2008) there are always more vacancies for ALS paramedics than the number of ALS paramedics available and willing to apply for jobs. This results in the indiscriminate hiring of ALS paramedics. These are usually the younger paramedics with less experience.

However as time progresses the effects “affirmative action, employment equity mandates and race quotas” are then felt, especially as these little older more experienced paramedics begin to apply for promotions, career advancements and so forth.

In summary “affirmative action policies, employment equity mandates and race quotas” are contributory factors to migration, however this is largely as a result of it limiting or preventing promotions or access to training for career advancements rather than it preventing or limiting access to entry levels jobs within the profession.

Chi squared tests were conducted to see whether there was a significant relationship with each of group two factors and age, or gender or years post-graduation. The results for the Chi squared tests for factors in group one are presented in Table 5.53 below. No significant relationships were identified, i.e. all values for $p > 0.05$. From this it can be concluded that there was no significant difference between each of group two factors with respect to age or gender or years post-graduation experience.

Table 5.53 χ^2 results

Group 2 - Broad factors	Chi-squared test (χ^2) (5% level of significance)		
	Difference between years post-graduation experience (1-3 years) and (4-9 years)	Difference between Age categories 21-30 years and 30 years and older	Difference between Gender
Working conditions	*0.443*	*0.138*	*0.443*
Job security	*0.629*	*0.312*	*0.629*
Physical security	*0.107*	*0.266*	*0.939*
Ems industry specific	*0.443*	*0.604*	*0.443*
Economic considerations	*0.107*	*0.266*	*0.443*
Political considerations	*0.170*	*0.876*	*0.687*
Statutory body- PBEC	*0.679*	*0.183*	*0.270*
Quality of life	*0.346*	*0.515*	*0.201*
Education and training	*0.409*	*0.793*	*0.854*

Chi squared tests were conducted to see whether there was a significant relationship with each of group three factors and age, or gender or years post-graduation. The results for the Chi squared tests for factors in group one are presented in Table 5.54 below. Two significant relationships were identified, namely between working conditions and years post-graduation ($p = 0.026$), and job security and age ($p =$

0.048). From this it can be concluded that there was no significant difference between each of the other broad factors with respect to participants' age, gender or years post-graduation.

Table 5.54 χ^2 results

Group 3 - Broad factors	Chi-squared test (χ^2) (5% level of significance)		
	Difference between years post-graduation experience (1-3 years) and (4-9 years)	Difference between Age categories 21-30 years and 30 years and older	Difference between Gender
Working conditions	*0.026*	*0.322*	*0.294*
Job security	*0.572*	*0.473*	*0.320*
Physical security	*0.972*	*0.918*	*0.062*
Ems industry specific	*0.078*	*0.258*	*0.534*
Economic considerations	*0.431*	*0.611*	*0.670*
Political considerations	*0.654*	*0.611*	*0.670*
Statutory body- PBEC	*0.269*	*0.300*	*0.436*
Quality of life	*0.296*	*0.048*	*0.150*
Education and training	*0.753*	*0.959*	*0.065*

Table 5.55 Quality of life in relation to age

Quality of life	Age categories (21-30 years) (30 years and older)		Total
	(21-30 years)	(30 years and older)	
Yes	6	1	7
No	20	24	44
Total	26	25	51

Participants between 21-30 years old had identified quality of life more times than participants 30 years and older (6 cases versus 1 case). The difference was statistically significant (p=0.048) indicating that younger SA paramedics are more likely to identify factors associated with quality of life as contributory to the retention and return of paramedics from SA. This finding is not unexpected, earlier it was discovered that amongst all major factors contributing to the retention and return of participants, the major factors quality of life and job security were greatest amongst participants not planning to remain in SA (see Figure 5.20).

It was also discovered that younger participants are more likely to be working inside SA however, they are also the group most likely to migrate. Where older participants were found to be working outside SA, they were also the group that if not already migrated, are unlikely to migrate.

Chaudhury and Hammer (2003) suggested that the unlikelihood of older participants migrating usually lies in their commitments and their family ties. The significant difference in the frequency count between younger and older participants with regards to quality of life could be a result of older participants already passing the stage where they would be away from family friends, and social networks, the most prevalent sub factors of quality of life. They would have settled down by then and therefore would not identify with it as much as younger participants who had not settled down.

Table 5.56 Working conditions in relation to years' post-graduation

Working conditions	Years post-graduation experience (1-3 years) (4-9 years)		Total
	1-3 years	4-9 years	
Yes	17	17	34
No	3	14	17
Total	20	31	51

Participants with 4-9 years post-graduation experience had identified working conditions the same number of times as participants with 1-3 years post-graduation experience (17/20 cases versus 17/20 cases). The difference was statistically significant (p=0.026) indicating that regardless of the number of years post-graduation experience a participant may have they would identify with factors associated with working conditions as contributory to the retention and return of paramedics to SA.

5.7.2. Conclusion

This chapter presented the overall results for Phase One of the study. Surveying 51 study participants through a questionnaire, data specific to the objectives of the study were collected. From the information presented in sections 5.3 and 5.4 the extent and nature of migration of SA ALS paramedics could be deduced. Frome the information collected and presented in section 5.6 the factors associated with migration of SA ALS paramedics were identified. This included push and pull factors as well as retention and return factors. In conjunction with each of the sections, inferential statistics were performed across the array of variables identified in the study and where significant differences or relationships were identified, these were presented.

CHAPTER 6

Analysis and Interpretation of Phase Two Data

6.1. Introduction

The purpose of Phase Two of the study was to explain and expand the findings of Phase One (as discussed in Chapter 4, section 4.5) in order to obtain an understanding of paramedic migration. Although the majority of the findings in Phase One were self-explanatory, a few were not very clear and additional explanations were required – these have been termed the "information needs" of Phase One. An interview guide consisting of questions to satisfy these information needs and ultimately the objectives of the study were developed. Interviews with information rich participants from within the study population (n=8) were then conducted. This chapter presents the analysis and interpretation of data collected in Phase Two.

6.2. Information needs emerging from Phase One

Three areas needed clarification and further explanation, namely: remuneration, work hours and training standards.

6.2.1. Remuneration

The sub factor remuneration was part of the major factor *economic considerations* (illustrated in Figure 5.3 and Table 5.12). It ranked amongst the top three factors leading to SA ALS paramedic's decision to work outside the country. It was however unclear from Phase One what exactly was it about remuneration that made ALS paramedics decide to identify it as a highly ranked contributing factor to their decision to migrate. From the analysis of Phase Two data with regard to remuneration two explanations contributing to a further understanding of remuneration had emerged.

6.2.1.1. Remuneration disproportionate to work done

The general view was that although salaries for ALS paramedics have improved, certain stipulations or contract agreements required of ALS paramedics typically still result in situations where remunerations are disproportionate to the work done. Paramedics also felt that although they were employed through contracts or stipulations surrounding a "management position" they typically ended up doing more operational work with the exclusion of the operational benefits like overtime.

Comments from Informant 1….

"Salaries well yes! Salaries is an issue, in the sense that it is not equal to the work that we put in. Most of the ALS are expected to put in long long hours. Most of the guys work four days on, four off and then they get a standby rate for night time, I stand to correction, but most places pay around 30 bucks standby a night and then you get paid for the calls that you respond to, they don't pay attention to the fact that when you on standby you can't drink, you can't go to dinner, you can't relax, you on alert the entire time, so in view of all these things the salaries are not equal to the work we do"

Comments from Informant 4…

"If one has to compare the salary at the level which an individual with a similar sort of qualification, be it a diploma or a Btech in EMC, the salary is much lower ,when you comparing or considering the hours put in, the work conditions the environment etc you doing a lot more work for less money"

Comments from Informant 3…

"Yes, the amount of money given in relation to amount of responsibilities given. It just doesn't add up, and what's more disappointing is that the ALS in the private sector are doing the exact same job as us but get almost twice our salary. In fact, we get maybe a thousand rand more than what their ILS staff is paid. So when you look at it from that perspective it really is quite disheartening"

Comments from Informant 6…

"Think about it, the average ALS paramedic takes home about 12 grand a month, you take a mortgage of 650 000 rand and you are forced to work overtime just to make ends meet. So now you are completely exhausted, after your four days on, and

on standby, and now you go and work overtime; that completely shatters you. The result is not just a really tired paramedic who has to work extra just to pay his mortgage, but all the time he spends away from his wife and family stresses him out further,, - so he is broke, stressed and now you send him to an ill and weak person who does not need ALS, he really does not want to be there but he has too...so you end up getting a impassionate paramedic with so much on his mind that is now treating you"..

Comments from Informant 7…

"The other thing is that for some reason they don't see it like that, they; as in all levels of government; provincial and national , they make us feel like we should be happy with the salaries, when in all reality, they and everyone else knows that it is way too little in relation to the responsibilities they give us"

6.2.1.2. Better remuneration for the same job existing elsewhere

It also emerged that although the remuneration that a SA ALS paramedic receives is often on par or even higher than other HCWs in other jobs in SA, the mere existence of numerous national and international opportunities with significantly higher remunerations for ALS paramedics, provokes ALS paramedic migration.

Comments from Informant 2…

"I would agree that salaries are a big push factor, but I think its relative. If people had nothing to compare it with, then it would not be push factor. People know that out there the salaries are relatively higher, where you get to do the same or lesser amount of work and be better remunerated. But it is not only outside the country, but inside as well, like KZN and Western Cape, if people have two points of reference, and know that they can do the same job but be better paid for it, than it would be a reason they want to leave".

Comments from Informant 1…

"You know to be honest, the reason why salary's now become an issue, is because there are far too many opportunities where you could earn much more that are out there, that's the problem mainly. Back in the day, you did not see paramedics leaving SA, because there was only province to go to, now you have contract work, Australia, UK, so the guys have more options. It's like in all jobs, teachers, nurses everyone".

Comments from Informant 4…

"Generally there is an inequality between the provinces, and guys in KZN really end up getting the short end of the stick, generally you can't actually live of the salary that they pay, you can't support a family, you can't buy a house, you can't really do much, now overseas they are offering salaries for short period contracts, were you can buy a house, a car, and support your entire family"

6.2.1.3. Understanding remuneration of ALS paramedics

The perception that emerges from participants suggests that remunerations for ALS paramedics in SA are generally adequate when compared to the salaries of other SA HCWs and with this type of profession globally. However, when the amount of hours or their responsibilities in the operational setting are taken into account it seems as if they are not being adequately remunerated. Employment agreements and contract stipulations for paramedics in SA are likely to be the primary contributors to remunerations being disproportionate to their operational roles and duties. Paramedics were typically employed through "management contracts" but expected to work as operation resources. In addition, the increased number of higher paying jobs existing nationally and internationally present as primary contributors to ALS paramedics deciding to migrate. Similar situations have been highlighted in Chapter 2, section 2.6.1.1. Hamilton and Yau (2004) found that poor salaries are often cited as push factors more over because HCWs were aware that higher salaries could be earned for the same job elsewhere, rather than the salary that they were currently earning being meagre.

SA may never be able to meet the levels of salaries that international recruiters pay SA ALS paramedics, it can however limit the disparities in the salaries paid to ALS paramedics within SA. This may include equalizing salary disparities between provinces within SA and between public and private EMS organisations. It can also redress the operational roles and duties that ALS paramedics perform, thereby matching work that is done to remunerations that are earned.

6.2.2. Work hours

Working hours was a sub factor within the major factor *working conditions.* Ranked amongst the top three factors leading to SA ALS paramedic's decision to work

outside the country, this sub factor brought with it some confusion. In SA the working hours for SA ALS paramedics are regulated by government directives irrespective or the type of agency they work for, i.e. public or private. The hours that a SA ALS paramedic would have to work had been created with due regard to the health, wellbeing and safety of paramedics. Because of this working hours should not have been a push factor. For this reason, a further explanation was needed to understand what exactly was meant by this. Two aspects emerged that explained why work hours were a sub factor in their decision to migrate.

6.2.2.1. Extra workload redistributed instead of employing more staff

It became apparent that as ALS paramedics in SA left, their workload had to be carried by the remaining staff. Budget constraints and problems around mismanagement had caused many ALS paramedic vacancies to be frozen, preventing any new staff from being employed to replace staff that left.

Comments from Informant 5…

"Well, here I think it comes back down to the number of paramedics per a district or given population group. What generally happens is that, as more staff leave, for some odd reason the vacancies are frozen, so no new staff are hired to fill those vacancies. This results in the remaining staff now having to fill their space left by these paramedics. I for one had to cover an entire district for three months. And it's not about saying no, cause if you don't do it, then no matter what people say, people and other managers look down on you, I guess they think that because you are functioning at that level you should be setting an example, and go beyond what is expected from you"

Comments from Informant 4…

"Just the other day this mate of mine was telling me, that he came on shift and there were ninety transfers already waiting...and most of them were ALS transfers just because they had some kind of pain medication given to them days or hours ago.... this could have been easily handled by a ILS unit".

Comments from Informant 3…

"I see ALS paramedics that don't have the ability to say no, getting stuck with long hours of standby duties, over times etc, and they don't complain, because well they are not expected to, and then suddenly everyone is surprised that this guy has just left"

6.2.2.2. Work over and above ordinary working hours

It became evident that the work hours that ALS paramedics cited as contributory to their migration in Phase One, mainly related to extra hours or over time. There also seemed to be a disproportionate connection between the extra work hours and remuneration to work done (as discussed in section 6.2.1.1).

Comments from Informant 4…

"People or management don't seem to understand that standby for an ALS paramedic in a district or sub district that has no or very few paramedics is actually a full working shift, and usually standby is after a normal shift, so in most cases you are working 24 hours"

Comments from Informant 2...

"It's not just overtime that tires the guys out, because let's be honest you have a choice to say no to over time, I know I am stuck doing late cases, coming home nine ten o clock sometimes, and it is tiring"

Comments from Informant 5…

"Legally people have a right to say no to overtime and standby but it really is made out to be like you are expected to do it, it really is quite intimidating, and indirectly you are made to feel that there will be repercussions if you say no"

Comments from Informant 8…

"I think as a rule SA paramedic's work too much. Just as an example that I have come across, in terms of stress, international paramedics that experience a traumatic event would probably get a month off, but in this country the guy would just get back onto his next cycle or his shift and carry on working, so therefore the mechanism that would work towards alleviating that kind of stress, like talking to a chaplain or a psychologist is really not available, or in the public service that I am aware of. So in case of the long hours, and the fact that you are constantly working, burnout is

always a factor. Depending on the maturity and the life skills of the practitioner it may vary on how people deal with that stress. What tends to happen is that people that are newly qualified tend to burn out faster, as they have a lot of energy and purely because they think that they can work a lot more hours without feeling the effects of it, finally realising that they can't do it basically"

Comments from Informant 2…

"Working hours for me was fine, however at times if you work for the private sector, the case loads is tremendous as you might be the only paramedic in the whole region for that shift which leads to stress and burn out."

Comments from Informant 1…

"You know what, work hours again should not be an issue, because you have to work a minimum number of hours and any more of that it's by your choice...so you should not be complaining". "The problem comes when you are on standby etc, which is part of your job and because there are so less medics out there, the remaining medics are put on 24 hours standby. What happens now is that the ALS get sent to every single case, so they are on 24hours stand by...and now because some incompetent controller cant estimate the severity of a case and the need for an ALS, they just send him out"...

6.2.2.3. Understanding work hours

It is evident that it is the extra time worked outside ordinary working hours that are most contributory to ALS paramedic migration. As fewer paramedics become available, remaining paramedics are left to carry the workload. This vicious work load cycle and its effects are highlighted in Chapter 2, section 2.6.1.4. Zurn, *et al.* (2005) explained that the taking over of the workload left behind by migrating HCWs is typically considered normal and standard practice within most developing health care systems. According to Artazcoz, *et al.* (2009), HCWs usually find themselves not adequately remunerated for the extra work but fail to object because of fear of accusations of insubordination, reprisals or even job losses. It was also found that because many ALS paramedics were in management positions, they automatically found themselves doing many hours of standby duties at a set remuneration. In other words, this meant that ALS paramedics may work a day shift, be on standby, then

return to shift. In areas or districts with only one ALS paramedic, this could translate to an ALS paramedic working a 48-60 hour shift.

6.2.3. Training standards declining within the profession

This sub factor appeared within the major factor of *education and training*. Some participants cited the decline in training standards as a reason for their migration. This was rather confusing in the light of the continued migration of ALS paramedics. As discussed in Chapter 3, section 3.1- 3.2, the high training standards of ALS paramedics in SA appears to be a primary reason behind their attractiveness to international recruiters. If training standards had dropped as mentioned by some participants in Phase One, there should have been a subsequent decline in the global recruitment of SA ALS paramedics, this however (as discussed in Chapter 3, section 3.4) has not been the case. Three aspects were identified on further questioning.

6.2.3.1. Training standards need defining

The general view was that a benchmark against which the training standards within the ALS profession could be measured, did not and does not exist. ALS training programmes in SA have changed and have structures very different to when they were conducted a decade ago. It was found that this change is what participants often interpreted as the lowering training standards.

Comments from Informant 3…

"..You know, before you could stand parade and you could stand proud, neatly dressed..Now the guys come to work like hobos, shoes untied, hair with some funky hairdo...and you can't tell them anything. Everyone is so afraid of the system and the employee with rights"...so if those are standards yep then they are dropping"

Comments from Informant 2…

"Also, ten years ago the average paramedic, CCA, NDip, came onto the road and got stuff done, no matter the problem the average paramedic got it done, anyway, anyhow. Now you see it... like guys need to have their hands held!... They are so shaky straight from tech...Maybe this is how it supposed to be and the past was

wrong...but it is different from the past. .that's for sure, the problem is that along with standards, medical treatment and rescue standards will also start to drop"

Comments from Informant 1…

"And you know what, it's not just paramedics, it's all emergency service guys. Here our motto for the Fire department is, every call out is a burnt out!...there is no point calling them out cause the freaking thing is going to burn to the ground anyway ..We don't even call them out anymore...these guys are new graduates, and are shaky as hell".

Comments from Informant 2…

"Standards within the profession have dropped. My personal opinion, I don't think it has dropped, it's the perception of people based on their own perception of what standards are, look, I mean in my experience as well I have also heard that people say that standards have dropped , when people say that, they are probably eluding to the fact that training standards have dropped, not so much the EMS standards in terms of what's happened in the EMS"

" ..But personally I think standards have actually improved. We see much more graduates qualify and like in any profession it takes a while before new graduates get enough experience to sustain him or herself , I don't for one minute believe that standards have dropped. I believe that people base it on what they think standards are or their own personal background or training, what they had to go through basically. They use that to gauge what's happening in the current system so the answer is no I do not think that standards have dropped, and I can't see how that would be a push factor unless people feel that they don't want to be in a system that is perceived as having dropping training standards".

Comments from Informant 4...

"Standards - Yes hey!, definitely, and the problem is that no one seems to care, 5 months ago I sent a letter to the HPCSA about BACs putting up IV lines and they still have not replied to me nor was any corrective or disciplinary actions taken".

Comments from Informant 8...

"Again, there's no way our clinical standards have dropped, the measures we put in place make sure that our standards remain high or are elevated, measures like

quality assurances, regular audits, checking case sheets, even the media scrutinising us, the hospitals, etc and again with that said why then are so many paramedics still going overseas, if our standards have dropped this would not be the case"

Comments from Informant 5…

"I also see people making those comments, but I think it's more on the side of higher education. But personally, we hire guys straight from higher education institutions and there's no problem. Guys learn as they go….Well look! You know it's not the perfect scenario, but we have no choice, we have business to run, we need medics and hiring them straight from tech is the best bet to get them, .guys don't understand how things in the education system has changed and therefore they make those comments"

6.2.3.2. Training of ALS paramedics has changed to meet the needs of SA

Over the recent years, as the profession evolved so too did the training of ALS paramedics. In the past training was mainly conducted through in house training centres specific to the profession in, currently the NDEMC is conducted at institutions of higher learning (IHL) and controlled and regulated by the South African Qualifications Authority. Many of the changes made to the training of ALS paramedics followed evidence based best practice and are in line with international standards. In instances where training structures or curriculum had been changed, omitted or amended, this was found to positively enhance the training and quality of graduates produced.

Comments from Informant 4…

"So when you compare this to, just say 10 years ago, you can say that obviously, ten years back the standards to get a job in the EMS were much higher than it is now. Also with that, you got a multitude of private colleges that erupted, training thousands of BLS and ILS staff. Because these were private colleges, the notion of failing incompetent students was not good for business and therefore many incompetent BLS and ILS paramedics were pushed into society. Because there was so many staff, the job market became extremely competitive that staff desperate for jobs began settling for meagre salaries. In many cases staff that took positions with meagre salaries are the ones that would not have necessarily passed training

programmes if it was conducted by a reputable accredited institution. All that gets summed up and you end up with the statement that says standards have dropped"

Comments from Informant 7…

"Firstly, this is very subjective; to say standards have dropped, because without actually measuring it, it is hard to really say that. However, I can see were this comes from. You must understand that we have entered a time in South Africa were the bar or requirements to enter into the EMS profession have been lowered or dropped in many cases. That is a fact. And if anyone denies that, a typical example is the driving test requirements. In the past you were taken on the road with an assessor in the passenger seat of the ambulance to demonstrate your driving skills. Now you are taken to a flat ground and ask to drive straight, up and down. So now, you get a person that is employed as a BAC but cannot drive. So now you have a point to which you can assess the standard to which a individual's driving was assessed, when comparing it to what happens now, you can be justified in saying that standards have dropped, but I am not sure about standards regarding medical care of people, because in the past many things that were done has actually changed for the better, remember mega dosing, CPR cycles, calcium chloride in CPR etc"

Comments from Informant 5…

"I believe standards are dropping; the mere fact that so many paramedics are put through the system every year now is an indication of that. I am not sure if they are doing this to meet the demand out there, but more and more paramedics, well more than what it should be like in the past are put through the system and you can see some of these guys are still unsure what's going on. They lack simple skills; they may be very knowledgeable but are not very skilled practically. But with saying that, I must admit that a paramedic is only as good as his experience and guess that in the past you got good experience from working before you did the diploma, I guess now with the diploma taking kids out of school, it is inevitable that you going to get inexperienced guys out there straight from tech. So yes, standards have dropped, but maybe this is what the standard it is supposed to be at, and it was just higher or different in the past because if you think about it..In the past guys that went into the programme with much more older, mature and already experienced in the EMS".

6.2.3.3. Understanding training standards within the profession

It emerged that training programmes conducted in the past were very different to training programmes that are currently conducted in SA. Older candidates who were already familiar with the EMS were mostly recruited in earlier programmes. In addition, earlier training programmes placed enlisted greater emphasis on students' physical strength and endurance. Finally, earlier programmes were often in line with paramilitary styles of training especially with regards to higher levels of discipline and the way recruits conducted themselves. As the profession evolved, many aspects that were found to be without benefit to the core objectives in training ALS paramedics were omitted. These omitted aspects are often the foundation to which the perceived drops in training standards are attributed. The general view is that training programmes have advanced and are in line with international standards. This is evident in the continued acceptance of SA ALS paramedics by international recruiters.

The continued migration of ALS paramedics may have a direct affect on the training of future paramedics as highlighted in Chapter 2, section 2.8.1.1. According to Packer, *et al.* (2002) with continued migration of HCWs, a knowledge brain drain occurs with the resultant outcome being an inadequately skilled and inexperienced teaching workforce left to continue the training of future HCWs.

6.3. Integration of findings to understand migration of SA ALS paramedics

Early on in the analysis of Phase Two data it became evident that comments captured from participants shared commonalities which were aggregated to form themes. These themes together contributed to a further understanding of migration of ALS paramedics. They have been depicted as conceptual models (Figures 6.3 to 6.7) derived from the integrated findings of the two phases to explain why paramedics migrate and what induces them to return. This understanding was essential for the development of a framework to retain them or encourage them to return, which was the purpose of this research (see section 1.3, Figure 4.5 and section 4.5).

6.3.1 Themes related to decisions

These themes, as defined by DeSantis and Ugarriza (2000), were "abstracts or entities that bring meaning and identity to a current experience and its variant manifestations, as such, a theme captures and unifies the nature or basis of the experience into a meaningful whole". The five unifying themes, representing five decisions in an ALS paramedic's life were:

- the decision to become an ALS Paramedic,
- the decision to work inside South Africa after qualifying as an ALS paramedic,
- the decision to work outside SA after qualifying as an ALS paramedic,
- the decision to return to South Africa, and
- the decision to remain in South Africa after returning.

The five themes emerged as a result of an aggregation of comments. Thirty two comments referred to as categories hereafter, were identified. For ease of presentation, categories were shortened but are still explicit enough to illustrate the views of informants. An example of the actual comments and the comments categorised are presented for the comment category; "financially rewarding profession" in Table 6.1 below. Henceforth only where the labels for the categories are deemed insufficiently descriptive of the category, are actual quotes provided.

6.3.2. The decision to become an ALS Paramedic

This theme involved the factors associated with an individual's journey to becoming an ALS paramedic. In Table 6.1 it is evident that many reasons may exist behind the fundamental decision that drives one to choose to become an ALS paramedic in SA.

Table 6.1 Coding scheme for Theme 1 with minor thematic categories

Theme 1: The decision to become an ALS paramedic	**T1**
Categories	
Financially rewarding profession*	**A**
Passionate about helping people	**B**
Seeking employment	**C**

**Quotes related to the Category: Financially rewarding profession*

Actual comments	Category
(Inform 2)-"Salaries in the ambulance sector are better than other sectors" *(Inform 3)*-"ALS paramedics are paid relatively good salaries in SA" *(Inform 5)*-"There is lots of money that can be earned doing contracts as an ALS" *(Inform 6)*-"The guys are earning stacks overseas doing nothing" *(Inform 8)*-"The money is probably higher than what some doctors or engineers get, but that is mainly overseas"	Financially rewarding profession

6.3.3. The decision to work inside South Africa after qualifying

It emerged that the decision to work inside South Africa after qualifying as an ALS paramedic was usually based on factors only offering short term satisfaction. In addition, as shown in Table 6.2 below, the scenario to remain inside SA was typically one of "needing" to stay rather than them "wanting to". As "needs" expired or no longer existed, paramedics inevitably left.

Table 6.2 Coding scheme for Theme 2 with minor thematic categories

Theme 2: The decision to work inside South Africa after qualifying	T2
Categories	
Financially rewarding opportunities requiring no experience	**A**
Limited opportunities to migrate without post-graduation experience	**B**
The attainment of experience	**C**
Commitments and stay factors preventing migration	**D**

6.3.4. The decision to work outside South Africa after qualifying

The decision to work outside SA was found to be typically associated with an array of push factors compounded by the absence of stay factors. Many of the push factors shown in Table 6.3 overleaf have been already identified in Phase One data.

Table 6.3 Coding scheme for Theme 3 with minor thematic categories

Theme 3: The decision to work outside South Africa after qualifying	T3
Categories	
Current remunerations paid to SA paramedics	**A**
Current working hours worked by SA Paramedics	**B**
Current working conditions SA paramedics are subjected to	**C**
Safety and security of SA Paramedics while working	**D**
Lack of promotion or career advancement in the EMS	**E**
Affirmative action in the EMS	**F**
Perceived drop in training standards within the profession*	**G**
Current management style of EMS	**H**
Political interference in the EMS	**I**
No stay factors, family, friends, social network abroad	**J**

**Perceived drop in training standards in the profession*

Actual comments	Comment categories
(Inform 4)-"Well guys practical skills have dropped , it seems that guys are only working Techmed, so their exposure is very limited, they have the knowledge but can't apply it, so there is definitely a difference in the practical ability of graduates from previous years and now" *(Inform 5)*-"The other thing is that ten years ago, the profession was like hard core, you know when I qualified there were 3 guys in my class, the year after I don't know, even if you were born in Chernobyl you would not have enough fingers or toes to count the number of guys that passed, so maybe the standards have dropped to allow more paramedics to pass". What else will explain that, well it seems that way anyway" *(Inform 5)*-"You remember how confined space rescue required 75 shuttles to pass. And how we struggled....two years later they brought it down to 52... well if that what standards are then, yes they are dropping"	Perceived drop in training standards within the profession

6.3.5. The decision to return to South Africa

This decision to return was based on the redressing and correcting of push factors that had contributed to paramedics deciding to migrate.

Table 6.4 Coding scheme for Theme 4 with minor thematic categories

Theme 4: The decision to return to South Africa	T3
Categories	
Process to return and find work is easy	**A**
Better remunerations	**B**
Better working hours	**C**
Better working conditions	**D**
Safer and secure environment to work in	**E**
Promotions and career advancement in the EMS	**F**
Affirmative action policies revisited	**G**
Evaluating and improving training standards in the profession	**H**
Redressing management style of the EMS	**I**
Addressing the autonomy of the EMS	**J**
Family, friends, social network in SA	**K**

6.3.6. The decision to remain in South Africa after returning

The decision to remain in SA is closely related to the decision to return to SA. Informants indicated that the decision to remain in SA after returning would be dependent on whether the factors that had contributed to them returning to SA expired or changed, or if new push factors developed.

Table 6.5 Coding scheme for Theme 5 with minor thematic categories

Theme 5: The decision to remain in South Africa	T3
Comment categories	
Safety and security of family	**A**
Remuneration increasing in line with cost of living	**B**
Stable political and economical environment	**C**
No recurrence of push factors identified in Theme 4*	**D**

**Not reverting on factors identified in Theme 4*

Actual comments	Comment categories
(Inform 1) -"Yes, I would probably return to SA, but things must change. And it must improve, if it has to go back to the way it was, with bad working conditions, salaries etc. Then I would really think of emigrating fully hey!"	Not reverting on factors identified in Theme 4

6.3.7. The distribution of comments

All five themes were identified in all eight of the interviews although not every category was mentioned. In some cases, comment categories emerged more than once in a single interview. In those instances the comment category was identified and counted only once for that particular interviewee. Table 6.6 on page 174 shows the distribution of the themes and categories across the eight key informants.

Table 6.6 Distribution of themes and categories across the eight key informants (n=10)

Theme	Category		Informants							
	Category labels	Number of categories	1	2	3	4	5	6	7	8
1	T1A	1		✓	✓		✓	✓		✓
	T1B	2	✓			✓		✓		
	T1C	3			✓		✓			
2	T2A	4	✓	✓						✓
	T2B	5	✓							
	T2C	6				✓	✓			✓
	T2D	7	✓	✓				✓		✓
3	T3A	8	✓	✓					✓	✓
	T3B	9		✓			✓		✓	✓
	T3C	10	✓	✓	✓					✓
	T3D	11	✓	✓						✓
	T3E	12	✓						✓	✓
	T3F	13		✓					✓	
	T3G	14				✓	✓			
	T3H	15							✓	
	T3I	16				✓		✓		
	T3J	17			✓	✓		✓	✓	
4	T4A	18		✓	✓		✓	✓		
	T4B	19				✓	✓			
	T4C	20					✓			
	T4D	21			✓					
	T4E	22	✓				✓			
	T4F	23	✓							✓
	T4G	24			✓					✓
	T4H	25				✓	✓			
	T4I	26							✓	
	T4J	27						✓		
	T4K	28								✓
5	T5A	29	✓	✓	✓			✓		✓
	T5B	30	✓		✓		✓	✓		✓
	T5C	31			✓					
	T5D	32	✓				✓		✓	✓

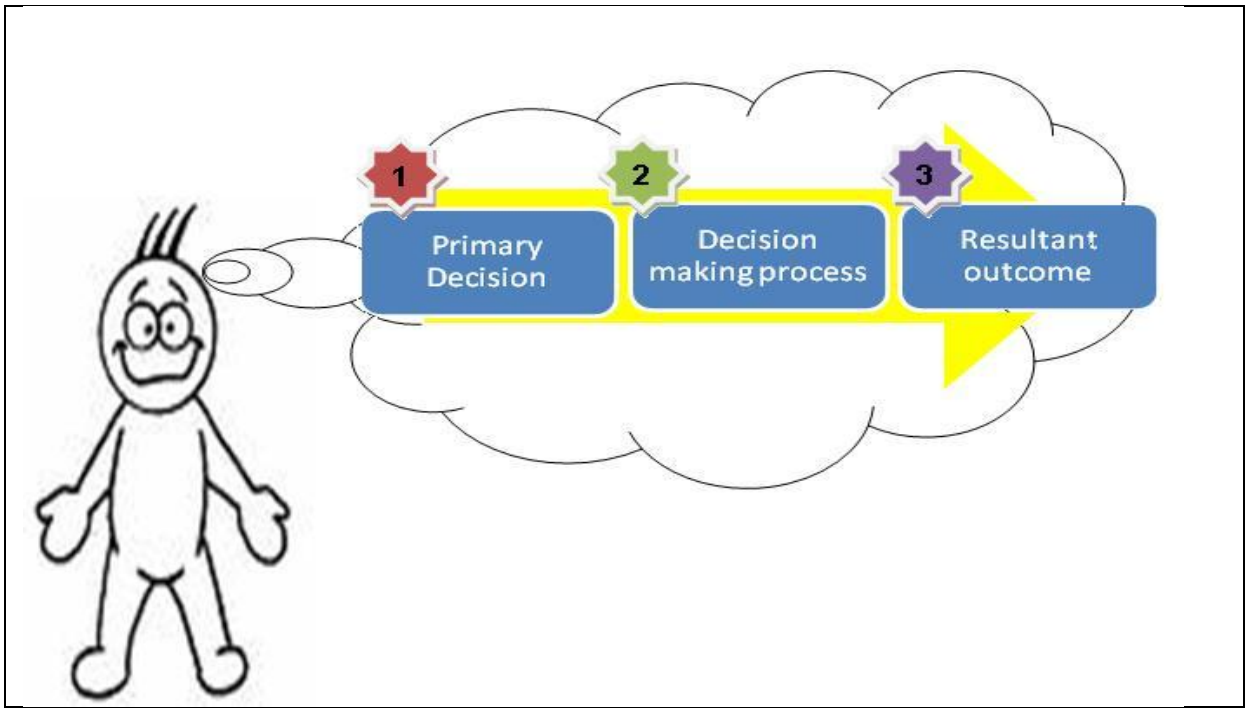
6.4. Understanding decision making in relation to migration of SA ALS paramedics

As the analysis of the data in Phase Two progressed, it became clear that each of the five themes involved a sequence of events consisting of three common elements. The elements of each theme, as illustrated in Figure 6.1, were:

- the primary decision,
- a decision making process, and
- a resultant outcome.

These events took place over a period of time, for some it could have been short and for others it could have been much longer.

Figure 6.1 Graphic representation of decision making components - Sequence of steps



Very early on when the concept of decision-making first emerged, experts described it as a process typically involving three sequential steps. According to Luce and Raiffa (1958) the first step was to define the problem and collect all relevant facts. The second step was to state all possible courses of action and possible results, and the third step was to weigh all available information and to decide upon the proper course of action. Although this was not wrong, experts in research quickly found this interpretation of decision-making to be somewhat naïve, especially as many

significant steps of decision-making had been left out. Simon (1960) explained that decision-making involved more than just choice. It involved lengthy and complex processes of alerting, exploring and analysing right up to the final moment of choice. He concluded that if a basis for studying decision making was to be made, it should be on decisions categorised into two groups, that is programmed and non-programmed. According to Simon (1960) programmed decisions can be thought of as repetitive and routine - those for which there is a definite handling procedure. Non-programmed decisions are novel, unstructured, and consequential.

Close on forty years later, although worded differently, the general view on decision making seemed to remain unchanged. According to Lauri and Salantera (2002) the two essential types of cognitive processes that occur in relation to decision making are analytical decision making and the information processing theory. The analytical cognitive process involves a step by step, conscious, logically defensible decision making process, while the information processing theory is an intuitive cognitive process which is typically understood as a decision making process without the use of a conscious, logically defensible, step by step process. This process typically includes rapid information processing, simultaneous cue use, pattern recognition and an evaluation of cues at perception level.

Programmed decision making (Simon, 1960) and analytical cognitive decision making (Lauri and Salantera, 2002) appear to be similar and share the same nature of understanding as does non-programmed decision making and information processing decision making.

After Phase Two data had been analysed and interpreted, a paper by Mckellar (2006) titled “The decision to migrate: migratory aspirations and perspectives of Colombian University students” was located. This was particularly exciting as many of her findings were consistent with ones in this study despite the notable differences in the research designs, study populations and settings of each of the studies. Areas where her findings coincided with this study have been indicated hereafter.

The explanations relating to decision making may provide the foundation for further understanding migration of SA ALS paramedics and as Mckellar (2006) explains, by understanding peoples’ reasons for migrating, better predictions can be made about

current and future migration flows and both origin and destination countries can plan more effectively and adjust for the resulting consequences.

6.4.1. The primary decision

According to Mckellar (2006) an increasingly globalised and technologically integrated world has caused changes in the way people move within and between countries, outdating much of the current theory on international migration. The lack of relevant literature is especially apparent in the area of the migration of ALS paramedics, and thus, this study is an attempt to address this deficiency by examining each of the three elements from each of the five emergent themes. The first element is the primary decision. Each primary decision is associated with varying factors which for the purposes of this study were classified and referred to as "triggers". These triggers, illustrated in Table 6.8 below, were found to be catalysts to the primary decisions in each of the five themes. In other words, these triggers facilitated each of the five specific decisions. The absence of these triggers would likely prevent a similar decision from occurring. Additional or different triggers would have likely caused a different or additional decision to occur.

Table 6.7 Triggers to primary decisions

Triggers	Primary decision
Financially rewarding profession. Passionate about helping people. Seeking employment.	The decision to become an ALS Paramedic **(1)**
Financially rewarding opportunities in South Africa requiring no experience*. The attainment of invaluable experience in SA.	The decision to work inside South Africa after qualifying as an ALS paramedic **(2)**
Family, friends are overseas. Better opportunities overseas. Better working conditions. Safety and security overseas. Better remuneration.	The decision to work outside SA after qualifying as an ALS paramedic **(3)**

Family, friends are in South Africa. Jobs outside SA not as lucrative**. Better remuneration: Approval of occupation specific dispensation (OSD) for EMS staff.	The decision to return to South Africa **(4)**
Family, friends are in South Africa Jobs outside SA not as lucrative.	The decision to remain in South Africa **(5)**

*Actual comments * "You can get a top paying job in SA straight out of technikon"*

*** "In most cases the grass is not as green on the other side"*

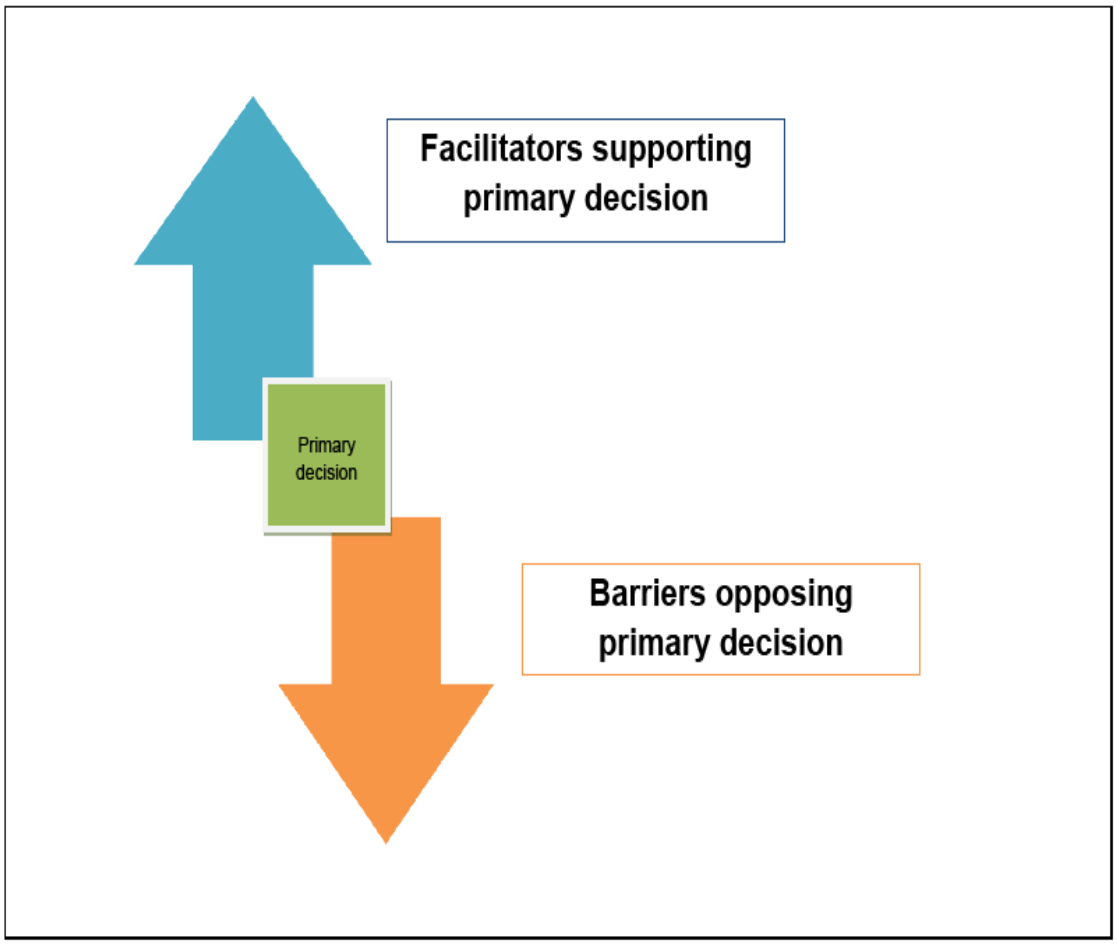
Carling (2002) proposes that the triggers behind a primary decision can be analyzed on two levels. The first level includes macro level factors such as economic and political instability, crime, violence, and other factors that are usually associated with a large number of people wishing to leave their country permanently or temporarily. The micro-level analysis focuses on factors usually specific to a situation, location or profession. Examples of these factors include "continuous harassment with regards to a situation", really cold weather with regards to a location, poor working conditions, or poor remunerations with regards to a profession. When analysing triggers regarding the five decisions SA ALS paramedics usually face, it is evident that triggers originate from both macro and micro levels but are predominately on the micro level, i.e. from within the profession.

6.4.2. The decision making process

Traditionally, most international migration studies had focused on migration research through data collected during the post-migration period (Davenport, 2003; Kalir, 2005). According to Mckellar (2006) those methodological tendencies not only left out the decision-making process and perspectives of those that chose not to migrate or were unable to do so, but also failed to capture the uncertain, evolving, and reflexive process of the decision to stay or leave. In addition, Mckellar added that while traditional migration explanations offered many important insights and explanations especially for understanding and thinking about past migration, there are many aspects of "modern international migration" that are not adequately accounted for, nor even addressed in most mainstream migration.

In this study, data from Phase Two showed that the second element in each theme was a decision making process. Each of the five decision making processes were associated with two groups of factors (as shown in Figure 6.2). For the purposes of this study, these groups of factors were termed “facilitators” and “barriers”. Facilitators supported or strengthened the primary decision and barriers opposed or weakened it. For example, the first primary decision was “the decision to become an ALS paramedic”. A positive outcome of this decision was “Yes, I will become an ALS paramedic”, while a negative outcome of this was “No, I will not become an ALS paramedic”. However, for a positive outcome to be reached, more factors that supported the decision to become an ALS paramedic had to exist, if more barriers existed, then there would have been an increased likelihood of a negative outcome whereby the individual would choose not to become an ALS paramedic, as illustrated in Figure 6.3 on page 181.

Figure 6.2 Decision making process with facilitators and barriers



Through the data collected in Phase One and Phase Two, it was found that numerous “facilitators” and “barriers” existed for each of the five primary decisions. The facilitators and barriers for each decision are presented later on. Many have been shortened for ease of presentation, however it is sufficiently clear that the nature of what is meant by it, is explicit.

6.4.3. The resultant outcome

The resultant outcome of each of the five decision making processes described in 6.4.2 and Figure 6.2 was the third element. This outcome in each of the five decisions was dependent on the “degree of influence” the array of facilitators or barriers had on the decision making process. The degree of influence was dependant on the quantity and quality of facilitators and barriers existing during the time each primary decision was made.

6.5. Theme 1

The decision to become a South African ALS Paramedic

It became clear that the ultimate decision to migrate is not one that is exclusively made when an individual qualifies as an ALS paramedic. The decision to migrate is often conceptualised as early on as when the initial decision to become an ALS paramedic is made. Table 6.8 highlights the triggers, facilitators and barriers associated with Theme 1. The barriers outnumber the facilitators and could result in many people deciding not to become a paramedic. The degree of influence of the barriers and facilitators on an individual will vary depending upon their personal circumstances. Figure 6.3 overleaf illustrates the decision making process and the resultant outcome that typically ensues in the decision to become a South African ALS paramedic when the barriers are stronger than the facilitators. The potential consequences of the triggers that influence the decision are highlighted in Table 6.9 on page 182.

Table 6.8 Factors associated with the decision to become a South African ALS paramedic

TRIGGERS	FACILITATORS to Decision	BARRIERS to Decision
Financially rewarding profession. Passionate about helping people. Seeking employment.	Three years diploma essentially guarantees job placement. Bursaries available to study.	Limited institutions offering course. Qualification not obtainable through correspondence. Entry requirements difficult. Study fees expensive. No resources to travel and study in other cities were courses offered.

Figure 6.3 Decision making process associated with the decision to become a South African ALS paramedic when the influence of the barriers exceeds that of the facilitators

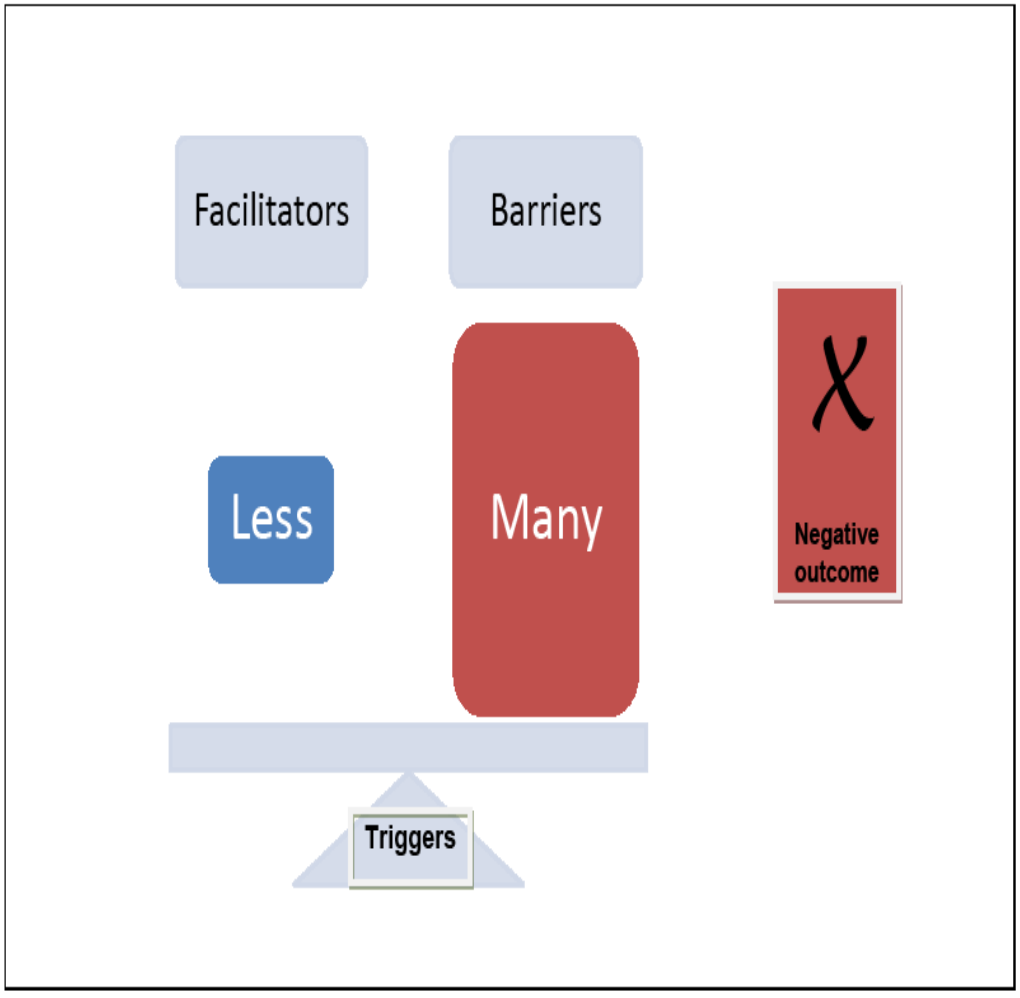


Table 6.9 Potential consequences of the triggers that influenced the outcome of the decision on whether or not to become a South African ALS paramedic

- The number of national programmes and training institutions available limits the number of ALS paramedics produced
- Only students that have the necessary finances and pass academic and fitness requirements are recruited.
- Students with no intention to remain in SA post qualification and students who may already have conceptualised the notion of migration post-graduation may be recruited. (As this was not assessed, it is not known for certain)

Findings were notably similar to Mckellar's (2006) paper. The paper showed that private education was expensive and unrealistic for most poor students except for very few who obtained scholarships. This limited the number of students admitted, furthermore there was no evidence to conclude that the type of training a student obtained i.e. public or private, acted as an independent determinant of the desire to migrate indicating that the decision to migrate may be present before an individual enters a training institution. Finally, Mckellar showed that while everyone has the potential to be a migrant, the desire and willingness to migrate as well as the perception of whether or not one possesses the resources necessary to do so, varies drastically and therefore it may be extremely difficult to identify a student with a potential to migrate without an assessment, but even then, there is no guarantee.

6.6. Theme 2

The decision to work inside South African after qualifying

The decision to work inside SA after qualifying was found to originate much earlier than the time an outcome to the decision was required. It became clear that student paramedics had begun conceptualising plans of migrating even half way through training programmes. Table 6.10 on page 183 highlights the triggers, facilitators and barriers associated with Theme 2. The barriers outnumber the facilitators and could

result in many people deciding not to remain in SA after qualifying. As with the first theme, the degree of influence of the barriers and facilitators on an individual will vary depending upon their personal circumstances. Figure 6.4 below illustrates the decision making process and the resultant outcome that typically ensues in the decision to work inside SA after qualifying when the barriers are stronger than the facilitators. The potential consequences of the triggers that influenced the decision are highlighted in Table 6.11 on page 184.

Table 6.10 Factors associated with the decision to work inside South Africa after qualifying

TRIGGERS	FACILITATORS to Decision	BARRIERS to Decision
Financially rewarding opportunities in South Africa requiring no experience. The attainment of invaluable experience in SA.	No requirement for post-graduation experience to qualify for work. Moved into management positions automatically. Can work and be near to family and take care of commitments.	Seconded to rural areas as part of forced placements. High post non occupancy rate but no job vacancies. High student fee debts that cannot be paid with salaries earned nationally. Commitments and move factors forcing migration.

Figure 6.4 Decision making process associated with the decision to work inside South Africa after qualifying as an ALS paramedic when the influence of the barriers exceeds that of the facilitators

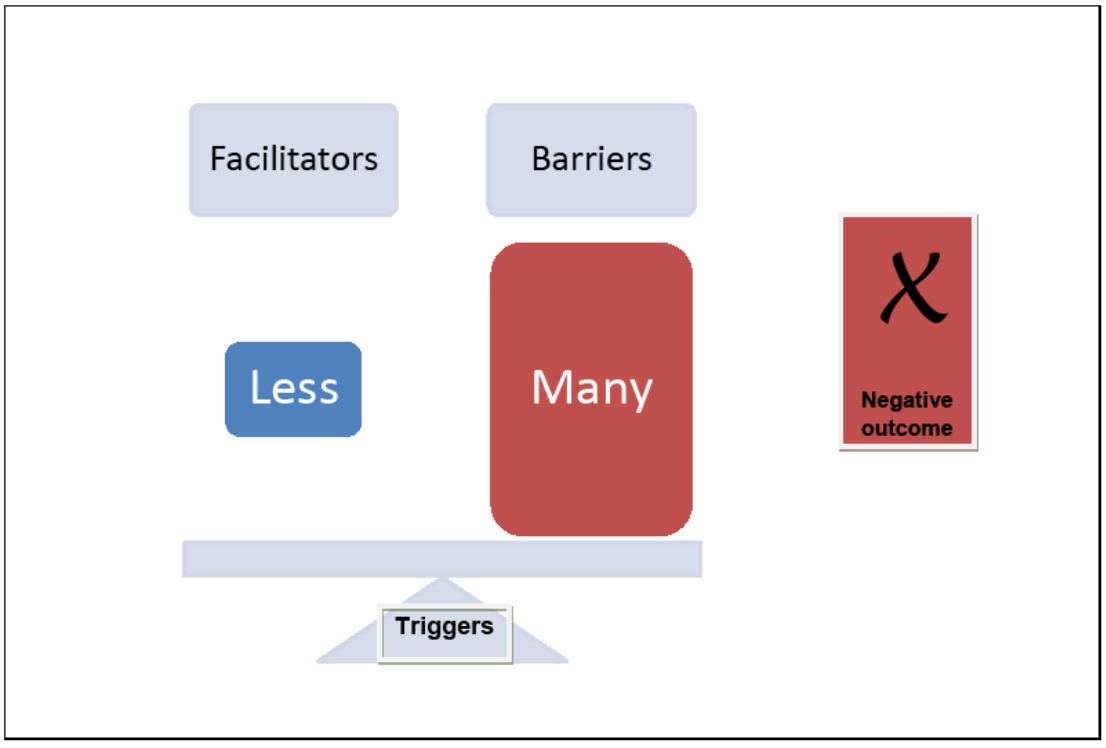


Table 6.11 Potential consequences of the influence of triggers that operated in the decision on whether or not to work inside South Africa after qualifying as an ALS paramedic

- Young newly qualified ALS paramedics requiring experience are likely to stay. This is however short lived as they soon begin to migrate as international opportunities become available.
- Graduates that already have family, friends and social networks overseas are likely to migrate.
- Older ALS paramedics or paramedics with stay factors or commitments are likely to remain but may move onto management positions.
- EMS operations suffer as the dire shortage of ALS paramedics grows

6.7. Theme 3

The decision to work outside South African after qualifying

The decision to work outside SA may seem as if it is closely related to the decision to work inside SA - identified in Theme 2, however the triggers, facilitators and barriers associated with Theme 3 were notably different to Theme 2 (as seen in Table 6.12 overleaf). The facilitators outnumber the barriers and could result in many people deciding to migrate after qualifying. Figure 6.5 illustrates the decision making process where facilitators have a stronger influence thereby encouraging the decision to migrate. The potential consequences of the triggers that influenced the decision to work outside SA after qualifying is highlighted in Table 6.13 on page 186. Again findings appeared to be notably similar to Mckellar's (2006) paper showing that the strongest predictor of the desire to migrate was the belief that one could obtain a higher standard of living with their professional abilities by migrating to another country. Further, what is perhaps more significant, is that participants in both studies indicated they were more worried about their own future economic stability and the future economic stability of their families than they were about the present situation.

Table 6.12 Factors associated with the decision to work outside South Africa after qualifying as an ALS paramedic

TRIGGERS	FACILITATORS to Decision	BARRIERS to Decision
Family, friends are overseas. Better opportunities overseas. Better working conditions. Safety and security overseas. Better remuneration.	Can take family overseas. Minimum experience required with plenty jobs and recruiters easily accessible. No internship or community service requirements. Flights, accommodation, relocation costs and administrative requirements taken care of by potential global recruiters. No requirement for professional registration in source country. Can complete postgraduate studies in SA through correspondence. Can work contracts and return to SA for family responsibilities. Travel and see the world while working No requirement for post-graduation experience to qualify for work. Time and resources to advance academic career in EMS profession.	Commitments and stay factors preventing migration. Tax implications if contracts are of short duration. Career growth, pension and benefits lost if leave SA EMS.

Figure 6.5 Decision making process associated with the decision to work outside South Africa after graduating as an ALS paramedic when the influence of the facilitators exceeds that of the barriers

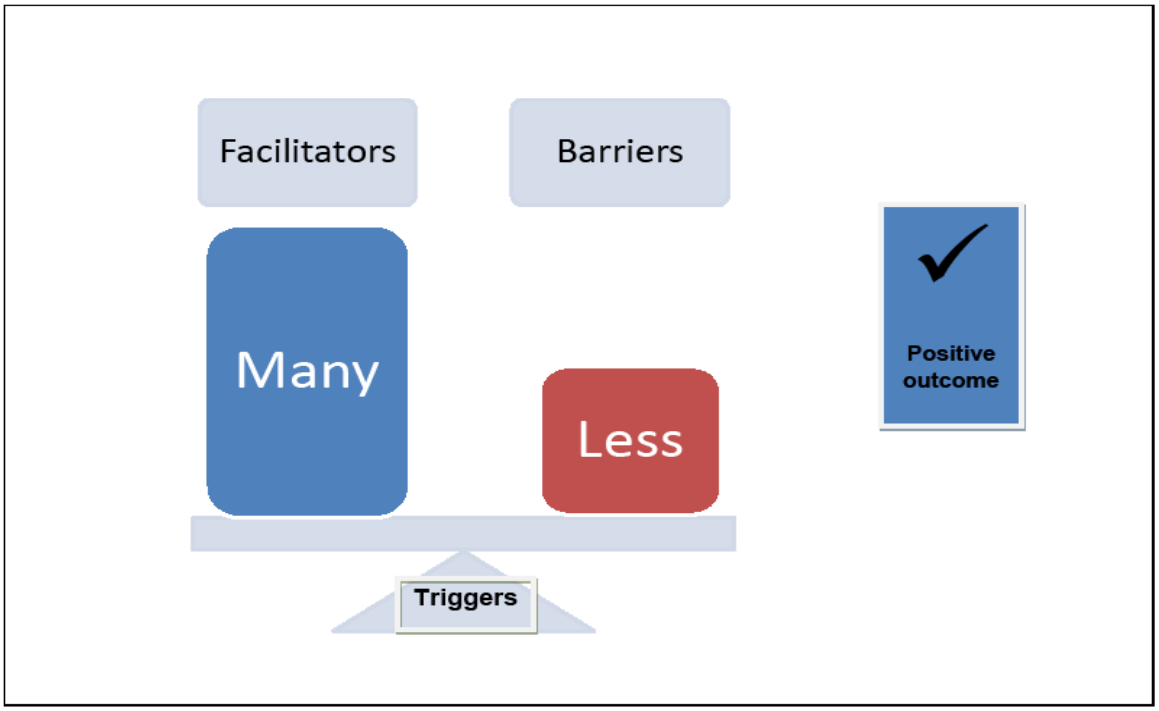


Table 6.13 Potential consequences of the triggers that influenced the decision to work outside South Africa after graduating as an ALS paramedic

- With no control measures or retention strategies in place ALS paramedics continue to leave unhindered
- EMS operations suffer as the dire shortage of ALS paramedics grow
- Older ALS paramedics or paramedics that chose not to leave are subjected to the burden of increased workloads. These individuals either leave the profession or migrate, further contributing to staff shortages.

6.8. Theme 4

The decision to return to South African

The decision to return to SA may exist even before paramedics decide to migrate from SA. The triggers, facilitators and barriers associated with Theme 4 are shown in Table 6.14. The barriers outnumber the facilitators and could eventually result in more people deciding not to return. Figure 6.6 on page 188 illustrates the decision making process and the resultant outcome that typically ensues in the decision to return to SA when the barriers are stronger than the facilitators. The potential consequences of the triggers that influenced the decision are highlighted in Table 6.15 on page 188.

Table 6.14 Factors associated with the decision to return to South Africa

TRIGGERS	FACILITATORS to Decision	BARRIERS to Decision
Family, friends are in South Africa. Jobs outside SA not as lucrative. Better Remuneration: Approval of Occupation Specific Dispensation (OSD) for EMS staff.	Spend more time with family, parents. Minimum experience required with plenty jobs available. Can complete postgraduate studies in SA and progress academically. Can return to SA and still work international contracts periodically.	Commitments and stay factors overseas preventing return to SA. Relocation costs. Many jobs however mainly in rural areas. Reregistration problems because of administration inadequacies at SA HPCSA. No significant positive changes noted with previously identified Push factors especially Working conditions and Safety and security.

Figure 6.6 Decision making process associated with the decision to return to South Africa when the influence of the barriers exceeds that of the facilitators

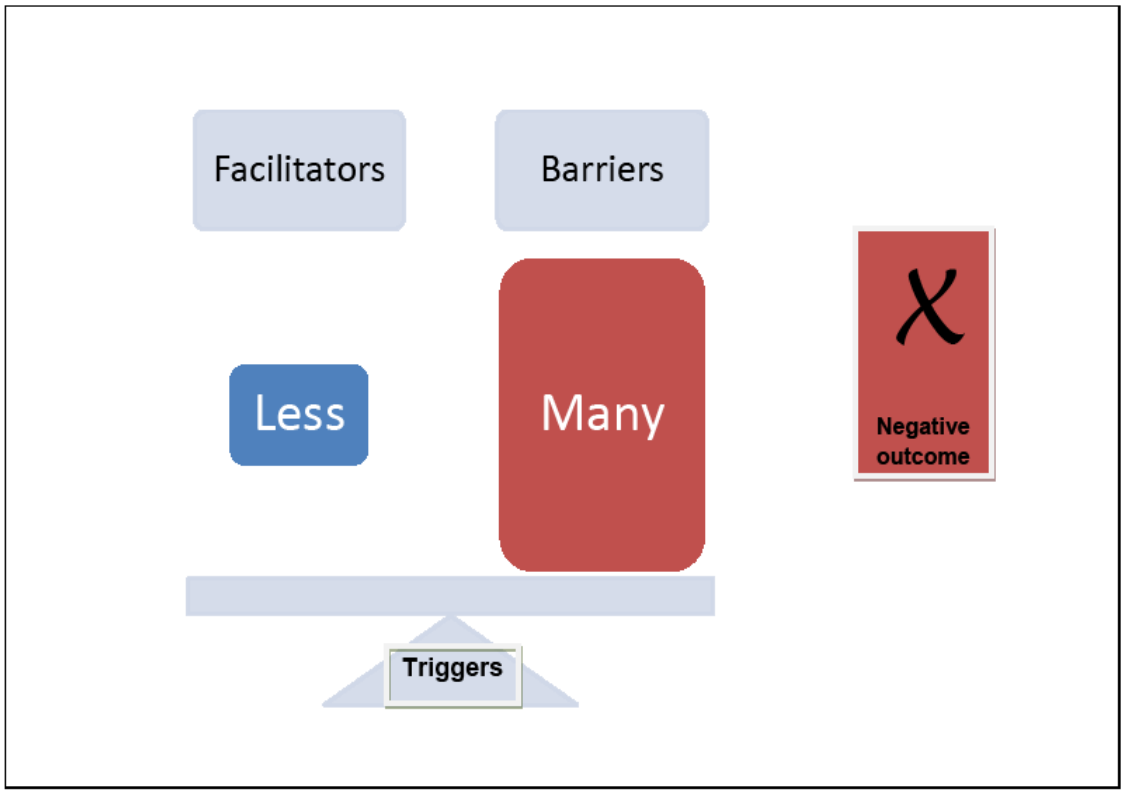


Table 6.15. Potential consequences of the triggers that influenced the decision to return to South Africa

- As more barriers exist, fewer ALS paramedics return especially those having settled abroad with their families
- No financial, logistical or administration support dissuades those who want to return,
- With limited or no control measures in source countries for migrant workers, ALS paramedics can continue to live and work overseas unopposed.
- EMS operations suffer as ALS paramedics continue to leave and very few actually return
- Often paramedics that do decide to return to SA, do not return to the profession because of new financial status and unresolved push factors.

6.9. Theme 5

The decision to remain in South African after returning

The decision to remain in SA, unlike the other four themes, is one typically made at the time shortly after return. It was evident that paramedics may have decided that re-migration was an option if things did not go well after their return to SA. However, was a tentative decision with no concrete plans or trial time periods for re-migration being made. The triggers, facilitators and barriers associated with Theme 5 are shown in Table 6.16 below. If the barriers outnumber the facilitators this could result in people deciding not to remain after returning to SA, as shown in Figure 6.7 overleaf. The potential consequences of the triggers that influenced the decision to remain in SA are given in Table 6.17.

Table 6.16 Factors associated with the decision to remain in South Africa after returning

TRIGGERS	FACILITATORS to Decision	BARRIERS to Decision
Family, friends are in South Africa. Jobs outside SA not as lucrative.	Spend more time with family, parents. Occupational Specific Dispensation approved. Can complete postgraduate studies in SA and progress academically.	No significant positive changes noted with previously identified Push factors especially those associated with Working conditions and Safety and security. Concerns about the safety and Security of family and children. Limited opportunities for family and children.

Figure 6.7 Decision making process associated with the decision to remain in South Africa after returning where the influence of the barriers exceeds that of the facilitators

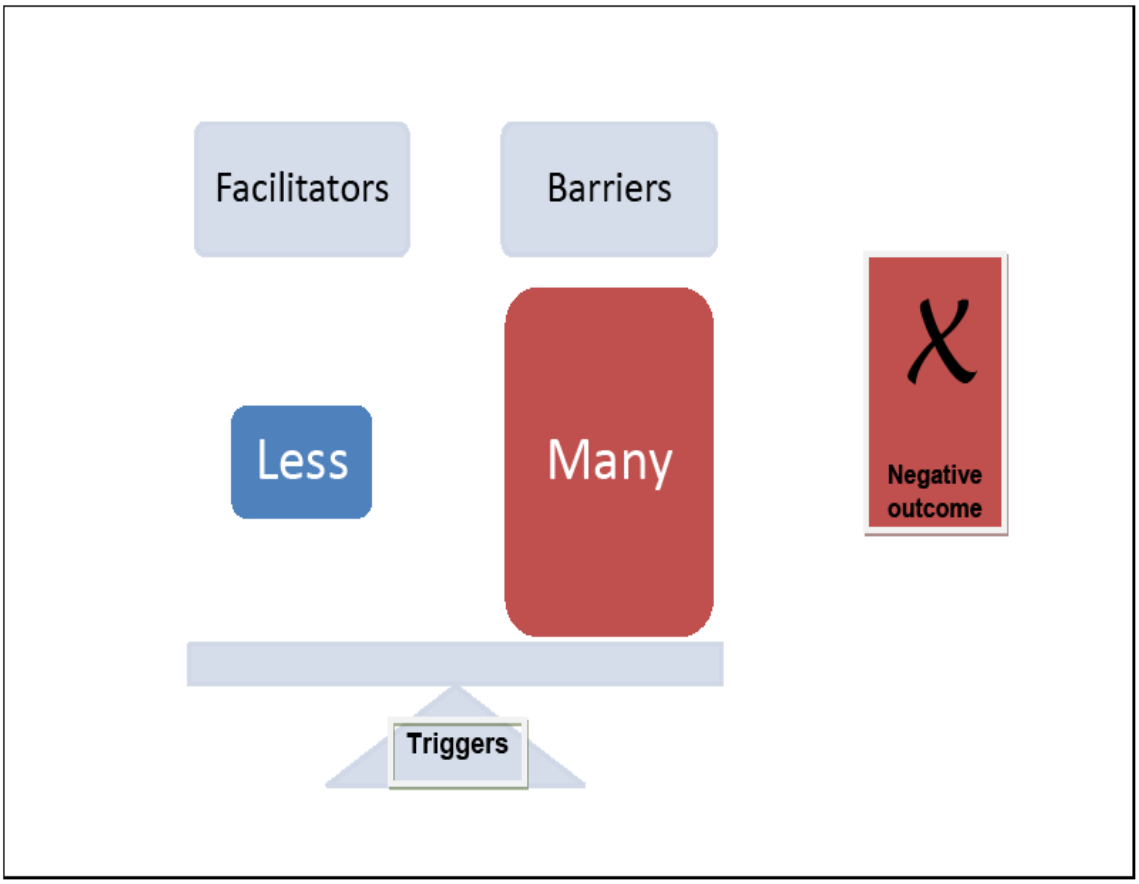


Table 6.17 Potential consequences of the triggers that influenced the decision to remain in South Africa after returning

• With no positive changes in previously identified push factors, many recant on the decision to remain in SA and leave after a while. • EMS operations suffer as ALS paramedics continue to leave with the few that return either leaving the profession or deciding to migrate again.

6.10. Conclusion

The development of the interview schedule used in Phase Two was guided by the information needs of Phase One. The data collected in Phase Two was sufficiently adequate to illuminate and clarify certain findings from Phase One that required further explanation. As the interviews conducted in Phase Two were guided by the interview schedule and not dictated by it, additional data was collected. This data aggregated to form five unique themes. Each theme comprised of a primary decision, a decision making process and a resultant outcome. It appears that the nature of decision making in SA ALS paramedics may involve both analytical or programmed decision making and information processing or non–programmed decision making (as seen in section 6.4). The primary decision that emerges as a result of triggers in each of the five themes appears to be one made intuitively without a logical defensible step by step process. In other words, it appears that the five primary decisions are made through a habitual, routine or non-programmed decision making process. The decision making process on the other hand appears to follow a conscious, logically defensible step by step process where facilitators and barriers are viewed, weighed and an analytical cognitive decision is taken. Developing a framework to successfully retain SA ALS paramedics requires identifying and managing those triggers, facilitators and barriers associated with ALS paramedics choosing to migrate from SA, choosing not to return, or choosing not to remain in SA after returning.

CHAPTER 7

The development of a framework to retain SA ALS paramedics

The achievement of the objectives of this study are depicted in the findings as presented in Chapters 5 and 6. In achieving the objectives an understanding of the extent, nature and factors associated with migration of South African ALS paramedics was established. This understanding has enabled the determination of steering principles for a detailed framework of suitable and appropriate strategies to retain and contribute to the return of South African ALS Paramedics.

The twelve steering principles are a result of the researcher's critical analysis of the study's literature review on migration of HCWs in general and conclusions from the study results (indicated by cross references in brackets after each principle) and opinions and recommendations emergent from experts and authorities in the emergency medical services of SA.

The twelve steering principles are:

7.1. Steering principle 1

Collaborative stewardship in managing migration of ALS paramedics is essential. (1.2, 2.5, 2.8)

7.2. Steering principle 2

A reliable monitoring system tracking the movement and distribution of ALS paramedics must be developed. (1.1, 2.3, 2.4)

7.3. Steering principle 3

The supply of ALS paramedics in SA must be addressed. (2.8.3, 3.2, 3.7.1, 6.5)

7.4. Steering principle 4

The distribution of ALS paramedics in SA must be addressed. (1.2, 1.5, 2.8.2.1, 3.3, 3.4)

7.5. Steering principle 5

Training must be restructured to meet identified priorities within the SA EMS.

(1.1, 2.8, 2.8.1.3, 2.8.2.2, 6.2.3, 6.5, 6.7)

7.6. Steering principle 6

Improved working conditions for ALS paramedics must become a priority.

(2.6, 2.7, 2.8.2.4, 3.5, 5.20, 6.2.2)

7.7. Steering principle 7

Special attention must be given to ensure ALS paramedics' physical security.

(2.6, 2.7, 3.5, 5.20)

7.8. Steering principle 8

Remunerations must be proportionate to work done.

(2.6, 2.7, 3.5, 6.2.1)

7.9. Steering principle 9

Line management within the EMS must be appropriate and effective.

(2.8, 2.6, 3.5)

7.10. Steering principle 10

Clinical governance and quality assurance within the EMS must remain a priority.

(2.8.11, 3.7)

7.11. Steering principle 11

Resources must be redistributed among strategies that manage migration.

(2.8, 3.5.3)

7.12. Steering principle 12

Strategies that monitor migration should be continuously monitored and updated.
(3.6)

Steering Principle 1 ***Collaborative stewardship in managing migration of ALS paramedics is essential***	
Guide	**Characteristics**
1. To manage migration of South African ALS paramedics, a multi-factorial and multi entity approach is essential.	1. Migration of South African ALS paramedics has been found to be a result of several interrelated factors. These factors extend from and are under the control of different organisational entities. The success in managing migration is therefore dependent on a multi-factorial approach spearheaded by the following key entities: <u>National Department of Health (NDoH)</u> Ultimate stewardship lies with the NDoH. Policies that prioritise the retention and return of ALS paramedics must be promulgated at National level. At this level industry participation becomes mandatory. <u>Provincial Department of Health (PDoH)</u> In South Africa the Emergency Medical Service is a functional responsibly of the PDoH. Implementation, continuous monitoring and redress of strategies that manage migration should therefore become an additional responsibility for the PDoH. <u>Health Professions Council of South Africa (HPCSA)</u> Guidance and input from the statutory body is essential in strengthening the NDoH's capacity to exercise its stewardship role. The Professional Board for Emergency Care (PBEC) the arm of the HPCSA providing guardianship over the practises of South African EMS personnel is a common port of call for all EMS personnel. Therefore the PBEC already has the administrative infrastructure that could be used to manage and measure EMS personnel adherence to and participation in retention and return strategies. <u>Private and Public employers in the SA EMS</u> Success of managing migration is dependent on how well return and retention measures are executed. This ultimately becomes a role of public and private industry.

Steering Principle 2 ***A reliable monitoring system tracking the movement and distribution of ALS paramedics must be developed***	
Guide	**Characteristics**
2. The need for retention strategies, the subsequent impact post implementation followed by a continual progress assessment of retention strategies is essential. This however can only be performed if a reliable, continuous and accessible system tracking the movement and distribution of ALS paramedics in SA is available. Currently no such system exists.	2. Reliable administrative mechanisms that are tasked with specifically monitoring the flow of South Africa ALS paramedics are mandatory. Systems should monitor supply data, distribution data and migration data. Process: data should be supplied to a central hub preferably the Professional Board for Emergency Care (PBEC) at the HPCSA which acts as a common port of call for SA EMS personnel. 2.1. Supply data – this is the number of ALS paramedics that are registered and accredited to work in SA every year. This includes new graduates, returning paramedics, and foreign paramedics. Sources of data: Training institutions. All public and private EMS employers in SA and the HPCSA foreign qualification accreditation boards. Why: Through this information the stock of ALS paramedics can be assessed, projections of future stocks can be elicited and the performance of programmes that address supply of ALS paramedics can be measured. 2.2. Distribution data – this is the number of ALS paramedics working in a certain geographical area at a certain time (within South Africa and outside South Africa). Sources of data: The provision of this information should become a requirement during annual registrations with the HPCSA. Registrations should only be processed after ALS paramedics have updated their contact details and current job status details. Why: Through this information the total stock of ALS paramedics actively practising in SA can be measured against the total stock that are registered to work in SA. Rural and urban distribution of ALS paramedics can be identified as well as the quantitative distribution of SA ALS paramedics per host country outside SA. Cumulatively, this information provides the evidence for targeted, area specific retention and return strategies. 2.3. Migration data - this monitors the type of migration an ALS paramedic is currently engaged in. information on the date, frequency and duration of stay inside and outside the country should be collected. Sources of data: Systems established at national level would be best in executing the task of collecting cross border migration information as access to migration records would be readily available. This can include information from global embassies following visa applications made by South African ALS paramedics.

Steering Principle 2 ***A reliable monitoring system tracking the movement and distribution of ALS paramedics must be developed***	
Guide	**Characteristics**
	2.2 Continued… Emigration information from host countries that receive South African ALS paramedics as well as information from the South African Department of Home Affairs following information captured at points of border crossing (land, air, sea) Why: Knowing that this information is being actively and methodically collected and is readily available, ALS paramedics may choose not to migrate. According to South African tax law, if a South African ALS paramedic works outside the borders of South Africa and earns an income, that income must be declared. It will however only be taxed if stay outside SA is shorter than a specified time frame (183 days, 63 of which must be consecutive days). Many short contracts undertaken by ALS paramedics fall below that time frame, however foreign incomes are not declared because of the knowledge that no reliable tracking system other than records at passport control which are only accessed during an investigation, exists. If a reliable tracking system is known to exist, ALS paramedics may feel the increased need to declare foreign income. Income that is taxed appears less attractive than tax free earnings. This will invariably dissuade paramedics from migrating.

Steering Principle 3 ***The supply of ALS paramedics in SA must be addressed***	
Guide	**Characteristics**
3. Establishing systems that ensure a regular and sufficient supply of competent ALS paramedics for the pre-hospital health care needs of SA.	3. More training centres and increased student intakes would increase the number of ALS paramedics that are trained and produced. However in the absence of retention measures, increasing the number of ALS paramedics produced by increasing training centres' and student intake numbers has with it the potential to incite further and continued migration. It also has the potential to result in abuse and exploitation of ALS paramedics as the market gets flooded and more competitive. Alternate sources to supply ALS paramedics must be investigated. 3.1. <u>Staff Exchanges</u> Structured mechanisms that support the exchange of foreign ALS paramedics trained at accredited international institutions to work in South Africa and South African ALS paramedics to work overseas would be valuable in that it: • provides an alternate source of ALS paramedics therefore precluding the costs involved in training new paramedics domestically, • provides a ready supply of ALS paramedics that can be distributed immediately to areas most in need of human resources, • provides South African ALS paramedics with exposure to global EMS systems and provides the platform through which global experience and skills can be harnessed and brought back to SA, • it also provides a controlled system that works towards satisfying the needs many HCWs have, especially those from developing countries and the need of travelling the world. 3.1. <u>Government to government bilateral agreements</u> The South African governments should evaluate the need for bilateral agreements between countries shown to be popular destinations for migrating South African ALS paramedics. • Agreements should be developed so that host countries are tasked with underwriting the costs of training additional ALS paramedics. • Host countries should agree to recruit ALS paramedics for a fixed period, this should be linked to training and further development of ALS paramedics prior to their returning to South Africa.

Steering Principle 4 ***The distribution of ALS paramedics in SA must be addressed***	
Guide	**Characteristics**
4. Establishing mechanisms that ensure appropriate distribution of competent ALS paramedics in line with national, provincial and regional requirements.	4. <u>Area specific needs analysis</u> Establishing an area specific needs analysis for pre-hospital emergency medical services will provide the basis for identifying staffing and skills requirements. • A needs analysis provides the tools to ensure correct and appropriate distribution of the different levels of human resources in the EMS i.e. (basic life support, intermediate life support, advanced life support, rescue, and intensive care transport personnel) • It is often the case that the absolute need for an EMS is area specific. Patients in urban settings where scene to hospital times are short would benefit more from rapid access and rapid transportation management strategies. These less invasive management strategies may only require the skills of basic or intermediate life support providers. Rural areas with longer distances and fewer sophisticated medical centres may require more ALS providers specifically designated for the increased numbers of inter hospital transfers. • Redistributing ALS paramedics could prove more cost effective than producing more through increased and accelerated training strategies.
4.1. Streamline the distribution process of ALS paramedics.	4.1. <u>Employment and Registration</u> The processes involved in the employment of ALS paramedics following staff exchanges, new recruitments, foreign workers, or bilateral agreements should not be lengthy and prolonged. This not only has the potential to dissuade people from applying for work but also delays service delivery. Accreditation and registration of ALS paramedics to work in South Africa should encompass a process that is easily accessible, easy to follow and requires little time and effort.

Steering Principle 5 ***Training must be restructured to meet identified priorities within the SA EMS***	
Guide	**Characteristics**
5. Preferential recruitment into training programmes should be reserved for individuals planning to remain in South Africa post-training.	5. With evidence suggesting that the decision to migrate often transpiring as early on as when individuals enter training programs, providing preferential status to individuals that plan to remain in South Africa post-graduation would contribute to more ALS paramedics remaining in South Africa. • Recruitment requirements should include formal interviews with potential candidates where they are asked about their plans post-qualification. • Individuals identified as having a decreased propensity to migrate post qualification may be: o public civil servants (military, EMS). o recognition of prior learning (RPL) candidates who are contractually obligated to serve time back to the South African EMS. o older mature individuals with families and are now settled in South Africa o rural inhabitants that are likely to move back and remain in rural settings post training.
5.1. Training to mitigate export	5.1. Lowering training standards or reducing the duration of training programmes to make ALS paramedic qualifications internationally unrecognised will not deter migration. This strategy has the potential to encumber a developing health system. It also has the potential to deplete the systems knowledge society, dissuade foreign health aid and investment and ultimately debilitating service delivery. However adjusting training to meet the health care needs of SA may have the potential to decrease migration.
5.2. Re-evaluate training curriculum to meet the needs of the South African Health system.	5.2. Aligning the training curriculum with the health needs of South Africa would have a greater impact on impeding migration as it may make newly trained ALS paramedics less attractive to global recruiters. • Training material and curricula should provide increased knowledge and awareness to vulnerable communities, like those in rural areas, the poor, the abused, and those subject to high levels of interpersonal violence in South Africa. • Greater focus should be placed on primary health care issues i.e. HIV/AIDS, tuberculosis, STDs, maternity. • Training should focus specifically on emergency medical care. Skills and knowledge should be specific to the health care needs of the public on the ALS paramedic. It may be necessary to re-evaluate the absolute need of the rescue component in ALS training programmes offered at institutions of higher learning. This component is often the primary reason behind the large number of students that exit training programmes before completion. Ironically it is the component that offers skills that are least used by ALS paramedics in South Africa.

Steering Principle 5 ***Restructuring training to meet identified priorities within the SA EMS***	
Guide	**Characteristics**
	Continued….
5.3. Internship and community service programmes for ALS paramedics.	5.3. In the absence of improved working conditions and the improvement of factors specific to the EMS, internship and community service programmes for ALS paramedic graduates may only delay migration and not deter it. • With insufficient competent staff ALS interns may take on the roles of primary clinicians with no supervision. • Internship and community service programmes have the potential to dissuade individuals that are less likely to migrate from registering into ALS training programmes. With the additional time graduates would have to spend post qualifying, older, committed, family orientated and RPL candidates that are less likely to migrate may view the increased time frame as too much of a personal and financial sacrifice. Particularly as many would have to be out of work for longer periods without overtime and enduring long periods without family contact. In addition, many employers would not incur the costs of training employees engaged in training programmes of such increased durations (Diploma = 3 years, + Internship = 1 year , + Community Service = 1 year) = 5 years
5.4. Instituting requirements for academic progression within the profession.	5.4. It is often the case that ALS paramedics function in positions very different from what was intended. Many move out of clinical practice and take on office jobs. This move is amplified as ALS paramedics progress through post-graduation training. As a result, young newly qualified ALS graduates are placed in management roles purely because of their qualifications. This has many implications: • a complete waste of human resources results. • the investment of time, effort, and finances into training a skilled and competent ALS paramedic is lost • young newly qualified ALS paramedics are often not adequately skilled and experienced with operational managerial duties. As a result, the organisation suffers because of poor management decisions. 5.4.1. Areas of redress • It may become necessary to ensure that undergraduates first have a minimum number of years operational experience before becoming eligible for post-graduation training. • In addition, requirements could be more specific, requiring ALS paramedics to practice in certain areas for certain periods of time e.g. one year in a rural area and two years in public EMS systems or among marginalised communities. • Establish management training courses that allow lower level staff within the EMS to equip themselves with management skills and knowledge ultimately developing a bigger accessible society of managers within the EMS.

Steering Principle 6 ***Improving working conditions for ALS paramedics have to become a priority***	
Guide	**Characteristics**
6. An improvement in working conditions is a primary determinant in the success of return and retention of ALS paramedics.	6. Above all other factors, poor and deteriorating working conditions are the most significant contributory factors to migration or planned migration of ALS paramedics from South Africa. <u>Attempts at improving current working conditions should include:</u> • improving working environments and work related facilities, • providing adequate, proper and working equipment, • providing adequate medicines, consumables and resources, • educating and informing patients and clients about the profession and promoting awareness and respect, • Educating and informing other health care workers about the profession to promote professional regard and respect. • Establishing, allocating and making provisions for adequate and appropriate buildings to serve as offices at places at work. • Establishing, allocating and providing proper and adequate ablution facilities, • Re-evaluating working hours. Creating better and proportionate working hours allowing for rest and recuperation.

Steering Principle 7 ***Special attention must be given to ensure ALS paramedic's physical security***	
Guide	**Characteristics**
7. Ensuring that a level of physical security is available to ALS paramedics is of notable importance.	7. Providing an environment that ensures the physical security of ALS paramedics has to become a core objective within the EMS. This includes • providing security companies or policing services when paramedics respond to dangerous scenes or locations, • providing all necessary personal protective gear to mitigate the effects of accidents or injuries, • ensuring that paramedics are covered by comprehensive health insurance in the event that they are injured or become ill, • Providing trauma or stress counselling sessions to paramedics, • Providing adequate security measures for paramedics living in remote sites or rural establishments. This not only provides paramedics with an increased level of security but also entices more paramedics to take up jobs in these areas.

Steering Principle 8 ***Remuneration must be proportionate to work done***	
Guide	**Characteristics**
8. Review remuneration of ALS paramedics especially with regard to standby disparities between provinces.	8. Reviewing the remuneration system and addressing disparities between the different provinces, public and private and within the levels of the EMS is of paramount importance. A national public remuneration system should be constructed based on the following: <u>National Remuneration System</u> The basic remuneration should be the same for all operational ALS paramedics in South Africa. This is exclusive of years experience, allowances, etc. inter-provincial differences in remunerations are known to incite internal migration between provinces which is often a precursor to cross and internal migration. <u>Private and Public</u> Public EMS systems should attract staff back by aligning remunerations with the private sector. If this is not feasible, other sustainable avenues at the public sector's disposal should be utilised. This may include: • percentage tax reprieves, • assistance with acquiring assets in the form of loans or subsidies. <u>Levels within the EMS</u> Feelings of apathy and resentment are known to exist among lower level staff who receive remunerations that are significantly less than ALS paramedics. With this, lower level staff may adopt a lackadaisical attitude, refusing to undertake tasks within their operational capacity. Feelings of unappreciation and subsequent resentment and insubordination towards ALS paramedics may set in. The lack of respect, insubordination and extra workload are significant contributors to ALS paramedics deciding to migrate.
8.1. Remunerations with regards to allowances and overtime.	8.1. Remunerations have to become proportionate to work done. This includes addressing the remunerations paid to ALS paramedics that are on standby and when extra shifts or when overtime is worked.

Steering Principle 9 ***Line management within the EMS must be appropriate and effective***	
Guide	**Characteristics**
9. Providing competent line managers is crucial in ensuring enhanced performance, growth and development of EMS systems.	9. The EMS, and more especially the public EMS faces the problem of incompetent or ineffective line managers. This may be a result of incorrectly implemented policies of transformation where unskilled personnel were placed in management positions or it could be as a result of the growing and dire shortage of competent managers in general. No matter how effective and appropriate policies may look on paper at national or provincial level, the ultimate success of these redress policies are dependent on how well they are implemented at operational level. 9.1. The implementation of retention and return policies becomes a task for line managers. Line managers in both the public and private EMS systems should be adequately trained to ensure growth and continued organisational achievement in relation to retention and return objectives and goals. Line managers should have management training that includes the following: • the ability to enhance organisational development by focusing on integrated human resources functions, staff motivation and commitment to organisational goals, • ensure that all staff know exactly what is expected of them and that they have documented job descriptions, with clear key performance indicators that describe end results rather than duties or activities, • foster continued communication and trust between management and staff through continuous assessment, interviews and feedback, • identify and address the developmental needs of staff. This may include training programmes as well as transfers and placements, • identify poor performance and institute corrective measures such as coaching, mentoring and training. • acknowledge and make recommendations for rewards for high performing individuals, • ensure continuous growth and improvement in the EMS's capacity for effective and efficient service delivery.

Steering Principle 10 ***Clinical governance and quality assurance within the EMS must remain a priority***	
Guide	**Characteristics**
10. Continuous re-evaluation of the production of ALS paramedics ensuring competence and standards.	10. Continued comparison of training standards, work integrated learning outputs, skills and scopes of practice against the growing and changing health care needs of the people of South Africa is essential in strengthening, adjusting and revising training curricula. Mechanisms should be established that regularly monitor the adequacy of ALS paramedics training. This should include: • All institutions that train ALS paramedics nationally, • institutions that train ALS paramedics internationally that would be recruited to replenish staff shortages in South Africa.
10.1 Attempts to address retention and return of staff should not encumber the level and quality of service delivery.	10.1. Establish structures to facilitate joint decision making and governance between the Department of Health, the Department of Education and the Health Professions Council of South Africa. These structures may be necessary in cases where: • Flexible scopes of practice are needed to allow for trans-disciplinary work and trans-disciplinary training, i.e. a registered nurse being employed on an Intensive Care Transport Unit or an ALS paramedic being employed in a PHC clinic in rural areas where shortages are greatest. 10.1.1. Extending CPD programmes to staff at all levels of the EMS: • continued professional development programmes should be linked with workplace skills plans. This may not be the same in all places. Workplace skills plans may be dependent on the geographical setting and human resource status of an area i.e. rural, urban, population density, conditions around weather, terrain, etc. 10.1.2. Development and implementation of a system targeted at regularly monitoring the adequacy of ALS paramedics skill competency, patient management, driving and overall operational duties.

Steering Principle 11 ***Resources must be redistributed among strategies that manage migration***	
Guide	**Characteristics**
11. Retention and return strategies must become core functions of the EMS.	11. Adopting generic retention and return strategies used for other HCWs are known to be unsuccessful. New or re-structured control measures have to be developed. The fruition and success of these control measures depend on the emphasis the EMS places on it, this emphasis is measured by the effort, time and resource allocation it receives. • Creating a specific department within the EMS to be solely responsible for the control, implementation and continuous monitoring of new and existing return and retention measures would prevent strategies from becoming side tracked or remaining as just broad educational policies.
11.1. Define, develop and implement a sustainable package aimed at attracting the return and retention of ALS paramedics.	11.1. Implementation of targeted initiatives (financial and non-financial) to promote return of ALS paramedics is advocated but not at the expense of encumbering existing service delivery. • Incentives can be attractive but should also be sustainable in the long term. • Incentives could be linked to retention periods to prevent ALS paramedics returning, cashing in incentives and then exiting again. • Return incentives offered to ALS paramedics overseas should also become available to the loyal staff that remain in SA. This could be in the form of retention incentives. If resources do not allow for this then return incentives should include incentives that ALS paramedics working in SA would not necessarily find attractive, e.g. help with relocation and registration with statutory councils, job placements, clinical updates or refresher course, etc.

Steering Principle 12 ***Strategies that monitor migration should be continuously monitored and updated***	
Guide	**Characteristics**
12. Developing retention and return strategies becomes an on-going progress.	12. As the demand for HCWs continues to grow, global recruiters will strengthen, broaden and amplify their recruitment policies and efforts. If retention and return strategies are not adjusted accordingly, the ability to which they are and remain successful may diminish. • Continued adjustments to retention and return strategies may require additional resources. If unplanned, this may become unsustainable and impact negatively on service delivery as funds are redistributed. Proper planning, aggressive implementation and continued performance monitoring is essential.

CHAPTER 8

Conclusions and recommendations

8.1. Introduction

The purpose of this study was to provide a descriptive analysis of migration of South African ALS paramedics with the emphasis on specifically identifying the extent and nature of migration and the factors that have contributed to it. Through this understanding it was intended that possible strategies that would contribute to the retention and return of SA ALS paramedics would be identified.

The intention of this chapter is to present the conclusions that have been drawn from the integrated findings of the study in relation to the three objectives stated in Chapter 1, section 1.2.2. In addition, recommendations that stem from the findings will be made.

8.2. Conclusions

8.2.1. The extent and nature of migration of ALS paramedics from South Africa

Conclusion 1 – No monitoring system in place

The mere fact that half of the sample of SA ALS paramedics were working outside SA is a matter of concern. It was found that there are different types of migration that require consideration when examining the migration of South African ALS paramedics (Chapter 2, section 2.3). These different types of migration mask the number of South African ALS paramedics registered on SA health registries from the total number available to work or practice in the country (Chapter 3, section 3.4). Owing to the distortions and the absence of active and reliable systems that monitor the migration of ALS paramedics, the number of SA ALS paramedics working inside SA or outside SA was and still is unknown.

Conclusion 2 - Current retention strategies are ineffective

In Chapter 3, section 3.6.1, it became evident that the number of ALS paramedics in SA as represented by KZN, the largest populated province in the country was grossly inadequate. In response to the gross inadequacy of ALS paramedics, the country implemented a directive to accelerate the training of EMS personnel, a directive that fell within the mandate of the National Human Resources Plan (NHRP). An investigation into the progress of the NHRP indicated that the plan might not be as effective as anticipated. The study showed that the performance and progress of a provincially representative NHRP in training new EMS personnel was inadequate at its current rate (2.1% current versus 5% targeted) and thus new or additional strategies to manage attrition of ALS paramedics in SA may be needed.

Conclusion 3 - Different types of migration exist

South African ALS paramedics that migrate to find work outside the country do so through short contract migration, temporary migration or permanent migration.

Short term migration seems to be the most prevalent. Temporary migration is similar to short term migration, however ALS paramedics may stay outside South Africa for longer periods to avoid paying tax on their foreign income or wasting funds on return air tickets back to SA. They may also risk losing contract bonuses that are usually paid to ALS paramedics at the end of yearly contracts.

The reasons for short and temporary contracts are not wide and varied as previously suggested. Exponentially higher salaries have been the sole determinant of short term and temporary contracts. Permanent migration usually followed short term and temporary migration and was usually a result of ALS paramedics identifying that the quality of life they desire for their families is not attainable in South Africa.

Conclusion 4 - Demographic characteristics in relation to migration

Demographic details inferred the following:

- younger ALS paramedics between the ages of 21 – 30 years were more likely to be found working inside SA and were also more likely to migrate

- older ALS paramedics, 31 years and older were more likely to be found working outside SA and were also more likely to remain in SA if they had not already migrated
- the gender of an ALS paramedic did not appear to influence their decision to migrate
- ALS paramedics with post qualification experience of between 4 and 9 years were more likely to be found working outside SA
- No single country or group of countries was identified as being more attractive to ALS paramedics deciding to migrate
- There was an increased likelihood that ALS paramedics engaging in short term contracts would choose poorer or developed countries to work in
- ALS paramedics choosing long term contracts tended to choose richer or developed countries to work in.

8.2.2. The factors that contributed to the decision of SA ALS paramedics to work outside South Africa

Two groups of factors existed. The first group referred to as factors within SA that "pushed" ALS paramedics away and the second group referred to as factors outside SA that "pulled" ALS paramedics towards international migration. These factors were ranked from most influential to least influential to the decision to migrate.

Conclusion 5 – Factors contributory to migration of ALS paramedics from SA

Push factors

- Working conditions
- physical security
- economic considerations
- job security
- political considerations
- statutory body
- factors specific to the emergency medical service
- quality of life

- education and training

Pull Factors

- working conditions
- economic considerations
- political considerations
- quality of life
- factors specific to the emergency medical service
- physical security
- education and training
- statutory body
- job security

Each factor identified above is a major factor incorporating many sub factors. These sub factors are detailed in Chapter 5, section 5.6.

Although the major factors differed from each other by nature of their context, similarities in relation to demographic data did exist. For example, older ALS paramedics, i.e. 30 years and older, were more likely to indicate job security and quality of life as a factor associated with their decision to migrate. Another example included the increased likelihood that participants who had indicated poor remuneration as a push factor would also indicate long working hours as a reason to migrate.

Conclusion 6 - Catalysts to migration

The relative ease with which migration was possible, was found to be a catalyst to migration. Global recruiters do not require professional registration of South African ALS paramedics in host countries before they are allowed to practice. Accommodation, flights, and visas for global placements are all taken care of, this together with the multitude of global vacancies for ALS paramedics mean that ALS paramedics are not concerned with the decision to migrate, but rather the decision of when to migrate.

Conclusion 7 - The nature of the decision to migrate

This study showed that migration is usually an outcome that may occur at any time in a sequence of steps in the life of a South African ALS paramedic. This sequence of events was identified through five primary decisions:

- to become an ALS Paramedic
- to work inside South Africa after qualifying as an ALS paramedic
- to work outside SA after qualifying as an ALS paramedic
- to return to South Africa
- to remain in South Africa

Through this finding, it is suggested that in many instances the decision to migrate is predetermined and in some cases conceptualised as early as when individuals decided on training to become ALS paramedics. The outcome of each decision is a result of facilitators weighed against barriers. Facilitators are factors that supported each of the primary decisions while barriers weakened or rejected it. The findings indicated that many barriers existed, rejecting or weakening the decision of ALS paramedics to work inside South Africa, return to South Africa or remain in South Africa. On the converse, vast numbers of facilitators exist, spurring on continued migration.

These seven conclusions address the objectives of the study and provide an understanding of the extent, the nature and the factors associated with the migration of South African ALS paramedics. This understanding enabled the identification of twelve steering principles and the development of a detailed framework (presented in Chapter Seven) for suitable and appropriate strategies to retain and encourage the return of these paramedics.

8.3 Study Limitations

To meet the objectives of this study a specific target population was chosen. As discussed in point 4.3.2 Population justification. The target population in this study was all ALS paramedics who had qualified between the specified timeframe of 2001 and 2006. That specific timeframe was chosen particularly because those graduating before 2001 were more likely to represent only three of the four institutions of higher learning (IHLs) in SA that produced NDEMC ALS paramedics while those graduating

after 2006 were less likely to be recruited for work in other countries (4.3.2.1 and 4.3.2.2). As the study sought a complete and contextualised portrait of the migration of ALS Paramedics, it was decided that the inclusion of graduate's prior to 2001 and post 2006 might have the potential to dilute the extent and nature of migration and subsequently the overall findings.

However with that stated, in this study a total of 46 ALS paramedics from the accessible population who had agreed to participate in the study did not return the study questionnaire. This amounted to no response rate of 47.4%. It may be logically concluded that responses from these 46 ALS paramedics could have had the potential to either strengthen or change overall findings. The researcher acknowledges that a longer data collection time frame may have been needed in this study to improve response rates.

8.4. Recommendations

The researcher who as discussed in 1.6 is an SA ALS paramedic with extensive national and international experience working in clinical, academic and strategic managerial roles within the EMS. Recommendations are based on the researchers critical analysis of the study's literature review on migration of HCWs in general, logical conclusions extrapolated from the results of the study and opinions and recommendations emergent from experts and authorities in the emergency medical services of SA.

It is recommended that the twelve steering principles be subjected to review and comment. Reviewers should be individuals from different sectors of the SA EMS - this may include: national and provincial health sectors; HODs from private and public ambulance services; training institutions from public, private and parastatal organisations; representatives from the HPCSA – PBEC; unions representing EMS personnel; as well as EMS personnel on the ground. Review and comment should be held at a central venue and finalised within a minimum number of sittings, this is necessary to streamline the process for actual implementation.

It is further recommended that the implementation and progress of the framework be monitored by a designated group of people. Each individual within the group should

have his or her duties as a monitor of the framework made explicit and detailed. Duties may not necessarily have to be the same for each person.

The need for further research is recommended. There is a paucity of literature on ALS paramedics in SA, especially with regard to their migration from SA. More research has to be undertaken to understand other areas around this phenomenon, for example, is there a difference between those that choose to migrate temporarily and those that choose to migrate permanently?

In addition, further research has to be done to identify more predictors of migration, the ones identified in this study should be tested and monitored.

Finally, the decision making model identified in this study has been a novel discovery, especially in light of the lack of literature available to understand these individuals and their thought processes. It is recommended that the decision making model for ALS paramedics become the foundation on which further research is based. It is likely that not only information about ALS paramedic migration may emerge but also an in-depth understanding of ALS paramedics and the profession in general.

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Annexure 1

Questionnaire Code	

Study title: The development of a framework to retain migrating South African undergraduate Advanced Life Support paramedics

Questionnaire

Thank you for agreeing to participate in this study. Please remember that your responses in this questionnaire will be kept strictly confidential. Nobody else, apart from the researcher, will be able to identify who completed this document.

Instructions

1. Please do not show this questionnaire to anyone, or obtain input from others or discuss your responses.

2. There are two types of questions in this questionnaire. Some ask the question and give possible answer. For these, please place a tick in the box with the answer that is most appropriate to you. Some are open questions where you are simply required to insert your answer in the space provided.

3. Please answer all the questions, unless you are uncomfortable about providing the information.

Thank you for your time again

SECTION ONE: DEMOGRAPHIC DETAILS

1.1. Are you an undergraduate Advanced Life Support (ALS) paramedic*?

* *Undergraduate Advanced Life Support paramedic = ALS paramedic with a National Diploma in EMC or AEC or AeN*

YES	
NO	

1.2. What is your age in years? _____

1.3. What gender are you?

MALE	
FEMALE	

1.4. How many years have you been qualified as an undergraduate ALS paramedic? _____

1.5. Which country are you presently working* in? _____

(*The term working includes short contracts and temporary or permanent employment.)

SECTION TWO: WORK DETAILS

2.1. What types of work have you done in South Africa since you qualified as an ALS paramedic (you may tick more than one box)?

Operational ALS paramedic	
Education- teaching etc	
Management - clinic, base, unit	
Health and safety	
Research	
Hospital setting	
Remote site medic – offshore/oil rigs etc	
Other, please specify	

2.2. If you are **working outside** South Africa, what is the nature of this employment?

Short contracts= *short term movement out of SA for contractual work followed by your return to SA upon completion of the contract*	
Temporary= *movement out of SA for up to two years, followed by your return to SA upon expiry of a contract or work visa*	
Permanent= *movement out of SA for a period exceeding two years, or to take up permanent residency or full emigration from SA.*	
Other, please specify	

2.3. What type of work are you currently performing (you may tick more than one box)?

	Inside SA	Outside SA
Operational ALS paramedic		
Education- teaching etc		
Management - clinic, base, unit		
Health and safety		
Research		
Hospital setting		
Remote site medic – offshore/oil rigs etc		
Other, please specify		

2.4. In what setting is this work performed

	Inside SA	Outside SA
Ambulance service		
Education institution		
Mining		
Oil rig/platform		
Ship – cruise, seismic etc		
Remote site		
Industry- e.g. construction		
Other, please specify		

2.5. If you are currently **working outside** of South Africa, please answer the following questions:

2.5.1. What made you decide to work outside South Africa?

2.5.2. Why did you decide to do this type of work outside of South Africa?

2.5.3. Are you planning to return to work exclusively in South Africa?

YES	
NO	

2.5.4. If yes, when will you return?

2.5.5. If yes, why are you returning?

2.6. If you are currently **only working in** South Africa, please answer the following questions:

2.6.1. Are you planning to remain working only in South Africa?

YES	
NO	

2.6.2. If no, when are you planning to leave to work outside South Africa?

2.6.3. If no, why are you leaving?

2.6.4. If no, what would make you change your mind about leaving?

For all participants to answer:

2.7. What could South Africa as a country do to contribute to you remaining or returning to work exclusively in South Africa?

2.8. What actions could the South African health sector take to contribute to you remaining or returning to work exclusively in South Africa?

2.9. Are there any additional comments that you feel may contribute to further understanding the migration of South African ALS paramedics, or aspects of your answers?

End of questionnaire: Thank you for your time

Annexure 2

Name of institution of higher learning

Department of Emergency Medical Care and Rescue

PO Box Address

Date

Dear ……..

Re: Request of list and contact details of ALS paramedics who qualified between 2001 and 2006 for research purposes

I am conducting a research project in order to complete a Masters Degree in Technology: Emergency Medical Care at the Department of Emergency Medical Care and Rescue, Durban University of Technology. The study has received ethical approval from DUT.

Title of research: **The development of a framework to retain migrating South African undergraduate Advanced Life Support paramedics**

Name of research student:	P. Govender (Student number: 19908412)
Contact telephone no:	031 401 3590
Name of Supervisor:	Dr. L. Grainger
Contact telephone no:	021 851 1790
Name of Co – Supervisor:	Mr. R. Naidoo
Contact telephone no:	031 373 53606

Purpose of the study: The purpose of this study is to describe the migration of South African undergraduate Advanced Life Support paramedics who qualified between 2001 and 2006 and to then develop a framework of strategies on how to retain them.

The specified time frame has been chosen on the basis that it allows adequate representation of all four centres of higher learning that train ALS paramedics in SA. This lends itself towards minimising sample and response bias.

As the study aims to contribute a further understanding of ALS migration, obtaining an adequately representative response from the population under study is paramount.

The study will consist of two phases, the first being a survey using questionnaires. The second part will be a series of interviews to add depth to the study.

I am therefore writing to you in order to request a list of names and contact details of all ALS paramedics from your institution who qualified between 2001 and 2006. The reason for requesting this information from you is that the HPCSA records may not have current contact details.

Informed consent

All ALS paramedics will be contacted first with a letter of information informing them about the study and requesting their participation (please see attached Letter of information). Once this has been received, they will be sent the attached questionnaire. This has been designed to encourage a high response rate and consequently consists of a limited number of questions. There will be no coercion to participate and they will be free to withdraw from the study at any stage.

Risks: There are no risks to study participants. Strict confidentiality of the participants and their responses will be maintained. Study findings will be reported in a manner which will prevent the identification of individuals, the data will be used for research purposes only.

Benefits: There are no financial benefits to individuals participating in this study. However, it is hoped that the results of the study will contribute to further understanding the migration of South African ALS paramedics and possible strategies to retain them.

The results of the study will be available to you. This will be done in the form of a report which will be copied into a locked PDF on completion of the project and forwarded to you on your request**.**

If you are unable to provide me with such details because you are not satisfied with certain areas of the study, please feel free to forward any concerns to me or my supervisors.

Thank You

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Pregalathan Govender	Dr. L. Grainger	Mr. R. Naidoo
Research Student	Supervisor	Co – Supervisor

Annexure 3

Dear Participant

I am conducting a research project in order to complete a Masters Degree in Technology: Emergency Medical Care through the Department of Emergency Medical Care and Rescue, Durban University of Technology.

Title of research: **The development of a framework to retain migrating South African undergraduate Advanced Life Support paramedics**

Name of Research Student:	P. Govender
Contact telephone no:	031 401 3590
Name of Supervisor:	Dr. L. Grainger
Contact telephone no:	021 851 1790
Name of Co – Supervisor:	Mr. R. Naidoo
Contact telephone no:	031 373 5606

Purpose of the study: The purpose of this study is to describe the migration of South African undergraduate Advanced Life Support paramedics who qualified between 2001 and 2006, and then develop a framework of strategies on how to retain them.

The specified time frame has been chosen on the basis that it allows adequate representation of all four centres of higher learning that train ALS paramedics in SA. This lends itself towards minimising sample and response bias.

As the study aims to contribute a further understanding of ALS migration, obtaining an adequately representative response from the population under study becomes paramount

The study will consist of two phases, the first being a survey using questionnaires. The second part will be a series of interviews to add depth to the study.

I am asking you to participate in the pilot study as you are representative of the population under study. Your answers will not be used as part of the results of the study. The structured questionnaire has been designed to collect data to identify the extent of the migration of undergraduate ALS paramedics, the factors that have contributed to this trend and possible strategies that could retain or contribute to their return.

The purpose of this pilot study is to assess the attached questionnaire's ability to gather the information required for the above-mentioned research study and to obtain feedback on the implementation process.

The intention was to keep the questionnaire short, simple, clear and have an uncluttered format. Therefore, please complete the questionnaire and make comment on the following:

- anything in the process or questionnaire that was confusing, unclear or ambiguous,
- any question that you felt reluctant to answer,
- any question that you found threatening,
- any question that you felt was leading,
- the layout of the questionnaire, and
- the time taken to complete the questionnaire.

Please ask any questions that you may have about your role in this evaluation, so that you understand clearly what is expected of you. Also, feel free to offer constructive criticisms, if any, once the questionnaire has been completed.

Thank you.

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Pregalathan Govender	Dr. L. Grainger	Mr. R. Naidoo
Research Student	Supervisor	Co – Supervisor

Annexure 4

Dear Potential Participant

I am conducting a research project in order to complete a Masters Degree in Technology: Emergency Medical Care through the Department of Emergency Medical Care and Rescue, Durban University of Technology.

Title of research: The development of a framework to retain migrating South African undergraduate Advanced Life Support paramedics

Name of Research Student:	P .Govender
Contact Telephone No:	031 401 3590
Name of Supervisor:	Professor L. Grainger
Contact telephone no:	021 851 1790
Name of Co – Supervisor:	Mr. R. Naidoo
Contact telephone no:	031 373 5606

Purpose of the study: The purpose of this study is to describe the migration of South African undergraduate Advanced Life Support paramedics who qualified between 2001 and 2006, and to then develop a framework of strategies on how to retain them.

As the study aims to contribute a further understanding of ALS migration, obtaining an adequately representative response from the population under study becomes paramount The specified time frame has been chosen on the basis that it allows

adequate representation of all four centers of higher learning that train ALS paramedics in SA. This lends itself towards minimising sample and response bias.

This study will consist of two phases, the first being a survey using questionnaires. The second part will be a series of interviews to add depth to the study.

I am approaching you to participate because you qualified as an undergraduate ALS paramedic from one of the four institutions between 2001 and 2006. This information was provided by the Department of Emergency Medical Care from the respective Institutions of higher learning, through a formal request.

Your role: If you agree to participate, all that is required from you is complete the questionnaire that will be sent to you by email and return it to me at the same address from which it was sent.

The simple questionnaire consists of two types of questions. Some ask the question and give possible answer. For these, you will be required to please place a tick in the box with the answer that is most appropriate to you. Some are open questions where you are simply required to insert your answer in the space provided.

The questionnaire obviously requires your honest response. Therefore you are kindly requested not to refer or divulge your answers to anyone or receive help in filling it in. It should take you no more than ten to fifteen minutes to complete.

You are free to withdraw from the study at any stage.

Risks: There are no risks to study participants. Strict confidentiality of the participants and their responses will be maintained. Study findings will be reported in a manner which will prevent the identification of individuals, the data will be used for research purposes only.

Benefits: There are no financial benefits to individuals participating in this study. However, it is hoped that the results of the study will contribute to further

understanding the migration of South African ALS paramedics and possible strategies to retain them.

The results of the study will be available to you. This will be done in the form of a report which will be copied into a locked PDF on completion of the project and forwarded to you on your request**.**

If you are unable to be a part of this study because you are not satisfied with certain areas or require more information of the study, please feel free to forward any concerns to me or my supervisors.

Thank you.

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Pregalathan Govender	Dr. L. Grainger	Mr. R. Naidoo
Research Student	Supervisor	Co – Supervisor

Annexure 5

Dear Participant

RE: Phase Two of research study

Title of research: The development of a framework to retain migrating South African undergraduate Advanced Life Support paramedics

Hello again!

Thank you once again for your response to Phase One of my study. The survey you completed was devised to facilitate responses with the intention of gaining an overview of undergraduate ALS migration. However, it limited the depth of the data obtained.

Phase Two aims to provide an increased understanding and illustrate the descriptions or relationships identified from Phase One's findings,

Based on the information that you provided in your questionnaire, I have identified you as a study participant who has shown much interest in this study and has important perspectives on the topic. I am now writing to ask you to participate in Phase Two of my study.

The procedure: If you are prepared to participate, please send me an acknowledgement email in the form of a reply with the subject heading "I ACCEPT". I will then contact you to determine a mutually suitable time for the interview. I will then

telephone you, at my cost, and interview you. It will take up no more than 30 minutes of your time. The questions will similar to the ones in the questionnaire, but there will be an opportunity to discuss any aspects that you consider important.

Risks: There are no risks to you, As in Phase One, strict confidentiality of the source of information obtained in Phase Two of the study will be maintained. The results will be used for research purposes only.

Benefits: There are no financial benefits from this study. However, it is hoped that the results of the study will contribute to further understanding the migration of South African ALS Paramedics and integrate this information into the planning process of strategies that could retain or contribute to their return.

The results of the study will be available to you. This will be done in the form of a report which will be copied into a locked PDF on completion of the project and forwarded to you on your request**.**

If you are unable to fill in the questionnaire, because you are not satisfied with certain areas of the study, please feel free to forward any concerns to me or my supervisors.

Thank You

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Pregalathan Govender	Dr. L. Grainger	Mr. R. Naidoo
Research Student	Supervisor	Co – Supervisor

Annexure 6

Interview Code	

Study title: **The development of a framework to retain migrating South African undergraduate Advanced Life Support paramedics**

Interview schedule

1) Push factors are described as factors that encourage, contribute or influence a person to dislike their current work situation contributing to the decision to migrate. As you are aware, the survey used in Phase One of the study sought to identify those factors that were associated specifically with ALS paramedic's decision to migrate.

- Many factors had been identified – however some of the factors were unclear and required a further explanation.

For an example: Salaries was a common push factor. What is your view on salaries in the EMRS, in other words what makes it a push factor?

The other factors that required further explanations were

- Work hours leading to burnout
- Standards within the profession have dropped

2) There were a lot of comments regarding the role of the HPCSA and PBEC in retaining ALS paramedics, what are your views on this?

3) There were some interesting comments on the progression of the profession. For example, respondents claim that the Btech, MTech and the potential DTech require

so much time, money and effort, that the only way to attain them is to do contract work outside the country, your views on that?

4) There were also many comments on the lack of recognition given to the paramedic profession within the medical world, the lack of respect, funding, resources, etc. Your views on that?

5) Pull factors are described as factors that allure or attract an individual to another work situation. What are those pull factors specific to ALS paramedics?

6) Many respondents claim that the migration of ALS paramedics is just a part of the changing times and globalisation of health care workers. The only reason that you see it now is because South Africa has entered the global market has a reputable human capital provider. And in view of that things will probably continue with no end in sight. Your views on that?

7) What would contribute to ALS paramedics returning?

8) What would contribute to retaining ALS paramedics?

9) Many experts agree that changing the recruitment policies of student HCWS and changing training standards of HCWs is the only way countries would be able to retain them, Do you agree/disagree. Elaborate?

10) What role will the international community have in helping SA manage migration of ALS paramedics?