

CHAPTER 1

INTRODUCTION TO THE RESEARCH

1.1 Research problem

“The history of Western Medicine is a history of migrating physicians” (Loefer, 2001:504). Migration of human capital is a universal phenomenon with known positive aspects of enhancing human interaction leading to exchange of knowledge and ideas. In recent times, the factors driving human capital migrations appear to encourage professionals to migrate away from the very areas where they are needed most and to draw them towards areas where they have maximum job satisfaction. This results in migration of mainly the skilled professionals from relatively poor countries to more affluent developed countries. These migrations of skilled professionals appear to have reached unprecedented levels resulting in a net loss of human capital for the poor countries and a net gain for the richer countries.

The net flow of skilled personnel from largely poorer countries to relatively more affluent countries is commonly referred to as the ‘brain drain’ (Buske, 2002:682; Carrington & Detragiache, 1999; Patel, 2003:926; Saravia & Miranda, 2004:608; Sullivan, 1999:1615), and in case of medical personnel; the ‘medical brain drain’. This net loss of human capital is blamed for far reaching implications on the economies of ‘donor countries’ of the human capital.

Factors influencing the ‘brain drain’ can be broadly categorised into ‘push’ and ‘pull’ factors. A World Health Organisation (WHO) study (Meja, 1978:207) observed that “no matter how strong the ‘pull’ factors are of the recipient countries, migration only seems to result if there are also strong ‘push’ factors from the donor country”. Although the

'medical brain drain' affects almost all countries, except the United States of America (USA) (Miller, Laugesen, Lee & Mick, 1998: 253), the factors at play in each donor country or sub region are different and therefore unique understanding and formulation of equally unique strategies to effectively address the loss, is mandatory.

This study looked at the perspectives of a sample of doctors currently in South Africa with regards to the 'medical brain drain' from South Africa and what those doctors suggested should be done to address the net loss of human capital. The study also highlighted various issues affecting doctors currently so as to elicit the likely degree of influence on doctors' decision to seek work abroad.

1.2 Background to the research problem

1.2.1 National challenges to development

A long and healthy life is one of the three components for assessing a nation's Human Development Index (HDI) (United Nations Development Programme (UNDP), 2004). South Africa, with an HDI of 0.666 in 2004, is ranked at 119 out of 177 countries (UNDP statistics, 2004). Currently out of South Africa's 45 million people approximately 13% (5.8 million) of the population lives in 'first-world' conditions while 53% (23.8 million) lives in 'third-world' conditions (World Bank country profile, 2004). World Bank Statistics on South Africa show that the Gross Domestic Product (GDP) has increased only moderately from US \$131 billion in 1999 to US \$160 billion in 2003 whereas the Gross National Income (GNI) per capita for same period has declined from US \$3200 in 1999 to US \$2700 in 2003. Annual GDP growth for the same period averaged at only 2.0% (World Bank data, 2005). Statistics show a Gini index (a measure of income disparity between low and high income households, 0 is no disparity while 100 is highest disparity) of 59.3 (UNDP indicator, 2003), which indicates a wide disparity between the upper and lower income households. This disparity, termed the 'two economies in one country' (Hirsch, 2004:2) is a major challenge to government service delivery.

In addition to the above economic challenges, South Africa also faces major challenges in the health sector itself that can directly impact on its labour force. The most recent studies show Human Immunodeficiency Virus (HIV) prevalence rate of 11.4% (Connolly, Colvin, Shisana & Stoker, 2004:776), which means more than 6 million people, are infected with the Human Immunodeficiency Virus (HIV). The average life expectancy at birth of only 46.5 yrs is far below that of developed countries (World Development Indicators database, 2004).

In order for the health sector to play a pivotal role in addressing the above national challenges, it will need manpower to achieve and maintain a healthy nation. The 'medical brain drain', largely blamed for the 30% vacant posts in South Africa's Department of Health (Thom, 2004: 10), is a major human resource problem. Because the health sector is skilled-labour intensive and personal, shortage of appropriate health sector personnel, such as doctors, to implement strategies may become the nation's 'Achilles heel'.

1.2.2 South African healthcare

South African healthcare has a mixture of public and private service. Approximately 16% of the population utilise the private service while 84% utilise the public service (Harrison, 2004: 295). The private sector is accessed mostly through insurance with various open and private medical schemes, and by cash for service system (Cleary & Thomas, 2002:13). The medical services are rendered by private practitioners, private hospitals and in some cases private sections of public hospitals. Military hospitals, mission hospitals and mine hospitals service a small percentage of the population. There are an estimated 200 000 traditional healers practicing in South Africa; more than all the categories of allopathic personnel combined (Mbewu & Simelela, 2003:87). In addition, it has been suggested that 80% of South Africans consult traditional healers before consulting biomedical practitioners (Mbewu & Simelela, 2003:87). As the largest cadre of health workers in the country, their role in alleviating the shortage of health personnel, especially in rural areas, must be explored. The government has introduced the

Traditional Health Practitioner Bill (Keeton, 2004: 10) in order to tap this resource in a formalised way.

The majority (84%) of the people in South Africa depend on the public sector healthcare (Harrison, 2004: 295) rendered by government through state institutions like hospitals, clinics and mobile health services. Despite the inequity in utilisation between the private and public sector, the private sector utilises 58% of total national health expenditure and captures a higher proportion of all types of personnel (except nurses) than the public sector (Padarath, Ntuli & Berthiaume, 2004:300). This means that only about 42% of the total national health expenditure is spent on the health needs of 84% of the population. Clearly this imbalance needs urgent attention.

According to the South African Health Review financing report (Blecher & Thomas, 2004:276) of the R38 billion allocated for provincial health spending in 2004, 57% was spent on personnel. In the same report Padarath et al. (2004:300) estimate that nationally 70% of the public sector's finance is spent on personnel. The total allocation for provincial health expenditure for the last four years has been increasing by only 3.2% per year, out of which the personnel expenditure has only been increasing by a mere 0.9% per year (Blecher and Thomas, 2004:275). Blecher and Thomas, (2004:275) showed that in the same period, the Consumer Price Index (CPIX) had averaged 8% each year on year while the health component of the same CPIX had averaged 12% each year on year (appendix 4). Even though the numbers of personnel have declined by 3% over the same four-year period it appears that personnel are a major cost to the provincial health budgets at the current levels. It can also be seen from the above that the national allocation to the health sector in general and to personnel costs in particular is not keeping up with the economic indicators. Appendix 4 shows some extracts related to health and personnel financing from the South African Health Review 2004 report.

1.3 Health human resource issues in South Africa

1.3.1 Number of doctors practising in South Africa

About 32 000 doctors are registered by the Health Professions Council of South Africa to practise as medical doctors in South Africa (Keeton, 2004: 7). The total number of doctors actively practising is not known largely because of difficulties in estimating number of doctors in the private sector (Cleary & Thomas, 2002:3). An estimate by the Board of Healthcare Funders in 1999 stated the number of private sector doctors to be 20192 based on practice numbers (this figure is unlikely to be correct as some doctors with these numbers may be abroad or are in public service). The public sector estimates are easier because of centralised salary payment points that are always updated as people leave or join the public sector. The South African Health Review 2004 (Padarath et al. 2004:306) approximated that in 2003 the public sector had 11091 medical doctors and specialists. According to the same health review, in 2003 there were 19.7 medical practitioners per 100 000 public sector dependant population (Padarath et al. 2004:299). This ratio is below the 20 doctors per 100 000 (or 1 per 5000) population benchmark of the World Health Organisation (WHO) recommended minimum to achieve 'Health for All'. In developed countries this ratio is around 1 doctor per 300 people or 333 doctors per 100 000 people (Padarath, Chamberlain, McCoy, Ntuli, Rowson, & Loewenson, 2003:6).

1.3.2 Maldistribution of doctors

The State of Health Review 2004 (Padarath et al. 2004:300) noted that there is a maldistribution of healthcare personnel between:

- Public and the private sector;
- Urban and rural areas;
- Formal urban and informal peri-urban areas;
- Tertiary and primary levels of care.

The report concludes that the greatest imbalance in personnel distribution is between the private and public sector. The report cites 1998 when 52.7% of all general practitioners and 73% of specialists worked in the private sector. By 1999, 73% of general practitioners were estimated to be in the private sector, despite the fact that this sector catered for less than 20% of the population. The report (Padarath et al. 2004:309) also found wide variations in the distribution of health personnel between rural and urban provinces e.g. in 2003 Northwest had 11.7 general practitioners per 100 000 public sector dependent population whereas Western Cape had 31.9. In the same year the medical specialists per 100 000 public sector dependent population in Western Cape was 32.6, Gauteng was 19.7 whereas Mpumalanga was only 0.7. Appendix 5 shows some human resources extracts from the South African Health Review human resources report 2004.

1.3.3 Doctors training

There are 8 medical schools in South Africa (Stellenbosch, Cape Town, Pretoria, Witwatersrand, Medunsa, KwaZulu-Natal, Bloemfontein and Transkei) with an average output of about 1250 undergraduates per year in total (Stuart, 2001). A smaller number of doctors are trained in Cuba under a government-to-government arrangement (Msimang, 2003). About 1100 doctors enter the labour force per year (HST, 2004) as Community Service Medical Officers (CSO). The State of Health Review (Padarath et al. 2004:311) estimated that there were about 1347 new medical students registrations for 2003 in the eight medical schools. Even though this figure does not reflect much increase from current outputs, the biggest change is in racial and gender make up.

Projections in the 2004 National Health Review (Padarath et al. 2004:306) based on WHO guidelines assuming an annual population growth of 2% over a 30 year period with an estimated net loss of 30% of South Africa's medical graduates, the registered doctor population ratio would decline from 1:1290 population in 1999 to 1:1320 in 2029 (equivalent to 77.5 and 75.8 doctors per 100 000 population respectively).

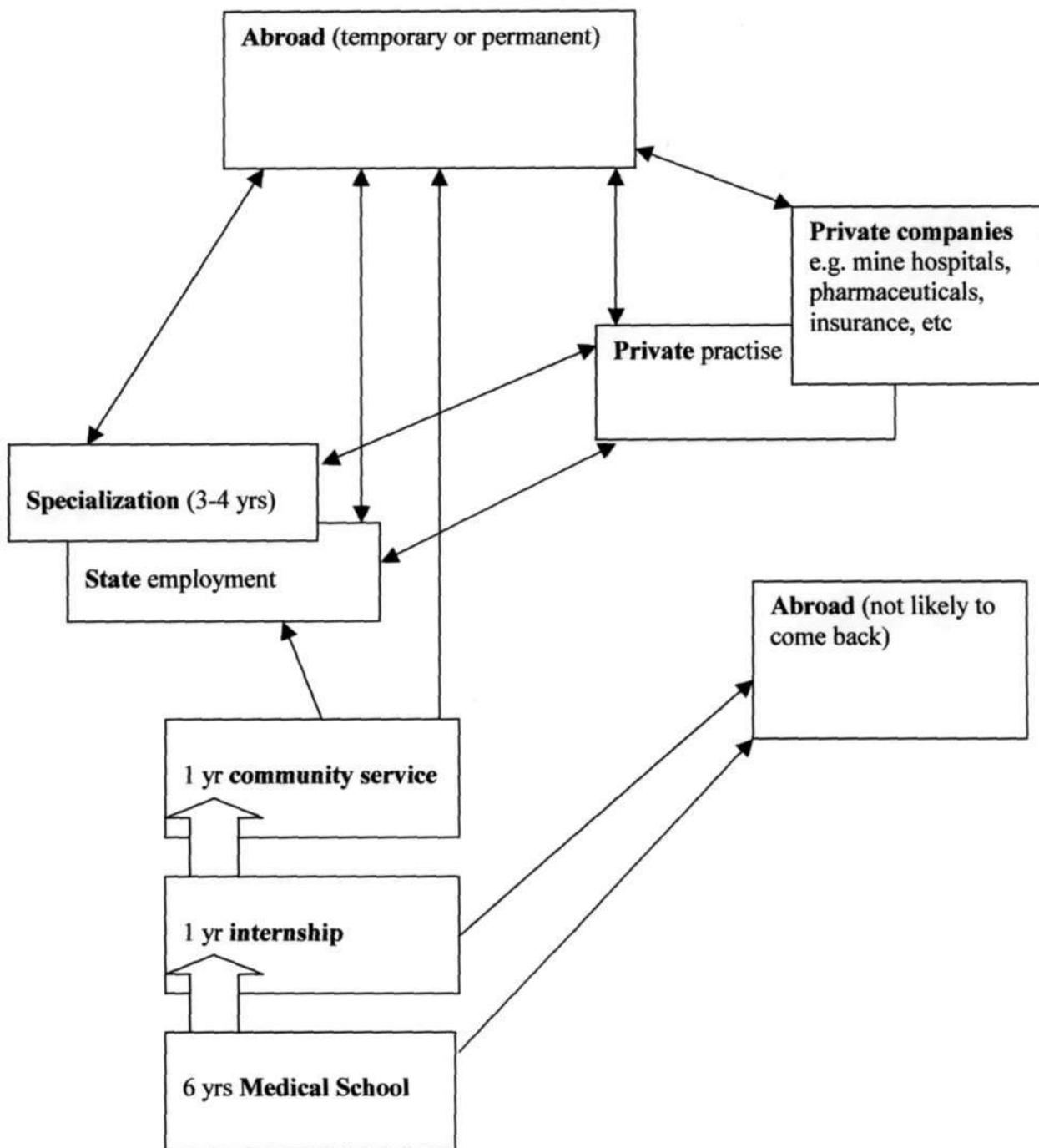
1.3.4 Career dynamics for South African medical graduates

Upon graduation doctors undergo a compulsory 1-year of internship in a designated public hospital, in addition they undertake another one year of community service in a designated public hospital. Doctors are given independent registration only after the two years are served; they are then free to practise in South Africa in any place of their choice private or public sector (fig 1.1). This registration is also important to practise as a medical doctor in other foreign countries unless one wishes to do internship in the foreign country. It can be deduced from figure 1.1 that anyone who leaves before internship or community service is not likely to return because they would be expected to undergo the same on return.

The state through the provincial administrations is the dominant employer for doctors who are in formal employment while mine hospitals and private companies like pharmaceuticals, insurance, merchant banks and other organisations employ much smaller numbers of doctors. Since there are few options for formal employers, if a doctor wishes to change employer the main options are either to become self-employed in the private sector or to go abroad.

South African trained doctors from the previously 'white' medical schools (the above cited medical schools except Medunsa and Transkei) can practise (for restricted periods in some cases) in New Zealand, Australia, Canada, Middle East and Netherlands without any registration exams. Until 2003 South African graduates could also practise in United Kingdom (UK) without having to undertake registration exams (General Medical Council, 2003). The researcher believes that combinations of rich clinical skills, English based medical training and possibly sheer hard work made the South African graduate a 'hot sale' abroad.

Fig. 1.1: Career dynamics for South African medical graduates



1.4 Magnitude of the ‘medical brain drain’ in South Africa

South Africa’s Department of Health statistics (Padarath et al. 2004:304) show that the percentage of health professional posts vacant range from 13.8% in Western Cape to 67.4% in Mpumalanga, with only 2 provinces having less than 20% vacant posts. On average 31% health posts are vacant nationally due to lack of suitable applicants. Padarath et al. (2004:309) showed the distribution of public sector doctors per 100 000 public sector dependent population is worsening from 21.9 in 2000 to 19.7 in 2003 for medical practitioners and 11.2 in 2000 to 8.9 in 2003 for specialists.

Department of Health (Keeton, 2004: 7) has noted that while doctors have always gone to practise abroad and significant numbers of them return, the majority of those who leave do not seem to return. Statistics from General Medical Council in UK showed that in 2003, 1 in every 3 medical doctors registered in UK was South African trained (Keeton, 2004: 7). It is the researcher’s opinion that although foreign registration is not an accurate gauge of the ‘brain drain’ as many doctors serving in South Africa are registered in several foreign countries, it may reflect the tendency to seek a job abroad at a later date. The researcher is also of the view that the UK’s General Medical Council in 2003 registered a lot of South African graduates possibly because it was the last year for South African graduates to register without an entry exam (General Medical Council, 2003) so many doctors who were not registered used the opportunity to register. Because of this, it is the researchers contention that the 1 in every 3 British medical doctors registered in UK being South African trained, may be over inflated due to the ‘last chance registration’.

Although South Africa has its own ‘medical brain gain’ from Asia, Eastern Europe (Cleary & Thomas, 2002:8) and Cuba (through a Government-to-Government arrangement) these numbers are not enough to compensate the losses. The net result is an outward flow of human capital, which is a ‘brain drain’. In the past a large number of doctors from African countries used to work in South Africa due to proximity and other reasons but since the change in recruitment policy by the Department of Health (DOH) (DOH, 2002; 2003) this is no longer a source of doctors.

With the shortage of staff all healthcare programmes are affected because healthcare is skilled labour intensive. The pressure on the health workers who are left to cope with increased workload may lead them to consider leaving. This may trigger a cascade of events that results in a vicious circle whereby it becomes the norm to leave for so-called 'greener pastures'. Since the job of a doctor is dependent on support of other health workers like nurses, radiographers, physiotherapist and they also depend on the doctor, a loss of any health worker has a knock-on effect through the whole system. It is impossible to deliver a quality healthcare service with less than 23% of the necessary health workers, as was cited for Mpumalanga province (Padarath et al. 2004:304).

1.5 The case for this research

The 'medical brain drain' is gaining recognition as a national crisis (Keeton, 2004: 7; Kruger, 2002: 100; Thom, 2004:10). As the shortage of manpower worsens especially in state hospitals, the Department of Health (DOH) has identified the 'medical brain drain' as one of the major compounding factors. The issues driving the 'medical brain drain' are however highlighted differently by different observers. For instance, South African Medical Association president Dr. Kgosi Letlape points to the hostile attitude from the top management making health professionals feel threatened and not recognised (Bisseker, 2003: 49; Keeton, 2004:7). Physicians for Human Rights point to the second-class health system as demotivating (Physicians for Human Rights, 2004:29). DOH head of Human Resources, Dr. Mahlathi, concedes that it is not mainly money that needs attention but also making sure that services are friendly to the professionals, as well as the patients (Keeton, 2004:7). It is however not clear what the doctors themselves state as the major issues driving the 'medical brain drain' at this point in time.

There is a dearth of research on the 'medical brain drain' from South Africa (Van der Vyver & De Villiers, 2002: 17). A study conducted by Reid in 1999, indicated that 35% of a sample of community-service doctors intended to emigrate after completing community service (Reid, 2000). The study also found that more than half of South Africa's young white doctors intended to work overseas compared to 10% of African doctors and 40% of Coloured and Indian doctors (Reid, 2000).

Timing of currently available research is a factor for each respondent because South Africa has been through a rapid change of social, political, regulatory and economic factors between 1994 and 2004. The issues affecting the medical industry have also changed rapidly, an analysis of the studies over a period of time shows that the cited reasons by respondents for leaving South Africa seem to change constantly over time. Studies done before 1994 mainly highlighted dissatisfaction with the then political dispensation (Bourne, 1983:447; Wynchank & Granier, 1991:532) whereas studies post 1994 highlight other issues. Even post 1994 there has been rapid change, for example since the year 2000 the Bill on Community Service was enacted, dispensing regulations introduced, single exit price of medicine and area of need certificate have been introduced. It is the contention of the current author that the effect of these factors on doctors' decisions to seek work abroad need to be examined.

The motivation for this research was to provide data to support strategies aimed at enabling policy makers in the South African health sector to develop appropriate and more effective strategies to reverse the 'brain drain' of doctors from South Africa. The research was undertaken on doctors who are currently in the country. It was limited to a geographical area within Cape Town due to logistical reasons. The research established the current reasons why doctors may contemplate leaving the country, and identified the main reason as opposed to other reasons for contemplating seeking a job abroad. The study also elicited doctors' suggestions as to what they thought the employers and government must do to prevent loss of more doctors from South Africa. The respondents were afforded a chance to rate predetermined possible factors according to how those factors may influence their decision to seek work abroad.

1.6 Research question

What are the perspectives of doctors on the 'medical brain drain' from South Africa?

1.7 Objectives

The primary objective of this research was to explore the perspectives of a sample of doctors on the 'medical brain drain' from South Africa. The findings from this study would in turn be used to identify factors that can be incorporated in an effective retention strategy for doctors in South Africa.

The medical doctors' perspectives on the 'medical brain drain' from South Africa were reflected by:

- Respondents' awareness of departure and return of colleagues abroad;
- Respondents' foreign registrations held and experience of work abroad. ...
- Respondents' contemplation to seek work abroad.
- Respondents' main and other reasons for contemplating work abroad.
- Respondents rating of the significance of various predetermined factors on their decision to seek work abroad.
- Respondents' suggestions as to what employers must do to keep doctors in South Africa;
- Respondents' suggestions as to what government must do to keep doctors in South Africa;

The researcher looked at available literature on the topic especially in relation to human resource retention and to global factors affecting health worker migration. The study sought to investigate the impact of various factors on the migration of doctors from South Africa.

CHAPTER 2

LITERATURE REVIEW

2.0 Literature sources

The researcher surveyed literature from medical, human resource management and business publications. Internet, journals, newspapers and textbooks were utilised. The medical publications mainly dealt with health workers 'brain drain', current dynamics, migration patterns, and strategies for their retention. The human resource management and business sources were mainly in the context of talent retention, human capital loss implications on organisations and the challenges facing organisations in the race for human capital. The findings of the review of literature are discussed under two broad categories: the labour market applicable to health workers and human resource factors. In addition to the two categories above, this chapter also reviews the costs and benefits of the 'brain drain' in general, and the current literature on the South African 'medical brain drain' in particular.

2.1 The labour market applicable to health workers

2.1.1 Globalisation of health

Pang and Guindon (2004:11) observed that as borders disappear, people and goods are increasingly free to move, creating new challenges to global health. They further noted that the links between globalisation and health are complex, and globalisation is a multifaceted phenomenon that can affect health in a myriad of ways. They expanded on their observations by stating that globalisation consequences can be either direct, at the level of whole populations, individuals and healthcare delivery systems, or indirect, through the economy and other factors such as education, sanitation and water.

Globalisation of trade, according to Pang and Guindon (2004:11), is particularly relevant to medicine in four major ways:

- Health services can be provided across borders by telemedicine, tele-diagnostics, tele-radiology and medical consultation through electronic channels.
- Patients can travel abroad to receive healthcare or use certain facilities.
- Health services themselves are an industry that attracts foreign investments through purchase and establishment of hospitals.
- The international movement of health personnel across borders has become a significant component of the trade in health services.

Many authors and organisations (Pang & Guindon, 2004:11; Physicians for Human Rights, 2003) concur that the migration of health personnel raises a complex ethical dilemma. On the one hand, it appears unethical for developed countries, which often depend on foreign-trained physicians to address shortages in rural areas, to attract health professionals from poorer countries. On the other hand, it hardly seems ethical to prevent skilled workers in search of a better life from accepting better opportunities, financial or professional.

Thulare (2003:20) contends, “However emotional the issue of mobility has become, it must not be argued in moralising terms. The primary reason for migration of doctors is not financial. The desire usually begins with a desire to learn, as knowledge workers crave professional satisfaction.” Thulare’s contention recognises that what seems to underlie knowledge worker migration is the pursuit of professional satisfaction. The fact that this movement results in loss of skilled workers from areas where they are needed most, is an unintended ‘side effect’.

2.1.2 International migration

An international migrant worker is defined by the 1990 United Nations (UN) International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families as “a person who is to be engaged, is engaged or has been engaged in remunerated activity in a State of which he or she is not a national” (Bach 2003:2).

The International Labour Organisation (ILO) figures show that the number of international migrants has more than doubled since 1975. It has been estimated that the total number of international migrants is 175 million people (2.9 per cent of the world population) of whom 48 per cent are women (Bach 2003:2). Most of the world’s migrants live in Europe (56 million), Asia (50 million) and North America (41 million). Of this total, 60-65 million are economically active (United Nations Population Division, 2003). International migration has existed for centuries, but this recent growth is significant in that it reflects a new dynamic in population movement in terms of size and velocity (IOM, 2002: 8). The South African ‘homecoming revolution’ estimates that approximately 5 million South Africans live abroad, with 28% of them in the UK, 17% in Australia, 10% in New Zealand and 8% in Europe (Hall, 2005: 3).

2.1.3 The global labour market for health workers

A WHO report (2002:9) observed that although the economic approach provides valuable insights for understanding the health labour market, it is not commonly used. This approach revolves around two fundamental elements: the demand and the supply of human resources for health. On the demand side, economic, socio-demographic, political and technical elements influence the demand for human resources for health. On the supply side, decisions to participate in the health labour market are influenced by factors such as wages, other monetary and non-monetary benefits and job satisfaction. In addition, the role of professional regulation, the impact of hospitals and donor agencies and the time taken to educate ‘new’ health professionals all contribute to the complexity

of the health labour market. Changes in each of these factors will have an impact on the health labour market. It is therefore important to account for them in order to better understand the interaction of the demand and supply of human resources for health and to improve health policy planning.

The report further states that the health labour market should also be placed in a broad framework that takes into account other sectors and the impact of global trends. Globalisation, and in particular the emergence of a global labour market resulting from mobility in labour, capital and technology, is having an impact on the health workforce. Within the global health labour market, health professionals seem to have great mobility and appear highly sensitive to 'push' and 'pull' factors. The complexity and particularity of the health labour market should be taken into consideration when assessing a health system's performance.

The report further elaborates that as a consequence of global economic adjustments, the health sector in many countries has undertaken reforms. Among the elements of the recent health reforms are a more substantial separation between the purchaser and provider functions, decentralisation of the health system, increased consumer choice, an emphasis on clinical effectiveness and on health outcomes, the development of the private sector and the introduction of new delivery schemes such as managed care. After some years of experience, there are indications that these reforms have not met all the expectations. The report further notes that in many cases, privatisation has led to lower salaries and job losses in the public sector and to a deterioration of working conditions for health workers in the private sector, with a demoralised, insecure, stressed and overworked workforce. Standards of care have declined at a time when patient expectations have risen. Meanwhile, the traditional relationship between the State-as-employer and health personnel has changed in some countries. Centralised negotiations between national unions and governments have been supplanted by management of employment relations at the local level in some countries.

Policy-makers are directing more attention to the increase in skilled labour migration. These occupational groups raise particular challenges in ensuring a fairer distribution of benefits between source and destination countries (OECD, 2002a: 1). New opportunities exist for health-care professionals in search of better pay and enhanced career opportunities to work in other countries. This process has been facilitated by the growth of free trade blocks, reinforced by service sector liberalisation arising from the General Agreement on Trade in Services (GATS), (OECD, 2002b: 1).

2.1.4 The new world labour market

An article titled 'Global work force 2000: the new world labour market' (Johnston, 1991: 115) published in the Harvard Business Review in 1991 predicted that just as there are global markets for products, technology, and capital, managers must now think of one for labour. Johnston asserted that over the next 15 years, human capital, once the most stationary factor in production, would cross national borders with greater and greater ease. Driving the globalisation of labour is a growing imbalance between the world's labour supply and demand. Johnston also noted that while the developed world accounts for most of the world's gross domestic product, its share of the world work force is shrinking. Meanwhile, in the developing countries, the work force is quickly expanding as many young people approach working age and as women join the paid work force in greater numbers.

Johnston (1991: 115) further noted that the quality of that work force was also rising as developing countries like Brazil and China generate growing proportions of the world's college graduates. Developing nations that combine their young, educated workers with investor-friendly policies could leapfrog into new industries. Johnston postulated that industrialised countries that keep barriers to immigration low will be able to tap world labour resources to sustain their economic growth. The United States and some European nations have the best chance of encouraging immigration, while Japan will have trouble overcoming its cultural and language barriers.

Johnston's prediction has come true in the modern day labour market where globalisation has resulted in unprecedented labour movement. In all sectors labour is sought and sourced from far-flung corners of the globe, and just as predicted by Johnston some countries have emerged as consumers of labour while others are suppliers of the labour. In some cases where labour, especially cheap labour, cannot be moved easily the means of production is relocated to the destination of appropriate labour (Formby, 2005:6).

2.1.5 'Brain drain' or 'brain circulation'?

Historically, the movement of medical intellectual capital is a universal phenomenon (Mariba, 2004:18; Ncayiyana, 1999:1107) and an age-old tradition. The Gurus of science and medicine such as Albert Einstein, the legendary scientist, emigrated from Germany to USA (Einstein biography, 1921). William Osler left McGill University in Canada for University Pennsylvania and later John Hopkins in USA. At age of 56 Osler took up a post at Oxford University, England (Medical archives, 1999). The advancement of medicine over the centuries was in many ways due to the movement of intellectual capital. Loeffler's (2001:504) comment on mobility in medicine that "the history of Western medicine is a history of migrating physicians" appears true even to modern day physicians. This age-old migration has of late come under scrutiny by various stakeholders to the intellectual capital.

Marchal and Kegels (2003:89) argue that the opening up of international borders for goods and labour, a key strategy in the current liberal global economy, is accompanied by a linguistic shift from 'human capital flight' and 'brain drain' to 'professional mobility' or 'brain circulation'. Marchal and Kegels however admit that in reality this mobility is very asymmetrical, to the detriment of the less developed countries, which lose not only much-needed human resources, but also considerable investments in education and physical income. They further contend that the low professional satisfaction and the decreasing social valuation of the health professionals are seen as important determinants of the decreasing attraction of health professionals, which underlies both the 'push' from the exporting countries as well as the 'pull' from the recipient countries.

Hyder (2003: 929) argues that since health professionals move in many directions, from developed to developing, from developing to developing, and within nations, it's more important to measure 'flows' of manpower, which is a dynamic variable. Hyder cautions that countries need to recognise that they compete with the best institutions in the world for quality manpower. According to Hyder, in a global world the physical location of a person may or may not have any relation to the ability to make an impact on human health, therefore it is time to understand and accept that health professionals' mobility is part of life in the 21st century. Hyder concludes that it is time to bury the archaic concept of 'brain drain' and turn to assessing the performance of health professionals and systems, wherever they are in the world.

Hyder's (2003: 929) contention is true in some instances where the type of work can be relocated to any destination such as in the information technology companies. In healthcare the jobs are usually personal and interactive, so even though a doctor in a far away country can design the theoretical plan on implementation of a specific programme such as control of a cholera outbreak, implementation, sensing and adjusting needs a doctor on the site. These specific skills are what Stewart (1997:68) called the knowledge worker skills which cannot be substituted or automated. The researcher is of the opinion that the assertions by Hyder of completely ignoring the doctors' physical location relative to their job performance have a very limited place in the medical sector. One rapidly developing area is telemedicine and especially teleradiology whereby radiological images are interpreted by a radiologist in a distant location. Cost is still a limiting factor in wide use of this technology (Hayward & Mitchell, 1999).

Most authors (Buske, 2002:682; Carrington & Detragiache, 1999; Patel, 2003:926; Saravia & Miranda, 2004:608; Sullivan, 1999:1615) define 'brain drain' as the net loss of highly skilled or educated professions from certain geographical areas to others. This may be from rural to urban areas or from less developed to more developed countries; the later is the topic of the current research. Saravia and Miranda (2004:611) likened the 'brain drain' to osmosis: the movement of substances across a selectively permeable membrane (selective immigration policy). Saravia and Miranda stated that the migration

of human capital follows the gradient of career and educational opportunities through a selective immigration policy that favours the skilled, educated or talented.

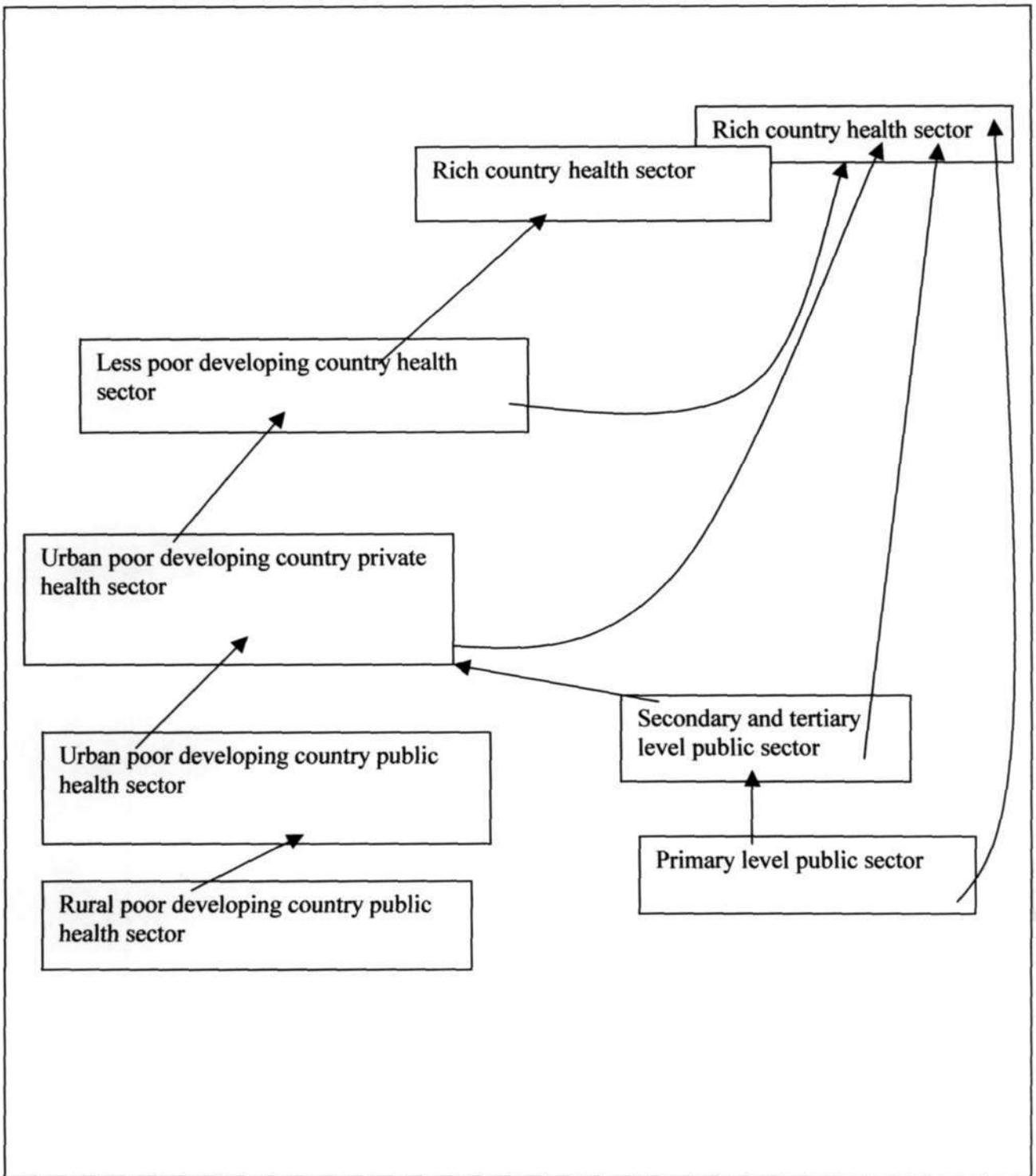
2.1.6 Movement of health personnel

The health personnel movement is bi-directional in that, while health personnel move from poor to rich countries, there is also movement from rich to poor countries for a number of reasons and through a number of mechanisms. This latter movement is much smaller than the former hence the term 'net flow' of health personnel is utilised when referring to 'brain drain'. The selective immigration policies of developed countries favours those with skills or exceptional talent to immigrate as compared to the unskilled counterparts, in some cases specified skills are actually targeted by different countries (Saravia & Miranda, 2004:611).

Padarath et al. (2003:9) noted that recent decades have seen a growing movement of health personnel from areas of poverty and low social economic development, to highly developed areas. The flows follow a hierarchy of 'wealth' resulting in a global conveyor belt of health personnel moving from the bottom to the top, and resulting in a vicious circle of increasing inequity (Fig.2.1).

The medical 'brain drain' is not unique to South Africa; it affects all countries, except USA, which only has a 'brain gain' (Miller et al. 1998: 253). Even amongst the high-income countries there is a hierarchy of health personnel wealth, which results in for example, a net outflow of doctors from Canada to the United States (McKendry, Wells, Dale, Adam, Buske, Strachan & Flor 1996:171). New Zealand loses health personnel to Australia and both lose to Canada and USA (Miller, Laugesen, Lee & Mick, 1998: 253). In the European Union several countries have voiced concern over the loss of their health personnel to the UK (Padarath et al. 2003:9; Buske, 2002:682).

Fig. 2.1 Pattern of movement and migration of health personnel



Source: Padarath et al. (2003:9)

The extent to which countries at the top of the hierarchy benefit from this global phenomenon of health personnel migration is shown by the fact that (Padarath et al. 2003:9):

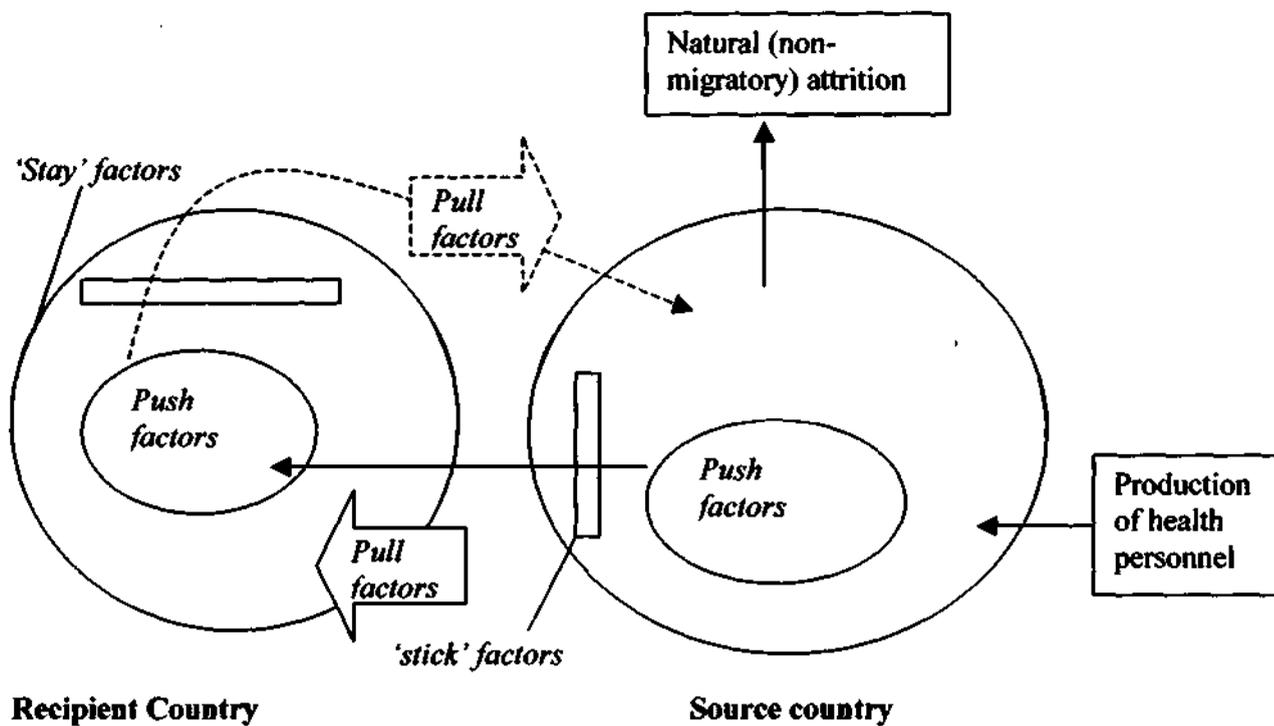
- 31% of the UK healthcare workforce is from overseas
- Approximately 20% of the permanent medical workforce in Canada, Australia and USA is made of international medical graduates
- 25% of Canadian hospital-based physicians are foreign.

Within the Southern African Development Community (SADC) region, the variation in wealth and remuneration results in similar net flow of health personnel from poor to rich countries. South Africa, the richest SADC country, in turn, experiences a net outflow of health personnel to countries like UK, Canada and Australia. The South African government has legislated against employing from other developing countries especially in the Southern Africa Development Community (SADC) sub region in order to help address this imbalance (DOH, 2002; 2003).

2.1.7 Factors determining the movement of health personnel

Padarath et al. (2003:10) defined 'pull' factors as factors in the recipient country that attract and facilitate the movement of health workers to that country. 'Push' factors are those that encourage health workers to leave their country of work (fig. 2.2). Padarath et al. (2003:11) described a second set of factors as the 'stay' and 'stick' factors. 'Stick' factors consist of reasons that keep people where they are in spite of compelling 'push' and 'pull' factors to move or migrate. 'Stay' factors are those that prevent a person from returning to their country or place of origin after they have migrated or moved away (Fig. 2.2).

Fig. 2.2. Factors influencing health personnel availability and distribution.



Modified from Padarath et al. (2003:13).

2.1.7.1 'Push' and 'pull' factors (Padarath et al. 2003:10)

Padarath further categorised the 'push' and 'pull' factors relative to the health system, those directly connected to the health system are endogenous while those not directly connected to the health system are exogenous.

Endogenous (health system) 'push' factors

- Remuneration and salaries: remuneration levels are potentially the most influential factor in a healthcare worker's decision to migrate.
- Lack of job satisfaction: for a variety of non-financial reasons e.g. demotivated by poor healthcare infrastructure or bad health management.
- Work associated risks; high levels of occupational risks and hazards e.g. Fear of occupation exposure to HIV
- Lack of further education and career development opportunities: leads to movement in pursuit of career development elsewhere.

Endogenous (health system) 'pull' factors

Mostly the opposite of the 'push' factors, i.e. better remuneration, more satisfying work conditions, a safer working environment, better educational and career development opportunities.

- Recipient country or institution recruitment: active and aggressive recruitment, facilitation and support with emigration process, job hunting, school enrolment for children and accommodation and other designation country social support systems all contribute to the probability that a health worker will seek work abroad.

Exogenous 'push' factors

- Quality of life and crime: crime, political insecurity and safety concerns are strong exogenous reasons for health personnel migration.
- War, civil conflict and political repression: repressive political climate and restriction on freedom of expression and political dissent are also reasons for migration.
- Lack of education opportunities for children: some health workers migrate not because of their own aspirations but due to aspirations they may have for their children.

Exogenous 'pull' factors

Many exogenous 'pull' factors are the opposite of the 'push' factors described above. Countries that are able to offer higher quality of life, freedom from political persecution, freedom of speech, and educational opportunities for children will naturally be attractive to health personnel from many countries. In addition it has also been observed that there is a greater likelihood of people immigrating to an area or country where fellow citizens, relatives and friends are already based (OECD, 2002). Thus the migration and flow may be related to the location, flow and migration of larger groups or communities.

2.1.7.2 'Stick' and 'stay' factors (Padarath et al. 2003:11)

Padarath defined the 'stick' factors as those that prevent a health worker from departing from home country whereas the 'stay' factors are those that prevent a health worker from returning to home country once in the destination country.

'Stick' factors

In order for the 'push' and 'pull' factors to actually lead to movement or migration of health personnel, they have to overcome various 'stick' factors.

- High levels of morale have been shown to go a long way in improving health personnel retention. This may entail the feeling among personnel that they are delivering good quality service and the perception that they are valued by the society.
- Rewards and incentives may also be effective 'stick' factors e.g. the introduction of a 15% special skills allowance by the DOH is hoped to achieve this.
- Other exogenous factors (outside the health system) such as social values which place high importance on family ties, cultural ways and patriotism.
- Barriers to migration such as cost of re-qualification and relocation, language, immigration procedures can also act as 'stick' factors.

'Stay' factors

Once people have moved or migrated to work abroad, they may choose not to return because of a variety of 'stay' factors. These include:

- Development of new social and cultural bonds
- Risk of disruption to the education of children
- Reluctance to disrupt new lifestyle patterns
- The International Organisation of Migration (IOM) also found that some migrants do not return home simply because they are unaware of job opportunities back home (Ngunijiri, 2001).

Bach (2003:10) cautions that by focusing on the individual, the 'push-pull' model is in danger of downgrading the role of institutions, including state and supra-national institutions, in generating and sustaining international migration. Bach observes that this is a weakness of the 'push' and 'pull' model, because it excludes variations in national policy, notably the influence of governments which actively insert themselves into the global economy to promote overseas employment (e.g. the Philippines) or alternatively countries including Canada, the UK and the United States that are actively seeking to recruit health workers from overseas. Bach further observes that the 'push' and 'pull' model is in danger of ignoring the under-researched but growing role of the private sector intermediaries (i.e. recruitment agencies) in generating and sustaining demand for international migrants. The implications of this analysis, according to Bach, are that in a highly regulated sector such as health, the influences on migration need to be considered explicitly, rather than implicitly, as part of a wider analysis of health systems and the socio-economic conditions that shape their performance. It is not sufficient to consider the circumstances of individuals or even households, without retaining this broader perspective.

Apart from the health labour market issues explored above, the 'medical brain drain' is also influenced by other human resource factors as is the case in any other sector. Doctors, like all the public sector employees, are employed mainly by government through various provincial administrations. They are therefore affected by the human

resource management issues thereof. These factors and possible impacts on the doctors' decisions are explored below.

2.2 Human resource factors

2.2.1 Knowledge workers

Knowledge workers (Stewart, 1997: 65) or talent (Paton, 2002: 26) refers to people with 'scarce' or 'hot' skills. They form the backbone of the organisations for which they work; they represent the intellectual capital or intangible assets (Birt, Wallis & Winternitz, 2004, 25; Kaye et al. 2000:29; 2002:32) of the organisations to which they belong. Birt et al. (2004: 25) refers to them as the new power base of the labour market. Cappeli (2000: 11) describes them as employees who have embraced the new career model, which matched their needs for greater career freedom, and who have sought-after knowledge and skills that place them in demand by organisations. Capturing their knowledge in organisational systems and databases is often not an option, as this group of employees also possess what Quinn, Anderson and Finkelstein (1996: 71) referred to as "systems understanding and self-motivated creativity". The systems understanding allows knowledge workers to solve complex problems through understanding the often subtle cause-and-effect relationships involved while the self-motivated creativity is a personal attribute that keeps these employees motivated and adaptable to changes. The value created by these types of characteristics means that organisations need knowledge workers far more than knowledge workers need the organisation (Stewart, 1997: 65).

As a result of the above, whereas organisations may be willing to forego commitment from many of their employees in exchange for the benefits of increased flexibility and responsiveness to environmental changes, this does not apply to the employees classed as talent (Feller, 1995). This is because the organisation's competitive advantage is often dependent on the specialised knowledge and skills possessed by the knowledge workers (Kaye & Jordan-Evans, 2002:32). Given that the knowledge workers carry the tools of

their trade 'between their ears' (Stewart, 1997:68), retaining this knowledge becomes a matter of retaining these employees, since their leaving becomes a loss to the organisation of its intellectual capital or intangible assets (Kaye & Jordan-Evans, 2000:29).

The issues cited by authors above apply directly to the doctors as well because although the healthcare sector has many categories of knowledge workers like nurses, radiographers, laboratory experts, pharmacist and other skilled staff, the medical doctor is probably the prototype knowledge worker of the healthcare system. As stated by Quinn et al. (1996: 71) the doctor's skills cannot be easily captured in systems or mechanised. The skills and knowledge of an experienced doctor are gained over years of training, updating and a collection of unique personal experiences by interacting with both patients and colleagues. A loss of this knowledge is not only human capital loss as stated by Kaye & Jordan-Evans (2000:29) but also a loss of what Padarath et al. (2003:24) termed as 'institutional memory', which results in duplication of work and wastage of resources.

In keeping with Birt, et al.'s (2004:25) description of the knowledge worker, the doctor is a key knowledge worker of the health services as without the doctors' services the activities of the health sector are severely compromised. Health services are labour-intensive and personal relying heavily on the knowledge workers. A WHO document on 'Human Resource for Health' (2002:7) observed that the performance of any organisation depends on the availability, effort and skill mix of the workforce. It is the health workers who diagnose problems and determine which services will be provided and when, where and how. Each health intervention is knowledge-based: health workers are the stewards and users of this knowledge. If appropriate skills and knowledge are not present in a country, the delivery of critical health interventions will be negatively affected. It is therefore necessary to understand the extent and nature of the constraints on the health workforce and more specifically, the impact of poor distribution on access to services.

It is clear from the observations of the WHO report above that in an industry like the health sector, the knowledge worker is actually 'the organisation' because without the

knowledge worker the activities of the organisation cannot continue. Whereas the duties of non-knowledge workers can be mechanised, the knowledge workers' job cannot be mechanised. Machines, computers and other systems can be programmed to do certain functions but they need a knowledge worker to program them, monitor and adjust. It is for this reason that the knowledge worker cannot be substituted. As Quinn et al. (1996: 71) noted, it is the knowledge workers that possess the 'systems understanding' to make the decisions. It is obvious that these skills are a competitive advantage for any organisation or country that can develop and retain them in abundance.

Stewart (1997:68) describes the value of human capital in organisations as "the place where all the ladders start: the wellspring of innovation, the home page of insight". Stewart goes on to state that money talks, but it does not think, machines perform, often better than any human being can, but they do not invent. Thinking and invention, however, are the assets upon which knowledge work and knowledge companies depend. In keeping with Stewart's assertions, doctors are the cornerstone of the healthcare system, without them delivery of services will be highly compromised. Their work of analysing, judging and making decisions cannot be easily replaced. A healthy nation is fundamental to development and prosperity of any country. If the labour force is not healthy it follows that productivity will decline and subsequently development will not occur. The challenge of HIV affecting 6 million of the population means that in the coming years the pressure on the healthcare will reach unprecedented levels.

2.2.2 The new employment contract

The labour market has experienced a power shift in the employment relationship from employers to employees (Cappelli, 2000:11). This shift was largely a result of the economy in the 1990s forcing many organisations to downsize, often drastically, in an attempt to cope with changing market conditions that demanded flexibility in order to survive. According to Cappelli this power shift is more so for the knowledge workers as they carry the tools of their trade 'between their ears'. Since the organisation is more dependant on the knowledge workers than they are on the organisation, the knowledge

workers can operate profitably as a 'free agents' availing their services to the highest bidder wherever he may be.

In keeping with Stewart's (1997:65) observations about the independence of the knowledge worker, the doctors' employment options have also changed from that of traditionally government or a hospital, to that of more independence in choices even ignoring the national boundaries. The doctors have over time taken more control over their skills, operating more as independent practitioners rendering services on their terms. This has given doctors more control of where they want to be, how they want to practise and an independent opinion of what they consider fair remuneration for professional services. They have embraced the new career model as described by Cappeli (2000: 11). As free agents the doctors' loyalty is to their careers and not the employer. According to Thulare (2003:504) the primary reason for migration of doctors is usually the desire to learn and enhance their skills, as knowledge workers, doctors crave professional satisfaction.

The implication of this shift in employment contract is that the employer is in many ways only an intermediary between the doctors and the practise of their careers. This means that if the employer does not make a strategic fit with the doctors aspirations, the doctors by-pass the employer by rendering the services directly as is the case in the private sector or they will relocate area or country and render their service elsewhere where they find a more suitable employer that meets their expectations. In this model the pressure is on the employer to make a strategic fit that will be acceptable and relevant to the doctors' aspirations. This may probably explain the concentration of doctors in the private sector compared to the public sector in South Africa. The organisations that doctors contribute to are the communities or countries in which they are practising; hence it is a competitive advantage for any country or community to have an adequate number of doctors.

Stewart (1997:67) argues that a fundamental paradox lies at the heart of the information age organisation: At the same time that employers have weakened the ties of job security and loyalty, they more than ever depend on human capital. Stewart further notes that for

their part, the knowledge workers, because they bring to their work not only their bodies but their minds, even their souls, are far more loyal to their work (though not to their employer) than their predecessor tyre makers whose first love was for the hobbies that waited for them at home.

Past employment relationships based on mutual commitment between employer and employee are no longer the norm in the market place (Cappelli, 2000:11; Flood, 2002: 2). Instead of a predictable linear rise up an organisation's hierarchy, careers are now characterised by a 'protean' model of movement between many organisations during the course of individuals' working life (Feller, 1995: Flood, 2002; Schreider & Theron, 2001). Delany and Turvey (2004: 30) found in their surveys that people are more likely to believe that being 'hired-in' to an organisation provides a better opportunity to display, and achieve, their potential than being 'groomed' for the new roles. As doctors take control of their own career paths, they tend to follow the protean model of moving from one place to the other in search of a particular rotation, skill or even rank regardless of geographical location.

In the South African context the search for a particular rotation or skill may be a culmination of several factors at play in the post-graduate training of doctors or the job market. The South African post- graduate training posts for medical doctors are limited due to various reasons whereas similar training opportunities in other countries like UK are much more accommodative. This is possibly a factor for doctors who do not find a suitable training post in the country. Certain specialised services that the country does not have in abundance are more available abroad so those interested in these have to consider going abroad. Due to the hospital rationalisation, posts have been cut at senior level, stifling some doctors' ambition to attain more senior ranks. Government programmes like affirmative action may also limit options for some categories of knowledge workers especially white males (Van Buuren, 2004: 18).

Delany and Turvey (2004: 29) also noted that because of this new employment relationship, the issues that are important to the employee and employer might be very

different. In the South African context the expectations of doctors are quite different to that of employers often resulting in clashes as reflected by the demonstrations against dispensing, and court action against 'area of need' certificate (Bisseker, 2003:49). This divergence in expectations is reflected in remarks by South African Medical Association (SAMA) chairman Dr. Kgosi Letlape that "the maldistribution of doctors cannot be addressed through draconian legislation which will ultimately have negative impact on patient care and drive more doctors to seek employment abroad" (Bisseker, 2003:49).

The divergent views can be easily understood because if one analyses issues such as the fact that whereas the government wants healthcare services affordable and equally spread throughout the country to cover especially rural areas, doctors want to earn a competitive return on their professional services and also live a modern life (Thulare, 2003:116). Earning a competitive return and living a modern life tends to increase the cost of healthcare services and drive doctors to urban areas, leaving poorer rural areas unserved (Padarath et al. 2004:304). This gap between employer and employee expectation is possibly one of the biggest issues at the heart of current 'brain drain'. Thulare (2003: 113) found significant gaps between doctors and stakeholders on reduction of bureaucracy, providing for social needs of doctors and the creation of an environment conducive to academic and career advancement.

Delany and Turvey (2004: 29) further expand on their assertions by stating that the end of the 'job for life' carried with it the seeds of an accelerating decline in corporate loyalty. Individuals, increasingly motivated by independence and sense of self-worth supported by emerging technology, are shaping their own jobs and playing a major part in changing career structures and employer conceptions about what people want and how that fits with 'what business needs'. In keeping with the new employment contract the doctors' loyalty is to their careers and much less to the employer, the ability to practise their careers backed up by emerging technology as they are taught in western curriculums at university reigns supreme in probably most graduate doctors minds. This may explain the lack of job satisfaction related to lack of equipment, poor facilities as cited in some by Van der Vyer and De Villiers (2000:18).

The 'protean career model' also applies to doctors like any other knowledge workers, as observed by Stewart (1997:68) the knowledge worker will tend to move on once they feel they have served their purpose or they are not getting or learning anything new. Stewart's observation that unlike the unskilled worker who can happily receive a pay for doing minimum work, most knowledge workers will tend to leave an organisation if there is no further challenge is probably true for doctors as well. Since the doctors rely on themselves to shape their careers they may move on in search of new career challenge or opportunities. This has been noted in some studies (Van der Vyer & De Villiers, 2000:18) where lack of job satisfaction is cited as one of the reasons why doctors left the country. Related issues like lack of equipment, lack of services, poor working environment have been highlighted as the main factors leading to this lack of job satisfaction. This may reflect the assertion by Delany and Turvey (2004: 29) that knowledge workers tend to move on once they feel the job is not challenging or they are not learning anything new.

2.2.3 Brainpower: who owns it?

Stewart (1997:65) observes that in the middle of the 19th century, Karl Marx noted that the industrial worker, unlike the craftsman and the small farmer, no longer owned the tools of his trade or the product of his labour. This he termed the 'alienation of labour'. Stewart further notes that in the age of intellectual capital, even though many jobs will require big, expensive machines bought by someone else, the most valuable jobs are the human tasks: sensing, judging, creating and building relationships. Far from being alienated from the tools of his trade, and fruit of his labour, the knowledge worker carries them 'between his ears'.

According to Stewart some knowledge can be owned outright and protected by intellectual-property laws. Some can be codified in processes, procedures, manuals, databases, files, knowledge-management systems, decision-support software and other intellectual assets that the company indisputably owns-what has come to be known as 'structural intellectual capital'. Stewart notes that people themselves, however, can be rented, but not owned. Ceding 'ownership' of human capital to a corporation has to be

voluntary. One possible way of doing this is by creating a sense of cross-ownership between employee and the company or organisation. Corporations should be seen as membership communities, there should be continuity and sense of belonging as opposed to employer-employee relationship.

In the case of doctors this concept of cross-ownership is displayed best in the private sector where for example a renowned surgeon takes up rooms for a practise in a particular well-known private hospital. As part of the conditions the surgeon may have to enter into an agreement that all his private patients will only be admitted to that hospital, on the other hand the hospital may undertake not to offer rooms to any other surgeons in the hospital unless in consultation with the resident surgeon. At this point both the surgeon and the hospital cede some ownership of their different capital in a cross-ownership. This relationship may be a competitive strength that the hospital may use for marketing even though the hospital does not own the surgeon's intellectual capital. The surgeon's association with a particular well known private hospital may also be a competitive advantage he or she may use for marketing the practice even though he or she does not own the hospital, again this is mutual cross-ownership. A surgeon's patient admitted to the hospital will be subject to cross ownership between the surgeon and the hospital. In this example the knowledge worker, the surgeon, is ceding ownership of some of the intellectual capital through a cross-ownership with the hospital, this is voluntary and mutually beneficial.

2.2.4 Who owns doctors' intellectual capital?

This is a contentious issue between doctors and the various stakeholders, at the core of it is probably the doctors' right to seek what they deem as a better lifestyle or opportunity wherever they may be as opposed to sacrificing the services for the communities that are most in need. An article by Pang, Lansang and Haines (2002:500) propose an international declaration and code of ethical guidelines, keeping in mind the harm that migration of medical professionals may cause. In response Stein (2002:325) questions Pang, et al.'s proposal that the state or some international organisation has a financial

claim on a person's intellect, contending that to extort service or money from people who have paid for their own education would be utterly preposterous.

A report by Physicians for Human Rights (2002; 32) notes that there is a conflict of interest between the health workers' right to seek a better life for themselves and the needs of their community and country. The report concludes that "the rights of health professionals and their desire to seek a better life must be respected within the constraints and demands of the global public health crisis".

2.2.5 The race for intellectual capital

Kaye and Jordan-Evans (2002:32) observed that never before have organisations paid more attention to talent—in the United States and worldwide. "Keeping it. Stealing it. Developing it. Talent is no longer just a numbers game; it's about survival. It's about winning market share, investors, new clients, and big contracts". They noted that companies are dependant on their top performers to innovate and provide services that differentiate them from their fierce competitors.

In a research study of 25 global talent leaders, spanning seven different industries representing more than 800 000 employees and 12 Fortune 100 firms, Kaye and Jordan-Evans (2002:34) found the talent leaders agreed that the war for talent is as hot as ever. There is no slowdown in the hunt for talent; talent can walk because it's scarce commodity. The more competitive companies are, the more they depend on talented people to lead them. They need the best to produce faster, smarter, and more profitably. The talent leaders further observed that talent management remains a critical business imperative due to the following factors:

- There aren't enough highly skilled workers to go round;
- Employees' attitudes and expectations of work and bosses have shifted permanently;
- New employment options lure the best and brightest;

- Cost of acquiring new talent is high;
- In times of downsizing, mergers, and acquisitions, the risk of losing new talent is high;
- In the new economy, having talented employees is a key differentiator.

Delany and Turvey (2004:29) attribute the race for talent to three factors:

- The globalisation of the labour market, placing a new emphasis on professional and technical skills in short supply, and on factors such as international management experience.
- The impact of the information technology as a defining feature of the workplace and enabler of e-business and even new sciences.
- The expectations of new generations of workers

Delany and Turvey (2004:30) further argue that the increased compensation' strategy is generally founded on the employer's logic that their organisation is a great place to work and that people would only leave for money. The logical and often easiest, response is to match, or better the bid. Logic derives logic and the net outcome is that compensation increases for a particular sector of workers, possibly even for the whole sector, without any notable increase in the value delivered from the employee. Delany and Turvey concluded that there might be a price too high to pay for competing in the race for talent.

The global race for the doctor is also in keeping with the observations of Kaye and Jordan-Evans (2002:34) that the talent race is hot as ever. The ageing of the developed country populations, expanded healthcare needs in developed countries and the presence of intermediaries like recruitment agencies all serve to perpetuate the race for talent. As stated by Delany and Turvey (2004:29) globalisation, information technology and the expectation of the new generation of doctors all fuel the race. In modern day it is possible for a doctor to organise for a job in a far away country much quicker than at the next hospital. This, coupled with relatively more competitive remuneration, means the race is here to stay. According to Padarath et al. (2003:24) the benefits to the recipient country are obvious. Recipient countries fill vacant positions that would otherwise be empty, with

an estimated economic gain of about \$20,000 per physician for recipient countries, in direct recruitment benefits and in not having to build and maintain additional training facilities. Padarath et al., also note that although the cost of hiring nurses from overseas is typically £2,000–4,000, this is generally less than the costs of advertising, temporary replacements and appointment costs for experienced homegrown nurses, which the UK Department of Health has estimated at about £40,000. The situation highlighted above by Padarath, et al. presents a win-win situation for the doctor and the recipient country, but probably a loss to the donor country.

2.2.6 The role of recruitment agencies

Recruitment agencies are the intermediaries through whom the race for talent is reflected because they are contracted to do the actual search for suitable talent. Bach (2003:10) cited the role of recruitment agencies as that of being an added compounding factor to the 'brain drain', while Scott, Whelan, Dewdney and Zwi (2004:174) cited recruitment agencies role as unethical in recruiting from developing countries. Padarath et al. (2003:24) observed that the cost of recruiting a new employee is related to the aggressiveness of the strategy. There are multiple ways of recruitment by agencies ranging from Internet, personal referrals, newspapers, professional journals and headhunting. The aggressive marketing is a reflection of the seriousness of the global race for talent, this is in keeping with the observations by Kaye and Jordan-Evans (2002:34) that the race for talent is as hot as ever. The employer needs the doctor more than the doctor needs the employer, which is also in keeping with the observations by Stewart (1997: 65). There is no research to ascertain what role if any these agencies play in the doctors' final decision to go abroad.

An analysis carried out by the researcher on the South African Medical Journal (SAMJ, 2004), the largest doctors' journal nationally and with the largest professional advertisement revealed that on average 85% of the pages dedicated to professional job adverts for the period January to October 2004 were occupied by foreign adverts (SAMJ, 2004). Two typical pages from the SAMJ adverts section are shown in appendix 3 (a & b). Whether these adverts with lucrative packages and promises of good life have an

impact on doctors' decision is not yet known. The current study included a predetermined option for respondents to rate their opinions on whether the adverts by foreign recruitment agencies were important in their decision to seek work abroad.

2.2.7 Retention of intellectual capital

Kaye and Jordan-Evans (2000:29) refer to retention as corporate America's no. 1 challenge. The retention of talented, value-creating employees is such an important workforce challenge that it is being referred to as a 'war for talent' (Kaye & Jordan-Evans, 2002:32; Paton, 2002:26). Birt and Winternitz (2004:25) contend that talent management should be seen as a strategic business priority and for this reason, the organisation is prepared to invest in careers of these employees in order to increase their organisational commitment and avoid the phenomenon of market driven turnover. Cappelli (2000:11) develops this idea further by arguing that organisations should focus on policies that will ensure that they are 'employers of choice'. At the moment the loss of doctors from South Africa appear to be a market driven turnover. This means the country should consider innovative ways of reversing this market driven turnover.

The cost of replacing a lost knowledge worker can range from one to three times the employee's annual cost to company (Kaye & Jordan-Evans, 2000:29; Naidoo, 2004:37). There are advertising and recruitment expenses, orientation and training of the new employee, decreased productivity until the new employee is up to speed, and loss of customers who were loyal to the departing employee. Finding, recruiting, and training the best employees represent a major investment. Once a company has captured talented people, the return-on-investment requires closing the back door to prevent them from walking out (Kaye & Jordan-Evans, 2000:29).

According to Delany and Turvey (2004:30), creating a culture encouraging personal and organisational growth can take time to develop and nurture. People are more likely to stay in organisations that: promote empowerment; reward entrepreneurial spirit;

challenge the way things are done; and generally ensure that employees can derive satisfaction from their job and general work environment.

Delany and Turvey (2004:30) develop these themes by weaving them together to create a holistic strategy for attracting, retaining, and motivating top talent. This holistic approach needs to recognise and balance all elements of employment experience. All human resource practises should reinforce the core cultural focus on individual and commitment of business to create an environment that enables personal health, growth and satisfaction. The overall employment environment must be one which:

- Encourages and supports the individual in determining and prioritising his or her own motivational lever(s); and
- Shifts accountability and responsibility for personal motivation from the employer to the individual.

Mengel (2001:32) divides the factors influencing turnover into avoidable and unavoidable. Mengel argues that whereas unavoidable turnover is mainly due to life decisions beyond the control of the employee, the majority of staff turnover is avoidable. Mengel further contends that about 80% of turnover is due to hiring mistakes; most of which can be avoided if companies have carefully planned retention strategies such as 'hiring for traits and train for skills'. Mengel advocates a cradle to grave approach of employee retention from hiring, training, motivation, remuneration, and teambuilding to exit interviews for departing employees.

Naidoo (2004:37) contends that whereas a certain amount of 'churn' is normal –or even healthy for an organisation, losing high performers is always costly no matter the economic climate. Naidoo notes that certain industries such as healthcare have endemic high turnover. A retention strategy, according to Naidoo, should incorporate the elements that research and experience show have a positive impact on retention and help in preserving loyalty of high performers. Naidoo divides these into three categories:

- Selection and orientation;
- Training and career management;

- **Motivation and compensation.**

Naidoo further expands on the three by emphasising that selection and orientation must select the right person by ensuring an organisational 'fit' of the selected candidates. Training and career management must provide development opportunities that serve a dual purpose and meet the needs of both the organisation and its employees. Naidoo also highlights that departing employees have a positive aspect to them in that they can be 'alumni' of the companies they once served and provide new business or referrals.

The factors cited above are applicable to the health sector in that there must be a strategic policy in selecting candidates for the medical school which is cognisant of the various factors in the health sector such as racial and gender balancing. The training and carrier development should be continuously updated in line with the needs of the country such as need for strengthening primary care as opposed to super specialists. The departure process should be better managed so that useful information can be harnessed from departing employees regarding their reason for departure, destination and suggestions. South African doctors that have settled abroad must not be seen as unpatriotic but a potential resource which can be tapped appropriately for academics, advisers on projects or into joint ventures like research projects.

2.2.8 Career development

Forrest (1999) states that opportunities for growth and development result in competence and retention. Sturges and Guest (2001:447) state that career growth, learning, development and mentoring are among the top reasons why employees stay with their current employer. Other authors agree that whereas money and perks matter, they are not the most important retention factors. Intrinsic factors such as; challenging, meaningful work, good bosses, and opportunities for learning and development are more important (Kaye & Jordan-Evans, 2000: 29; Mengel, 2001: 32; Naidoo, 2004: 37). Thulare (2003:126) contends that the public sector is expected to provide a platform for academic

growth and career development. Thulare further asserts that if this expectation is not met, motivation levels of doctors will decline.

The assertions above are applicable mostly in the case of the public sector doctors because career development may entail specialisation, acquiring better skills, rotation through certain departments or promotion to higher ranks in clinical medicine or in management. Career advancement is linked to, among other things, better job satisfaction which will usually result in enhanced job performance and morale. Different doctors at different levels in their careers may need different kinds of mentorship and opportunities. The absence of career development may result in employees defined by Costello (2001) as 'trapped employees'

2.2.9 'Trapped Employees'

Employees who have no chance of career development but because of financial incentives, find themselves trapped are described as 'trapped employees'. According to Costello (2001) they are neither committed nor motivated and are more likely to be enticed by small increases in salary offers by competitors. Deane (2003) states that health workers in developing countries feel trapped because they are unable to utilise their skills, are overworked, and have no time for individual patient needs. According to Costello (2001) 44% of employees in the health industry in the USA are trapped compared to a general industry average of 37%.

It can be deduced from the above that 'trapped employees' are probably the least beneficial to delivery of a service because they are there in name only and for the pay cheque. They do not fit the definition of a knowledge worker in that they lack drive and enthusiasm for their work. These workers are likely to be obstructive to change and advancement of colleagues. It is the duty of management to understand the needs of their workers and promote opportunity for career advancement.

2.2.10 The role of Management in retention

The researcher believes that the essence of management is to encourage and promote maximal performance of all workers and especially knowledge workers through defining appropriate values, culture, rewards and discipline within the organisation. The Harvard Management Update (2000:3) asserts that managers contribute significantly to attrition and retention by influencing employees' commitment level to the organisation. Employees' relationships with their boss are more important for retention than company-wide policies, such as pay and perks. The relationship with the manager is what determines how long an employee stays in a job. According to Prewitt (1999:4) and Dobbs (2001:2) "People do not leave organisations. They usually leave bosses".

The role of good bosses in promoting worker retention and motivation was also highlighted by other authors (Kaye & Jordan-Evans, 2000:29; Mengel, 2001:32; Naidoo, 2004:37) as very important. Butler & Waldoorp, (1999:144) contend that many talented professionals leave an organisation because senior managers fail to understand the psychology of work satisfaction and assume that people who excel at their work are happy. Butler & Waldoorp contend that to retain professionals organisations must look beyond the actual job into embedded life interest of the professional. This means for example a professional who is a golf player might consider a company subscription to the golf club a significant bargain while another that watches rugby might consider use of company private suite at the stadium to be a bargain.

2.2.11 Retention of 'doctors' capital'

The issues of retention outlined above are more applicable to the public sector doctors because they are formally employed by the state or provincial administration. The state does not choose whom to employ but specific employing hospitals normally advertise the posts and conduct interviews for the job. Orientation, career mentoring and determination of appropriate compensation are largely the duty of the hospital and provincial administration.

Padarath et al. (2003:20) identified shortcomings in the selection of medical students, biased towards grades, ability to pay fees and white students who are more likely to emigrate. The type and orientation of training at the universities is also usually skewed towards developed world practises. Rajakumar (2002) in a keynote address to the WONCA World congress on Rural Health described the physician as “tradesmen with medical degrees...selected for our ability to pay for access to medical schools and pass examinations that tax memory”. Because of the lack of real control in recruitment of medical students, the potential candidates available to the South African labour market limit the employers’ options.

It is the researcher’s observation that there are no standardised procedures for orientation, career mentoring or motivation of newly employed doctors in most hospitals. In some cases a newly employed relatively junior doctor is the only doctor at a remote hospital. Freezing of posts and promotion is used time and again by provincial administrations once they have overspent on their budgets. There are no exit interviews for departing doctors.

2.2.12 Intrinsic and extrinsic factors

Birt and Winternitz (2004:27) noted that most factors from previous research influencing retention could be divided into intrinsic and extrinsic factors. Extrinsic factors being factors such as pay, stock options, gain-sharing bonuses, etc. Intrinsic factors are factors such as meaningful and challenging work, good supervisors and development opportunities. Birt and Winternitz also noted that various studies place different importance on these factors.

Organisations focussing on intrinsically important variables are considered to benefit by engendering an increased level of affective commitment amongst talent (Michad, 2001:15). This is exhibited in behaviours and attitudes such as a strong belief in and acceptance of the values and goals of the organisation, a willingness to exert effort for the benefit of the organisation, and a desire to remain with the organisation.

A South African study (Birt & Winternitz, 2004:25) on 64 talent employees found that in that sample the talent pool was experiencing continuance commitment rather than affective commitment. With continuance commitment, the employee bases his/her decision to remain with the organisation on perceptions of other available opportunities as well as the cost of leaving the organisation rather than on a more emotional attachment to the organisation as is found in affective commitment. The perceived 'equity' or 'inequity' based on external comparisons with compensations offered by other organisations can strongly impact on the effectiveness of compensation as a tool to retain employees. This according to Birt and Winternitz is a market-driven turnover, which is an extrinsic factor.

The factors noted above by Michad (2001:15), Birt and Winternitz (2004:25) are directly applicable to the 'medical brain drain'. Respondents in previous studies have cited a mixture of intrinsic and extrinsic factors; job dissatisfaction is a commonly cited intrinsic factor whereas remuneration is a commonly cited extrinsic factor. It must also be noted that although most doctors are aware of the better pay abroad, there are many candidates who will not consider taking a job abroad; this may possibly reflect an affective commitment. Birt, et al.'s (2004:25) classification of factors into intrinsic and extrinsic is also consistent with the Padarath, et al.'s (2003: 10) sub classification of the 'push' and 'pull' factors into endogenous and exogenous relative to the health system.

2.3 Cost and benefit analysis of 'brain drain'

2.3.1 Benefits of the 'brain drain'

Proponents of the free flow of intellectual capital argue that it advances science and intellectual development (Thein, 2002:219). The benefits to the source country include cash inflows into the economy by the migrant workers abroad (Pang, Lansang & Haines, 2002: 499; Sander & Maimbo, 2003:1), enhancing of skills from other parts of the world (Ssemakula, 2002: 219) and it is envisaged that the emigrated scientists can promote research and programmes relevant to their countries of origin (De Francisco, 2002:219).

Benefits of the 'brain drain' to Africa include remittances sent home by skilled workers in developed countries, personal career development, exchange and joint research programmes with the home countries. A World Bank estimate of remittances relative to GDP of 20 developing countries that received highest amount of remittances in 1999 included four African countries; Egypt (4%), Morocco (5.5%), Nigeria (3.5%) and Tunisia (4%)(Saravia & Miranda, 2004:615). A World Bank study (Sander & Maimbo 2003:3) on 'migrant labour remittances in Africa' found that whereas developing countries received \$80 billion in migrants' remittances in 2002, Africa received about 15% of global remittances to developing countries; Sub-Saharan Africa received only 5%. The study noted that officially recorded remittance flows are heavily underreported for Africa reflecting underreporting of flows through formal channels and high flows through informal channels (Sander & Maimbo 2003:3). Padarath et al. (2003:25) noted that remittance patterns are not sufficiently understood and may not boost the general economy if the cost of lost skills and personnel is greater.

A second postulated gain (Padarath et al. 2003:25) is the skills and knowledge transfer back to source countries by returning migrants. This benefit is more likely to accrue if the new knowledge and skills are relevant to the public health, primary healthcare and medical priorities of the source country. This is not always the case. Also, in the case of doctors (less so with nurses) most migration is permanent, so there will not be a return of knowledge.

Padarath et al. (2003:25) noted that it has been suggested that migration can operate as a 'safety valve' for governments, reducing pressure on them to provide and create employment. Padarath cites a Ghanaian government official who explained that if all 1500 Ghanaian doctors working overseas were to return, the Ghanaian government would only be in a position to provide employment for 200 of them.

2.3.2 Cost of the 'brain drain'

Opponents of this free flow argue that the ever widening economic imbalance between the developed and the developing countries, coupled with administrative and social problems in the latter makes the movement of skilled personnel largely a one-way traffic flow (Bisseker, 2003:49; Oppelt, 2001:9). Globalisation and the information boom make it very easy for skilled personnel to seek jobs in overseas countries (Delany & Turvey, 2004:29; Levy, 2003: 170). Some authors have alluded to unethical recruitment of doctors (Scott et al. 2004: 174) by rich nations and recruiting agencies luring doctors with relatively larger salaries.

The United Nations Commission for Trade and Development estimates that each migrating African professional represents a \$184 000 loss to Africa (Oyowe, 1996:59). The international organisation for migration estimates the 'lost human capital' to South Africa since 1997 to be more than \$5 billion (McClelland, 2002: 793). Africa spends about 4 billion dollars annually paying an estimated 100 000 foreign aid expatriate personnel from other parts of the world (International Herald Tribune, 2001: 18; Seepe, 2001: 30 March). The 'brain drain' is considered by some to be a form of reverse (poor to rich) subsidy in which the developing countries are subsidising the industrialised countries by about \$ 500 million per year through the migration of healthcare professionals (Padarath et al. 2003:10).

2.3.3 'Knock-on' costs associated with 'medical brain drain'

A study on 'brain drain' in Southern Africa region countries by Padarath et al. (2003:24) found that apart from the direct financial losses of 'medical brain drain' there are also very significant performance related 'knock-on' effects that are often not captured as costs. The study outlined the common performance issues as below:

The negative effect on the overall functioning of the health system and consequent increases in mortality and morbidity. The lack of health personnel can also mean that other healthcare investments become wasted, such as when healthcare facilities lie dormant because there aren't any personnel to staff them. In one example, the departure of two anaesthetists from a South African spinal injuries centre to Canada resulted in the entire centre being forced to close.

The 'loss of institutional memory' from large scale resignations and other turnover factors result in a duplication of work and wastage of resources. This is especially relevant in the face of disease management strategies and programmes such as AIDS, reproductive health, malaria, and tuberculosis where strategies are reinvented time and time again due to the loss of key health personnel and the resulting gap in institutional continuity.

Counter-productive behaviours may also result from staff shortages, including absenteeism; salary-augmenting behaviour (second job); pilfering of public property; poor treatment of patients; under-the-counter fees, and the sale of drugs that should be free. The 'brain drain' of academic and experienced personnel can also lead to deficiencies within training institutions or the professional attachment and supervision of new graduates, thereby also affecting the future production of health personnel.

In relation to out-migration from countries, it has been suggested that an exodus of skilled people from a country leads to a perception of political and economic instability. Researchers have also contended that 'national output measures are negatively affected though a loss of high-income earners'. Finally there is the cost in unmanaged disease burdens, and the costs to households of seeking care at higher levels where personnel are found, rather than at primary or secondary levels of care.

2.3.4 Costs and benefits to the health personnel

A study by Padarath et al. (2003: 26) noted that in addition to the costs and benefits described above, there are a number of experiences at the individual level that are worth noting. For example, there have been reports of exploitation and the 'brain wastage' of health worker immigrants in recipient countries. In some cases highly trained personnel have been expected to carry out basic, menial tasks and have limited or no opportunity to use their skills and expertise, and that their salaries may not be commensurate with local health workers. In some countries emigrants do not qualify for social assistance or social security, or for employee benefits such as contributions to pension schemes. In some instances, recruitment agencies are reported to have charged exorbitant fees, misrepresented employment opportunities and failed to find employment for their clients. Incidents of workplace racism from both patients and colleagues have been reported in several countries. As already noted, in many countries the emigrant health workers usually take up posts that the locals do not take up because they are not considered competitive due to remoteness, weather or conditions of employment.

The study (Padarath et al. 2003: 26) concludes that while these negative experiences are noted, the decision to migrate implies that the individual regards the benefits as outweighing the costs. As noted, these relate to 'pull' factors that are economic, political and professional or that relate to security of children's education and future. Migration has also been found to provide an opportunity for women to improve their status when there are few opportunities for freedom of employment and social equality in their place of birth. Health personnel in the destination countries may fill institutional positions that bring personal status and also facilitate resource, scholarship and skills flows to their home country. There are efforts within the Southern Africa Development Community (SADC) region and Africa to follow up on personnel who have migrated and review ways of utilising the resources gained through migration is one option for wider collective gain from such benefits.

2.4 'Medical brain drain': the South African context

2.4.1 Current knowledge of the 'medical brain drain'

Exact numbers of 'brain drain' losses are not known. The South African Health Review presented in July 2004 showed that while the government is battling with unfilled posts, six-hundred South African doctors are registered to practise in New Zealand; 10%, or 1 300, of Canada's hospital-based physicians are South African; and about 1 360 doctors (6,3%) of Britain's hospital doctors are South African. According to the General Medical Council in the UK, 143 775 of the doctors registered there are from the UK, 22 043 from India and 9 330 from South Africa (Thom, 2004: 10). Keeton (2004: 7) reporting for Sunday Times showed that the number of South African doctors registered in the four countries UK, USA, Canada and New Zealand is about one third of South Africa's 32 000 doctors. Currently it appears that most doctors that leave go to UK, New Zealand, Canada and Australia (Thom, 2004: 10).

The government sponsors every medical student by approximately R207 000 per year (Mariba, 2004: 18). Keeton (2004: 7) contends that the government has spent R 5 billion training 11 000 doctors who are now registered in the UK, USA, Canada and New Zealand. Although exact costs of the 'brain drain' are not known, many authors are of the opinion that it is a huge loss of investment spent by government on educating the doctors (Oyowe, 1996:59; Weiner, Mitchell & Price, 1998:59). The exact numbers of medical 'brain drain' losses are not known since government figures appear to be grossly underestimated (Jones, 1999:18; McClelland, 2002: 793). A study by Jones (1999: 18) found that only 65% of the respondents were unlikely to leave in the next five years. A study on Wits Medical graduates (Weiner, Mitchell & Price, 1998:59) over the preceding 35 years found that about 45% appeared to have emigrated. The loss of nearly half of the medical graduates is a great hindrance to national human resource strategies and all healthcare programs.

Dr. Steve Reid (Cleary & Thomas, 2002:4) of the centre for Health and Social Studies at the University of Natal conducted a survey of community service doctors from 1999 to 2001. He found that the percentage planning to enter Public Service decreased from 42% in 1999 to 38% in 2001. The percentage planning to go abroad increased from 34% to 43% over the same period. It was also found that 3-4% of students leave before their year of Community Service. Because they would be penalised if they returned, it's assumed they do not intend to come back (Cleary & Thomas, 2002:4). A study conducted by Reid in 1999, indicated that 35% of a large sample of community-service doctors intended to emigrate after completing community service (Reid, 2000). In 1999 more than half of South Africa's young white doctors intended to work overseas compared to 10% of African doctors and 40% of Coloured and Indian doctors (Reid, 2000).

South Africa has been plagued by a worsening 'medical brain drain' (Kruger, 2002:100; Thom, 2004: 10), although the exact figures of the 'brain drain' are not known (Jones, 1999:18; McClelland, 2002:793) available statistics confirm that the 'brain drain' is getting worse (Weiner et al. 1998:59; Johannes 2004, 5; Thom, 2004: 10; Scott et al. 2004: 174). This has resulted in staff shortages especially in public hospitals (Bailey 2004, 2; Johannes, 2004: 5; Viall 2004, 11) and is crippling the efforts of the healthcare systems to address critical areas like HIV and AIDS (Medical Chronicle, 2004:14). Previous studies have cited multiple 'push' and 'pull' factors for the 'brain drain' (Sullivan, 1999: 1615; Oppelt, 2001:9), prominent among the cited issues were crime (Jones, 1999:18), overworked, better pay overseas, better career prospects and many others.

2.4.2 Cited reasons for the 'medical brain drain'

In the absence of exit interviews, the few studies that have been done within the South African context have been on doctors that are already overseas or those still in the country. Cited reasons are dependant on the time at which the research is carried out

because just as the issues affecting the medical profession change so do the cited reasons for departure by the doctors.

A study by Jones in 1998 (1999:19) of 65 doctors found 41% cited safety and security, 14% cited crime rate and 5% cited economic deterioration in South Africa as the factors that would cause them to leave. The findings of the study are limited by small sample size. In a 1996 study by Van der Vyer and De Villiers (2000:18) on 107 South African doctors in Saskatchewan, Canada they found that 43% cited violence/lack of security as the main reason for leaving South Africa. In this study 19% cited political uncertainty, 18% cited financial opportunities abroad, 13% cited financial remuneration, 5% cited medical policy changes and only 2% cited job satisfaction. This study did not take time of departure from South Africa into cognisance; therefore the stated reasons may reflect issues that span a period of time. It is worth noting that a total of 31% cited financial related matters as the most important reason, this is still second place to security concerns.

The suggested solutions to the losses include; developed countries compensating poor countries (Pang et al. 2002: 499), poor countries addressing the 'push' factors (Jones, 1999:18; Oppelt, 2001:9) cooperative programmes between developed and developing countries (Scott et al. 2004; Bundred & Levitt, 2000:246).

2.4.3 National intervention strategies

Government has addressed the 'medical brain drain' with various strategies e.g. rural allowance, scarce skills allowance (Msimang, 2004: 50) and community service (Bundred & Levitt, 2000:245). Government has also requested the developed countries to stop employing South African doctors (Ehman & Sullivan, 2001:387; Smetherham, 2004:6). All these efforts have yielded limited success so far in reversing the 'brain drain' (Smetherham, 2004:6, Thom, 2004: 10). The introduction of the scarce skills allowance of 15% for doctors is one government effort to retain doctors, whereas as the increased

rural allowance (22%) aims to retain doctors primarily in rural areas which of course keeps them in South Africa (Padarath et. al., 2003:305). Keeton (2004: 4) reporting for the Sunday Times quotes the Department of Health head of Human Resources that there is a plan to address the shortage of health workers.

Government is involved in many other efforts with other international organisations, medical associations and many foreign governments to address the 'medical brain drain'. It is the researcher's view that most of these efforts are focussed on controlling the flow of the doctor with little effort to meet the doctor's actual reasons causing him to consider migration. So, although the above government efforts are noted, they are not discussed any further. This research focuses more on the root cause of the migration as seen through the eyes of the doctors.

2.5 Summary of literature review

The literature review above shows that there are multiple factors that may influence the 'medical brain drain'. They can be broadly categorised into the health labour market and the human resource management factors. Health labour market factors have to do with the current trends in the health labour market and how these may affect the 'medical brain drain' from South Africa. Human resource management factors are issues mainly concerned with strategies of the employee 'cradle-to-grave' development encompassing training, recruitment, development, retention and understanding why a knowledge worker may depart. The main issues are highlighted in the summary in table 2.1 below.

In addition to the above discussed factors affecting the 'medical brain drain' the literature review also highlighted multiple components to be considered in analysing the costs and benefits of the 'brain drain', these were categorised as:

- Benefits of 'brain drain' in general and to Africa specifically;
- Costs of 'brain drain' in general and to Africa specifically;
- Knock-on cost effects associated with 'medical brain drain';

- Costs and benefits to the health personnel that decide to migrate.

Table 2.1 Summary of factors affecting the ‘medical brain drain’

The health labour market factors	Human resource management factors
<ul style="list-style-type: none"> • Globalisation of health services and resources • International migration trends and implications • The health labour market across the world • The new world labour market • International nature of medical science and practise • ‘Push’ and ‘pull’ factors between donor and recipient countries • Stick and stay factors once migration has occurred 	<ul style="list-style-type: none"> • Emergence of a new role for the knowledge worker in organisations • The new employer-employee relationship • Employee recognition and ownership of intellectual capital • The race for intellectual capital by organisations • Role of recruitment agencies • Retention strategies for intellectual capital in organisations • Intrinsic and extrinsic factors relative to the job

Specific literature on the South African context of the ‘medical brain drain’ was categorised under three major areas:

- Current knowledge on medical brain drain;
- Cited reasons for the ‘brain drain’ and proposed solutions in previous studies;
- National intervention strategies.

It is clear from the review that doctors as knowledge workers are affected by the global labour trends and human resource shifts like any other knowledge workers. Since they

have only one dominant employer, the state, shifts in trends tend to affect that dominant employer very adversely. A long training period means that replacing lost doctors can not happen fast, with national challenges like HIV beckoning at a time when some provinces have less than 23% of necessary health personnel, the situation is in dire need of innovative turnaround strategies.

It is with the background of the literature review above that this study was undertaken to see how the various issues cited above interplay in influencing the South African doctors to seek work abroad.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research problem

The continued 'medical brain drain' of doctors from South Africa has been blamed for the far reaching negative impact on healthcare delivery in this country. Government efforts to address the 'medical brain drain' have yielded little impact in reversing the flow of human capital so far. As noted by Van der Vyver and De Villiers, (2002: 17), to date, the issue of 'medical brain drain' from South Africa has not been well researched. The South African Medical Association president, Dr. Kgosi Letlape, and the Department of Health head of Human Resources, Dr. Mahlathi, concede that besides money, management must ensure that services are not hostile but friendly to the health professionals so that they do not feel threatened and unrecognised (Keeton, 2004:7). These remarks point to the fact that there might be an information gap between management strategies and the aspirations of health professionals. The researcher is of the opinion that one way to bridge the gap is by appropriate research which highlights doctors' opinions on various issues so that policy makers can have reliable reference points on which to base their decisions. In line with the above, the researcher believes that by highlighting the issues driving the 'medical brain drain' at any particular time, policy makers may be able to devise appropriate strategies that will best alleviate the problem.

The primary objective of this research was to explore the perspectives of a sample of doctors on the 'medical brain drain' from South Africa. The secondary objective of the study was that this information could be incorporated in effective retention strategies for doctors in South Africa. The research was conducted using a specially structured survey questionnaire to establish the perspectives of doctors on the 'medical brain drain' from

South Africa. This study was undertaken as a pilot study and it is envisaged that it will stimulate other better-resourced researchers to do a nationwide study at a later stage.

Doctors' perspectives on the 'medical brain drain' were assessed by a survey questionnaire eliciting doctors' views on the following:

1. Awareness among respondents of departure by colleagues.
2. Respondents' foreign registrations held and experience of work abroad.
3. Respondents' contemplation to seek work abroad.
4. Respondents' main and other reasons for contemplating work abroad.
5. Respondents ranking of significance of predetermined possible factors on their decision to seek work abroad.
6. Respondents' suggestions as to what employers and government must do to keep doctors in South Africa.

3.2 Research design

This is exploratory research in which a survey questionnaire was used to determine the perspectives of a sample of doctors on the 'medical brain drain' from South Africa. A survey according to Dominowski (1980: 186) can be characterised as the indirect study of behaviour because it relies on reports of behaviour rather than observations of that behaviour. A survey was utilised because it is one of the best approaches to collecting primary data that pertains to views or opinions of the population at a particular moment in time (Leedy & Ormrod, 2001:196; Mouton, 2002:152). The questionnaire was utilised to ascertain the level of awareness of 'brain drain', respondents' intentions to seek work abroad and suggestions to the employer and government on what steps should be taken to reduce this 'brain drain'.

3.3 Population

The population in this study comprised all the doctors practicing in South Africa within both the public and the private sectors. Although about 32 000 doctors are registered to practise in South Africa, it is difficult to estimate the total number of doctors practicing in South Africa at any one time, largely because of difficulties in estimating the exact number of doctors in the private sector. This difficulty arises because in the private sector there is no centralised updated register for changes due to movement, retirement and mixed practice between the public and the private sector. Since the exact numbers are not known, it was not possible to estimate the percentage sampled for the overall figure. The South African Health Review report 2004 approximated the number of doctors in public service for 2003 at 11091 (Padarath et al. 2004:306).

3.4 Sample

A sample of 259 doctors in the Northern suburbs of Cape Town participated in the research. The practise type of doctors in this sample was 199 in public sector, 35 in private sector, 4 locums, 11 in both public and private sector, and 10 did not specify their practise type. Based on the public sector population of doctors cited above, the public sector study sample of 199 respondents represented approximately 1.8% of the public sector population. Due to lack of an easy way of contacting doctors a convenient sample based on geographical area of practice was utilised for this study, no randomisation was applied in the selection of this sample.

The private sector doctors were identified by use of a Med Pages directory and a local healthcare representative (the research assistant) database. All the listed doctors were considered as long as they practised in the target area. A reconciliation of the Med Pages directory and the assistant's database found 353 practices in the target area. Both the Med

Pages and the assistant's database are not exhaustive listings of available doctors in the area, due to various factors, so there are possibly doctors that were not counted. Since a doctor may own more than one practice, the number of practices would be expected to be higher than the actual number of doctors. Out of the identified 353 private sector practices, a total of 66 private sector practices were visited, of which 50 respondents filled in the questionnaires. Out of this sample 35 doctors described themselves as purely in the private sector, 3 were locum, 7 were in both private and public sector and 5 did not specify their practise type. The doctors that did not fill in the questionnaires were away (10), fully booked (3) or declined (3). This was a response rate of approximately 75%.

Public sector doctors were approached according to their place of work at the government institutions in the target area. A total of 209 completed the questionnaires, of which 199 described themselves as purely in public sector, 1 as a locum, 4 in both private and public sector and 5 did not specify their practise type. No effort was made to count the total number of public health doctors approached because questionnaires were filled by doctors during tea break, departmental meetings or whenever they specified as their free time. Those who did not wish to participate could decline, keep the questionnaire or return the uncompleted questionnaire in the box. There were no completely unfilled questionnaires in the box. One candidate declined and destroyed the questionnaire. Response rate for this subsection of the sample would not be reliably calculated.

The northern suburbs of Cape Town were selected due to logistical reasons and the fact that there was a representative mix of health services from primary care centres, secondary hospitals and a tertiary hospital. There are also several private services like general practitioners, medical centres and private hospitals. The actual areas covered by this research were: Bellville, Kraifontein, Kuils River, East River, Paarl and Somerset West. The public hospital sample included one tertiary centre, three secondary hospitals and four primary hospitals.

3.5 Research instrument

A survey questionnaire (appendix 2) was used to collect data from the respondents. The researcher designed the questionnaire with a mix of structured and unstructured questions, and a section for rating of 31 predetermined factors according to degree of influence (positive or negative) on decision to seek a job abroad. The ratings were graded into: none, little, significant and highly significant. The questions were structured to be individual based for each respondent to give their own experience as opposed to general views. The questionnaire was accompanied by half a page of instructions and clarifications (appendix 1).

The questionnaire was constructed with the overall intent of identifying factors that can help policy makers in the health care sector to formulate an effective strategy to reverse the 'brain drain'. The following issues were considered in formulating the questionnaire:

- Previously cited issues from published research.
- Currently cited issues in national and regional newspapers.
- Human resource factors that impact on strategic human resource planning
- Recently introduced legislation that has resulted in conflict between doctors and government.
- Interviews with doctors of various ranks on their intentions and reasons for their plans.
- Average time of filling in questionnaire should be less than 10 minutes (which is approximately time for one patient consultation for general practitioners).

Respondents were allowed to leave a question blank if they did not wish to answer it, so every question was filled by a different number of respondents. This is specified in the analysis of each appropriate question.

The complete research questionnaire (appendix 2) covered six main areas:

- Demographics including professional aspects
- Foreign registrations held and if respondent have worked abroad reasons for return.
- Intentions in next five years or soon after
- Reasons for leaving or not leaving
- Ranking of predetermined factors according to significance on decision to seek job abroad.
- Suggestions of how to best retain doctors in South Africa.

3.6 Pilot study

The original questionnaire with 10 questions (appendix 2, excluding questions 4,5 and 6) was tested on 4 final year medical students and 4 public service medical officers to establish if it was comprehensible, practical and could be completed within 10 minutes. Both groups suggested minor changes to the questionnaire that were incorporated. The average time spent was 7 minutes. This group comprised 3 females and five males.

A second pilot was undertaken under more similar circumstances to the actual study, this was a trial run simulating exact circumstances under which research would be carried out in order to establish practicalities of data collection, respondent location, consent and data analysis. This pilot was done over a one-day period in which a private hospital, a private medical centre, a primary care health centre and a tertiary institution cafeteria were visited. A sample of 12 respondents participated consisting of 3 specialists, 4 medical officers, 4 general practitioners and 1 registrar. The practise type was 2 in the public sector, 6 in private, 3 locum and 1 was in both the private and public sector. Gender distribution was 9 male, 2 female and one unspecified. Age ranged 26-55 with number of years since graduation ranging from 2 to 32.

The trial run showed that respondents were easy to access, filled in the questionnaire gladly in about 8 minutes on average. One respondent from this sample suggested the inclusion of questions on whether respondents have a foreign registration, if they have worked abroad, why they came back and if they have a foreign registration but have not worked abroad why not? These suggestions were incorporated in the initial questionnaire as question numbers 4, 5 and 6. The rest of the questionnaire remained unchanged.

3.7 Data collection

Survey questionnaires were hand distributed to the doctors by the researcher and an assistant. The research assistant was chosen because he deals with private doctors in the study area as a representative for a medical associated industry. The assistant helped with data collection from the private general practitioners only. All respondents were informed that participation in research was to be done voluntarily and anonymously. The researcher and assistant also guaranteed confidentiality to all respondents. The researcher distributed questionnaires to both the private sector and public service doctors in the area.

For the private sector doctors each address was visited once based on a predetermined most convenient geographical route as per the listed addresses according to the 2004 Med Pages directory and the research assistant's own data-base. After explaining the purpose of the research, confidentiality and anonymity, if a respondent voluntarily gave a verbal consent, the questionnaire was issued to be filled immediately and deposited in a sealed box provided. If the doctor was unavailable on that first visit no repeat visits were done. There was no limitation on the waiting time as long as the doctor was available in the practice. The research did not differentiate between owners of practice or locum, the doctor in the practice on that day was included in the study if they did not decline.

The public sector doctors were approached after making a written application to each specific hospital's superintendent. Upon receipt of written consent, arrangements were made by the researcher to secure 10 to 15 minutes during doctors' weekly meeting or tea

break to conduct the questionnaire. For the tertiary centre, consent was obtained from the superintendent and then the individual heads of each department were approached. Departmental meetings were utilised for the tertiary centre, each department was visited only once. Primary and secondary public sector hospitals were visited once after necessary authorisation and arrangements were made. No repeat visits to the same hospital were done. Each doctor was requested verbally to participate in the research, after explaining the purpose of the research, confidentiality and anonymity. If respondent voluntarily gave a verbal consent, the questionnaire was issued to be filled immediately and deposited in a sealed box provided. Candidates who declined to take part were not persuaded to do so. A total of 7 hospitals were included; 1 tertiary centre, 3 secondary hospitals and 4 primary care centres. A total of 259 respondents filled in the survey questionnaires in this study. Upon analysis this sample was made up as follows: Public sector 199; private sector 53; private and public 11; locum 4 and 10 did not indicate their practise type. The latter 10 respondents were grouped under 'others' for purposes of data analysis.

3.8 Data analysis

The researcher coded the data from the questionnaires manually. Each question was analysed individually as follows:

Question 1: Demographic data

- Age and number of years in practise were categorised and then batched for comparative analysis.
- Gender, current rank and practise type were categorised, tallied and percentages calculated.

Question 2 and 3: number of doctors known to have left or returned to South Africa

- Numbers of doctors known to have left or returned were batched into groups: 0, 1 to 5, 6 to 10, 11 to 20 and more than 20. Number of doctors that specified each

category was then tallied into those groups for comparative purposes. Data for departure and returns was then compared and plotted on a graph.

Question 4: Foreign registration.

- Registration was categorised, tallied and percentages calculated.
- The individual countries were listed and a frequency analysis was done.
- A separate analysis was done to compare the private sector respondents to the public sector and other.

Question 5: Experience of work abroad and reason for returning.

- Experience of work was categorised, tallied and percentages calculated.
- Reason for returning was a frequency analysis of the various answers.
- A separate analysis was done to compare the private sector respondents to the public sector and other.

Question 6: Reason for having a foreign registration but not gone abroad

- Frequency analysis of the various cited options

Question 7: Contemplation to seek work abroad. Five predetermine options were given (not in my plans, may be after five years, within five years, looking for placement and processing documents).

- Categorised and summed up each category
- A separate analysis was done to compare the private sector respondents to the 'public sector and other' respondents.

Questions 8: Main reason (one) for contemplating work abroad.

- Only one reason was considered per respondent, if more than one were put down the others were added to question 9.
- Frequency analysis of the various themes from the respondents answers
- A comparison of the private sector respondents to 'public sector and other' respondents was done.

Questions 9: Other reasons for contemplating work abroad

- Frequency analysis of the various themes from the respondents answers
- A comparison of the private sector respondents to 'public sector and other' respondents was done.

Question 10; Reasons for not contemplating work abroad

- Frequency analysis of the various themes from the respondents answers
- A comparison of the private sector respondents to 'public sector and other' respondents was done.

Questions 11 & 12 are discussed after question 13

Question 13: Rating of degree of significance of 31 predetermined factors on the decision to seek work abroad. Four ratings were utilised: none, little, significant and highly significant.

- Answers were given a rating by assigning numerical value of 1 for none, 2 for little, 3 for significant and 4 for highly significant and then calculating weighted average for each. The weighted averages were then ranked in descending order.
- Sample further divided into the private sector respondents and 'public sector and other' respondents (public sector, locum, private/public sector) and analysed for any differences.

Question 11 & 12; What employers and government should do to keep doctors in South Africa

- Frequency analysis of the various themes from the respondents answers
- A comparison of the private sector respondents to 'public sector and other' respondents was done.

Each frequency table is based on number of times each theme is cited. The percentages are calculated based on the total number of cited themes.

Given that this is exploratory research, the trends between the responses of participants in the total private sector and 'public sector and other' respondents were identified, reported and discussed. No hypothesis regarding differences between those sub samples were formulated at the outset of this research and as such differences in the trends between those sub samples were not analysed to determine statistically significant differences between them

3.9 Time frame

The data collection was conducted from 10 October to 20 November 2004.

3.10 Assumptions

The only significant assumptions are that respondents were honest in their responses.

3.11 Research limitations

The limitations of this research are as follows:

- It is based on one geographical area and as such it cannot be assumed to apply to doctors nationwide.
- A convenient sample was used.
- No randomisation in selection of respondents.
- The sample of 259 is small relative to about 32 000 population.
- Private sector doctors (n: 35) are relatively poorly represented compared to 'public sector and other' respondents (n: 224).
- The study did not set out to determine whether there are statistically significant differences between the sub samples of respondents

- A survey research design does not allow for follow up probing questions to assist in gaining greater clarification of respondents' responses.

This research was intended to serve as a pilot project for other better-resourced researchers to carry out a bigger nationwide research.

3.12 Reliability and validity

These results are reliable within the confines of the above stated limitations; the sample is predominantly drawn from the public sector and involves most categories of the public sector doctors as would be found in a metropolitan area with a tertiary center. Most of the respondents were senior doctors whose opinions are likely to reflect the true issues affecting them in the practice of their profession.

Validity of the research findings was observed by comparing the responses in the unstructured format to those of the ratings in the weighted average sections. Validity was further evidenced by the fact that the same identified issues leading to 'brain drain' are also cited as the main issues that must be attended to by employers and government in the respondents' suggestions.

3.13 Ethical considerations

Although the research itself did not involve a lot of ethical issues per se, the following issues were considered as areas where ethical matters could arise:

- Anonymity, confidentiality and voluntary consent to be upheld at all times.
Anonymity was ensured by not getting any personal traceable details, boxes were not opened until they were full and no other personal details were collected other than age, gender and type of practice. Having a self-administered questionnaire

that respondents deposited in a sealed box ensured confidentiality, no names of doctors, practices or hospitals were mentioned in the report.

- Research should at no time impede any doctor from attending to an emergency
- Research should not be structured in a way that encourages doctors to go abroad
- The interpretation of the unstructured data to accurately reflect what respondents meant, thereby minimising bias and subjectivity in the data interpretation phase.
- The overall report to be balanced and a true reflection of issues as reported by the sample of respondents.

CHAPTER 4

RESULTS

4.0 Introduction

The sample constituted 259 respondents who filled in the questionnaires. Respondents were allowed to leave an option blank if they did not wish to answer that particular question; hence the number of respondents that answered each specific question is shown in the relevant questions.

4.1 Demographic data

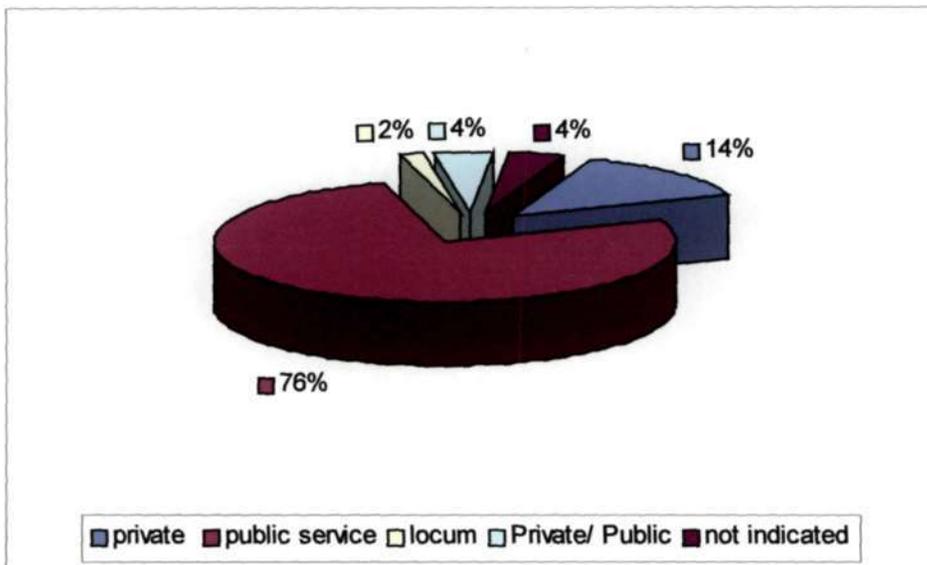
4.1.1 Practise type

Table 4.1 shows the respondents' practise type whereas figure 4.1 shows the distribution of the practise type.

Table 4.1: Practise type

Type of practise	Number
Private	35
Public service	199
Locum	4
Private/ Public	11
Not indicated	10
Total	259

Figure 4. 1: practise type



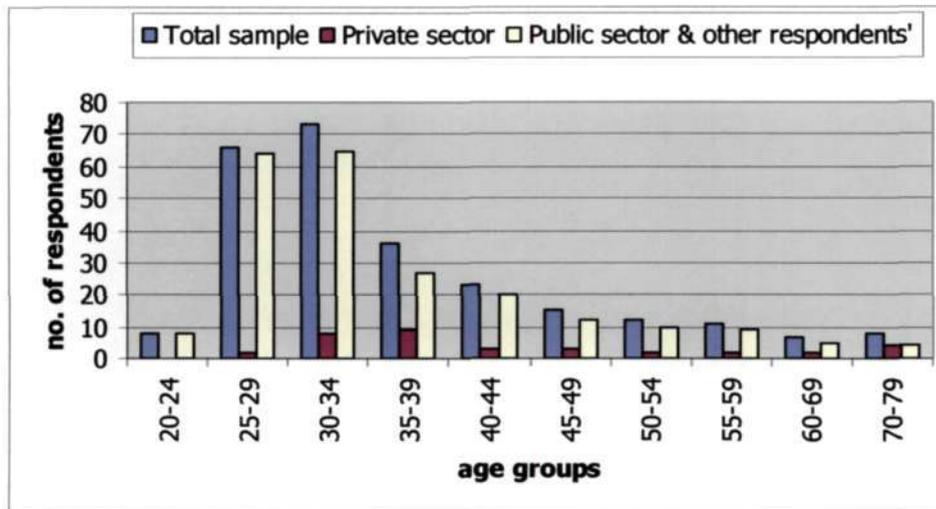
The sample was predominantly of the public sector doctors, with relatively lower proportion from the private sector.

For the purpose further comparison of the groups the total sample was subdivided into private sector respondents (35) and 'public sector and other' respondents (224). The latter group included respondents from public sector, locums, those that did not specify their practise type and those in mixed practise (private/public).

4.1.2 Age

The sample of 259 had an age distribution ranging from 23 years to 74 with a mean age of 37 years. The private sector age distribution ranged from 25 to 79 with an average age of 44 years whereas the 'public sector and other respondents had an age range between 23 to 79 with an average age of 36 years. The age distribution for the total sample and the subgroups is shown in figure 4.2

Figure 4.2: Age distribution graph

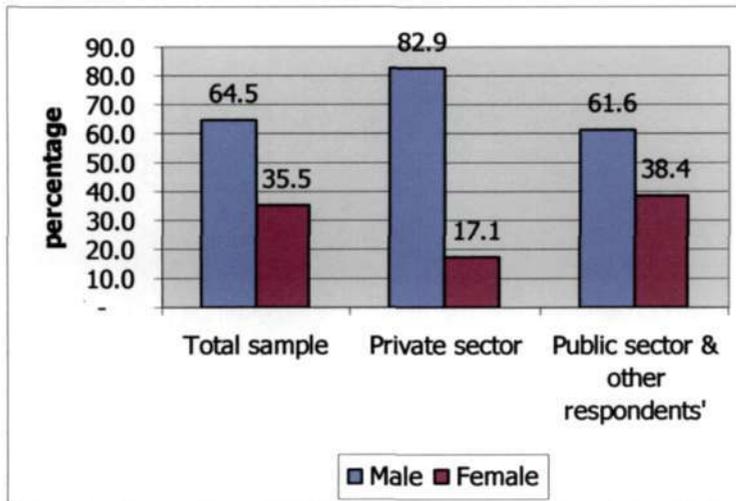


The frequency on the y-axis is an absolute number of respondents in each age category. The predominant age group was the 30-34 year old with a very sharp decline in number of respondents for other age groups after the age of 34. The trends for the subgroups are slightly different in that the private sector showed the 35-39 year age group to be the most predominant.

4.1.3 Gender

The sample consisted of 167 male and 92 female. The private sector had 29 males and 6 females whereas the 'public sector and other' respondents had 136 males and 86 females. Figure 4.3 illustrates the gender distribution for the total sample and the subgroups.

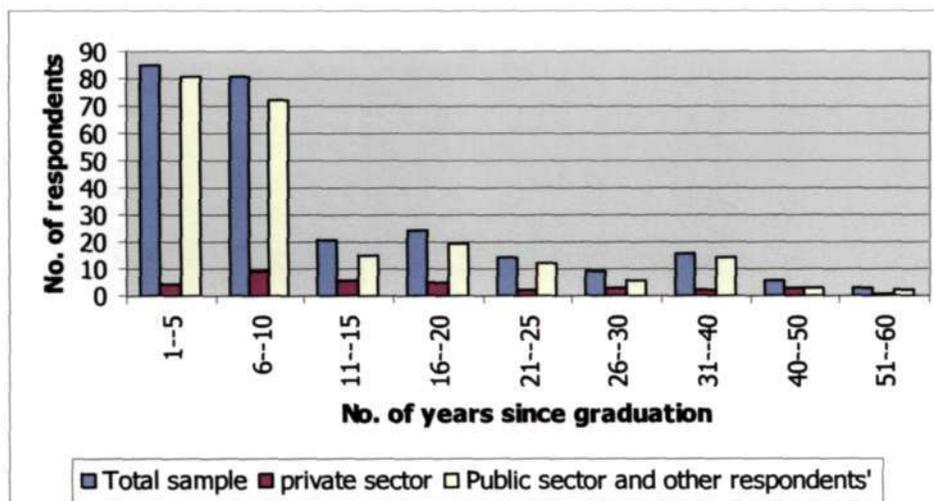
Figure 4.3: Gender distribution



4.1.3 Number of years since graduation

The total sample included doctors with a range of number of years since graduation from those in first year (interns) to those who had served 54 years. The mean number of years in practise was 12 with a mode of 6 years. The mean for the private sector was 19 years whereas for the 'public sector and other' respondents was 11 years. Figure 4.4 illustrates the distribution of years of service since graduation for the total sample and the subgroups. The frequency on the y-axis is absolute figure of number of respondents. There was a sharp decline in number of respondents that were more than 10 years post graduation.

Figure 4.4: Number of years since graduation



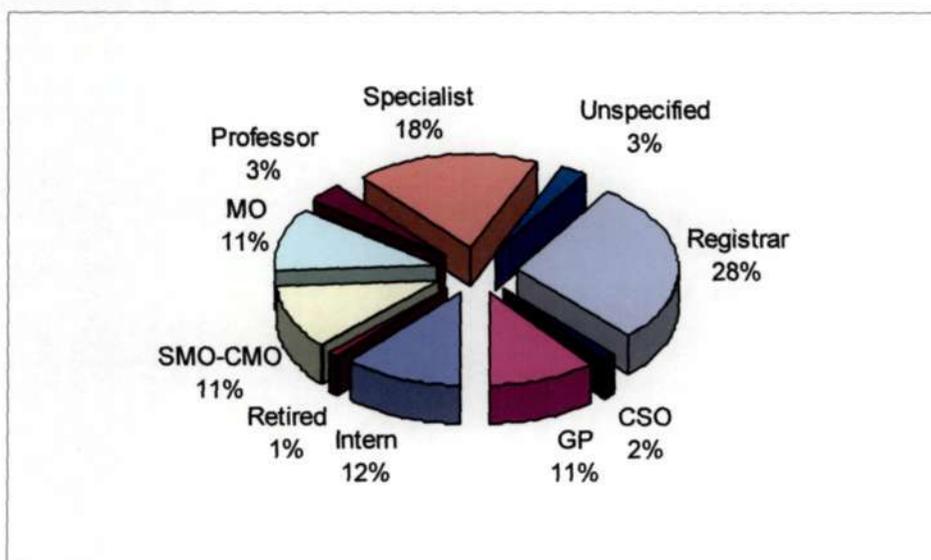
4.1.4 Professional Rank

The professional rank of the sample ranged from interns to professors. Table 4.2 shows the professional ranks of sample. Figure 4.5 illustrates the sample distribution as a pie chart. Senior medical officer (SMO), principal medical officer (PMO) and chief medical officer (CMO) were classified under one as category as SMO-CMO. Community service medical officer (CSO) refers to doctors in second year after graduation. Retired refers to doctors that have formally retired but usually do a few sessions in various places, they were included either because they attended a hospital academic meeting or they were in a practice at the time of the survey.

Table 4.2: Professional rank

Rank	Number		
	Total sample	Private	Public sector and other respondents
Intern	30	1	29
Retired	3	1	2
SMO-CMO	29	0	29
MO	29	1	28
Professor	9	0	9
Specialist	47	2	45
Unspecified	7	2	5
Registrar	73	0	73
CSO	4	0	4
GP	28	28	0
Total	259	35	224

Figure 4.5: Rank distribution



KEY

GP= general practitioner, SMO=senior medical officer, CMO=chief medical officer; MO=medical officer, Retired= formerly retired but still practising on sessional or part time basis, CSO=community service medical officer.

4.2 Awareness of the ‘medical brain drain’

4.2.1 Number of doctors known to respondents that left and those that returned to South Africa.

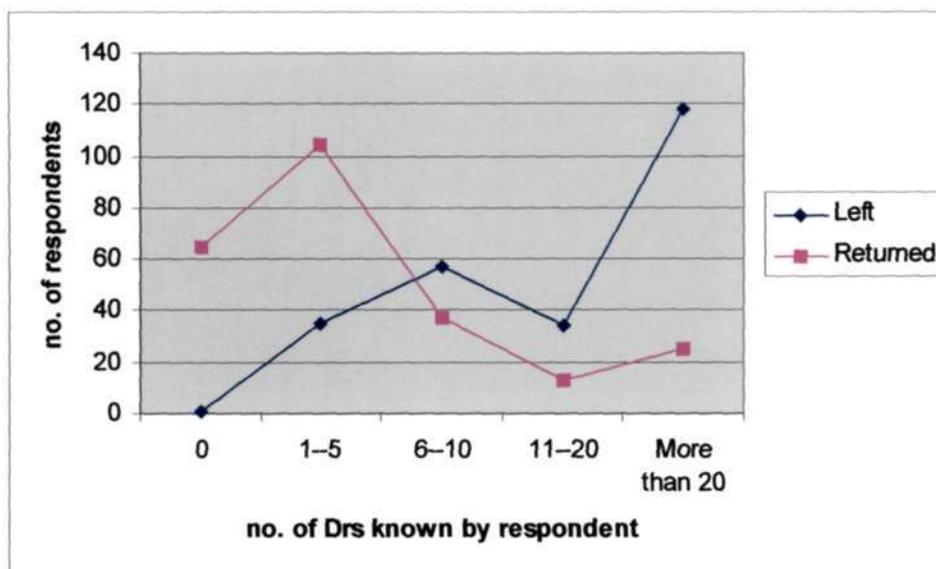
The first question asked respondents to state the number of doctors known to them that have gone abroad (this was regardless of whether they returned, so long they went to work abroad). A separate question asked respondents to state the number of doctors known to them that returned from abroad to work in South Africa.

The data illustrated in table 4.3 and figure 4.6 shows the respondents awareness of doctors that left or returned to South Africa. The number of doctors that ‘left’ is a total number of all doctors known to respondents that left to work abroad regardless of whether they returned or not whereas the number that ‘returned’ represents total number of doctors known to the respondents that returned from abroad regardless of when they left.

Table 4.3 Number of doctors known to have left or returned to South Africa

Number of Drs known by respondents	Left	Returned
0	1	65
1--5	35	104
6--10	57	37
11--20	34	13
More than 20	109	25
Not filled/Not specific	14	15
Total	259	259

Figure 4.6: Number of doctors known to have left or returned



The table and graph above show that a total of 209 (81%) knew six or more doctors that left to work abroad whereas only 75 (29%) of respondents knew six or more doctors that returned. In this sample 65 respondents (25%) did not know anybody who returned from abroad to work in South Africa whereas only 1 respondent (less than 0.5%) did not know a doctor who had left South Africa to work abroad. Most respondents knew many more doctors who have left than those who have returned to South Africa.

4.3 Foreign registration

4.3.1 Foreign registration to practise abroad

Out of the total sample of 259 candidates, 147 were registered abroad, 110 were not registered abroad and 2 respondents did not answer this question. The findings are shown in table 4.6 and presented in bar graph figure 4.7. Interns 30 (11%) were unlikely to have a foreign registration at the time of this study because they needed to write registration

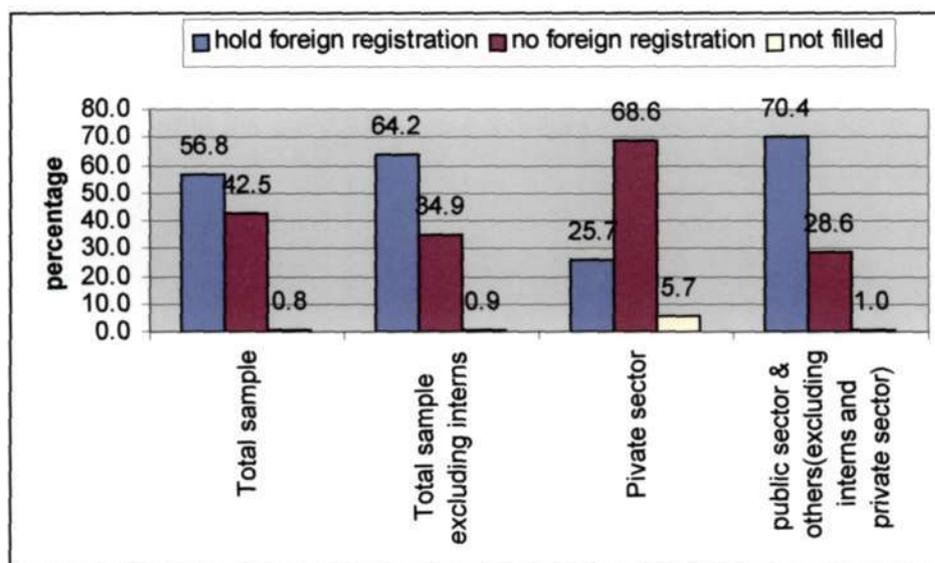
exams to register in the UK and other countries like Canada and Australia required them to have finished internship before registration to practise as a medical doctor, unless they intended to register for internship. For this reason the data was further analysed after excluding interns from the total sample.

A further analysis of the data to compare the private sector respondents to the ‘public sector and other’ respondents (Excluding interns and the private sector respondents) was performed, the findings are as shown in table 4.6 and figure 4.7.

Table 4.4: Foreign registration

Response	Total sample		Total sample excluding interns		Private sector		‘public sector & other’ respondents (excluding interns and private sector)	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Foreign registered	147	56.8	147	64.2	9	25.7	138	70.4
No foreign registration	110	42.5	80	34.9	24	68.6	56	28.6
Not filled	2	0.8	2	0.9	2	5.7	2	1.0
Total	259	100.0	229	100.0	35	100.0	196	100.0

Figure 4.7: Foreign registration



When the private sector respondents and interns are subtracted from the total sample of respondents the distribution of the status of registration for the public sector respondents and others shows a high prevalence of foreign registration. It can be seen that foreign registration among the 'public sector and the other respondents' is 70% whereas among the private sector it is only 26%. The percentage of foreign registered among 'public sector and other' respondents (70%) almost equals the private sector with no foreign registration (68%).

Respondents' country of registration

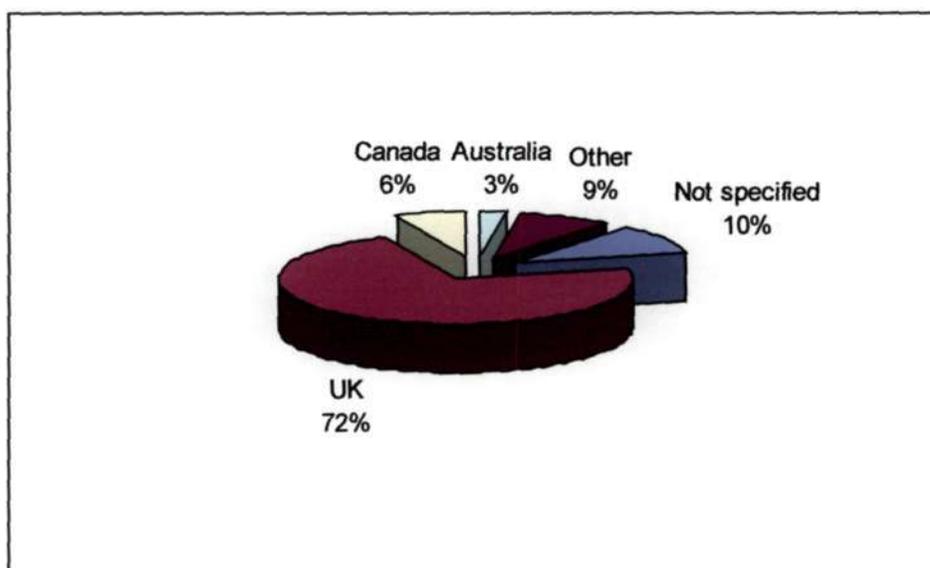
Table 4.5 below shows the countries of registration by the respondents whereas figure 4.8 shows the percentage distribution of the top cited three countries. The private sector respondents' registration were in line with the rest of the group.

Table 4.5 country of registration

Country	Number registered		
	Total	Private sector	Public sector and other respondents
UK	116	5	111
Canada	10	2	8
Australia	4	0	4
Switzerland	3	0	3
USA	2	0	2
Saudi Arabia	1	0	1
Emirates	1	0	1
Netherlands	1	0	1
Papua new Guinea	1	0	1
Cameroon	1	0	1
Nigeria	1	0	1
Rwanda	1	0	1
Russia	1	0	1
central Africa	1	0	1
Not specified	16	2	14
Total	160	9	151

10 respondents had multiple foreign countries of registration: eight had 2 foreign registrations; one had 3 foreign registrations; one had 4 foreign registrations.

Figure 4.8: Country of foreign registration



4.4 Experience of work abroad.

4.4.1 Experience of work abroad

In this sample the findings of work abroad were as shown in table 4.6. The findings are presented as a bar graph in figure 4.9. The findings were further analysed after excluding interns and community service medical officers (CSO) because they were not likely to have worked abroad at the time of the study. A comparison of the private sector to the public sector and other doctors (excluding interns and CSO), was done as shown in table 4.6 and figure 4.9.

This question was not limited to those with foreign registration because even though some respondents had no foreign registration at the time of the study, they may have

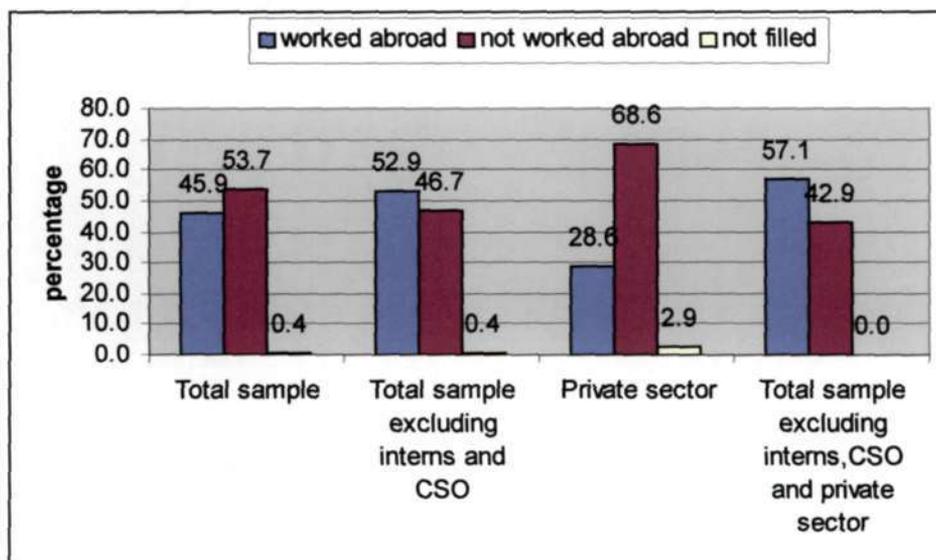
worked abroad in the past but did not renew their foreign registration afterwards. Even though the 119 respondents who have worked abroad represents 81% of the respondents with foreign registration the two may not be directly compared meaningfully due to the above reason.

Table 4.6: Experience of work abroad

Response	Total sample		Total sample excluding interns and CSO		Private sector		Public sector & others (excluding interns, CSO and private sector)	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Worked abroad	119	45.9	119	52.9	10	28.6	109	57.1
Not worked abroad	139	53.7	105	46.7	24	68.6	82	42.9
Not filled	1	0.4	1	0.4	1	2.9	0	0.0
Total	259	100.0	255	100.0	35	100.0	191	100.0

KEY: CSO: community service medical officers.

Figure 4.9: Experience of work abroad



The findings show that more than half the total sample of post CSO doctors had worked abroad. The comparison of the private sector to the ‘public sector and other’ respondents’ (post CSO) shows that the private sector doctors were less likely to have worked abroad compared to the ‘public sector and other’ respondents’. These results are similar to those of foreign registration where the same pattern was also found.

4.4.2 Reasons for returning to South Africa

Table 4.7 below shows the respondents’ cited reasons for coming back to South Africa from abroad. The reasons cited by the total sample for coming back are varied, the most predominant were to specialise (23.6%), family (17%), love of home (12%), no intention to migrate (7%) and only wanted locum (6%). The most frequently cited reasons by the private sector respondents were family (27%) to specialise (18%), love of home (18%), only wanted to locum (9%), personal (9%), sunshine (9%) and will go back to locum every year (9%). The ‘public sector and other’ respondents cited reasons that paralleled those of the total sample.

Table 4.7: Reasons for returning to South Africa

Reason	Total sample		Private sector		'public sector & other' respondents	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
To specialise	33	23.6	2	18	31	24.0
Family	24	17.1	3	27	21	16.3
Love of Home (South Africa)	17	12.1	2	18	15	11.6
Never considered emigration	10	7.1	0	0	10	7.8
Only wanted to locum abroad	9	6.4	1	9	8	6.2
Personal	3	2.1	1	9	2	1.6
Home sick	3	2.1	0	0	3	2.3
Job opportunity in SA	3	2.1	0	0	3	2.3
Sunshine (climate)	3	2.1	1	9	2	1.6
Better life style in SA	3	2.1	0	0	3	2.3
Graduated abroad then came to SA	3	2.1	0	0	3	2.3
Contract finished	2	1.4	0	0	2	1.6
Children	2	1.4	0	0	2	1.6
To make a difference here	2	1.4	0	0	2	1.6
Sabbatical attachment served	2	1.4	0	0	2	1.6
Property	2	1.4	0	0	2	1.6
Just went abroad for experience	2	1.4	0	0	2	1.6
Wanted to travel and see world	2	1.4	0	0	2	1.6
Fellowship attachment ended	2	1.4	0	0	2	1.6
I will go back every year to locum	1	0.7	1	9	0	0
To repay debts of apartheid	1	0.7	0	0	1	0.8
Money	1	0.7	0	0	1	0.8
Went for research	1	0.7	0	0	1	0.8
Cultural reasons	1	0.7	0	0	1	0.8
Practical experience better in SA	1	0.7	0	0	1	0.8
Happy with work here	1	0.7	0	0	1	0.8
Social reasons	1	0.7	0	0	1	0.8
Did not like type of work	1	0.7	0	0	1	0.8
Spouse/boyfriend	1	0.7	0	0	1	0.8
Don't know why I came back	1	0.7	0	0	1	0.8
Ideological reasons	1	0.7	0	0	1	0.8
Only went for money to pay student loan	1	0.7	0	0	1	0.8
Total	140	100.0	11	100	129	100.0

4.5 Reasons why some respondents with foreign registration have not yet worked abroad.

Table 4.8 below shows the respondents' cited reasons for holding a foreign registration but not yet gone to work abroad. The cited reasons are varied but prominent among them were specialisation (24%), to complete community service (11%), awaiting opportunity (11%), satisfied with South Africa (8%), processing documents (8%) hoping things get better (5%) and family ties (5%). The most frequently cited reasons by the private sector respondents were awaiting opportunity (25%), satisfied with South Africa (25%), processing documents (25%) and not felt the need (25%). The 'public sector and other' respondents cited reasons that paralleled the total sample. Further comparison of the two is limited by the relative differences in sample size between the two subgroups.

Table 4.8: Reasons why some respondents with foreign registration have not yet worked abroad.

Reason	Total sample		Private sector		'public sector & other' respondents	
	Freq.	%	Freq.	%	Freq.	%
Specialising	9	24.3	0	0	9	27.3
Awaiting an opportunity	4	10.8	1	25	3	9.1
Need to complete community service	4	10.8	0	0	4	12.1
Satisfied with SA	3	8.1	1	25	2	6.1
Processing documents	3	8.1	1	25	2	6.1
Hoping things will get better in SA	2	5.4	0	0	2	6.1
Family	2	5.4	0	0	2	6.1
Home is here	1	2.7	0	0	1	3.0
Want to study further	1	2.7	0	0	1	3.0
Plan to locum	1	2.7	0	0	1	3.0
No money	1	2.7	0	0	1	3.0
My services more valuable in SA than abroad	1	2.7	0	0	1	3.0
Happy with work here	1	2.7	0	0	1	3.0
Married in SA	1	2.7	0	0	1	3.0
Accident before departure	1	2.7	0	0	1	3.0
Panning to go in future	1	2.7	0	0	1	3.0
Not felt the need	1	2.7	1	25	0	0.0
Total	37	100	4	100	33	100.0

4.6 Respondents' contemplation of work abroad

The respondents' intentions in the next five years were assessed by asking respondents to choose one option from five predetermined options concerning contemplation to seek work abroad in the next five years or soon after. Table 4.9 shows how the respondents' answered this question, the answers are further grouped into 'total not likely to go abroad in next 5 years' and 'total may go abroad in next 5 years', which are shown in bold italics, for analytical purposes.

Table 4.9: Contemplation of work abroad

Response	Total sample		Private sector		'public sector & other' respondents	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Not in my plans	68	26.3	19	54.3	49	21.9
Maybe after 5 years	40	15.4	6	17.1	34	15.2
<i>Not likely to go abroad in next 5yrs</i>	108	41.7	25	71.4	83	37.1
In next 5 years	101	39.0	6	17.1	95	42.4
Currently looking for job	29	11.2	1	2.9	28	12.5
Processing documents	14	5.4	1	2.9	13	5.8
<i>May go abroad in next 5 yrs</i>	144	55.6	8	22.9	136	60.7
Not answered	7	2.7	2	5.7	5	2.2
Total	259	100.0	35	100	224	100

Figure 4.10a: Contemplation of work abroad

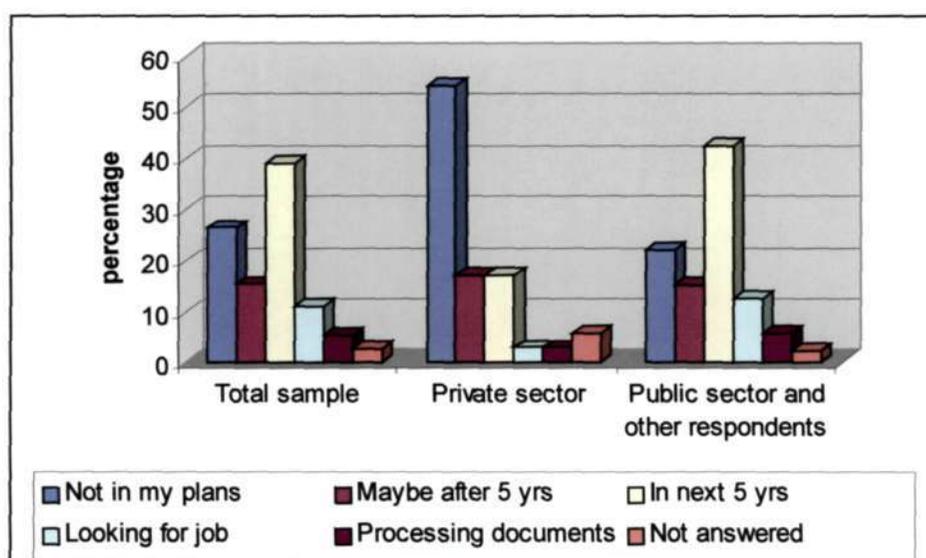
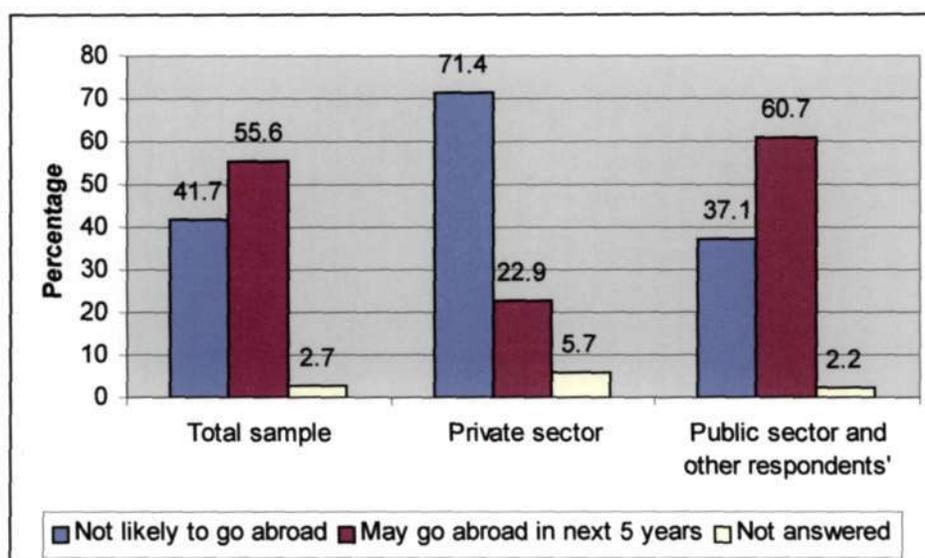


Figure 4.10a shows the distribution of respondents' contemplation to seek work abroad whereas figure 4.10b shows the respondents' likeliness to go abroad in next 5 years. The findings showed that in this sample only 26% of respondents had no intention of seeking a job abroad at any time. At the time of this study 55.6% of the sample may go abroad within next 5 years with 16% of the sample actively making efforts to go abroad (looking for job/placement or processing documents). A comparison of the private sector to the 'public sector and other' respondents showed that a larger proportion of the private sector respondents (54.3%) had no intention of seeking work abroad at any time in the future. The 'public sector and other' respondents showed a higher percentage of respondents with intention to seek work abroad and a relatively higher percentage looking for job abroad or processing documents.

The findings above were further analysed according to likeliness to seek work abroad in the next five years. The findings are shown in figure 4.10b.

Figure 4.10b Likeliness to seek work abroad in the next five years



The findings show that more than half (55%) of the total sample may go abroad in the next 5 years while only 44% was not likely to go abroad. Among the 'public sector and other' respondents more than 60% was likely to seek work abroad. On the other hand the private sector displayed almost the opposite with 71.4% of respondents not likely to seek work abroad.

The charts above show a remarkable difference in intention to seek work abroad between the private sector respondents and the 'public sector and other' respondents. Whereas more than two thirds of the private sector respondents do not seem likely to go abroad, almost a similar number of the public sector and other is likely to go abroad. Although the above data show some very significant differences in findings, the relatively small number of the private sector respondents as compared to the 'public sector and other' respondents limits the interpretation.

4.7 Main reason for contemplating work abroad

Table 4.10 shows the cited reasons for contemplating work abroad. The most frequently cited reasons were remuneration (42.7%), working conditions (16%), to experience first world (6.3%), pay student loan (4%), safety/crime (3.6%) and uncertainty about future of South Africa (3.6%). The most frequently cited reasons by the private sector respondents were remuneration (31.6%), working conditions (21.1%), restrictions on doctors (10.5%) and certificate of need (10.5%). The 'public sector and other' respondents cited reasons that paralleled the total sample. It can be noted that the issues relating to certificate of need and government restrictions on doctors' practise were more prominently cited by the private sector.

The findings in table 4.10 are the main reasons cited. Only one main reason was requested for in this section as explained in methodology. The other cited reasons were specifically requested for in a subsequent section, the responses of which are now shown

below in table 4.11. It will be noted that the findings in table 4.11 for some questions might be reversed in table 4.10 because if respondents cite one reason as the main reason in 4.10 they had to give a different option as the other reasons in table 4.11.

Table 4.10: Main reasons for contemplating work abroad

Reason	Total sample		Private sector		'public sector & other' respondents	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Remuneration/pay	82	42.1	6	31.6	76	43.2
Working conditions/ environment	31	15.9	4	21.1	27	15.3
Experience/exposure of first world	12	6.2	0	0.0	12	6.8
Pay student loan	8	4.1	0	0.0	8	4.5
Security/crime/safety	7	3.6	1	5.3	6	3.4
Uncertain future in RSA/no confidence in Govt.	7	3.6	1	5.3	6	3.4
Overworked current job	6	3.1	0	0.0	6	3.4
Family	5	2.6	0	0.0	5	2.8
Opportunity better abroad	4	2.1	0	0.0	4	2.3
Tourism/adventure	4	2.1	1	5.3	3	1.7
Health services deterioration/lack of resources	4	2.1	1	5.3	3	1.7
Further training	3	1.5	0	0.0	3	1.7
No job satisfaction	2	1.0	0	0.0	2	1.1
Alternative country/plan B	2	1.0	0	0.0	2	1.1
Restrictions on doctors	2	1.0	2	10.5	0	0.0
Certificate of need	2	1.0	2	10.5	0	0.0
Charity (missionary)	1	0.5	0	0.0	1	0.6
No registrar post in RSA	1	0.5	0	0.0	1	0.6
No job security in RSA	1	0.5	0	0.0	1	0.6
Locum	1	0.5	0	0.0	1	0.6
Transformation 2010 slow and poor	1	0.5	0	0.0	1	0.6
Sabbatical	1	0.5	0	0.0	1	0.6
Frustration	1	0.5	0	0.0	1	0.6
No career advancement	1	0.5	0	0.0	1	0.6
Better lifestyle abroad/opportunities	1	0.5	0	0.0	1	0.6
Tertiary centre down sizing	1	0.5	0	0.0	1	0.6
To decide on the future	1	0.5	0	0.0	1	0.6
Promotion chances poor	1	0.5	0	0.0	1	0.6
Lack of support	1	0.5	0	0.0	1	0.6
Dispensing regulations	1	0.5	1	5.3	0	0.0
Totals	195	100.0	19	100	176	100.0

4.8 Other reasons for contemplating work abroad

Table 4.11 gives other reasons for contemplating work abroad. The most frequently cited other reasons for considering a job abroad are remuneration (21%), working conditions (10.3%), security/crime/safety (9.3%) tourism (7.9%) and experience of first world (6.5%). The most frequently cited reasons by the private sector respondents were remuneration (55.6%), security (11.1%), uncertainty about South Africa (11.1%), certificate of need (11.1%), and dispensing regulations (11.1%). The 'public sector and other' respondents cited reasons that paralleled the total sample. It can also be noted here, like with the main reason, that restrictions on dispensing and certificate of need were more important to the private sector respondents.

Table 4.11 Other reasons for contemplating work abroad

Reason	Total sample		Private sector		'public sector & other' respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Remuneration/pay	61	21.0	5	55.6	56	19.9
Working conditions/ environment	30	10.3	0	0.0	30	10.6
Security/crime/safety	27	9.3	1	11.1	26	9.2
Tourism/adventure	23	7.9	0	0.0	23	8.2
Experience/exposure of first world	19	6.5	0	0.0	19	6.7
Long hours of work	12	4.1	0	0.0	12	4.3
Uncertain future in RSA/no confidence in Govt.	10	3.4	1	11.1	9	3.2
Health services/standards deterioration/ Lack of resources	10	3.4	0	0.0	10	3.5
No job satisfaction	8	2.7	0	0.0	8	2.8
Better lifestyle abroad/opportunities	8	2.7	0	0.0	8	2.8
No career development	7	2.4	0	0.0	7	2.5
Government interference/too regulated/not doctor friendly	7	2.4	0	0.0	7	2.5
Better opportunity for children	7	2.4	0	0.0	7	2.5
Poor condition of facilities and equipment	6	2.1	0	0.0	6	2.1
Overworked	6	2.1	0	0.0	6	2.1
Family and friends	4	1.4	0	0.0	4	1.4
No incentives (research, meetings, congress)	4	1.4	0	0.0	4	1.4
Certificate of need	4	1.4	1	11.1	3	1.1
Specialisation/further studies	3	1.0	0	0.0	3	1.1
Risk of occupational HIV	3	1.0	0	0.0	3	1.1
Not appreciated/recognition of effort/respect	3	1.0	0	0.0	3	1.1
Affirmative action	3	1.0	0	0.0	3	1.1
No posts	2	0.7	0	0.0	2	0.7
Staff shortage	2	0.7	0	0.0	2	0.7
Emigrate	2	0.7	0	0.0	2	0.7
Poor management	2	0.7	0	0.0	2	0.7
Dispensing regulations	2	0.7	1	11.1	1	0.4
No doctor support systems	2	0.7	0	0.0	2	0.7
Alternative country/plan B	2	0.7	0	0.0	2	0.7
Perusing Opportunities outside medicine	1	0.3	0	0.0	1	0.4
Lack of supervision	1	0.3	0	0.0	1	0.4
Risk of occupational TB	1	0.3	0	0.0	1	0.4
Safe working conditions abroad	1	0.3	0	0.0	1	0.4
Don't want to go private	1	0.3	0	0.0	1	0.4
Poor primary care	1	0.3	0	0.0	1	0.4
Minister of health	1	0.3	0	0.0	1	0.4
Personal	1	0.3	0	0.0	1	0.4
Tax	1	0.3	0	0.0	1	0.4
Pay student loan	1	0.3	0	0.0	1	0.4
No Registrar posts	1	0.3	0	0.0	1	0.4
Lack of Government support for HIV	1	0.3	0	0.0	1	0.4
Totals	291	100.0	9	100.0	282	100.0

4.9 Reasons for not contemplating work abroad

Table 4.12 shows the cited reasons for not contemplating work abroad. Family ties (21.3%), the love of home (14.1%), being settled (8.6%), age (8.6%) and happy with current job (7.0%) were the most frequently cited reasons for not considering seeking a job abroad. The private sector respondents most frequently cited reasons were family (35.7%), being settled (14.3%) and age (14.3%). The 'public sector and other' respondents cited reasons that paralleled the total sample.

Table 4.12: Reasons for not contemplating work abroad

Reason	Total sample		Private sector		'public sector & other' respondents	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Family and friends	27	21.1	5	35.7	22	19.3
I love SA/I am happy in SA	18	14.1	0	0.0	18	15.8
I am settled	11	8.6	2	14.3	9	7.9
Home is here	11	8.6	1	7.1	10	8.8
Age/too old	11	8.6	2	14.3	9	7.9
Happy with current job	9	7.0	0	0.0	9	7.9
To make a difference here	8	6.3	0	0.0	8	7.0
Sunshine/climate/weather	5	3.9	1	7.1	4	3.5
Specialising	3	2.3	0	0.0	3	2.6
Good practical experience	3	2.3	0	0.0	3	2.6
Retiring/retired	2	1.6	1	7.1	1	0.9
Want to specialise	2	1.6	0	0.0	2	1.8
Going into private practise	2	1.6	0	0.0	2	1.8
Financially comfortable	2	1.6	1	7.1	1	0.9
Not interested in going abroad	2	1.6	0	0.0	2	1.8
Well established practice	2	1.6	0	0.0	2	1.8
Will not go to another country for money	2	1.6	0	0.0	2	1.8
I love my patients	2	1.6	0	0.0	2	1.8
Other interests in SA	1	0.8	0	0.0	1	0.9
Inconvenience	1	0.8	0	0.0	1	0.9
Good life style here	1	0.8	0	0.0	1	0.9
Research opportunity	1	0.8	0	0.0	1	0.9
Unable to register without exam	1	0.8	0	0.0	1	0.9
Enjoying my work	1	0.8	1	7.1	0	0.0
Totals	128	100.0	14	100.0	114	100.0

4.10 Degree of influence on decision to consider working abroad.

Table 4.13a below shows the ranked (in descending order) weighted averages of respondents rating of multiple factors according to their influence on the respondent's decision to seek work abroad. The results in table 4.13a show that remuneration, management of health services, lack of resources within the health sector, deterioration of individual financial position, safety/security and certificate of need are the top 6 significant issues in doctors' decision to go abroad.

Table 4.13a: Degree of influence on decision to consider working abroad (total sample)

Factor	None	Little	Significant	Highly significant	Total filled	Weighted mean	Rank
Better remuneration (pay) abroad	12	19	83	131	245	3.36	1
Poor management of health services in South Africa	19	18	81	127	245	3.29	2
Lack of resources within South African health care sector	17	29	87	116	249	3.21	3
Deterioration of my financial position over time	25	34	98	90	247	3.02	4
Certificate of need for opening GP practice in RSA	50	35	44	115	244	2.92	5
Personal safety and security in South Africa	23	56	86	79	244	2.91	6
Overworked in current job	37	51	82	79	249	2.82	7
Insufficient opportunity for promotion in RSA	38	52	78	78	246	2.80	8
To save money quickly for a purpose	46	39	87	77	249	2.78	9
Family ties in South Africa	45	38	90	69	242	2.76	10
Explore other parts of the world (adventure)	29	64	93	61	247	2.75	11
Patriotism/love of my country (South Africa)	42	53	70	76	241	2.75	12
Better life style abroad	48	79	73	50	250	2.50	13
Better prospects for my children abroad	64	57	77	54	252	2.48	14
Recently introduced dispensing requirements for GPs	74	53	40	72	239	2.46	15
To gain more experience abroad	55	70	83	40	248	2.44	16
Political uncertainty in South Africa	58	75	69	45	247	2.41	17
Decline in general economic state of South Africa	52	79	86	28	245	2.37	18
Better career advancement abroad	61	77	73	35	246	2.33	19
Departure of colleagues	66	92	70	28	256	2.23	20
Frustration with medical aid claims for my practice	104	36	52	52	244	2.21	21
Scarce skills' allowance introduced by DOH	55	108	56	22	241	2.19	22
No post for specialisation	104	59	42	34	239	2.03	23
Community service in South Africa	105	73	37	32	247	1.98	24
Registration examinations abroad	90	84	52	16	242	1.98	25
High litigation abroad	75	112	46	10	243	1.96	26
Advertisements by overseas job recruiting agencies	94	92	48	17	251	1.95	27
Recently increased rural allowance for rural doctor	104	90	32	17	243	1.84	28
Spouse or family abroad	155	52	24	14	245	1.58	29
Too old to relocate	160	47	22	15	244	1.56	30
I want to change my citizenship	189	37	8	7	241	1.31	31

A comparison of the private sector respondents to the 'public sector and other' respondents was done by analysing the ratings by the two groups as shown in figure 4.13b and 4.13c.

Figure 4.13b: Degree of influence on decision to consider working abroad as rated by the private sector respondents

Factor	None	Little	Significant	Highly significant	Total filled	Weighted mean	Rank
Better remuneration (pay) abroad	5	3	7	15	30	3.07	1
Certificate of need for opening GP practice in RSA	8	1	4	18	31	3.03	2
Poor management of health services in South Africa	7	3	10	13	33	2.88	3
Family ties in South Africa	8	3	5	14	30	2.83	4
Deterioration of my financial position over time	5	8	9	11	33	2.79	5
Frustration with medical aid claims for my practice	7	7	6	13	33	2.76	6
Recently introduced dispensing requirements for GPs	10	2	9	10	31	2.61	7
Lack of resources within South African health care sector	8	7	10	9	34	2.59	8
Patriotism/love of my country (South Africa)	9	5	9	9	32	2.56	9
To save money quickly for a purpose	10	4	7	10	31	2.55	10
Personal safety and security in South Africa	8	7	9	8	32	2.53	11
Explore other parts of the world (adventure)	7	10	8	6	31	2.42	12
Better prospects for my children abroad	11	6	10	6	33	2.33	13
High litigation abroad	8	8	14	2	32	2.31	14
Political uncertainty in South Africa	12	8	4	9	33	2.30	15
Insufficient opportunity for promotion in RSA	12	5	11	4	32	2.22	16
Better life style abroad	14	6	4	8	32	2.19	17
Overworked in current job	11	10	8	3	32	2.09	18
Decline in general economic state of South Africa	11	9	10	2	32	2.09	19
Departure of colleagues	11	10	8	3	32	2.09	20
Advertisements by overseas job recruiting agencies	12	10	5	5	32	2.09	21
To gain more experience abroad	12	10	6	4	32	2.06	22
No post for specialisation	15	7	1	7	30	2.00	23
Registration examinations abroad	14	8	7	3	32	1.97	24
Scarce skills' allowance introduced by DOH	14	7	7	3	31	1.97	25
Community service in South Africa	15	9	3	4	31	1.87	26
Better career advancement abroad	17	8	5	3	33	1.82	27
Recently increased rural allowance for rural doctor	17	7	6	2	32	1.78	28
Too old to relocate	19	5	2	5	31	1.77	29
Spouse or family abroad	22	4	4	2	32	1.56	30
I want to change my citizenship	23	8	0	1	32	1.34	31

The table above shows that financial issues were still rated as most important even for the private sector. Issues of certificate of need, deterioration of financial position over time, dispensing and frustration with medical aid claims were rated as important to the private sector respondents.

Table 4.13c below shows how the rest of the group (excluding the private sector respondents) rated the issues.

Table 4.13c: Degree of influence on decision to consider working abroad as rated by the ‘public sector and other’ respondents

Factor	None	Little	Significant	Highly significant	Total filled	Weighted mean	Rank
Better remuneration (pay) abroad	7	16	76	116	215	3.40	1
Poor management of health services in South Africa	12	15	71	114	212	3.35	2
Lack of resources within South African health care sector	9	22	77	107	215	3.31	3
Deterioration of my financial position over time	20	26	89	79	214	3.06	4
Personal safety and security in South Africa	15	49	77	71	212	2.96	5
Overworked in current job	22	45	76	73	216	2.93	6
Certificate of need for opening GP practice in RSA	42	34	40	97	213	2.90	7
Insufficient opportunity for promotion in RSA	26	47	67	74	214	2.88	8
To save money quickly for a purpose	36	35	80	67	218	2.82	9
Explore other parts of the world (adventure)	22	54	85	55	216	2.80	10
Patriotism/love of my country (South Africa)	33	48	61	67	209	2.78	11
Family ties in South Africa	37	35	85	55	212	2.75	12
Better life style abroad	34	73	69	42	218	2.55	13
Better prospects for my children abroad	53	51	67	48	219	2.50	14
To gain more experience abroad	43	60	77	36	216	2.49	15
Recently introduced dispensing requirements for GPs	64	51	31	62	208	2.44	16
Political uncertainty in South Africa	46	67	65	36	214	2.43	17
Better career advancement abroad	44	69	68	32	213	2.41	18
Decline in general economic state of South Africa	41	70	76	26	213	2.41	19
Departure of colleagues	55	82	62	25	224	2.25	20
Scarce skills' allowance introduced by DOH	41	101	49	19	210	2.22	21
Frustration with medical aid claims for my practice	97	29	46	39	211	2.13	22
No post for specialisation	89	52	41	27	209	2.03	23
Community service in South Africa	90	64	34	28	216	2.00	24
Registration examinations abroad	76	76	45	13	210	1.98	25
Advertisements by overseas job recruiting agencies	82	82	43	12	219	1.93	26
High litigation abroad	67	104	32	8	211	1.91	27
Recently increased rural allowance for rural doctor	87	83	26	15	211	1.85	28
Spouse or family abroad	133	48	20	12	213	1.58	29
Too old to relocate	141	42	20	10	213	1.53	30
I want to change my citizenship	166	29	8	6	209	1.30	31

The ‘public sector and other’ respondents’ ratings of the issues was similar to that reflected by the total sample for the top ranked 4 factors and the bottom ranked 8 factors. Between factors ranked in position 5 and 22 there were some rearrangements of which

the most notable were a decline in rank position for factors that seemed specifically important to the private sector such as frustration with medical aid claims, dispensing and certificate of need. Comparing the private sector to the 'public sector and other' respondents showed that most of the factors were rated the same but the rankings changed due to the relative upward movement of the factors discussed under figure 4.13b.

Table 4.13d: A comparison of the top ranked 10 factors (in descending order) by the private sector and 'public sector and other' respondents

Private sector respondents	'Public sector and other' respondents
Better remuneration (pay) abroad	Better remuneration (pay) abroad
Certificate of need for opening GP practice in RSA	Poor management of health services in South Africa
Poor management of health services in South Africa	Lack of resources within South African health care sector
Family ties in South Africa	Deterioration of my financial position over time
Deterioration of my financial position over time	Personal safety and security in South Africa
Frustration with medical aid claims for my practice	Overworked in current job
Recently introduced dispensing requirements for GPs	Certificate of need for opening GP practice in RSA
Lack of resources within South African health care sector	Insufficient opportunity for promotion in RSA
Patriotism/love of my country (South Africa)	To save money quickly for a purpose
To save money quickly for a purpose	Explore other parts of the world (adventure)

It can be noted that from the above that there were significant differences in the factors rated by the private sector and that of 'public sector and other' respondents. In general the private sector rated issues related to private practise such as certificate of need, medical aid claims and dispensing as more significant in their decision to seek work abroad. As can be seen from the tables 4.25b and 4.15c there were some differences in the ratings of some of the other factors that are ranked between 11 and 30.

4.11 What employers should do to keep doctors in South Africa

Table 4.14 shows the cited proposals for employers to keep doctors in South Africa. The most frequently cited suggestions parallels the stated reasons for contemplating seeking a job abroad; remuneration (26.4%), working conditions (18%), improve hospital facilities (7%), reduced hours of work (7%), improved resources to health (4.1%) and increased staff (3.3%). The cited suggestions by the private sector respondents were remuneration (43.3%), working conditions (16.7%), reduced government regulation (10.0%), better dialogue with doctors/GPs (6.7%), improved resources to health (3.3%), better management (3.3%), and address crime (3.3%). The suggestions cited by the 'public sector and other' respondents were in line with those of the total sample. Issues of dialogue and government regulation were prominently cited by the private sector respondents.

Table 4.14: What employers should do to keep doctors in SA

Reason	Total sample		Private sector		'public sector & other' respondents	
	Freq.	%	Freq.	%	Freq.	%
Remuneration/pay	121	26.4	13	43.3	108	25.2
Working conditions/ environment	83	18.1	5	16.7	78	18.2
Improve hospital facilities, equipment and services	32	7.0	0	0.0	32	7.5
Reduce hours of work or pay for the extra hours worked	32	7.0	0	0.0	32	7.5
Improve resources to health	19	4.1	1	3.3	18	4.2
Increase staff	15	3.3	0	0.0	15	3.5
Improve career development	14	3.1	0	0.0	14	3.3
Incentives for doctors to stay in RSA (research funding, courses, allowances)	14	3.1	0	0.0	14	3.3
Reduce work load	13	2.8	0	0.0	13	3.0
Employ more doctors/unfreeze posts	11	2.4	0	0.0	11	2.6
Better management	10	2.2	1	3.3	9	2.1
Better dialogue/consultation with doctors/GPs	10	2.2	2	6.7	8	1.9
Appreciation/profession respect to doctors for efforts	8	1.7	0	0.0	8	1.9
Merit based promotion/opportunity for promotion	7	1.5	0	0.0	7	1.6
Abolish Certificate of need	6	1.3	0	0.0	6	1.4
Maintain standards of medical practise	5	1.1	0	0.0	5	1.2
Nothing will change my mind	5	1.1	0	0.0	5	1.2
Reduce government regulation/interference/restrictions	5	1.1	3	10.0	2	0.5
Improve services for patients	4	0.9	0	0.0	4	0.9
Address security/crime/safety	4	0.9	1	3.3	3	0.7
Study time during work hours or special holiday for registrars	4	0.9	0	0.0	4	0.9
Increase registrar post	3	0.7	0	0.0	3	0.7

Table 4.14 continued: What employers should do to keep doctors in SA

Job security	2	0.4	0	0.0	2	0.5
Help repay bursary/work in your bursary	2	0.4	0	0.0	2	0.5
Sop Affirmative Action	2	0.4	0	0.0	2	0.5
Recognise doctors from other African countries	2	0.4	0	0.0	2	0.5
Improve tertiary care	2	0.4	0	0.0	2	0.5
Better nursing staff/better remuneration for them	2	0.4	0	0.0	2	0.5
Unite doctors to form a cohesive body	2	0.4	1	3.3	1	0.2
Incentives for GPs to go into public service	2	0.4	1	3.3	1	0.2
Replace Minister of health	2	0.4	1	3.3	1	0.2
Sort out medical aids	2	0.4	0	0.0	2	0.5
Increase consultation fee	1	0.2	1	3.3	0	0.0
Dispensing law to be revoked	1	0.2	0	0.0	1	0.2
Stop corruption	1	0.2	0	0.0	1	0.2
Improve social economic	1	0.2	0	0.0	1	0.2
Doing enough already	1	0.2	0	0.0	1	0.2
Acknowledge diversity	1	0.2	0	0.0	1	0.2
Recognise training from abroad	1	0.2	0	0.0	1	0.2
Stop abuse of intern and community service doctors	1	0.2	0	0.0	1	0.2
Stop negative publicity	1	0.2	0	0.0	1	0.2
Supervision	1	0.2	0	0.0	1	0.2
Locum doctors to relieve shortage	1	0.2	0	0.0	1	0.2
Increase hospital beds in public sector	1	0.2	0	0.0	1	0.2
Improve morale	1	0.2	0	0.0	1	0.2
Increase areas eligible for rural allowance	1	0.2	0	0.0	1	0.2
Totals	459	100.0	30	100.0	429	100.0

4.12 What government should do to keep doctors in South Africa.

Table 4.15 above shows the cited proposals by respondents of what they thought government ought to do to keep doctors in South Africa. Improved remuneration (23.9%), working conditions (13.7%), improved resources to health (5.7%), reduced hours of work or pay for extra hours (4.9), improved hospital facilities (4.9%), reduced government regulation (4.1%), better dialogue with doctors/GPs (3.7%) and address security (3.7%) were the most frequently cited. The issues cited by the private sector were remuneration (33.3%), reduce government regulations (20.8%), better dialogue with doctors/GPs (20.8%), improved resources to health (4.2%), reduced hours of work or pay

for extra hours (4.2%), replace minister of health (4.2%), incentives for GPs to go into public sector (4.2%) and sort out medical aids (4.2%). The issues cited by the 'public sector and other' respondents were in with those reflected by the total sample. The issues of dialogue and government interference take a much more prominent position among the private sector respondents.

Table 4.15: What government should do to keep doctors in South Africa

Reason	Total sample		Private sector		'public sector & other' respondents	
	Freq.	%	Freq.	%	Freq.	%
Remuneration/pay	117	23.9	8	33.3	109	23.4
Working conditions/ environment	67	13.7	0	0.0	67	14.4
Improve resources to health	28	5.7	1	4.2	27	5.8
Reduce hours of work or pay for the extra hours worked	24	4.9	1	4.2	23	4.9
Improve hospital facilities, equipment and services	24	4.9	0	0.0	24	5.2
Reduce government regulation /interference/restrictions	20	4.1	5	20.8	15	3.2
Better dialogue/consultation with doctors/GPs	18	3.7	5	20.8	13	2.8
Address security/crime/safety	18	3.7	0	0.0	18	3.9
Abolish Certificate of need	17	3.5	0	0.0	17	3.7
Employ more doctors/unfreeze posts	16	3.3	0	0.0	16	3.4
Must show appreciation/profession respect to doctors for efforts	11	2.2	0	0.0	11	2.4
Incentives for doctors to stay in RSA (research funding, courses, allowances)	11	2.2	0	0.0	11	2.4
Improve career development	8	1.6	0	0.0	8	1.7
Replace Minister of health	9	1.8	1	4.2	8	1.7
Maintain standards of medical practise	8	1.6	0	0.0	8	1.7
Better management	7	1.4	0	0.0	7	1.5
Increase staff	7	1.4	0	0.0	7	1.5
Do not impose decisions on doctors	6	1.2	0	0.0	6	1.3
Dispensing should be free	5	1.0	0	0.0	5	1.1
Improve tertiary care	5	1.0	0	0.0	5	1.1
Tax incentives	5	1.0	0	0.0	5	1.1
Community service to be optional/stop community service	5	1.0	0	0.0	5	1.1
Improve services for patients	4	0.8	0	0.0	4	0.9
Reduce work load	4	0.8	0	0.0	4	0.9
Sop Affirmative Action	3	0.6	0	0.0	3	0.6
Stop corruption	3	0.6	0	0.0	3	0.6
Nothing will change my mind	3	0.6	0	0.0	3	0.6
Job security	2	0.4	0	0.0	2	0.4
Help repay bursary/ 'work-in' your bursary	2	0.4	0	0.0	2	0.4
Increase registrar post	2	0.4	0	0.0	2	0.4
Stop negative publicity	2	0.4	0	0.0	2	0.4
Stabilise things	2	0.4	0	0.0	2	0.4
Economy to improve	2	0.4	0	0.0	2	0.4
Recognise prior experience and academic qualifications	2	0.4	0	0.0	2	0.4

Table 4.15 continued: What government should do to keep doctors in South Africa

Locum doctors to relieve shortage	2	0.4	0	0.0	2	0.4
Equip rural areas to do more	1	0.2	0	0.0	1	0.2
Increase consultation fee	1	0.2	0	0.0	1	0.2
Merit based promotion/opportunity for promotion	1	0.2	0	0.0	1	0.2
Study time during work hours or special holiday for registrars	1	0.2	0	0.0	1	0.2
Recognise doctors from other African countries	1	0.2	0	0.0	1	0.2
Incentives for GPs to go into public service	1	0.2	1	4.2	0	0.0
Stop abuse of intern and community service doctors	1	0.2	0	0.0	1	0.2
Sort out medical aids	1	0.2	1	4.2	0	0.0
Compete for doctors in the global market	1	0.2	0	0.0	1	0.2
Reduce staff at head office	1	0.2	0	0.0	1	0.2
Follow constitution	1	0.2	1	4.2	0	0.0
HIV: provide drugs	1	0.2	0	0.0	1	0.2
Clear 2010 Health restructuring plan	1	0.2	0	0.0	1	0.2
Keep more health workers in government	1	0.2	0	0.0	1	0.2
Stop the disability grants	1	0.2	0	0.0	1	0.2
President Mbeki must apologise for his stance on HIV	1	0.2	0	0.0	1	0.2
Study grants for post-graduate	1	0.2	0	0.0	1	0.2
Improve morale	1	0.2	0	0.0	1	0.2
Increase areas eligible for rural allowance	1	0.2	0	0.0	1	0.2
Discriminatory posting on marriage/race	1	0.2	0	0.0	1	0.2
Totals	489	100.0	24	100.0	465	100.0

4.13 Summary of results

The findings in this section show a high level of awareness of the ‘medical brain drain’ among the sample. More than half of the post internship sample had a foreign registration and a similar number of post community service respondents had worked abroad. Almost two thirds of the sample may go abroad within 5 years. Foreign registration, work abroad and intention to go abroad was found to be much more common in the ‘public sector and other’ respondents as compared to the private sector. The main draw cards for returning doctors appear to be family, love of home and never considered emigration. The same issues in addition to specialising appear to be the most important reasons respondents may not consider seeking work abroad.

Although multiple reasons are cited for seeking work abroad, the most prominent appear to be financial, work environment, tourism and to experience first world practise of medicine. There were differences between 'public sector and other' respondents and the private sector in cited issues and relative significance of these. The suggested remedies to the 'medical brain drain' are in mainly addressing the factors cited by respondents for the 'medical brain drain'.

CHAPTER 5

DISCUSSION

5.0 Introduction

The study sample included most of the major doctor categories that would be found in a South African urban setting with a tertiary centre and a medical school. The ratios of the categories of doctors would differ from place to place depending on availability of a tertiary centre, medical school and local setting. In total 259 respondents filled in the questionnaires of which 35 were private sector and 224 were 'public sector and other' respondents. Most respondents were relatively senior doctors with five or more years in practise. Even though the number of the private sector respondents was relatively small in comparison to the 'public sector and other' respondents, a comparative analysis of the two showed some notable differences in certain aspects.

In the subsequent discussions the findings of the data for the total sample are discussed first and then reference is made where applicable to the private sector and 'public sector and other' respondents. In all the subsequent discussions the term 'sample' refers to the total sample unless stated otherwise, reference to the 'the private sector' respondents or 'public sector and other' respondents is clearly specified when applicable. The findings from the ratings on the degree of influence are integrated in the appropriate subheadings of the discussions.

5.1 Demographic distribution of sample

5.1.1 Age

Age distribution ranged from 23 to 79 years with an average age of 37 years. Seventy one percent of respondents were less than 40 years old. From the age of 40 years there was a sharp decline in numbers of respondents in each age group. This could possibly be a reflection of the already lost manpower due to the 'medical brain drain' of respondents in their forties and older. This was mirrored by a similar decline in distribution of number of years since graduation, which showed a sharp decline after 10 years. Since most doctors graduate between ages of 24 to 27, ten years of practise would coincide with age toward the forties. This is the point at which a decline in numbers in the sample was noted. This difference in numbers was unlikely to be a result of increased intakes by medical schools post the 1994 era because the post 1994 intakes were only in practise for less than four years at the time of the study. The predominance of the 30-34 year age group, which would be the average age group of most doctors that were specialising (registrars), was probably partly a reflection of the larger number of registrars in the sample. The fact that the number of respondents in the 30-34 year age group was 73, which was equal to the number of registrars in the sample, was a coincidental occurrence because not all registrars were aged between 30 and 34.

5.1.2 Gender

The gender distribution was predominantly male (64%), with females making up the balance (36%). This is probably a reflection of the doctor distribution that is currently still mostly male dominated. This issue is being addressed currently with recent intakes into medical schools showing on average 50% and more females enrolled by all medical schools for 2003 (Padarath et al. 2004:311). See appendix 5 for breakdown of the 2003 medical school intakes. The subgroups gender breakdown shows a predominance of

males compared to females in the private sector as compared to 'public sector and other' respondents.

5.1.3 Number of years in practise

The number of years since graduation ranged from 1 year to 54 years, with 64% in practise for only 10 years or less, with a decline in number of respondents per group thereafter. This mirrored the age distribution as discussed above. The predominant group was in practise for 5 –6 years, this was also probably partly a reflection of the high number of registrars most of whom would fall into that category. Overall 74% of the respondents were experienced doctors with 5 years and above in practise.

5.1.4 Rank

The sample included all the major ranks found in the public sector from intern to professors. Community Service Medical Officers (CSO) were poorly represented (4), there was no apparent explanation for the discrepancy. There was a relatively high number of registrars because of the tertiary centre with a Medical School. Apart from these unexpected findings the sample was relatively well balanced by rank.

5.1.5 Practise type

The predominance of the public sector doctors was due to the inclusion of the secondary and tertiary hospitals in the sample. These centres tend to have a relatively high concentration of doctors due to various factors (Padarath et al., 2003:8). Most clinical practise types were included in the sample, doctors that are not in clinical fields such as those in research organisations and private corporate companies were not specifically approached for this study.

5.2 Awareness of ‘medical brain drain’

Awareness of the ‘medical brain drain’ was displayed by respondents’ awareness of movement of colleagues and the respondents’ own intention towards seeking work abroad in the future.

5.2.1 Awareness of movement of colleagues

In this sample of respondents, 258 respondents (99.6%) knew a minimum of one doctor who had left, with 209 (81%) knowing six or more doctors that had left to work abroad. This implies that only 1 respondent (less than 0.4%) did not know a doctor that left South Africa to work abroad. In this sample 65 respondents (25%) did not know any doctor that returned from abroad to work in South Africa. Only 75 respondents (29%) knew six or more doctors that returned, while a large number of respondents 104 (40%) knew only 1 to 5 doctors that returned. Overall, most of the respondents knew more doctors that had left than those that returned, specifically of note is that most respondents knew larger numbers (6 and above) of doctors that departed with knowledge of much smaller numbers of doctors (5 or less) who had returned.

5.2.2 Awareness as reflected by intention

Awareness of the ‘medical brain drain’ is also reflected by the fact that 57% of the sample held a foreign registration, 46% have worked abroad and 55% might seek a job abroad within the next five years while 16% of sample was actively making efforts to leave. At the time of this research, only 26% of respondents had no intention of going abroad. Comparison of the private sector respondents to the ‘public sector and other’ respondents showed that whereas 54% of the private sector respondents have no intention of going abroad at any point, only 22% of the ‘public sector and other’ respondents are of

the same opinion. Likelihood to go abroad in the next five years was much higher among the 'public sector and other' respondents (68%) compared to those in the private sector (23%). A similar contrast was also noted in experience of work abroad whereby a larger percentage of the 'public sector and other' respondents had worked abroad (57.1%) as compared to the private sector (28.6%). These findings may mean that most of those that end up in the private sector are those with no intention to leave the country, the majority of those who had intention to go are either gone or will leave after specialisation.

Whether those who intend to go abroad will return is unknown, at the moment there are no statistics to show the percentage that return from each sample of doctors that leave. It is the researcher's view that once a doctor goes abroad, the issues highlighted by Padarath et al. (2003:13) of 'stay' come into play so a return is not guaranteed.

5.2.3 Inferences based on level of awareness

The data shows that there is a very high awareness of doctor movement in and out of South Africa. The net direction of flow of the doctors' movement as observed by the sample is out of South Africa, which implies a loss of doctors from the country. Apart from knowing colleagues who have departed, a large portion of the sample was actively or inactively involved or considering participating in the 'medical brain drain' The situation seems to be much worse for the 'public sector and other' respondents. This means the respondents are not only aware but are also participants in the 'medical brain drain' cascade. South Africa is clearly experiencing a flight of human capital in the medical sector; this is what is referred to as the 'medical brain drain'. This is in keeping with the observations by the Department of Health that it appears many doctors that leave do not return (Keeton, 2004: 7). This is also in line with the findings by Dr. Reid (Cleary & Thomas, 2002:4) that the number of doctors intending to depart after community service was increasing.

5.3 Intentions to seek work abroad

Intention to seek work abroad was reflected by doctors stated plans over the next five years as well as other factors that may increase the likelihood of that happening such as having a foreign registration. The relationship between holding a foreign registration and likelihood of seeking work abroad is a complex one. What is likely to trigger a final decision to seek work abroad is partly the subject of this research.

5.3.1 Foreign registration and experience of work abroad

The data showed that 57% of respondents had foreign registrations mostly in the UK (72%), Canada (6%) and Australia (3%). Almost half (46 %) of the total sample had actually worked abroad and returned to South Africa. Although the sample of those that have worked abroad reflects 81% of those registered abroad, this figure may not be directly compared because there are doctors who have worked abroad, returned and did not renew their foreign registrations so they are no longer registered. Other reasons why there was a difference between those with foreign registration and those who have worked abroad may be partly due to those registered recently but are still processing documents (5%) or looking for a placement (11%). Some respondents may have changed their mind and postponed their plans till a later date or cancelled completely.

The analysis of the respondents' cited reasons for having a foreign registration but not worked abroad gives a more complete picture of the actual factors resulting in this position. The cited reasons include specialising (24%), awaiting opportunity (11%), community service (11%), satisfied with SA (8%), processing documents (8%), hoping things get better (5%) and many others. The most cited reason was specialising; whether this means these respondents will seek work abroad after specialising or they will stay in the country is not known. It should be noted that probably only those who cited positive reasons like being satisfied with south Africa (8.1%), family (5.4%), home (2.7%), valuable services (2.7%), happy with work (2.7%) may be considered unlikely to seek

work abroad for now. Apart from the aforementioned reasons, the other reasons cited for having foreign registration but not yet been abroad (83%) appear to be of a transitory nature while the respondents are preparing for their optimal time to go abroad. It appears from this therefore that the majority of those with a foreign registration are very likely to utilise their foreign registration by going abroad at some point permanently or temporarily.

This position reflects what Birt and Winternitz (2004:25) called continuance commitment rather than affective commitment to their current employer the provincial administrations of the Republic of South Africa. The doctors keep looking and comparing the benefits of going abroad to their current deal in South Africa (which includes the opportunity to specialise); if things should tilt such that they feel they have little to gain by being in South Africa then they will move on to other jobs abroad. The registrations also reflect the global nature of the world for the doctors; the doctors have no boundary or commitment to employer. They will shift their skills wherever they feel most comfortable. This is also in keeping with Johnston's (1991:115) predictions of the emergence of the global workforce in the new world labour market. This also reflects the fact that doctors are embracing the new career model as described by Cappeli (2000:11) and Stewart (1997:67). In the new career model doctors are responsible for shaping their own careers, as such, they are constantly on the search for the best opportunities that match their career objectives. The doctors' progression may involve a series of different employers that offer them different challenges and aspirations at each point in time as opposed to commitment to a single employer. This may be the reason why a relatively large percentage of the respondents hold a foreign registration even if they have not worked abroad. The same reasoning may also explain the aspiration by many respondents to experience first world practise of medicine.

A comparison of the private sector to the 'public sector and other' respondents showed that among the private sector respondents only 26% had a foreign registration while 68% did not hold a foreign registration whereas for the 'public sector and other' respondents (excluding interns and the private sector respondents) only 29% did not have a foreign

registration while 70% had a foreign registration. Only 29% of the private sector respondents had worked abroad as compared to 'public sector and other' respondents were 57% had worked abroad. Even though the private sector sample is small the findings show significant differences. These finding may reflect the fact that the doctors who are in private practise have most likely decided to stay in South Africa whereas a large number of those in public sector and other categories are still in transit, they may emigrate or settle in private practise. This is in keeping with the findings by Thulare (2003:74) that the leading cause of attrition of doctors from public sector was migration to private sector and secondly emigration.

5.3.2 Reason for returning to South Africa

Among those who have worked abroad before, the advanced reasons for coming back to South Africa were multiple; specialise (24%), family (17%), love of home (12%), no intention to migrate (7%), only went to locum (6%) and many others reasons. Specialising stands out as a major reason for returning to South Africa possibly because of the large sample from the academic centre, as already stated above, it is not clear whether these respondents will stay after they finish specialising. These factors are the 'pull' factors for them to come home according to Padarath et al. (2003:13) model. Most of the cited reasons for coming back relate to home/family ties or patriotism, there are very few cited job incentive based or national competitive based reasons other than specialisation and sunshine. The private sector respondents' cited reasons for returning were similar to the 'public sector and other' respondents. According to Thulare, (2003:126) career advancement is one of the key factors in promoting job satisfaction and retention especially among the knowledge workers. The only job advancement issue cited is specialisation, this in itself can not guarantee retention of knowledge workers as it actually makes the knowledge workers more in demand.

It can be argued that as the global travel and communication improves and becomes cheaper the above cited factors of family, home and patriotism may become irrelevant

because soon an airfare from UK may cost same as Cape Town to Johannesburg fare. It may become the norm to live in England and come to South Africa for a weekend. As a result the job incentives or national competitiveness are probably more likely to offer a better and more long-term opportunity of reversing the 'brain drain' than family or patriotism. National competitiveness in this context refers to a situation where South African doctors can consider working in South Africa as more advantageous or at least equal to seeking working abroad. In this ideal situation South Africa would be the employer of choice for South African medical graduates.

Although Padarath et al. (2003:26) noted that there are some negative aspects of seeking work in foreign countries such as being located in the less desirable areas, doing less interesting jobs and discrimination in the work place, there were no 'push' factors particularly cited by the respondents for returning from the foreign countries. Even though the opposite of some cited reasons for homecoming, such as job security, would constitute 'push' factors from the foreign countries, there was little positive identification of such from the candidates. Are the 'push' factors overshadowed by the thought of homecoming or are there no 'push' factors in the foreign countries? There are also no cited 'stay' factors, this could be because the research did not particularly aim to investigate this aspect so no appropriate question were asked in line with this. Furthermore the researcher believes that probably the best sample for the 'stay' factors would be from the doctors that stayed abroad. A study focusing specifically on this group of doctors would best identify these 'push' and 'stay' factors.

It must be appreciated that 46% of doctors in the survey had worked abroad and returned to South Africa, this is nearly half the study sample. This category of doctors that have worked abroad and returned is probably where we can learn a lot by analysing in more detail their motivation for departure and what motivated their return. The researcher believes that since government efforts in slowing the 'brain drain' have yielded limited success so far, it's probably time to focus on the 'home coming revolution' by optimising the factors that would encourage more doctors abroad to return.

Return of South Africans that left has been recognised by a campaign spearheaded by First National Bank to encourage South Africans abroad to come home. This campaign is called the 'home coming revolution'. The 'home coming revolution' is aimed at encouraging South Africans who are still abroad to return to the country by facilitating their return and settlement in South Africa. The campaign focuses on practical aspects of home coming such as relocation, local opportunities, reestablishing networks and business referrals. Hall (2005:3) cites the aims of the campaign as to encourage South Africans abroad not to 'wait until it gets better' but to 'come home and make it even better'.

Although foreign registration does not necessary mean seeking work abroad, it may reflect the likelihood of seeking a job at a later stage. This is shown by the close percentages of those with foreign registration (57%) to those that might seek a job abroad within the next five years (55%). The motives behind seeking the job may be varied such as tourism, locum or permanent relocation. The opposite does not seem to be the case because even though 42% had no current foreign registration, only 26% had no intention to go abroad at any point. If the 30 interns are subtracted from the sample then the figure without foreign registration becomes 35%. The 26% with no intention of seeking job abroad at any point is still not close to those post intern doctors without foreign registration (35%).

5.3.3 Likely intentions within 5 years and beyond

Determining the percentage that is likely to stay or seek a job abroad is very dependent on the applied timeline. Even though the sample shows that the 55% who may seek work abroad in next five years correlates well with the percentage that hold a foreign registration (57%), if the timeline is extended to beyond five years then those that might consider going abroad after five years are included, which means 70% may go abroad within five years or after. Only 26% of the sample surveyed has no intention of seeking work abroad at any point. Those processing papers or looking for placement constitute

16%, which can be considered as imminent departure. The relationship between those with foreign registration and intention to seek work abroad is possibly a reflection of the tendency for those with foreign registration to have all options open in case conditions became unfavourable for them in South Africa. Some respondents cited this as the 'plan B' or alternative plan if things deteriorate in South Africa. This is again an example of continuance commitment according to Birt and Winternitz (2004:25) because the respondents occupy their current posts while looking around for other opportunities elsewhere.

Specialisation stands out clearly as the most cited reason as to why some doctors with foreign registration have not gone abroad (24%) and also the reason why doctors returned after working abroad (21.9%). This group of respondents is very labile, as their intentions once they finish specialisation cannot be guaranteed. Specialisation was infrequently cited (2.3%) as a reason for not considering working abroad, which further supports the uncertainty of intentions after specialisation. Is it possible that South Africa is only training specialists for foreign markets? Although 26% of the sample has no intention of seeking a job abroad, that position can change due to various factors such as remuneration, conditions of service, work load etc. The likelihood of those who currently hold foreign registration to stay in South Africa is also dependent on these same factors. Those who are imminently departing have already made up their mind about going abroad, the only question is whether they will return.

When the private sector respondents' intentions were compared to 'public sector and other' respondents' intentions the findings showed that 54% of the private sector respondents had no intention of going abroad at any time and 76% were not likely to go abroad within the next five years. For the 'public sector and other' respondents only 13% have no intention of going abroad with 62% likely to go abroad in next five years. This clearly is a great contrast between the two groups with almost opposite intentions. It appears that the tendency to contemplate seeking work abroad is highest among the 'public sector and other' respondents. These findings also mirror the findings about foreign registration where the private sector had a much lower number of respondents

with foreign registration as compared to the 'public sector and other' respondents. As already noted this may reflect the fact that the public sector and other categories are transit points whereas those in private sector have decided to stay. A study by Thulare (2003:74) found that the leading cause of attrition of doctors from public sector was migration to private sector and secondly emigration.

5.3.4 Inferences on intention to seek work abroad

There was a high percentage of doctors with intention to seek work abroad within five years or soon after. The 'public sector and other' respondents showed a much higher intent to seek work abroad than the private sector respondents. It appears that most of those with foreign registration are likely to utilise them by seeking work abroad at some point. There were few national competitive factors or intrinsic job related factors cited by respondents for returning to South Africa or not considering work abroad. Corporate involvement in encouraging return by addressing practical issues may augment the government efforts.

It is the researcher's view that because the study was geographically based the above findings may not be assumed to apply nationally due to geographical differences in issues like race, university of graduation, language and regional trends among doctors. Historically white graduates from the traditionally white medical schools had a higher tendency to go abroad than their black counterparts from black medical schools that were not accorded the same recognition (Reid, 2000). This factor was cited by Padarath et al. (2003:20), as one reason why South African government is pushing for more non-white students in medical schools. This issue also concurs with Naidoo's (2004:37) contention that a retention strategy must include among the three core things a selection and orientation that must select the right person by ensuring an organisational 'fit' of the selected candidates. The selection in most medical schools was based on grades and ability to pay both of which favoured the white students. The current study did not include race as a study variable. This is possibly an area for future research.

5.4 Reasons for not contemplating work abroad

In this sample 42% had no foreign registration, and a similar percentage had no intention of going abroad within the next five years. As stated above, the fact that the two percentages are exactly equal is most probably just coincidental because the sample includes interns who are unlikely to have a foreign registration at the time of study but will seek the registration after internship or community service. In addition to the aforesaid, some doctors with foreign registrations may have decided they do not want to seek work abroad in next five years for various reasons. In this sample only 26% have no intention of seeking work abroad at any point in time. Only the latter may be safely considered unlikely to leave. Notable differences between private and 'public sector and other' respondents are referred to under the appropriate subheadings.

5.4.1 'Stick' factors

The frequently cited reasons for not considering work abroad are related to being at home in South Africa (22.9%), family (21%), being settled (8.4%), weather (3.9%) and other such, these according to Padarath et al. (2003:10), are the 'stick' factors that discourage relocation from the home country. There were no significant differences in issues cited between the private sector and the 'public sector and other' respondents. It can be noted however that the factors cited are not based on national competitive factors (such as South Africa being the employer of choice for doctors, better career development or better future prospects for children) or intrinsic factors to the job performance per se. How much the nation can count on these factors to keep doctors in the country is questionable especially as the younger generation is more mobile and global relocation becomes easier, these factors may be eroded.

Family was ranked number eight based on the degree of influence to seek work abroad, which shows that it is a significant factor influencing doctors to stay in South Africa; Spouse or family abroad was rated very low at 30 as a reason for considering working

abroad. This shows that in this sample most of the important family connections are here in South Africa. Overall family ties appear to discourage the 'brain drain' rather than encourage it. Departure of colleagues was rated lowly at 21, which further supports the fact that decision to go abroad is individual, and complex factors lead to the decision as opposed to just following the tide. Family ties would be considered by Padarath et al. (2003:10) to be a 'stick' factor; an issue in the home country that discourage personnel from seeking a job abroad.

5.4.2 Age

Age was the fifth most frequently cited (8.6%) reason for not considering work abroad, but it was poorly rated (ranked number 29) among 31 other factors that may influence decision to go abroad. This discrepancy may be explained by the fact that in the unstructured section age was cited only by those respondents with no intention to go abroad whereas in the ratings section most respondents rated the degree of influence age has on their decision to seek work abroad. Respondents who intend to go abroad may not consider age to be an important issue in their decision to go abroad.

The fact that overall age does not seem to be an issue may imply that the doctor is never too old to seek work abroad. It must be stated that other issues related to age possibly have a bigger impact than the numerical value of age itself e.g. being settled, family etc. Foreign recruitment agencies have no age restrictions and usually they recognise the experience gained in the country of origin and remunerate accordingly. In most situations age is related to experience, a loss of the older doctors means loss of expertise and what Padarath et al. (2003:24) termed as 'institutional memory'.

5.4.3 Intrinsic and extrinsic factors

In this sample factors related to competitiveness or job satisfaction were only cited 21% in total as reasons for not contemplating a job abroad: happy in current job was cited only 7.6%, to make a difference here 6.1%, established practice/love of patients and good life style here were cited 3.8%; good practical experience in South Africa (2.3%) and financially comfortable (1.5%). Most of the other cited reasons for not leaving are not related to job satisfaction or national competitiveness. This means that the decision not to seek work abroad is usually not related to satisfaction with the current job or national competitiveness. This shows that exogenous factors (Padarath et al. (2003:20) or extrinsic factors (Birt & Winternitz, 2004:27) such as family and love of home are the major factors for not seeking a job abroad in this sample.

In the ratings section it can be seen that the intrinsic issues related to healthcare work such as financial factors, management of health services, work load, management in general, promotion, certificate of need and dispensing regulations were highly rated as being important by the sample and the last two specifically by the private sector. It follows therefore that unless these can become the core competitive areas for the government and the employers, the fight to attract doctors to stay in South Africa will have limited success. Michad (2001:15) noted that organisations focusing on intrinsically important variables are considered to benefit by engendering an increased level of affective commitment amongst talent.

5.4.3 Registration exams

Registration exams were cited only once (0.8%) as a reason for not considering work abroad. The examinations were also rated poorly by the sample, they ranked number 25 out of 31 factors. This was despite that all the 30 interns at the time of the research would need a registration exam to work in UK, which as already explained above, is the destination country for most South African doctors. This may be due to the fact that they

are still ignorant of the extra effort needed to write foreign registration exams or the exam is considered a minor deterrent. The issue of exams may become an important factor in later years. Experience from other African countries shows that despite the registration exams for graduates from those countries to work in developed countries, the 'medical brain drain' is still continuing (Padarath et al. 2003:16).

5.4.4 Litigation

High litigation was not cited by any respondent in the unstructured section as a reason for not contemplating work abroad. It was ranked low at number 26 out of 31, which is in keeping with the findings from the unstructured section. The high litigation is probably difficulty issue for those that have not worked abroad to rate because they cannot imagine the pressures that the prospect of litigation brings on job performance.

5.4.5 National patriotism

Despite the multiple shortcomings identified by the respondents, most respondents showed a lot of patriotism to South Africa by stating that they love South Africa, home is here, did not intend to migrate when they went abroad and many other less obvious reasons. In the ratings section, patriotism/love of my country was ranked number 12. Among the private sector respondents, patriotism was rated even higher to rank number 9 while among the 'public sector and other' respondents it was ranked number 11. The need to change citizenship was ranked lowest (31) on the degree of influence to seek work abroad. This shows that doctors are very patriotic to the South Africa, the decision to seek work abroad is not because of lack of patriotism but due to other factors. Patriotism is also a 'stick' factor in Padarath, et al's., (2003:10) model.

5.4.6 Specialising

Although specialising was a major cited factor why a lot of respondents returned to South Africa, it was infrequently cited (2.3%) as a reason for not considering working abroad. This may mean that those specialising may be likely to leave once they finish. It must also be stated that specialising is a transit phase which takes three to four years while in formal training as a registrar. Because it's a transient phase it is possible that some respondents may not really consider it as a reason for not considering a job abroad.

Specialising is a part of career development for doctors, as already noted by many authors (Forrest, 1999; Kaye & Jordan-Evans, 2000:29; Mengel, 2001:32; Naidoo, 2004:37; Sturges & Guest, 2001:447; Thulare, 2003:126) career advancement is one of the key factors in promoting job satisfaction and retention especially among the knowledge workers. Among this sample of respondents it appears to be a draw card for doctors to return to South Africa and for some that have not yet left, it keeps them in the country. Because it's a transient phase, it can only delay the losses but not stop them, probably innovative ways of building on this must be investigated.

5.4.7 Inconvenience

Inconvenience was cited less than 1%, which means that relocation and immigration hassles associated with seeking and taking up a job abroad are not considered major deterrents to seeking work abroad. The improvement in communication and travel may also explain the insignificance of inconvenience because all the doctor has to do is to submit the documents to recruitment agencies who will organise everything, the doctor only has to pack up a bag and go to the airport. On arrival in destination country the doctor finds everything from transport, accommodation, schools for children, work for spouse and even a few referrals to nearby South Africans already arranged. In many ways taking up a job abroad may actually be easier than changing jobs between two hospitals in South Africa.

5.4.8 Inferences on reasons for not contemplating work abroad

In this sample the main reasons for not seeking a job abroad are related to family and country attachment as opposed to national competitiveness or job satisfaction which are cited about once in every five reasons. These issues are what Padarath et al. (2003:20) termed as the 'stick' factors. It can be seen from the foregoing that inconveniences associated with going abroad are not considered a deterrent to seeking jobs abroad because registration exams, immigration requirements and relocation inconveniences were infrequently cited as reasons for seeking work abroad and were poorly rated based on degree of influence to seek work abroad.

5.5 Main reason for seeking work abroad

These represent the issues that were specifically cited by respondents as their one main reason for considering work abroad. Since this question was related to the next one (5.6) and the issues are the similar, cited issues are discussed only once either under the main reason or under the other reasons. The findings from the ratings section are also discussed under the appropriate subheadings.

5.5.1 Financial factors

The most frequently cited reasons for seeking work abroad are related to financial issues. The main issues highlighted were remuneration and to repay student loans which together accounted for almost half of the cited reasons (46%) by the respondents. This is corroborated by the findings in the ratings of the factors section where remuneration was found to have the highest degree of influence on the decision to consider work abroad (ranked number 1) for the total sample and in both the private sector and 'public sector

and other' respondents respondents. The private sector also identified financial issues as the most important factor influencing decision to seek work abroad.

Despite the government efforts to address the issue of remuneration, it is still the most significant factor cited for seeking work abroad. The remuneration that would be deemed appropriate to make the doctors happy and not seek job abroad is a topic for possibly future research. This is a reflection that doctors are probably having a continuance commitment to the country by keeping their sights on salary scales and other opportunities in other countries. According to Birt & Winternitz (2004:25) continuance commitment is when the employee bases his/her decision to remain with the organisation on perceptions of other available opportunities as well as the cost of leaving the organisation rather than on a more emotional attachment to the organisation as is found in affective commitment. The perceived 'equity' or 'inequity' based on external comparisons with compensations offered by other organisations can strongly impact on the effectiveness of compensation as a tool to retain employees. This according to Birt and Winternitz is a market-driven turnover, which is an extrinsic factor.

Other authors have also noted the effect of this perceived equity or inequity based on external comparisons especially across different countries. Buske, 2002:682; McKendry et al. 1996:171; Miller et al. 1998:253; Padarath et al. 2003:9 have independently noted that this comparative effect is the cause of the cascade of movement of doctors from the less affluent to the relatively more affluent countries.

As can be noted from the South African Health Review report for 2004, 70% of the public sector spending is on personnel (Blecher & Thomas, 2004:276; Padarath et al. 2004:300) with up to 70% of the public sector health financing goes to personnel. Currently the scarce skills allowance for doctors is 15% of the basic salary package while rural allowance is 18-22% of the basic pay (Padarath et al. 2004:305). If a total of 37% increase in pay does not seem to be recognised by the sample one wonders at what levels will the financial incentives be deemed adequate. Since the government allocation to the

public sector does not seem to be increasing significantly (see appendix 4), any increase in pay might mean less allocation to other areas like capital expenditure; this in itself may worsen the working environment. Maybe a totally new way of remunerating doctors should be considered to relate the remuneration more with measurable outputs and targets.

It was notable from the degree of influence on decision to seek work abroad rankings that most financial related issues were given very high ratings by the sample as seen with 'Deterioration of my financial position over time' is ranked number 4 and 'To save money quickly for a purpose' is ranked number 9. This surely reaffirms the fact that the financial pinch is a reality affecting doctors and not a mere comparison with what the jobs abroad offer. In contrast to the above high ratings related to individual financial issues decline in the general economic state of South Africa was ranked number 18, which suggests a relatively minimal effect of the general economic status of the country on the individual decision to seek work abroad. The ratings of the private sector for financial issues were similar to the 'public sector and other' respondents.

Current government efforts at addressing the financial aspects of the 'medical brain drain' with recent introduction of 'scarce skills allowance' and 'rural allowance' are rated poorly at rank number 22 and 28 respectively out of 31. The poor rating of rural allowance may be explained by the fact that the sample was predominantly from an urban area and as such they did not receive rural allowance. There is no explanation for the poor rating of the scarce skills allowance, bearing in mind that this sample was predominantly from public hospitals and as such receives this allowance. This implies that despite recent government efforts to improve remuneration by incentives such as rural and scarce skills allowance, the sample is not cognisant of these efforts or they have no impact on their decision to seek work abroad. Whether its ignorance on the part of the sample as to the intention of government efforts or the allowance is too little to have noticeable effect is a matter for further research. It is also unclear if the doctors' incomes have declined in real terms over time as compared to other economic indicators like cost of living, inflation and relative to incomes of other professions. The poor appreciation of

government financial efforts may also be a reflection of the weakness of financial incentives as retention factors in that the increased income is quickly incorporated into expenditure and the employee starts looking for a higher salary. This is also in agreement with most authors' observations that whereas money does matter in retention it alone is not enough to sustain long lasting retention (Delany & Turvey 2004:30 Kaye & Jordan-Evans, 2000:29; Mengel, 2001:32; Naidoo, 2004:37).

The findings differ significantly from previous studies that found crime was the most frequently cited reason for seeking work abroad (Jones 1999:19; Van der Vyer & De Villiers, 2000:18) and other earlier studies that highlighted dissatisfaction with the political dispensation of the time (Bourne, 1983:447; Wynchank & Granier, 1991:532). The findings of the current study are likely to be a true reflection of the current situation as to why the doctors are seeking jobs abroad. Crime of all categories has also declined as shown by the statistics of the South African Police (SAPS, 2004), which may further support the leading role of financial issues. In support of this, financial issues are also ranked first in the ratings section and are the most frequently cited factors that employers and government must improve to keep doctors in South Africa. Crime according to Padarath et al. (2003:10) is an exogenous 'push' factor in the health workers decision to seek a job abroad, the reduction in this 'push' factor should ideally be followed by a decline in loss of human capital. Unfortunately this does not appear to be so, as crime seems to be replaced by other endogenous 'push' factors, namely financial and working environment.

5.5.2 Working environment

Issues related to working environment were the second most cited as the main reason for seeking work abroad. The most cited issues were: working conditions (15.9), overworked in current job (3.2%), health service deterioration (2%), no job satisfaction (1%), job security (0.5%), promotion (0.5%) and lack of support (0.5%) totaling 24.5%. These factors include a range of issues, from physical buildings and equipment to management.

This is also reflected in the weighted average ratings were they were rated second only to financial issues. The unfavourable working conditions make the practise of medicine much more difficult for the doctors and may result in poor job satisfaction and an increased tendency to look for alternatives. Some of the problems of the working environment e.g. equipment shortage may be due to limited budgets or due to poor management. Limited budgets in the public sector may be a result of the differences between the private and public sector state funding as already discussed. The private sector cited factors similar to the 'public sector and other' respondents.

The factors related to working environment are very complex and can interplay in multiple ways resulting in positive or negative outcomes. For example the lack of appropriate equipment can make a doctor feel that he/she is offering a substandard level of care to patients. This, in turn, leads to lack of job satisfaction which may result in seeking alternatives were he/she will be able to practise what he/she considers appropriate level of medicine. Factors relating to working environment were cited as major issues by both the private sector and the 'public sector and other' respondents. It is not clear why the private sector respondents cited these issues as they are self employed. The study by Van der Vyer and De Villiers (2000:18) also found lack of job satisfaction to be a factor as to why doctors left the country. Most of the issues associated with working environment like: lack of job satisfaction, poor support, lack of job security and overworked would be considered endogenous to the healthcare work (Padarath et al. 2003:10) or intrinsic (Birt and Winternitz, 2004:27) 'push' factors to the job. As noted by Stewart (1997:67) the doctors, like all knowledge workers, have loyalty to their work and not the employer, so if they feel that their needs are not well served they will avail their services to the best employer that meets their needs regardless of location. Thulare's (2003:20) observation that knowledge workers crave for professional satisfaction is reflected in this context whereby a lack of professional satisfaction almost inevitably leads to departure of knowledge workers. The doctor is a free agent with boundaryless career, as such organisations need to be seen as, according to Cappelli (2000:11), employers of choice in order to attract and retain doctor's talent.

Problems of workload on doctors may be partly due to shortage of staff due to the 'medical brain drain', this increased workload on those left tends to 'push' them into considering leaving because the work becomes unbearable. As the provincial budgets struggle to limit expenditure to within the allocated budgets there is freezing of posts, which means once a doctor has left that post can not be filled, this further aggravates the staff shortage. 'Overworked' may also be a reflection of the perceived imbalance between the remuneration and the job done by the doctors. These issues were highlighted by Padarath et al. (2003:24) as the knock-on costs of the 'medical brain drain', which are usually not counted as costs.

In the ratings section factors related to working environment were ranked number 2, 3 and 7: poor management of health services, lack of resources and overworked, respectively. Poor state of health services includes state of hospitals, equipment and availability of services per se e.g. inadequate theatre time. While inadequate funding may be responsible for part of the poor services; a low morale among employees may account for poor job performance. It is difficult to distinguish where management starts and ends since every person is in principle a manager in their own work area and task performance. The role of management, government and doctors themselves in creating an enabling working environment is therefore intertwined. Insufficient chance for promotion was ranked 11 and cited by a significant number of respondents in the unstructured questions. Some respondents blamed affirmative action for what they termed unequal opportunity for promotion. This may lead to some doctors seeking a job somewhere where they will get the appropriate post, this is in keeping with the 'protean career' model as described by many authors (Feller, 1995; Flood, 2002; Schreider & Theron, 2001) where instead of a predictable linear rise up an organisation's hierarchy, careers are now characterised by movement between many organisations during the course of individuals' working life.

A comparison of the private sector to the 'public sector and other' respondents shows that for the private sector working environment was rated lower than certificate of need which was ranked number 2. This could be directly related to the fact that the private sector doctors manage their own work environment to a larger extent than the public sector

doctors. The certificate of need is however a very important aspect to the doctors in private practise because it will limit the freedom of practise to those that the government designate as need areas which may be not be suitable to the doctors. Although the certificate of need is legislated in the act, it has not yet been implemented by the Department of Health.

It is clear from the rankings that the working environment is the second most significant factor in decision making to seek work abroad. Work load, which may be in amount of work or number of unpaid hours worked by doctors were cited as very significant. The condition of hospitals and available services were identified by respondents as possible factors in the working environment. In this author's view it was strange that respondents cite condition of facilities and services as the second most frequent issue because relative to other areas of the country Western Cape is one of the better resourced provinces in South Africa (Padarath et al. 2004:304). This finding could be an indication of what other doctors experience in the rest of South Africa.

5.5.3 Medical exposure to first world practise

The desire to experience the first world practise of medicine was cited 6.2% as the main reason and 6.5% as the other reason for seeking work abroad. This may be a reflection of desire to practise medicine in the way it is taught to the doctors in the tertiary centres, which are largely technology based. As new doctors go into the district and other smaller peripheral hospitals, they find a wide gap between what is considered the 'cutting edge' of medicine that is glorified in their western textbooks and what they can offer to their patients. Padarath et al. (2003:21) and Levy (2003:170) have both highlighted this issue, concurring on the need to align current curriculum to address the needs of the communities. Levy (2003: 170) suggests a special inferior curriculum that will enable doctors to work only locally and not abroad. Medical exposure is not unique to South Africa because even in developed countries doctors move amongst rich countries and from rich to poor countries to get exposure. In South Africa there are exchange programs

with other foreign hospitals and universities abroad but the individual South African universities usually manage these and they can only accommodate relatively small numbers of doctors at a time. The positive aspects of such exposure are to enable knowledge sharing and advancement of science. The private sector respondents did not cite this issue as a factor for seeking work abroad.

5.5.4 Political uncertainty

Political uncertainty in South Africa was cited (4.5 %) as a main reason for considering seeking a job abroad. Although this is lower than in other studies (Jones 1999:19; Van der Vyer & De Villiers, 2000:18) where this was one of the three top cited reasons, it is still a significant factor. In the rating section on the degree of influence to seek work abroad political uncertainty was ranked number 17 for the total sample with minor variation when the private sector is analysed separately. This was an averagely cited problem in this study. This probably implies that as the time passes political question marks are reducing in people's minds; the finding of this study seem to indicate that there is more faith in the current political direction of South Africa.

Political uncertainty is an extrinsic or exogenous 'push' factor to the doctors' job but it has deep roots in the South African context. This factor is discussed further under other cited reasons below.

5.5.5 Personal security and safety

Security and safety was the fifth most frequently cited main reason for seeking a job abroad and also the third most frequently cited other reason for considering seeking a job abroad. Safety/security was ranked sixth in the weighted ratings of the total sample and fifth among the 'public sector and other' respondents, among the private sector it ranked number 11. This was indicative of the fact that crime is still perceived as a major problem by the sample. In two studies by Jones (1999:19), and Van der Vyer and De Villiers

(2000:18) crime was by far the most frequently cited reason for seeking a job abroad. The Van der Vyer study which had a larger sample of the two studies (107 as opposed to 65) was done on doctors who had already left the country, so it is possible that the perception of level and impact of crime can be different between those who have left and those still in the country. The South African Police Services crime statistics (SAPS, 2004) show a decline in all categories of crime nationally, this could explain the relative low position of crime and safety in this study sample

Personal safety and security was ranked number 6, based on the ratings by the sample in this study. As stated above this is a decline in relative position from first ranking in most previously published studies (Jones, 1999:19; Van der Vyer & De Villiers, 2000:18) especially those on doctors that have already left. This sample was mainly from an urban area; its unclear if a rural sample would rate this issue differently.

5.5.6 Certificate of need

Certificate of need was cited by 2% of respondents as a main reason and by 1.4% as other reason for considering work abroad. Even though it was not frequently cited in the unstructured section, it was rated very high among the respondents in the ratings section and was ranked fifth. A comparison of the private sector respondents to the 'public sector and other' respondents showed that it was rated higher by the former (ranked number 2) as compared to the latter (number 7). These high ratings were despite the fact that the government has not yet implemented this regulation. This issue is especially significant among this sample because they are in an area where it might be difficulty to get a certificate of need if the law is implemented. It was notable that this sample which has a majority being doctors in public service still rated this issue so highly even though the law is designed to control the opening of private practice.

5.5.7 Dispensing regulations

Dispensing regulations were cited by less than 1% of respondents as main reason or as other reason for considering work abroad. Although this factor was averagely rated in the ratings section by the sample (ranked number 15) it was highly rated especially among the private sector doctors (ranked number 7) as compared to 'public and other respondents' where it was rated number 16. This is one of the new regulations that have caused tensions between doctors and the government. This law affects only private general practitioners because specialists do not dispense. These poor ratings may be a reflection of the small number of general practitioners in the sample.

5.5.8 Other factors cited as main reasons

Other factors cited as main reasons include better opportunity for family (2.6%), better opportunity abroad (2%), alternative country if South Africa goes down (1%), and many others. Some of these are discussed under the other cited reasons.

5.5.9 Inferences on the main reasons

It is clear from the above that most frequently cited main reasons for seeking work abroad could be classified as 'push' factors while 'pull' factors accounting for only about 4.6% (better opportunity 2.6% and better opportunity for children 2%). Extrinsic 'push' factors of remuneration, is by far the most significant issue whereas intrinsic 'push' factors of conditions of work are second. Safety and security was the third frequently cited main reason for seeking work abroad by this sample. It is of note that recently introduced registration of certificate of need; dispensing license and community service do not seem to be major issues in this sample but are specifically significant when the private sector is analysed separately. It is unclear why the certificate of need and

dispensing regulations were so poorly cited in the unstructured section but rated relatively high in the ratings section.

5.6 Other reasons for considering work abroad

This represents the other cited reasons why candidates will consider work abroad. The previous question asked for one main reason whereas this section asked for other reason. Issues discussed under the main reason are not repeated.

5.6.1 Working environment

The most frequently cited other reasons for seeking work abroad are related to working conditions (10.3%); long hours of work (4.1%); health service deterioration (3.4%); poor facilities and equipment (2.1%); overworked (2.1%) and no job incentives (1.4%) all of which total 25.6%. The relative position of these factors and financial factors is reversed here because the previous question asked respondents for their main reason, whereas this one asked for the other reasons. Since most respondents cited financial as the main reason, work environment was cited as the leading other reason. This reaffirms the earlier assertions that working environment is the second most important factor in considering a job abroad. The issues pertaining to the working environment are discussed above.

5.6.2 Financial

Financial issues mainly cited as remuneration/tax/pay student loan (21.6%) are second, this is a reverse because of the previous question as explained above. This is by far the most cited reason for seeking a job abroad, either as the main cited reason or as the other reason. The reasons pertaining to financial factors are already discussed above.

5.6.3 Tourism and adventure

Tourism/adventure/see the world/experience other cultures were cited by 7.7% of respondents and may be partly a reflection of the spirit of the new South Africa where people are free to travel and explore. It is also in keeping with the global trend that people travel as a way of relaxing and having a good time. For the South African doctors the other connection is income based since the incomes earned in South Africa are mostly insufficient to pay for travel costs to many parts of the world, respondents may consider taking up a job abroad as the only way of being able to finance their travel dreams. The fact that South African doctors have to first earn foreign currency abroad before they travel is probably a reflection of the highlighted perceived financial inadequacy from the incomes paid by their jobs.

Tourism to explore other parts of the world was rated number 12, the same response was cited in the unstructured questions where candidates actually differentiated tourism into two formats; general tourism for seeing new places, cultures etc and medical exposure which is more to experience working in a first world country medical environment. As explained earlier this yearning for the first world environments has been 'blamed' by some authors on the training curriculums which are biased towards the first world practise as the ultimate practise of medicine.

5.6.4 Political uncertainty and government regulations

No confidence in current government/uncertain future in South Africa accounted for 3.4% of the other cited reasons. It was the seventh frequently cited reason for considering work abroad. This is a difficult issue to interpret, as individuals have individually perceived risks and fears. It may also be a reflection of the uncertainties brought on by recently introduced unpopular registration concerning certificate of need, dispensing and community service that makes doctors wonder what else is coming.

Specifically cited issues related to this are that doctors are too regulated/government interference/not doctor friendly (2.4%), certificate of need (1.4%), doctors not appreciated by government (1%), affirmative action (1%), dispensing regulations (0.7%) and alternative country if South Africa goes down (0.7%) all of which sums up to 7.2% of the other cited reasons for seeking a job abroad. The extent of these political concerns, lack of confidence and trust shown by doctors in these responses is apparent if all the issues above are summed up they constitute 10.5%, which make these issues the second most frequently cited reasons for considering going abroad. These issues are extrinsic or exogenous to the doctors' job but, as stated above, they have deep roots in the South African context. The issues above reflect what Delany and Turvey (2004: 29) considered as different agendas between employee and employer in that most government regulatory framework is focusing on delivery of services to the nation whereas the doctors are more concerned about their careers. These factors are however perceived by doctors as extrinsic 'push' factors because they make the doctors to consider seeking work abroad.

Recently introduced government legislation of certificate of need, dispensing regulations and community service were ranked number 5, 15 and 24 respectively. It is difficult to draw conclusions on community service because it only affects those who are interns now and those already doing it; once finished with it most doctors may feel differently. The rankings are possibly skewed by relative small number of interns and community service doctors in the sample. Certificate of need was, however, ranked number 5 even though the government has not implemented it yet. The issue of certificate of need was highlighted significantly as a reason for considering seeking work abroad even in the unstructured questions section. It appeared to be a major grievance to this sample may be because the sample was from an urban area and as such there was concern about being forced to relocate to other less desirable areas. Among the private sector respondents certificate of need was second to remuneration in rankings.

5.6.5 'Pull' factors

Factors related to better opportunities abroad (2.4%) and better opportunities for children (2.4%) together total 5%. These are the classical 'pull' factors. They are the only 'pull' factors that are specifically cited by the respondents as reasons for seeking job opportunities abroad. Most other cited factors are 'push' factors from South Africa, this is in keeping with the findings by Meja (1978:207) that 'pull' factors alone are usually not enough to lead to health workers' migration, unless there are equally strong 'push' factors. The private sector respondents did not seem to differ materially to the main group.

The rankings show that better prospects for my children (13), better life style abroad (14), better career advancement abroad (19), to gain more experience (16) are rated averagely. These are classical 'pull' factors in the decision to seek a job abroad, it is clear that on their own they may not result in a decision to seek work abroad if there are no 'push' factors. Once there are 'push' factors these 'pull' factors probably enhance the resolution to seek a job abroad.

5.6.6 Occupational safety

Respondents cited occupational safety, specifically Tuberculosis (TB) and HIV in total 1.3% as the other reason for seeking work abroad. This was a relatively infrequent citing indicating that these issues are possibly not such major factors in doctors' decisions to seek a job abroad even though the doctors work in the one of the most endemic countries for TB and HIV. Safe working conditions abroad were cited less than 1%, which is also infrequent and also supports the above finding that occupation risk is not a major factor in decision to go abroad. This is possibly because documented cases of occupationally transmitted TB are few and even fewer for HIV, so health workers may not really consider this to be a major problem. This is not in keeping with Padarath et al. (2003:10) because in this model occupational risk was expected to be an endogenous 'push' factor.

5.6.7 Post for specialisation

No post for specialisation was poorly ranked at 23; this was possibly because the sample includes a relatively high number of doctors already in specialisation programs so they already have a post. Posts for specialisation appear to encourage return of doctors to the South Africa. In this sample shortage of posts did not appear to be a major factor driving the 'medical brain drain' at this point. As already discussed above specialisation is part of career advancement for the doctors, a key retention and motivation factor.

5.6.8 Recruitment agencies

The role of recruiting agencies was ranked very lowly at 27, this is despite numerous adverts in the local and international medical journals seeking South African doctors and offering them much more attractive packages than they currently enjoy. Authors, commentators and government officials have sometimes referred to unethical advertising and recruitment practises as one of the reasons worsening the 'medical brain drain'. The poor rating of the effect of adverts on the decision to seek a job abroad might imply that initial decision to leave is made based on other factors like remuneration and working conditions, the adverts may be mere facilitators of implementation of the decision on the already decided mind.

5.6.9 Frustration with medical aid claims

Frustrations with medical aid claims was rated number 21, this is possibly limited by the relatively smaller sample of doctors in the private practise. When the private sector respondents are analysed separately, there is a definite higher ranking of this issue to number 6 among the private sector while it drops to number 22 among the 'public sector and other' respondents. This is a factor that is endogenous for the doctors in private practise and it impacts on the financial bottom line.

5.6.10 Inferences based on the other cited reasons for seeking work abroad

From the above it is clear that the other reasons why doctors will seek a job abroad are quite different from those cited in previously published studies. Even though the same issues are still cited the emphasis is now on financial matters, work environment and tourism for medical exposure or adventure. Safety/crime is no longer the driving reason for leaving the country in this sample as opposed to earlier published studies where it was by far the most significant reason. There are relatively few 'pull' factors cited by the respondents, most issues are 'push' factors from within the country.

5.7 What employers should do to keep doctors in South Africa

The respondents suggestions reflected the main issues highlighted for considering work abroad: remuneration (26%) working conditions (18%) improved facilities (hospital/equipment/services) (7%) reduced working hours or pay for extra hours (7%) improve resources to health (4%). In addition other job specific issues were frequently cited: Career development (3%) better staffing (2.4%), better management (2%), incentives for doctors, better dialogue, appreciation of doctors and many others. The private sector respondents cited similar suggestions to the 'public sector and other' respondents, the only notable difference was that the private sector also cited suggestions such as incentives for GPs to go in public practise, sort out medical aids and increased consultation fee. These suggestions apply more to the private sector than the public sector.

5.7.1 Financial issues

The respondents show that by far the number one issue for employers to focus on is the remuneration, in both the unstructured questions and the ranking, remuneration is cited undisputedly higher than the others. It is unclear how much remuneration would be satisfactory to the doctors to stop the 'brain drain'. The ability of the state to pay salaries must be considered, as South Africa cannot match the remuneration packages offered by the developed countries figure for figure. The incentives offered by government of scarce skills and rural allowance did not stand out as positives in the respondents' suggestions. It is also not clear if the doctors' salaries in the past were relatively better than today. An appropriate study to establish what would be a suitable competitive model for remuneration is clearly needed.

Related to remuneration some respondents suggested reduced hours of work or pay for extra hours worked. These were cited by almost 7% of the respondents. This is despite the agreed commuted overtime hours paid to all doctors for specified hours of work over and above the normal working week hours. This probably needs further investigation to ascertain how the extra-unpaid hours arise. Incentives for doctors in forms of research funds, pay for short courses and allowances were cited by 3% of respondents. Other less frequently cited suggestions were to help pay the student bursary by working the bursary into service over a specified number of years. For the private sector the suggestions included employers should provide incentives for general practitioners to go into public service and increased consultation fee.

It is clear from the foregoing that the remuneration is affecting doctors in both the public and the private sector. Different approaches have to be utilised to address the issues in public and the private sector. In the public sector, other than just remuneration there is also the question of hours of service that are unpaid. This may be a result of manpower shortage after departure of other doctors; the relationship between pay and workload is probably responsible for complaints of being overworked and complaints related to conditions of work. In the private sector the remuneration is related to the consultation

fees, claims from the medical aids and government regulation of services such as dispensing, mark ups on drugs etc.

Although increased remuneration is the most highlighted it may not be a lasting solution to only address this issue alone because as most authors agree that whereas money and perks matter, they are not the most important retention factors. Intrinsic factors such as; challenging, meaningful work, good bosses, and opportunities for learning and development are more important (Kaye & Jordan-Evans, 2000:29; Mengel, 2001:32; Naidoo, 2004:37). This means whatever solutions are used must also tackle the other issues concurrently in order to effectively meet this balance.

5.7.2 Working environment

Improved working conditions (18%) and facilities (7.3%) are the second and third most frequently cited suggestions, other less frequently cited suggestions are improve services to patients (1%) and improved tertiary care (1%). The concern about facilities was unexpected as this study was done in one of the elite areas of the country the Western Cape, which is considered to have a relatively more advanced system, compared to other parts of the country. Improving working conditions is a far-reaching request as it involves manpower, remuneration, support services, management, morale and other factors. Further studies in this area would do well to focus more specifically on what the respondents meant by working conditions. It can be deduced from this study, however, that the most important issues cited by respondents which probably need improvement in working conditions are: facilities, equipment, work load, staffing and improved general resources to health.

5.7.3 Improved resources to health

This issue was the third most frequently cited issue by the sample (7%); it is closely connected to the working environment because improved resource allocation would enable the work to be done more smoothly. In this context it is this author's understanding that the resources referred to imply capital and human resources. The desire by most graduates to experience working in a first world medical environment may also be connected to this suggestion of improved resources to health. With resources, probably the job satisfaction can increase among the doctors, which would help to maintain the doctors in the country. This finding is in line with Thulare's (2003:20) observation that knowledge workers crave professional satisfaction.

This recommendation is in keeping with the recommendations of the Physicians for Human Rights (2002; 32) that the primary response to 'brain drain' must be to redress the second-class health systems that reflect widespread violations of the right to health and other rights. As shown in appendix 4 the increase in health sector financing is not in line with the economic indicators. In addition the uninsured population, which is the public sector dependent population, has been growing by 2.2% per annum since 1995 (Blecher & Thomas, 2004:276). The impact of HIV/AIDS is estimated to have increased the burden on health services by about R5.4-billion per annum (Blecher & Thomas, 2004:274). It appears from the foregoing that the public health sector based on the current budgetary allocation is under immense financial pressure.

5.7.4 Increased staffing

The issue of staff affects the public sector doctors much more than the private sector. Respondents suggested unfreezing of posts so that permanent doctors can be employed or hire more locum doctors to do the work. The respondents also suggested that the abuse of junior doctors in terms of workload must be stopped. With adequate staffing the work

pressure on the doctors would become more manageable which would probably lead to better morale among the staff.

As noted by the 2004 Health Review the 19.7 medical practitioners per 100 000 public sector dependant population (Padarath et al. 2004:299) is below the 20 doctors per 100 000 population benchmark of the World Health Organisation (WHO) recommended minimum to achieve 'Health for All' (Padarath et al. 2003:6). Even though this study was done in an urban area of Cape Town, which according to the 2004 health review is one of the best staffed provinces (Padarath et al. 2004:304), the issue of staff shortage comes up among the respondents as one critical areas that need attention. By comparison one wonders what it must be like for the poorer worse staffed areas of Mpumalanga province with only 23% of necessary health personnel (Padarath et al. 2004:304).

5.7.5 Better management

Better management was cited by both the private sector and the 'public sector and other' respondents, because good management can ignite many possibilities related to job performance and satisfaction. Better management would probably lead to better dialogue with doctors and general practitioners and better feeling of appreciation by the doctors. As noted earlier management is an unspecific term as it may refer to departmental head of a clinical discipline, the head of the hospital, the regional administrators or the national government ministers. The exact role of management in this context is a topic that needs further study to understand clearly what the doctors mean by better management.

The recommendation is in keeping with Prewitt (1999:4) and Dobbs' (2001:2) observations that employees' relationships with their boss are more important for retention than company-wide policies, such as pay and perks. The relationship with the manager is what determines how long an employee stays in a job. Prewitt and Dobbs' observation that "People do not leave organisations. They usually leave bosses" may be very true for the doctors. Management is responsible for building the team spirit which

can promote a high level of morale among the doctors. Padarath et al. (2003:12) note that a high level of morale among health workers will go a long way in improving the retention of health personnel.

5.7.6 Dialogue/consultation

Better dialogue or consultation with doctors was cited 2.2% by the sample, employers should show appreciation or professional respect for the doctors was cited 1.7%. These suggestions are in keeping with DOH head of Human Resources, Dr. Mahlathi's remarks that it is not mainly money that needs attention but also making sure that services are friendly to the professionals, as well as the patients (Keeton, 2004:7). South African Medical Association (SAMA) chairman Dr. Kgosi Letlape's comments that "the maldistribution of doctors cannot be addressed through draconian legislation which will ultimately have negative impact on patient care and drive more doctors to seek employment abroad" (Bisseker, 2003:49) is one example depicting the need for more dialogue. Dr. Kgosi Letlape also points to the hostile attitude from the top management making health professionals feel threatened and not recognised (Bisseker, 2003: 49; Keeton, 2004:7).

Lack of consultation will probably make doctors feel not respected, they may feel their role is not appreciated and management forces decisions down. This could be partly responsible for labour and practise disputes ending up in the courts (Bisseker, 2003:49). The court disputes create a feeling that the two are at loggerheads with each other instead of collaborating. As Delany and Turvey (2004: 29) noted, in the new employment compact, the issues that are important to the employee and employer might be very different. It is therefore important that the two confer frequently to assess their mutual areas of interest and how they can best work together.

5.7.7 Career development

Career development is a complex issue as there are usually no clearly defined career mentors for doctors after graduation. The request for better career mentoring probably needs further analysis as it goes against what is actually the industry norm in the modern employment contract for knowledge workers whereby each person shapes their own career as outlined by Cappelli (2000:11) and Stewart (1997:67). The implication of this suggestion probably deserves further follow up.

Promotion was cited by respondents in the context of merit-based promotion (1.5%), it was also cited as one of the main reasons why doctors will contemplate seeking work abroad. Respondents cited poor chances of promotion, which favours affirmative action categories as stipulated by the government. Promotion is part of career advancement, as already cited career advancement is critical for staff job satisfaction, retention and morale. Numerous authors and researchers (Forrest, 1999; Kaye & Jordan-Evans, 2000:29; Mengel, 2001:32; Naidoo, 2004:37; Sturges & Guest, 2001:447; Thulare, 2003:126) have repeatedly highlighted career advancement as a critical factor in retention especially for knowledge workers.

5.7.8 Incentives for doctors to stay

Incentives to retain doctors in the country can be financial or non financial, one suggested such incentive is to enable young doctors to swap their student loan for years of service to the state or employer. Other suggested incentives were research funding, assistance with cost of short courses and targeted allowances. It was however a paradox that the special skills allowance that was introduced by the government as a specific incentive to keep doctors and other health workers in South Africa was under appreciated by the sample.

5.7.9 Unavoidable losses

A small percentage of doctors may never change their mind about going abroad no matter what is done. Nothing can be done to change respondents mind about leaving was cited by 1.3% of respondents. This probably reflects those doctors who are imminently departing and probably with no intention to return. This must be accepted as a normal unpreventable (Mengel, 2001:32) manpower turnover. According to Naidoo (2004:37) it is healthy for any organisation to have a certain amount of turnover of employees. The private sector respondents did not show any difference. Naidoo contends that people who leave may act as alumni for the organisations they worked for previously and may refer or market the organisation they left. The ability to seek other opportunities also avoids workers from becoming what Costello (2001) referred to as 'trapped employees'; employees who have no chance of career development but because of financial incentives, find themselves trapped in their current positions and are neither committed nor motivated.

Padarath et al. (2003: 25) noted that it has been suggested that migration can operate as a 'safety valve' for governments, reducing pressure on them to provide and create employment. For South Africa, based on the Health Review report for 2004 (see appendix 4 and 5), the ability of the government to actually maintain its full compliment of South African health workers can be questioned because with 30% of posts vacant in the country currently, the personnel budget is already accounting for 70% of public sector financing. With staff remuneration already accounting for such a large proportion of public health expenditure, increasing the number of staff would put more pressure on the already strained health sector finances, this might impact on other critical areas.

5.8 What government should do to keep doctors in South Africa

Most cited issues mirrored the issues for employers and are a reflection of the problems cited for seeking work abroad. The most frequently cited reasons are improve remuneration (24%), improve working conditions/environment (14%), improve health resources (6%), reduced hours of work or pay for extra hours (5%), improved hospital facilities and services, reduce government interference. Security/crime is cited (4%), certificate of need to be abolished. Remuneration and conditions of service have been discussed above. These two are by far the most prominent issues cited by respondents. The private sector respondents highlighted the need for better dialogue with government and also reduced government interference. The other cited suggestions were in line with the suggestions of 'public sector and other' respondents.

5.8.1 Government regulations

Reduced government interference is the sixth most frequently cited solution. This interference is in reference to certificate of need, dispensing license, and community service. Respondents suggested that government should not impose decisions on doctors but rather consult on issues that affect the doctors to promote better dialogue. This also reflects the sentiments highlighted by respondents that government is not doctor friendly and that doctors do not feel appreciated for the work they do.

5.8.2 Personal safety and security

Improved security and safety is one of the top 8 issues cited by respondents, it is by far less frequently cited than remuneration and working environment. The decrease in relative importance of crime is an indication of the success government has had in

decreasing crime levels in the country. As already stated above police statistics show that there is a reduction in all categories of crime (SAPS, 2004). As already stated the relative importance of crime could differ between respondents in the country and those who have already left.

5.8.3 Summary of suggestions to employers and government

It is clear from the respondents' views that most issues that need attention are to do with financial, working environment and health services in general. A report by Physicians for Human Rights (2002; 32) stated that the primary response to 'brain drain' must be to redress the second-class health systems that reflect widespread violations of the right to health and other rights. It is the researcher's view that addressing these so called second-class health systems is dependent on skilled labour itself, so win-win solutions that benefit the doctors and the source countries have to be found. The private sector respondents' suggestions to employer or government were similar to those of 'public sector and other' respondents except for specific issues that affect the private sector such as dispensing and government regulation as discussed above.

5.9 Summary of discussion

It is clear from the above discussions that that the loss of human capital is still a major problem for South Africa. Awareness of this loss is high among the sample and the intention to seek work abroad is correspondingly high especially among respondents who are not in the private sector. This is specifically highlighted by the high percentage of post internship respondents with foreign registration. Multiple 'push' factors from South Africa are cited by respondents for seeking work abroad, with the most cited being related to financial and work environment issues. The respondents' suggestions to the employers and government are mainly in line with the cited issues.

CHAPTER 6

CONCLUSION

6.1 Conclusions

There is a high level of awareness of the 'medical brain drain' among this sample of doctors with more than 99% of sample knowing at least one doctor who has left, and most candidates knew more doctors who had left than returned. A significant number of respondents (25%) did not know any doctor who had returned from abroad to work in South Africa.

Most doctors (57%) in this sample had a foreign registration with almost a similar percentage (55%) intending to go abroad within the next five years, and an additional 15% possibly considering going abroad after five years. Sixteen percent of the total sample were making active efforts to go abroad by either looking for a job or processing documents for departure. Only 35% of post internship doctors did not hold a foreign registration at the time of study. In this sample only 26% had no intention of seeking a job abroad at any time. Almost half (46%) of the sample surveyed had worked abroad, returned and were working in South Africa. It is however unknown what percentage this is relative to those that initially left. Although the relationship between holding a foreign registration and seeking a job abroad is complex, it appears from this research that holding a foreign registration is closely associated with a tendency to seek a job abroad. Once a doctor goes abroad it is difficult to predict if that doctor will return to work in South Africa.

Among the private sector respondents, only 26% had foreign registration and 29% had worked abroad. A much larger percentage (54%) of the private sector respondents had no

intention of going abroad at any time with 72% not likely to go abroad in the next 5 years. The 'public sector and other' respondents showed a much larger percentages registered abroad (70%: excluding interns and the private sector) only 22% had no intention of going abroad at any time while 62% were likely to go abroad in subsequent five years. It can be inferred from the above that doctors in the private sector are much less likely to seek a job abroad than 'public sector and other' respondents.

The most frequently cited reason for coming back after going abroad was specialising, family, patriotism and no intention to migrate. The most frequent reasons cited by those with foreign registration but had not worked abroad were specialising, waiting for opportunity, community service, and hoping things get better. Most of these reasons are transitory which means these doctors are possibly likely to leave at some point. Though specialisation is a positive aspect in attracting doctors to come back to the country, it does not appear to have a lasting effect, as the intentions of the doctors after specialisation are not known. The most cited reasons for not considering a job abroad were family, settled/home is here, age, and I am happy with current job. There were generally few cited reasons that are related to satisfaction with current job or a national competitive advantage for not considering a job abroad.

The most frequently cited reason for seeking a job abroad was related to financial issues. Solutions related to financial matters were consistently cited most frequently as the solutions likely to stem the 'brain drain'. The prominent financial issues include mainly remuneration, unpaid extra hours worked, to pay student loan, save money quickly for a purpose and tax. The cited solutions include increased remuneration, pay for extra hours worked, work in student loan, increase consultation fee and sort out medical aids.

The second most cited reason for seeking work abroad was poor working environment. The issues cited under working conditions included poor condition of facilities, lack of equipment, poor services, poor funding of health services in general and others. The suggested solutions include better maintenance of services, better management, improved funding of health services in general. The respondents specifically cited increased

workload as a problem; this was either related to amount of work per person or number of working hours. They suggested employment of more doctors by unfreezing posts, use of part time doctors to relieve the workload or pay for extra hours worked.

Exposure to and to experience first world practise of medicine was cited by many respondents as the reason for seeking a job abroad. This medical exposure may be partly related to the idealisation of medical practise as it is practised in the first world by the university curriculums. This may also be to escape from the problematic working environment in the country. Related to this is the adventure tourism to see and experience other places and cultures, the cost of which is usually financed by working abroad. There were no specific suggestions on how to address these issues but it is the researchers view that if the remuneration were adequate there would be no need to seek a job abroad to finance a travel holiday.

Security and safety was sighted less prominently than in previous studies, relative to financial and working environment. The suggested solutions to this problem include that the government must control crime. Some respondents suggested reintroduction of the death penalty. The relatively low prominence of security and safety may be a reflection of government efforts in combating crime, which is showing that crime in all categories has decreased.

The respondents frequently cited lack of confidence in the current government. The issues related to lack of confidence that were specifically cited included lack of dialogue with doctors, no appreciation of doctors efforts, and government not doctor friendly. The cited suggestions included changes of minister of health, better dialogue with doctors, stop imposing decisions on doctors and professional appreciation and respect. Certificate of need was frequently cited as a reason that may cause some respondents to seek work abroad; the suggestions were that it should be abolished. The private sector respondents cited similar issues to the rest of the group except that certificate of need, dispensing and frustration with medical aids took a more prominent position.

Specific 'pull' factors from abroad such as a better lifestyle and better prospects for children were infrequently cited as reasons for seeking job abroad. Age was also found not to be a significant factor in seeking a job abroad. Advertisement by recruitment companies from overseas were also found not to be a significant factor. One reason cited for holding a foreign registration was that if things should go down in South Africa then there is a 'Plan B'.

The ratings by respondents were closely related to the cited issues which further confirmed the internal validity of the findings. The issues were ranked based on weighted averages, this also closely followed the cited reasons. The most significant factors cited for keeping doctors at home or encouraging their return to South Africa were family ties, love of South Africa, being settled, I love it here and weather or sunshine. This shows a high level of national pride among South Africans. There were few job or national competitive factors cited by the respondents for staying or returning to South Africa. There were no specifically cited 'push' factors from the foreign countries.

It can be deduced from the foregoing that the 'medical brain drain' is a major challenge for the nation, multiple factors are cited though mainly financial and working environment seem to be most prominent. The most notable difference among the private sector respondents is that they seem less likely to join the 'medical brain drain' than the 'public sector and other' respondents. The current situation whereby more than two thirds of the sample are contemplating departure within 5 years is a major threat to human resource of the country.

As clearly illustrated above, most issues cited by respondents are 'push' factors from home, the respondents have a high level of national patriotism and love of their country South Africa. It follows therefore that the decision to leave is not an easy one for the doctors but as Meja, (1978:207) noted "no matter how strong the 'pull' factors are of the recipient countries, migration only seems to result if there are also strong 'push' factors from the donor country". Therefore the challenge is upon us to put our house in order.

CHAPTER 7

RECOMMENDATIONS

7.1 Recommendations

The 'brain drain' is a real threat to the national human resource strategy, in order for government to sustainably reverse it there must be win-win solutions that are beneficial to the individual doctors and to government. The fact that almost half of the respondents in the research sample had worked abroad and come back is encouraging, the government can build on this. The researcher recommends that to successfully address the loss of manpower the following should be considered:

- The underlying driver of the 'medical brain drain' is the 'push' factors that are highlighted by the respondents; in order to win this challenge the 'push' factors must be addressed. The most highlighted push factors are remuneration and working environment, these two are interlinked and have far reaching implications on morale, job satisfaction and perception of the Department of Health as an employer of choice by the doctors. Even though the government may not afford to match the remuneration from abroad, other skilful remuneration models can be worked out by consulting closely with doctors. One such example is public-private partnerships enabling the private sector doctors to do some of the services that overburden the public sector e.g. Family planning, chronic medications. Some private sector doctors that stated that there must be more dialogue between government and the doctors highlight the importance of public-private partnerships. The private sector doctors also suggested incentives for them to go in public practise.
- Further appropriate research is needed to establish more especially what models of remuneration and incentives would best meet the doctors' expectations. As noted above the respondents did not appear to recognise an extra 15% on their

basic salaries paid as scarce skills allowance. The factors behind this are not clear at the moment, either it is too little or it's a reflection of the limitations of monetary incentives as retention strategies as cited noted by Delany and Turvey (2004:30).

- The working environment has many facets ranging from capital, management to morale of the health workers. The government must consult more broadly with the stakeholders to identify easily correctable areas that can be addressed. Lack of staff is partly worsened by freezing of posts, this has negative impact on those still left once a colleague departs as they have more work, so posts must be opened so that staff can be hired. This is highlighted by a significant number of respondents that stated that posts should be unfrozen, more staff should be employed or locums ("flexi" doctor posts) should help relieve the burden.
- Communication channels between policy makers and doctors must be improved so as to best align the needs of policy makers to the doctors. This is highlighted by many respondents that suggested improved dialogue between employers (Department of Health) and doctors. Respondents specifically cited what they perceived as decisions imposed on them without consultation to be demoralising.
- Government to have laws that encourage and facilitate doctors abroad to come back. The current practise of expecting senior health workers that return to rejoin the public service at entry-level grades (usually lower than they occupied before departure) does not encourage homecoming. The effort by the corporate sector of the 'Homecoming revolution' must be encouraged and supported with practical solutions. This effort addresses the finding by the International Organisation of Migration (IOM) that some migrants do not return home simply because they are unaware of job opportunities back home (Ngunijiri, 2001), which is probably applicable to many doctors from South Africa.

- To utilise exit interviews conducted by external neutral party to try and identify factors that are driving the 'medical brain drain'. Mengel (2001:32) noted that invaluable knowledge could be collected from well-designed and conducted exit interviews. It appears from this study that the majority of doctors that intended to go abroad were from the public sector, therefore this gives a unique opportunity to the human resource department for exit interviews when doctors signal their intention to depart. The current lack of data on the numbers of doctors that go abroad is a signal to decision makers to improve data collection not only on the reasons for departure but also the future career direction of doctors that leave the public sector.
- Government and provincial administrations must strive to be employers of choice for doctors. This could be by enabling more flexible hours, giving people unpaid leave to go abroad for specified periods during which locum doctors can fill that post to make the work bearable for those still serving. The assurance of a job at home might encourage the doctor that go abroad to return. The emerging of a global workforce in the new world labour market as predicted by Johnston (1991:115) means that the employer has always compete globally even though he has to act locally. The globalisation of labour compounds the already more complex nature of the modern worker (doctor) who is embracing the new career model as described by Cappeli (2000:11) and Stewart (1997:67) above.
- Consider bonding all post graduate doctors to a period of public service for the training they received at public expense. For example if a postgraduate student takes four years to specialise the state could request that doctor to serve half of that time (2 years) post graduation as a specialist in the public sector. This is because by far the most frequently cited reason for returning to South Africa was to specialise whereas among respondents with foreign registration that have not been abroad the most frequently cited reason as to why they have not gone abroad is because they are specialising. As already discussed the intentions of these respondents after specialising can not be ascertained. In order for the state to

benefit from the huge investment in training specialists, the state must consider some form of bonding for the newly qualified specialists to the public sector for a specified time.

- Migration is reality of the globalised world of today, South Africa may never reverse the tide but should find innovative ways to tap into the South African talent that is abroad. Naidoo (2004:37) highlights that departing employees have a positive aspect to them in that they can be 'alumni' of the companies they once served and provide new business or referrals. A number of South African doctors may hold influential positions in the medical sector across the world, these must be sought and networked to be allies of South Africa in international policy, business, academic training, research and as advisers on various complex global matters.
- Consider making the private sector lucrative for doctors so that it can act as a reservoir from which manpower can be sourced for various private-public sector programmes. As noted from this study, it appears that doctors in private sector are not likely to consider work abroad, this is a positive aspect that the department can invest human resource into. The findings by Thulare (2003:74) that the leading cause of attrition of doctors from public sector was migration to private sector and secondly emigration mean that if the decision makers can persuade the doctors that want to emigrate to go into private sector in South Africa, the country can have a large pool of doctors that can possibly be utilised in various private-public partnerships of various kinds.

7.2 Suggestions for future research

As noted in the methodology, this was an exploratory study. The study identified a number of useful findings and pointed to the need for additional research studies focussing on a number of areas:

- The role of management in ‘medical brain drain’ from South Africa;
- The place for career management and incentives for doctors to stay in South Africa;
- Alternative models of compensating doctors which can enable to manage work load according to remuneration;
- A study among South African doctors abroad on why they stayed abroad;
- A study on South African doctors abroad on how best to establish useful partnerships with colleagues at home and policy makers;
- An analysis of the doctors remuneration relative to other economic indicators to ascertain if the remuneration is getting worse;
- An in-depth comparative study of how various factors such as health resources are affecting private and public sector practitioners;
- A national wide study to ascertain if the issues cited in this study are applicable to other doctors nationally.

As noted by Johnston (1991:115) there is now a global labour market, South Africa like any other country must compete for the skilled labour in the global market pool. South Africa, like any employer, needs to be perceived as an “employer of choice” (Cappelli, 2000:11) for it to attract and retain appropriate skilled labour. Like in any competitive open market there is only one king; the customer, unless policy makers can listen to their customer (the doctor) closely, the battle to attract and retain the doctor will be a futile one.

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APPENDICES

Appendix 1.

Doctors' perspectives on the 'medical brain drain'

Thank you for participating in this research; it will take **less than 10 minutes** of your valuable time to answer this simple 2-page questionnaire.

This research is an MBA dissertation for the University on KwaZulu-Natal. The aim of this research is to find out doctors perspectives on the 'medical brain drain' from South Africa. The findings may be published in an appropriate journal. *A copy of the completed research can be made available to you on request: contact Dr. Chibiliti (0837954227). Email; chibilitism@yahoo.com.*

Please read the notes below carefully

1. Your responses are **confidential**, do not write your name on questionnaire
2. Please **do not discuss** your responses with anyone as this may introduce bias.
3. You may leave an option blank if you do not wish to answer it
4. Put N/A if question not applicable to you
5. **Make your answers short and to the point.** No need for explanations
6. When finished, fold your paper and put it in the box provided

Appendix 2.
Doctors questionnaire

1. Demographic data

Age	Gender	No. of Years since you graduated	Current rank	Practise		
				Public	locum	Private

2. Number of doctors known to you that left RSA to work abroad
3. Number of doctors known to you that returned from abroad to work in RSA?
4. Are you registered to work abroad and where?
5. Have you ever worked abroad?

Why did you come back?

6. If you are registered abroad and have not gone abroad, why not?

7. Do you contemplate seeking work outside RSA? (Cross in ONE box only)

a. Not in my plans (if this applies to you proceed to no.10)	
b. Maybe after 5 years	
c. In next 5 years	
d. Currently looking for job/agency placement	
e. Processing documents (visas, air tickets, serving notice)	

8. (7b-e above) Main Reason (1) for considering/leaving to work outside RSA?
9. (7b-e above) Other Reasons for considering/leaving to work outside RSA?
10. (7a. Above) Reason(s) for not considering work abroad?
11. What should employers (e.g. your health institution) do to keep you (Dr.) in RSA?
12. What should government do to keep you (Dr.) in RSA?
13. Rate the factors given in the table according to how much they influence (positively or negatively) your decision to consider working abroad.

	Factors that may influence decision to seek work abroad	Degree of influence on your decision to seek work abroad			
		None	Little	Significant	Highly significant
1	Overworked in current job				
2	Departure of colleagues				
3	Lack of resources within South African health care sector				
4	Community service in South Africa				
5	Better lifestyle abroad				
6	Certificate of need for opening a GP practice in RSA				
7	Better remuneration (pay) abroad				
8	High litigation abroad				
9	Better prospects for my children abroad				
10	Frustration with medical aid claims for my practice				
11	Political uncertainty in South Africa				
12	Advertisements by overseas job recruiting agencies				
13	Explore other parts of the world (adventure)				
14	Recently introduced dispensing requirements for GPs				
15	Personal Safety and security in South Africa				
16	'Scarce skills' allowance introduced by DOH				
17	Insufficient opportunity for promotion in RSA				
18	Deterioration of my financial position over time				
19	No post for specialisation				
20	Patriotism / love of my country (South Africa)				
21	Recently increased rural allowance for rural doctor				
22	To gain more experience abroad				
23	Decline in general economic state of South Africa				
24	Spouse or family abroad				
25	Better career advancement abroad				
26	Registration examinations abroad				
27	Poor management of health services in South Africa				
28	To save money quickly for a purpose				
29	Family ties in South Africa				
30	Too old to relocate				
31	I want to change my citizenship				

THANK YOU FOR PARTICIPATING IN THE STUDY

Appendix 3

3a. A typical page from SAMJ adverts section



PROFESSIONAL ADVERTISING

The Anaesthetists Agency

safe locum anaesthesia, throughout the UK

Tel: +44 (0)1590 675 111 **Fax:** +44 (0)1590 675 114
Web: www.TheAnaesthetistsAgency.com
Email: info@TheAnaesthetistsAgency.com
Post: Little Meadow, Boldre Lane, Lymington, Hants UK, SO41 8PD



GP REQUIRED BRITISH COLUMBIA — CANADA

GP wanted in busy four group practices in central British Columbia, Canada. Located on beautiful Stuart Lake with excellent outdoor amenities, including ski hill and golf course. We assist with all phases of registration etc. more efficiently than recruiting agencies.

Contact Kate Jamieson
t:jmc@cnetdirect.com or by fax 250-996-8212

UK LOCUM WORK **WilsonSmith**

Who Locum Doctors described as:
"friendly, easily contactable and great rates"
"the only agency I needed"
"I recommend them to anyone coming to the UK"

Tel: + 44 (0) 207 031 4422
medical@wilsonsmithrecruitment.co.uk
www.wilsonsmithrecruitment.co.uk

CANADA, Australia, New Zealand and the United States are calling you!

Permanent and locum positions
Physicians of all specialities required
Large need for MFam, Radiologists, Psychiatrists,
Anesthesiologists and Surgeons!
Income range of \$150,000 \$600,000

CanAm Physician Recruiting
Apply today!

[Http://www.canamrecruiting.com](http://www.canamrecruiting.com)
madelene@canamrecruiting.com

AUSTRALIA IS A DOOR OPEN

Queensland need RSA GPs for permanent visa. Dr David Howse, 63 City Road Beenleigh 4207. Full-time GP, part-time migration agent can provide, practice and visa etc.

Ph 617 3807 6266
dhowse@bigpond.net

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Career opportunities exist for experienced medical staff to work in rural and outer-metro community hospitals with high quality facilities and family friendly environments. We provide a complete recruitment and immigration service for 1 to 4 yr contracts. Email your CV & visit www.recruitadoc.com

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Auckland Medical Bureau, NZ's oldest recruitment agency for doctors, has Preferred Provider status. We specialise in locum/permanent placements and offer friendly, personal assistance with registration, visas, relocation etc.

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E-mail: doctors-amb.nz@stra.co.nz www.doctorjobs.co.nz

QUEENSLAND, AUSTRALIA GENERAL PRACTITIONER

We are offering a full-time GP the opportunity in our computerised, private billing practice located in Roma, which currently serves four doctors (two are South African). The attractive salary package includes a house and car.

For more information and an application package contact:
ross@maranoamedical.com.au
Or phone Ross +61 7 4622 2266
Visit us at www.maranoamedical.com.au

2

October 2004, Vol. 94, No. 10 SAMJ

South African Medical Journal, (2004:2)

166

3b. A typical page from SAMJ adverts section

 PROFESSIONAL ADVERTISING



IRMOA™

For doctors, by doctors
The Independent Resident Medical Officers Association

Putting an end to the exploitation of SA doctors working as RMOs in the UK

You should NOT

- work excessive hours at low hourly rates to achieve relatively high income

This means you should NOT do

- regular RMO work for any less than £16 per hour
- extra RMO work for any less than £22 per hour

And that means you SHOULD

- Demand to earn MORE for LESS work in light of the WTR (Working Time Regulations)

Psst! 1 week as RMO at a hospital = 168 hours of work and is therefore in breach of the WTR!
£1830 per week = £10.89 per hour!

Do not undersell yourself!

For IRMOA approved employers and more information visit

WWW.IRMOA.COM



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RMO Locums £21 per hour
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Be part of our success story & register with us today by calling:
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LOCUM

SUBSTANTIVE



October 2004, Vol. 94, No. 10 SAMJ

South African Medical Journal, (2004:6)

Appendix 4

Personnel financing related extracts from the South African Health Review 2004 (Blecher & Thomas, 2004)

Table 6: Provincial health spending trends by economic classification, 1999/00 - 2006/06 (R million, real 2003 prices)

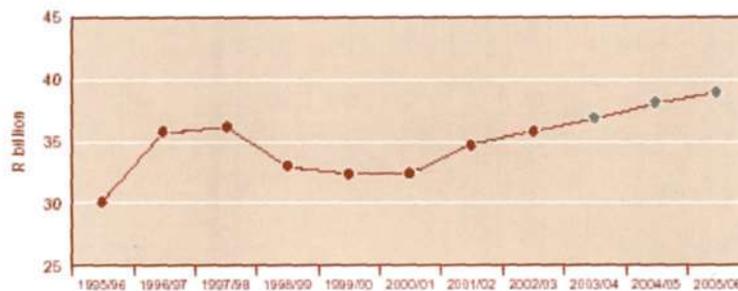
	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	Change	Change annual (%)
Total expenditure	32 112	32 392	34 513	35 500	36 852	38 000	38 691	6 579	3.2
Personnel expenditure	20 622	20 287	20 614	20 402	21 226	21 556	21 810	1 188	0.9
Non-personnel	11 490	12 105	13 899	15 099	15 627	16 444	16 881	5 391	6.6
Capex	1 310	1 406	2 398	2 662	2 945	2 880	2 998	1 688	14.8
Other current	7 604	8 011	9 128	9 888	10 002	10 801	11 073	3 469	6.5

Note: Totals do not match exactly with Table 1, due to differences from sources

Table 4: Health component of CPIX vs CPIX by financial year

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
CPIX	8.1	7.8	12.3	6.9	7.8	6.6	9.8
CPIX Medical	10.3	17.5	12.3	10.2	10.5	10.9	12.1

Total provincial health expenditure (real 2003 prices)



Expenditure on personnel vs personnel per population

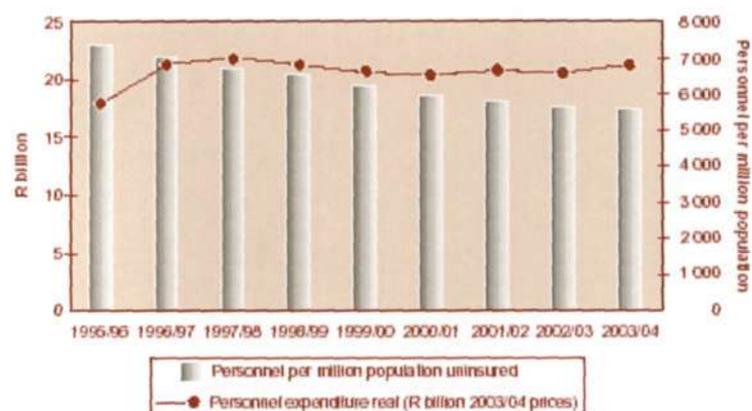


Figure 1: Trends in real provincial health expenditure (R million, real 2003 prices)

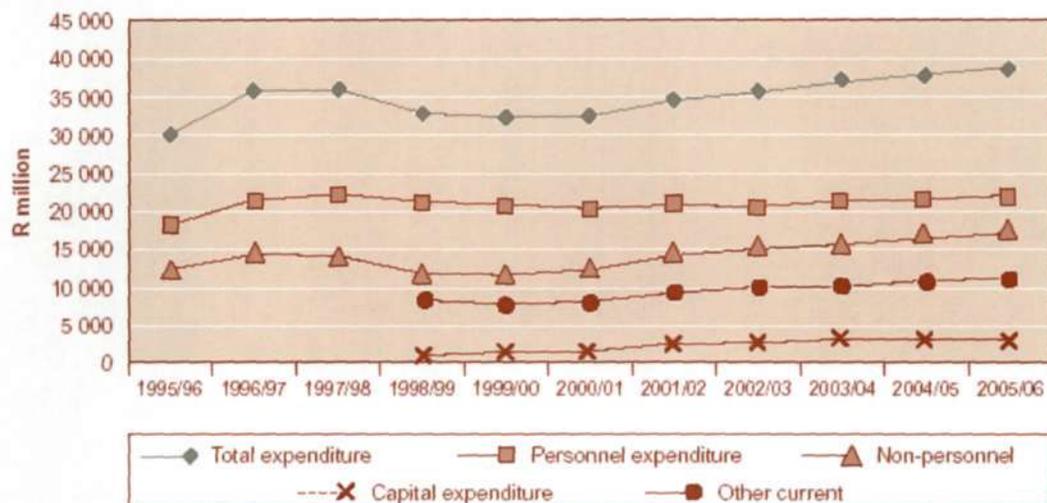


Table 3: Trends in personnel expenditure, filled posts, and average salaries

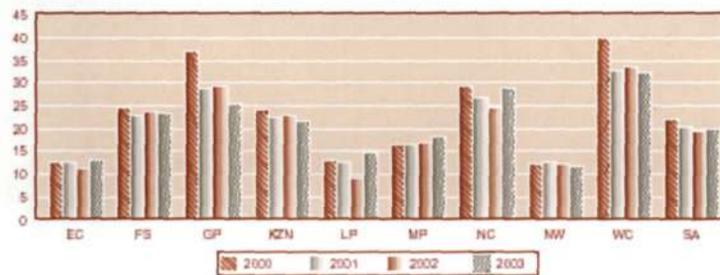
	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	Change over period (%)
Personnel expenditure real (R million, 2003/04 prices)	18 016	21 408	21 876	21 224	20 719	20 383	20 712	20 498	21 226	17.8
Personnel (filled posts)	235 182	232 698	228 248	228 444	222 701	216 958	216 822	214 538	216 251	-8.0
Average cost of employment	76 606	92 001	95 844	92 908	93 037	93 949	95 523	95 546	98 153	28.1
Personnel per million population uninsured	7 330	7 051	6 734	6 559	6 217	5 934	5 810	5 650	5 600	-23.6

Note: The personnel information included here (which includes all categories of personnel) may differ from that reported elsewhere in this Review that focuses only on professional categories of health sector personnel.

Appendix 5

Human resource related extracts from the South African Health Review 2004 (Padarath, Ntuli, & Berthiaume, 2004)

Medical practitioners (public sector) per 100 000 public sector dependent population by province, 2000-2003



Percentage composition of selected health professionals by race compared to the total population, 2003

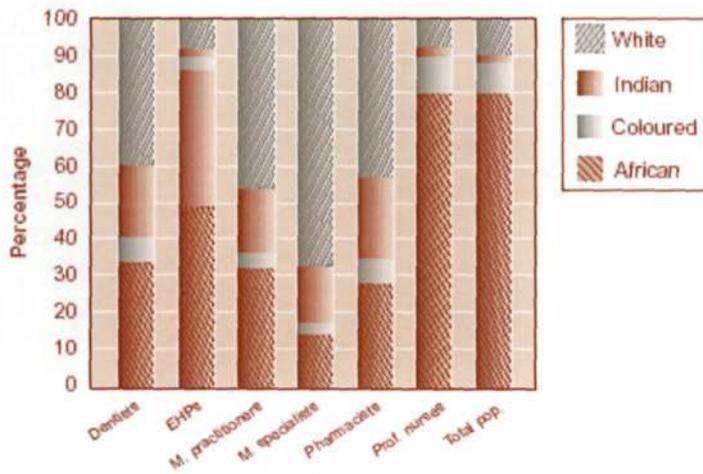


Table 2: Total number of Public Health Sector Posts and percentage vacant by province, 2001-2003

	EC	FS	GP	KZN	LP	MP	NC	NW	WC	SA
Total number of health professional posts										
2001	97 929	14 103	42 899	39 591	22 603	9 472	3 820	15 570	21 659	268 122
2002	29 752	14 284	43 148	41 401	18 082	9 843	3 937	15 756	21 328	197 898
2003	21 991	12 104	32 873	37 338	15 452	19 018	3 248	11 589	15 401	169 121
2003 (filled)	15 751	7 176	22 375	28 205	13 376	6 201	2 360	7 764	13 268	116 547
Percentage of health professional posts vacant										
2003 (%)	28.4	40.7	31.9	24.5	13.4	67.4	27.3	33.0	13.8	31.1

Source: FERSAL⁷

Table 7: Distribution of public sector health personnel per 100 000 public sector dependent population by province, 2000-2003

	EC	FS	GP	KZN	LP	MP	NC	NW	WC	SA
Dental practitioners per 100 000 population										
2000	0.80	1.10	4.90	0.80	0.60	1.80	1.60	1.40	3.80	1.70
2001	0.90	1.29	3.88	0.66	0.89	1.89	1.97	1.59	3.70	1.71
2002	0.58	1.35	3.71	0.70	0.78	2.08	1.48	1.32	3.61	1.59
2003	0.99	1.50	2.79	0.70	1.01	1.75	1.87	1.49	3.35	1.58
Enrolled nurses per 100 000 population										
2000	59.2	36.1	46.6	85.0	63.6	42.7	44.0	46.1	60.0	59.7
2001	52.4	30.5	39.2	85.1	57.6	46.1	40.9	42.2	61.1	55.8
2002	46.9	27.9	41.5	88.3	55.4	48.3	33.5	39.2	59.6	54.5
2003	45.1	24.7	38.6	89.2	59.3	47.7	37.5	35.6	52.2	53.3
Environmental Health Practitioners per 100 000 population										
2002	1.26	1.60	0.30	1.63	3.11	2.00	0.74	1.29	0.43	1.42
2003	2.35	2.31	0.32	2.44	4.03	2.97	2.27	2.00	0.48	2.02
Medical Practitioners per 100 000 population										
2000	12.3	24.3	36.6	24.0	12.5	16.4	28.9	11.9	39.7	21.9
2001	12.2	22.2	28.7	22.3	12.2	16.4	26.3	12.2	32.5	19.8
2002	11.3	23.4	29.1	22.4	9.1	16.6	24.2	11.8	33.1	19.3
2003	12.7	23.1	25.4	21.3	14.3	17.9	28.4	11.5	31.9	19.7
Medical Researchers per 100 000 population										
2002	0.00	0.70	0.95	0.06	0.04	0.00	0.00	0.03	1.97	0.50
2003	0.00	0.30	0.15	0.04	0.22	0.00	0.13	0.00	1.94	0.35
Medical Specialists per 100 000 population										
2000	2.6	10.9	32.4	7.4	1.0	1.2	2.0	1.5	42.7	11.2
2001	2.6	9.3	24.6	6.5	0.8	0.6	2.4	1.7	44.5	10.3
2002	2.3	9.2	25.0	6.3	0.7	0.7	2.2	1.5	39.3	9.8
2003	2.3	9.2	19.7	6.0	1.0	0.7	2.7	1.5	32.6	8.9
Nursing Assistants per 100 000 population										
2000	72.3	94.4	108.2	71.8	57.6	59.6	82.2	79.1	131.2	81.3
2001	65.4	90.4	93.3	73.5	51.3	51.5	78.4	79.3	135.3	77.3
2002	59.9	93.5	92.7	72.2	53.6	53.3	77.2	77.4	134.9	75.9
2003	71.0	98.5	75.4	70.1	68.6	46.5	86.0	73.8	118.2	74.8
Pharmacists per 100 000 population										
2000	2.3	2.3	5.1	3.3	2.0	2.3	2.3	1.6	6.1	3.1
2001	1.8	3.0	4.6	3.5	2.2	3.1	3.1	2.4	7.3	3.4
2002	1.7	3.5	4.6	3.4	2.2	2.9	2.8	2.0	7.3	3.3
2003	2.2	3.2	3.7	3.2	2.2	2.7	3.1	2.1	6.4	3.1
Professional nurses per 100 000 population										
2000	106.1	128.9	172.5	119.8	104.6	90.5	122.3	94.3	139.9	120.3
2001	91.2	125.2	138.7	114.4	101.7	89.0	119.7	95.7	137.5	111.9
2002	74.9	124.1	136.3	109.0	110.5	89.6	107.1	94.1	130.0	106.8
2003	98.5	130.7	115.1	107.3	119.3	93.7	127.1	88.9	113.9	107.1

Source: FERSAL⁷