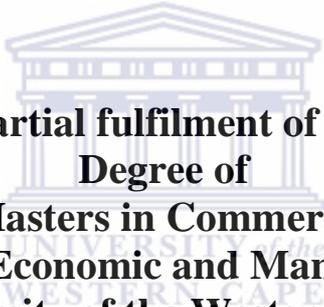


**Work Satisfaction and Retention Strategies of Medical Doctors in the
South African Public Health Sector**

by

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**A thesis submitted in partial fulfilment of the requirement for the
Degree of
Masters in Commerce
in the Faculty of Economic and Management Sciences
University of the Western Cape**

Supervisor: Professor Rubin Pillay

August 2010

DECLARATION

I, Oluwagbemiga Oladele Tokosi hereby declare that *Work satisfaction and retention strategies of medical doctors in the South African public health sector* is my own work; that it has not been submitted in the past, or is being submitted for a degree or to an examination body in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by use of complete referencing.

Signed



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ACKNOWLEDGEMENT

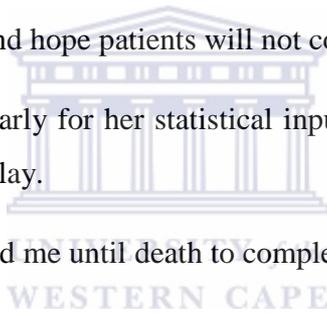
To the GOD of all creation who started this journey and enabled me to access all the resources needed to accomplish this, I say thank you Lord. Loyal praying friends who never gave up on believing in me, I appreciate you all.

I dedicate this work to the patients who have suffered various consequences of the negative impact of medical doctors work dissatisfaction and hope patients will not continue to be victims in the future.

I am grateful to Miss Li yang particularly for her statistical input, Dr. Paul Kogeda, numerous friends, colleagues and Professor Dr. Rubin Pillay.

To my late Dad who always encouraged me until death to complete this work.

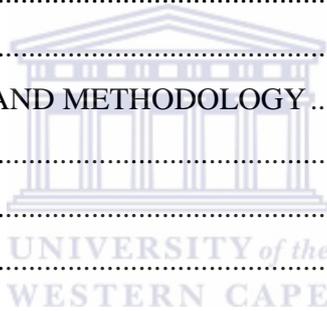
Thank you.



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LIST OF ABBREVIATIONS

AIDS:	Acquired Immune Deficiency Syndrome
GDP:	Gross Domestic Product
HIV:	Human Immunodeficiency Virus
HST:	Health Systems Trust
OECD:	Organization for Economic Co-operation and Development
SADC:	Southern African Development Community
SAMA:	South African Medical Association
SAMP:	Southern African Migration Project
TB:	Tuberculosis
WHO:	World Health Organization



ABSTRACT

One of the fundamental problems facing the South African public healthcare sector is motivation and retention of the healthcare practitioners. Medical doctors in particular, tend to leave the public sector for the private sector, rural settlements for the urban settlements, the Republic of South Africa for other countries or entirely leaving the healthcare industry. This study seeks to identify the factors that contribute to work satisfaction or dissatisfaction of doctors in the South African public health sector as well as bringing forth strategies that are important in retaining medical doctors in the sector. A cross-sectional survey using self-administered pre-tested questionnaires was mailed to 1000 randomly selected medical doctors in the public health sector of South Africa to get their opinions. Appropriate statistical tools were then used to interpret the findings. A total of 135 medical doctors participated in this study. The medical doctors identified lack of participation in management as the major factor hampering work satisfaction in the public sector. Pay and workload were also identified as the other leading factors to doctors' dissatisfaction. Significant relationships with patients were found as motivators to doctors' satisfaction. On retaining medical doctors, the respondents indicated a great need for improvement on the current working conditions and such improvements including the recognition of doctors in the workplace as well as their promotion. Discrimination and inadequate remuneration were leading factors for doctors not willing to be retained in the public sector

Medical doctors are essential to the efficient delivery of health care in South Africa and an unending conflict between them and their management imposes a great risk to the future of the South African health care. It is therefore imperative for healthcare managers to address those factors that are appearing to be obstacles to job satisfaction and at the same time capitalizing on the identified retention factors in their management strategies.

KEY WORDS

Public health, Medical doctors, Work satisfaction, South Africa, Retention, Employment, Relationship, Respondents, Healthcare, Motivators.

CHAPTER 1. INTRODUCTION

The purpose of this study is to recognize the variables that contribute to medical doctors' work satisfaction and retention strategies of such doctors in the public health sector. The South African Health System faces difficult human resource demands, which also characterizes health systems of many other countries. Assurance of an adequate pool of medical doctors for the public health sector is a major task that is complicated by the mass exodus of qualified doctors to foreign countries, which tend to influence them with better working conditions. The human resource demands are a fundamental part of the challenges confronting the national health system of South Africa. In many ways, the hopes and aspirations of South Africa's new democracy depend upon the development of professionals who not only have globally competitive knowledge and skills but are also socially responsible and conscious of their role in contributing to the national development effort and social transformation (Bailey, 2003:15).

To ensure efficiency in a workplace, it is important that the recognition of the relationships between employees and their jobs is well undertaken. Workers who are found satisfied with their jobs are more inclined to put forth greater efforts than those who are dissatisfied. Dissatisfied doctors contribute to un-conducive organizations, bad publicity; also to poor quality and less satisfying medical service (Pillay, 2002:35). The work environment and job design contribute to the overall satisfaction of the employees which in turn is reflected in their levels of performance (Pundit, 2006). With the current challenge in migration of medical doctors out of South Africa, job satisfaction among doctors needs investigating together with determining much needed applicable retention strategies. It is globally recognized that a focused human resource strategy, backed-up by an appropriate implementation plan is a critical ingredient of positive change in health care. Success in this area helps to create a positive image and an environment conducive for the health care to flourish.

1.1 Healthcare in South Africa

The health of a nation is determined by many factors such as demographic, socio-economic and environmental factors that interact with individual, corporate and health service interventions. Social and economic inequalities in a society can also be expected to be reflected in health status. South Africa today, remains a country of contrasts between those that have and those that do not have, a land where some people have among the best standard of living and access to good healthcare and

where many have very poor living standards, a great deal of poor access to healthcare. Infant and maternal mortality rates, which are both indices of the health status of a population, are very high and the standards of care in some parts of the country are lower than it is in some poorer Sub-Saharan countries (Health Systems Trust, 1999).

1.1.1 Economic and social structure of South Africa

The South African population is highly changeable with most of the population residing in urban areas. In 1997, age distribution showed a young population with 45% of the population younger than twenty years of age. However, with demographics transition, it is anticipated that the population aged sixty years and over will increase from the 6% that it was in 1995 to 9% in the year 2020 (Health Systems Trust, 1997). Poverty is to a large extent an African, rural, female and child phenomenon. Income disparities in South Africa are a reflecting fact that the poorest 40% of households earn less than 6% of the total income while the richest 10% earn more than half of the total income. Increasingly, the income gap is now shifting from being race-based to class-based. Unemployment in South Africa is a widespread problem with an estimated 33% of the economically active population unemployed and an unpredictable unemployable population (Health Systems Trust, 1999:40-54).

1.1.2 Health sectors in South Africa

South Africa is a two-tier health system differentiated by large public and private sectors. These sectors are of corresponding sizes in terms of overall disbursement, but over substantially diverse population sizes, groups and geographical areas (Pillay, 2007:6).

1.1.3 The public sector

The public sector provides to a great number of the poor population and low-income groups that constitutes 82% of the total population (Van den Heever, 1998). Public sector care services are free for all citizens with the hospitals caring for the disadvantaged patients. Health services in this sector are funded almost entirely by the government; 94% from general tax income and are therefore dependent on the economic growth rate and government monetary policy (McIntyre, 1995). Reliance on a single source of finance for the majority of the public sectors limits the ability of health authorities to restructure health services as well as responding properly to the growing needs of the population. In general, the public sector suffers from poor access, bad management, inequitable regional allocation, and poor information management inherited from the apartheid regime. In the

public sector, the state owns all the infrastructure and health care personnel are employed on a fixed salary basis (Schultz, Girard and Scheckler, 1992:18-25).

It is difficult to state the exact number of medical doctors in the public sector as most researchers have found many private doctors working across both sectors (Doherty and Joffe 2003) put the number of medical doctors in the public sector in 2001 at 11, 332 doctors (Hall and Erasmus 2003) put the number at 11,170 doctors for 2002 with 4,222 further public sector posts unfilled. A rough estimate across these studies is that above 60% of medical doctors are in South Africa's private sector.

If one takes into consideration that less than 16% of the population belongs to medical schemes (Council of Medical Schemes, 2003) then the very desperate situation of those who are dependent on the public service emerges. More than 84% of the population is treated by less than 40% of medical doctors (Padarath, Ntuli and Berthiaume, 2003). The public sector health employees of South Africa are faced with a large number of factors affecting the effective and efficient service delivery system.

Table 1: Distribution of public sector medical practitioners per 10,000 public sector-dependent populations by province from 2002 to 2003.

	EC	FS	GP	KZN	LP	MP	NC	NW	WC	SA
2000	1.23	2.43	3.66	2.4	1.25	1.64	2.89	1.19	3.97	2.19
2001	1.22	2.22	2.87	2.23	1.22	1.64	2.63	1.22	3.25	1.98
2002	1.13	2.34	2.9	2.24	0.91	1.66	2.42	1.18	3.31	1.93
2003	1.27	2.31	2.54	2.13	1.43	1.79	2.84	1.15	3.19	1.97

Source: PERSAL in Health Systems Trust (2004)

Key: **EC** = Eastern Cape, **FS** = Free State, **GP** = Gauteng Province, **KZN** = KwaZulu Natal, **LP** = Limpopo Province, **MP** = Mpumalanga Province, **NC** = Northern Cape, **NW** = North West, **WC** = Western Cape, **SA** = South Africa.

1.2 Human resource challenges

South Africa's health system faces human resource challenges, a feature of health systems in numerous other developing countries. An educated workforce is a scarce resource and organizations can no longer rely on the loyalty of these highly skilled employees (Kinneer and Sutherland, 2000). In South Africa, the problem is made worse by the general lack of high-level professional skills in the country. As a result, organizations need to understand how employees and in particular medical doctors should be motivated and rewarded handsomely in order for them to function effectively and

to remain in the country. Despite numerous reforms since 1994, the South African health system remains divided having the private care that ranks with middle to higher income countries at the one end, and the public sector with systems that are only superior to the poorest of African countries at the other extreme.

New doctors are mostly faced with difficult career paths after graduation. Some will seek out the medical profession only because of status and monetary rewards while others might start out with optimistic views but later ending up disappointed. Many will migrate at this point or later while, only very few will take the difficult road of the public service, and even fewer changing direction to the beaten tracks and into the harsh world of public rural practice (Cross, Gelderklom, Mafukidze, 2006).

Over the last years, a series of tangible actions have emerged to improve the health of the poor, among them the Roll Back Malaria and Stop TB partnership, the Global Alliance for Vaccine and Immunization (GAVI), the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and the World Health Organization plan to rapidly expand access to AIDS treatment. A number of challenges must be overcome in order for additional resources to be invested effectively and efficiently. For any large scale effort to scale up priority intervention coverage of the population, Human Resources for Health (HRH) need to be a key success. HIV/AIDS and other diseases have strongly influenced the size of the workforce and the numbers of newly trained and skilled health personnel. Illnesses and absenteeism from the workplace may contribute to the reduction of the performance of health staff. Consequences are a reduction in the availability of professional health workers and an increase in the workload on those left behind. One effect of HIV/AIDS is acute staff shortage in public sector hospitals (Wyss, 2004).

Herman (2005) has credited the exodus of public health workers to factors such as better salary prospects being offered overseas resulting in worker shortages, and thus placing additional demands on the other employees. Cullinan (2005) supported this outcome with statistics revealing that in 2001, more than 23,000 South African-born health employees were working abroad in countries like Britain, Canada, Australia, New Zealand and USA. Poor salaries were not cited as the only reasons for the growing problem, but additional factors like management, work environment were also shown to intensify work dissatisfaction (Cullinan, 2005). According to (Meyer, 1999), many South

African employees experience a lack of job satisfaction resulting in low level employees' commitment that, in turn, impacts on the performance and attainment of organizational set objectives.

1.2.1 Shortage of medical doctors in South Africa

Personnel shortages in the public healthcare sector have been identified as obstacles to the delivery of quality medical services in South Africa. Of great concern to the World Health Organisation (WHO) is the immigration of qualified health professionals from less developed countries to the developed ones. The WHO noted that a substantial number of professionals leaves the workforce each year either temporarily or permanently and also calculated that thousands of medical doctors out of Sub Saharan Africa are currently working in countries like the USA, Canada, the United Kingdom, Australia, Portugal and Denmark, among other developed countries (WHO Report, 2006). The full effect of the immigration of qualified health professionals from less developed countries to the developed ones on countries of origin is not known as yet but it is however, a big challenge for the relatively weak health systems in the developing world, which loses much needed and well trained medical personnel (WHO Report, 2006).

A fundamental factor to the provision of quality health care in South Africa is the motivation of medical personnel. Therefore, the ease with which medical doctors exit the industry either for greener pastures or as a change in career is a cause for concern to the South African Department of Health as it seeks to control the outflow of personnel (Department of Health Report, June 2005). This in itself is a global problem and has its implications on the recruitment and retention of South African medical doctors thereof. There was a steady increase in the number of registered medical doctors in the period 1998-2001, but the total number of those working in the public health sector fell slightly. The public sector had in employment 44% of the registered medical doctors in 1998 that later went down to 37% in 2001 thus indicating a downward trend (WHO, 2004:26).

The World Health Statistics (2008) reveals that in South Africa and according to registration, there were 34,829 medical doctors in 2006, and a corresponding density per 10,000 of the population showed only 8 doctors available during the same period (WHO, 2008:82). Total expenditures on health as percentage of South Africa's Gross Domestic Product (GDP) showed an 8% in 2000 and a 9% in 2005 (WHO, 2008:90).

1.2.2 The unequal distribution of medical doctors

Ntuli and Day (2004) put the figure of registered medical doctors in South Africa at 31,214 although the presence of all these practitioners in the country and if actually practicing at all was highly questionable. This figure simply represented the maximum possible the country could have had at a particular period. With this estimate, the mid-2004 estimated total population of South Africa was 46 million people suggesting the ratio of medical practitioners to the total population to be at 1:1486 or 67 per 100,000 populations or 7 per 10,000 populations.

Table 2: Medical practitioners per 10,000 populations in South Africa and neighbouring countries for various years.

South Africa	2004	6.73
Botswana	1999	0.35
Lesotho	1995	0.56
Malawi	1999	0.18
Mozambique	2000	0.24
Namibia	1997	2.65
Swaziland	1996	1.44
Zambia	1995	0.64
Zimbabwe	2003	1.31
Kenya	1995	1.26
Tanzania	1995	0.36
Uganda	2002	0.97

Source: WHO African Republic Office Database – May/June 2004.
Quoted in Joint Learning Institute on Human resources (2004)

In relation to the different income brackets of countries as defined by the World Bank, South Africa ranks only slightly above those countries classified as low income as the table below indicates.

Table 3: Medical practitioners per 10,000 populations in high, middle and low income countries

High-income countries	28
Middle-income countries	18
Low-income countries	5
Sub-Saharan Africa	1

Source: World Bank 2001, in Sanders & Meeus (2002)

1.2.3 Medical doctors by province

With the figures further divided per province, Gauteng had the most medical doctors with a 35% of the total in 2002, 36% in 2003 and 2004, followed by the Western Cape with 21% of the total in 2002, 22% in 2003 and 2004. KwaZulu Natal (KZN), the most populated province, had only 16% of the total number of doctors in the country (Cross, *et al.*, 2006). Table 4 below illustrates this further.

Table 4: Number of medical doctors by province from 2002 to 2004.

Region	2002	2003	2004
Eastern Cape	1,926	1,913	1,946
Free State	1,542	1,578	1,589
Gauteng	10,561	10,942	11,183
KZN	4,821	4,848	5,033
Mpumalanga	999	999	989
North West	873	876	886
Noorthen Cape	393	382	380
Limpopo	854	886	978
Western Cape	6,398	6,642	6,745
Foreign	1,536	1,512	1,485
Total	29,903	30,578	31,214

Source: HPCSA (2004)

In 2004, Gauteng and the Western Cape had 13 and 15 medical doctors per 10,000 people, ranking with middle income countries. In Limpopo, there were only 2 medical doctors per 10,000 people thus placing this province only above the average for the sub-Saharan Africa (refer to Table 5 below).

Table 5: Number of medical doctors per 10,000 by population by provinces in 2004.

Province	Medical doctors per 10,000 population (2004)
Eastern Cape	3
Free State	5
Gauteng	13
KZN	5
Mpumalanga	3
North West	2
Northern Cape	4
Limpopo	2
Western Cape	15
National Average	7

Source : HPCSA (2004) ;Stats SA (2004)

Although South Africa had two provinces with relatively high number of medical doctors, it was still not on par with most developed countries (refer to Table 6 below).

Table 6: Number of practicing medical practitioners per 10,000 populations of the Organization for Economic Co-operation and Development (OECD) countries in 2002.

Australia (2001)	25	Korea	15
Austria	33	Luxemburg	26
Belgium	39	Mexico	15
Canada	21	Netherlands	31
Czech Republic	35	New Zealand	21
Denmark	33	Norway	34
Finland	31	Poland	23
France	33	Portugal (2001)	32
Germany	33	Slovak Republic	36
Greece (2001)	45	Spain	29
Hungary	32	Sweden (2001)	30
Iceland	36	Switzerland	36
Ireland	24	Turkey	13
Italy	44	United Kingdom	21
Japan	20	United States (2001)	24

Source: OECD Health Data (2004)

1.3 Background to the problem

Job satisfaction is widely understood to be an important factor in the decision to stay in a job or to move out of it. In the health care industry, job dissatisfaction can have adverse implications to the effectiveness and the efficiency of the health care delivery method. South Africa faces increased pressure on the health care system attributed to the large number of communicable diseases that include HIV, Malaria, Cholera, Tuberculosis, and many others. The current shortages of medical doctors particularly in the public sector therefore undermine the quality of patient care. Of concern to the Department of Health is the number of medical doctors who are lost to developed countries or to other careers. In 2006, it was estimated that the population of the country was about 48 million people and to adequately serve that population, 185 000 doctors were needed. Based on recruitment and retention trends, that target was missed by about 6 000 doctors countrywide and in the public sector alone (Chabikuli, Blaauw, Gilson and Schneider, 2005).

Emigration of medical doctors is also contributing to the shortages in the country. There are many factors that contribute to this brain drain. Globalisation, improved technology and communication enable easier labour mobility. The decreasing numbers of doctors in the developed countries are also a major facilitator of the brain drain as local doctors are targeted directly for these jobs after being offered more attractive returns. Estimates are that in 2015, shortages of 20% (which is considered a crisis) will be experienced in the USA and this figure is still expected to increase to 29% by 2020 (Andrews and Dziegielewski, 2005). This targeted recruitment of medical doctors in developed countries is working as it is estimated that South African doctors working abroad constitute 44% of all immigrants working in seven OECD countries (WHO Report, 2006). The implications and consequences for the health systems in the developing countries that feed the shortages overseas are therefore staggering. The main reasons cited for leaving the home countries are, perceived better opportunities to advance career-wise, better remuneration and better working conditions (Awoses, Gbary, Nyoni and Chantora, 2002) and as long as developing countries cannot provide these assurances to their labour force, constant migration can be expected.

Job satisfaction of doctors has been well-studied (Blankfield, Kelly and Alernango, 1990; Kerr, Hays and Mittman, 1997; Lichtenstein, 1984; Linn, Brook and Clark, 1985; Schultz, Guard and Scheckler, 1992; Williams, Konrad and Linzer, 1999). However, there are small numbers of practical researches aimed at gauging, in a methodical manner, how institutional characteristics in the public health sector of South Africa can retain its medical doctors.

1.4 Statement of the research problem

In general, the South African public health sector suffers from poor access to medical doctors, mismanagement, unbalanced regional allocations of funds, and poor information management systems as inherited from the apartheid regime. The greatest imbalance in personnel distribution is between public and private sectors. For instance, in 1998, 70% of all general practitioners and 76% of all health specialists worked in the private sector. By 1999, 79% of all general practitioners were estimated to be working in the private sector. Such inequities tend to be worse among doctors than nurses, and also mostly for specialists as compared to general practitioners. The exodus of skilled health professionals from South Africa has been substantial, with most having left for Australia, New Zealand, Canada, the UK and the USA between 1995 and 2002 alone (Chabikuli, *et al.*, 2005).

Work satisfaction is seen as a crucial variable determining retention. With current migrations of medical doctors out of South Africa, it warrants further investigation. A number of factors contribute to work satisfaction of medical doctors and each factor needs to be identified and critically analyzed in order to accurately assess work satisfactions and dissatisfactions as well. High doctors' satisfaction at work improves the ability of healthcare organizations to recruit and retain doctors (Wells, 1990; Kramer and Schmalenberg, 2003) and is closely linked to employee performance which ultimately dictates the quality of care administered to patients. Consequently, it is therefore important to understand the various factors that impact on doctors' work satisfaction.

1.5 Research questions

1.5.1 Primary question

What are the significant variables that lead to work satisfaction and dissatisfaction of medical doctors working in the public health care sector of South Africa?

1.5.2 Secondary question

Which significant variables positively contribute to medical doctors' retention in the South African public health sector?

1.6 Research hypothesis

This current research seeks to identify and isolate the sources of job satisfaction and dissatisfaction of medical doctors in the South African public sector. This is done with a view to offering experimental evidence to the factors affecting job satisfaction amongst medical doctors and therefore contributing to further research of this topic in South Africa. The research further seeks to add to the literature on work satisfaction of medical doctors in South Africa as there is a scarcity of practical evidence on this topic in Africa generally.

Other researchers on the topic would also benefit from the results and conclusions reached. Policy-makers in the medical profession would value the conclusions reached as they may use them in their design of curriculum for medical doctors.

1.6.1 Objectives

In this regard, the most specific objectives aimed at were:

- Identifying what factors contribute to the work satisfaction of medical doctors in the public sector of South Africa.
- Identifying factors that instigate medical doctors to leave the public health sector.
- Identifying ways of keeping medical doctors satisfied in the public sector of South Africa.
- Identifying strategies that can be implemented to retain South African doctors in the public sector.

1.7 Chapter summary

The chapter points to the continual departure of medical doctors from the public sector of South Africa as alarming and unless a solution is reached soon, the effects on the healthcare industry of this trend will be catastrophic. A distinct mix of healthcare standards is highlighted to exist in South Africa with economic capabilities playing an active role in this disparity. The levels now categorised as class based, is aided by the presence of two distinct sectors in the country namely private and public sectors.

The public sector looks to reach its maximum capacity and further pressure might lead to its collapse. Turning to the country's human resource, medical doctors are classified under scarce skills with emerging doctors having various lucrative options to consider after graduation. The patient's doctor ratio is increasing at staggering proportions.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

The vast majority of jobs today require a great deal of formal education and the application of theoretical and analytical knowledge. These jobs pay for knowledge, whether skilled or unskilled. Knowledge workers are a scarce resource and organisations can no longer rely on the loyalty of highly skilled and marketable employees (Kinnear and Sutherland, 2000 cited in Pillay, 2002). In South Africa, the problem is intensifying especially among designated groups. Medical doctors are one such group where organisations need to understand how to motivate, develop and reward employees for them to work at their best potential. The nature of the relationship between an organisation and its employees is governed by what motivates employees to work and the fulfilment they derive from it. The manager needs to know how best to obtain the co-operation of employees and direct their performance to achieving the goals and objectives of the organisation. The manager must understand the nature of human behaviour and how best to motivate employees so that they work passionately and effectively (Mullins, 1999).

Job satisfaction has been the subject of research since the Hawthorne studies of the 1920s (Roethlisberger and Dickson, 1939). Job satisfaction is defined as the “pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976:130). Churchill, Ford, and Walker (1974:254-259) defined job satisfaction as “all characteristics of the job itself and the work environment which workers find rewarding, fulfilling, and satisfying, or frustrating and unsatisfying.” An individual’s attitude about his or her own job should have meaningful implications on how he or she conducts it. Many human-relations researchers like McGregor (1960) sought to establish job satisfaction as a driver of performance. Brayfield and Crockett (1955) however, cited conflicting research results and questioned this view. Porter and Lawler (1968) adopted a contrary view that performance leads to job satisfaction. This has become the generally accepted view. Even so, the strength of the relationship appears to be very weak, (Iaffaldo and Muchinsky, 1985). The relationship between medical doctors and public hospitals are transforming and public hospital managers are challenged to adapt innovative approaches in their pursuit to attract, motivate, and retain doctors. Gaining insight into what determines commitment to the aspirations of organizations will assist us to understand the employees’ views to government

philosophy. This will in turn, enable the adoption of appropriate organizational structures and policymaking strategies.

2.2 The concept job satisfaction

Endeavour to understand the nature of job satisfaction and the effects it has on work performance is not an easy task. Job satisfaction is a complex and multifaceted concept, which can mean different things to different people. Usually being linked with motivation, the nature of this relationship is not clear. Satisfaction is not the same as motivation. Job satisfaction is more of an attitude and an internal state (Mullins, 1996:630).

2.2.1 Definitions of job satisfaction

There is over-abundance of definitions of job satisfaction, some of which that are contradictory in nature. Spector (1997) refers to job satisfaction in terms of how people feel about their jobs and different aspects of their jobs. Ellickson and Logsdon (2002) support this view by defining job satisfaction as the extent to which employees like their work. Schermerhorn (1993) defines job satisfaction as an affective or emotional response towards various aspects of an employee's work. The emphasis points to prominent causes of job satisfaction to include status, supervision, co-worker relationships, job content, remuneration and extrinsic rewards, promotion and physical conditions of the work environment, as well as organizational structure. According to (Coster 1992 cited in Sempene, Rieger and Roodt, 2002), the job can have an effect on the total quality of life of the employee. (Schneider and Snyder 1975 cited in Sempene, Rieger, and Roodt, 2002) concludes that job satisfaction is an individual's personal assessment of conditions prevalent in the job, thus evaluation occurs on the basis of factors, which is regarded as important to them. Robbins, Odendaal and Roodt (2003) add that an individual with high job satisfaction displays a positive attitude towards his job, and the dissatisfied individual has a negative attitude about the job. Greenberg and Baron (1995) define job satisfaction as an individual's cognitive, affective, and evaluative reactions towards their jobs expand this definition.

Mullins (1999) views job satisfaction as necessary in order to achieve a high level of motivation and performance. However, although the level of job satisfaction may well affect the strength of motivation, he claims that this is not always the case. Mullins claims that the content theories of motivation tend to assume a direct relationship between job satisfaction and improved performance.

The relationship between job satisfaction and performance is an issue of continuing debate and controversy. Current research into job satisfaction shows that there is no unanimous agreement as to how it is defined. According to Cherrington (1994), research on job satisfaction has identified two aspects to understanding the concept of job satisfaction while Price (2002) groups the aspects of job satisfaction as approaches to job satisfaction, and namely, the facet approach and global or overall approach.

2.2.1.1 Global approach on job satisfaction

The global approach takes into account feelings and emotions that employees associate with their work experience (Spector, 1997). This overall satisfaction focuses on the general internal state of satisfaction or dissatisfaction within an individual. Positive experiences in terms of friendly colleagues, compassionate supervisors, and attractive jobs create a positive internal state. Therefore, overall satisfaction or dissatisfaction is a holistic feeling that is dependent on the intensity and frequency of positive and negative experiences (Cherrington, 1994).

2.2.1.2 Facet approach on job satisfaction

The facet approach refers to the tendency for an employee to be more or less satisfied with various aspects of the job (Johns, 1988). The facet approach emphasizes employees' attitudes towards individual aspects of their job (Lu, Lin, Wu, Hseih and Chang, 2000). Cherrington (1994) refers to the various aspects or facets of the job as the individual's attitude about their pay; the work itself, whether it is challenging, stimulating and attractive; and the supervisors, whether they possess the lenient managerial skills as well as being competent in their jobs. The faceted approach shall be used in this research, as it is most suited for the kind of factors that will be examined.

Bassett (1994) suggested that research shows a limited relationship between satisfaction and work output with little relief to researchers seeking to confirm that a satisfied worker is a productive worker. Handy (1997) argues that a workplace with great inspiration atmosphere will result in inspired workers and draws attention to the importance of the atmosphere, quality and styles of buildings and offices for workers to perform. In addition, Mumford (1991) examined job satisfaction in two ways and in terms of: (1) The fit between what the employee seeks and what he/she actually receives, and (2) The organizational requirements and the employee's pursuit. With regards to these existing schools of thought about job satisfaction, Mumford (1991) categorized five contractual parts

of employee/organizational relationship that can be examined namely, the ethical contract; the psychological contract; the knowledge contract; the efficiency / reward contract; and the task structure contract.

2.2.2 Sources of job satisfaction

A number of factors contribute to job satisfaction of medical doctors and these, according to Mullins (1999:633), can be broadly categorized into personal, organizational, social, cultural and environmental factors.

- **Organizational factors** include individual's perception of management, salary, autonomy, work demands and training opportunities.
- **Social factors** include the relationship and unity with other medical doctors, nurses, and other staff and patients.
- **Personal factors** include education, intelligence, abilities, and personality.
- **Cultural factors** include the underlying beliefs and attitudes, which contribute to behaviour. Cultural differences are seen as a key component differentiating job satisfaction.
- **Environmental factors** include social, economic, and governmental influences.

These factors contribute to the level of job satisfaction among employees and depending on the circumstances, these factors will influence some employees more than others.(Pillay, 2002). Stamps and Piedmonte (1986) have found six components that are necessary for nurses' job satisfaction which include adequate pay, professional status, social integration, minimal non-nursing task requirements, good organizational policies and autonomy, and by no doubt, these components also apply to medical doctors too. Irvine and Evans (1995) in their meta-analytical study on job satisfaction and turn-over; developed a model of the contributing disciplinary perspectives which included economic, structural and psychological factors. Economic factors were pay, job market and training; structural factors were work environment while work context and psychological factors included individual and demographic variables.

Van Saane, Shuiter, Verbeek and Frings-Dresen (2003) in their work into the reliability and validity of instruments measuring job satisfaction, found eleven work factor domains considered representative of the content of job satisfaction. The domains included: autonomy (individual control over job decision); growth/development (personal growth, training and education); promotion

(career advancement opportunities); work content (challenge in job, variety in job); supervision (support and recognition by supervisors); financial rewards (salary, bonus or fringe benefits); meaningfulness; co-workers (professional relations with co-workers); communication (feedback or counselling opportunities); work demands (involuntarily doing more procedures or extra work or insecurity of the work situation) and workload (stress or time pressures subjectively experienced) (Van Saane, *et al.*, 2003). Greater job satisfaction has also been generally related to reduced intent to leave the organization (Brayfield and Crockett, 1955; Mowday, Koberg, and McArthur, 1984) and with reduced rates of absenteeism (Steers and Porter, 1991). In addition, job satisfaction has been shown to be strongly related to organizational commitment, (Porter, Steers, and Mowday, 1991) and to organizational citizenship behavior (Smith, 1987).

The importance of job satisfaction lies not in its relationship with performance but with its stabilizing effects (reducing tardiness, absenteeism, and turn-over) and through its effects on cohesion (increasing organizational citizenship behaviors and organizational commitment). Job satisfaction appears to mediate the effects of in-role performance, role conflict, and job-induced tension on intent to leave and extra-role performances. Babakus, Cravens, Grant, Ingram, and LaForge (1996) reviewed organizational variables related to job satisfaction. They concluded that the sales-person's perception of fairness in the company's compensation program also affects the job satisfaction of sales-people. They postulated that the type of control system employed by management would influence job satisfaction, *i.e.*, the greater the extent of compensation control or outcome control, the less job satisfaction experienced by sales representatives. Herzberg (1966) found job dissatisfaction to result from hygienic factors. Hygienic factors, however, are inherently extrinsic to the work; they are measured as extrinsic job satisfaction. In fact, the complement of extrinsic job satisfaction provides a measure of job dissatisfaction, thus directly following Herzberg's theoretical development. He also found that job satisfaction is derived from the work itself; those factors intrinsic to the job provide the true satisfactions from the work. Of course, the intrinsic factors (job satisfiers) and extrinsic factors (job dissatisfiers) are not totally independent. There are some factors, which seem to influence both factors. The measure of job satisfaction developed in this study included measures of intrinsic and extrinsic job satisfaction. Deci (1971, 1975) found that reward contingency may act to diminish intrinsic motivation because the provision of incentives is necessarily extrinsic to the work itself, and therefore the relationship of each dimension to the other study variables may add to the understanding of the role played by incentives.

2.3 Retention strategies

In China, the number one concern is shortage of qualified staff while Japan has this problem as its second biggest threat. In India, the shortage of qualified staff was rated as the fourth biggest concern (Dumont and Meyer, 2004). The skills shortage is therefore not just a South African phenomenon (Howzit, 2008). The brain drain issue is a constant subject in the Sub-Saharan and African media, with the subject of inadequate health professionals topping South African dialogue. The migration of South African medical doctors has been cited as a contributing cause of the growing skills crisis in the country (Dovlo and Martineau, 2004: 10-12). This growing problem has significantly affected governments' recent rethink of policy towards skills immigration of medical doctors from various African and overseas countries. Personal and professional support arrangements within the rural communities in Australia appear to be associated with decisions for doctors to remain in practice for substantial periods of time. Retention strategies are focused on facilitating local integration (Hays, Wynd, Veitch, and Crossland, 2003).

2.3.1 Migration

Individuals choose certain professions for a number of reasons and the challenge facing recruiters and organizations is to identify the right mix of individual traits and organizational needs. Behling (1998) proposed that human beings have three main ways in which they choose where to work and hence put forward the objective factor theory, subjective factor theory and the critical contact theory of recruitment. The objective factor theory suggests that a potential employee chooses an organization based on tangible factors such as pay and benefits, location, nature of work, opportunity for growth and educational opportunities (Hall and Erasmus, 2003). The subjective factor theory contends that the compatibility of an individual's personality and the perception that he/she has of the image of an organization would be important in choosing where to work (Meyer, Mabaso and Lancaster, 2002). On the other hand, the critical contact theory says that because of limited contact or insufficient knowledge of an organization, an individual may not be able to make choices based on subjective or objective factors. However contact with the organization's staff at an interview, employment fairness or in a personal capacity may greatly influence the choice he/she makes as to whether or not to seek employment there.

2.3.2 The brain drain issue

A study done by the Southern African Migration Project (SAMP) in 2005 on South Africa's Research and Development (R & D) sector found that the impact on the labour market that brain drain has, are yet to be adequately understood in any SADC country. The brain drain has undoubtedly accelerated in the past decade but care is required in interpreting data and making policy recommendations for the following founded reasons:

- There is a common notion that emigration means departure for good. Many who depart do not intend to stay away permanently. Many who leave retain strong social and economic links with their homes.
- Uncertainty over the numbers involved. The extent of the drain is certainly not captured in any official statistics.
- Little concise evidence about the actual economic and social impacts of the brain drain.
- Projections about the future trends are based on faulty methodological assumptions that tend to exaggerate the likelihood of emigration.

Despite the poor quality of data, there is little doubt that brain drain has accelerated within the SADC region since 1990, particularly from South Africa and Zimbabwe. Domestic political and economic conditions have united to creating a large pool of potential emigrants especially among health professionals aided by new global opportunities (Bailey, 2004 cited in SAMP, 2005). An aggressive recruitment of health professionals by North America and Europe is stripping the region of scarce skills at a time it can badly afford to lose them. Ashnie, Chamberlain, McCoy, Ntuli, Rowson and Loewenson (2003) argue that "*personal scarcities have become a critical limiting factor in health interventions*" for the public health sector. Health systems in South Africa face a variety of problems including "an overall lack of personnel in key areas of the health sector, and an inequitable distribution of those health professionals who are available." The public health sector capacity to deliver services is being compromised by this drain at precisely the same time HIV/AIDS epidemic is increasing the burden on the system.

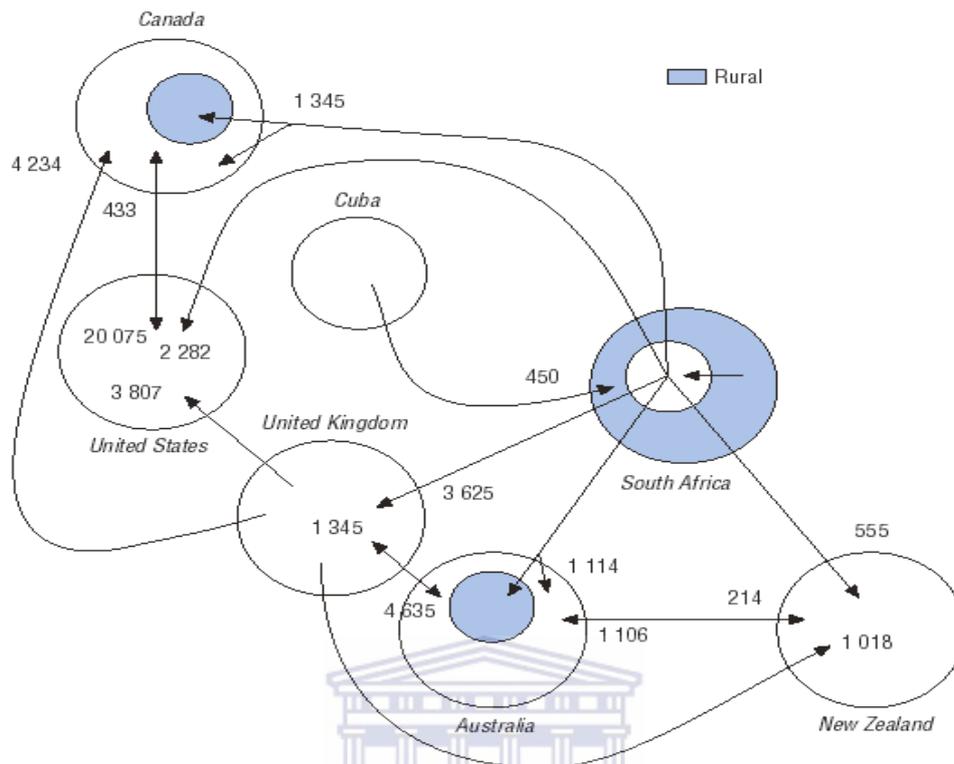


Figure 1: The trend of brain drain of medical personnel from South Africa to the other developed countries (Source: Dumont and Meyer 2004 p.128).

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2.3.3 Retention of medical doctors

It is generally agreed however, that successful recruitment and consequent retention of staff requires that organizations find the right mix of individual traits and organizational goals (Thomsen and Adams, 1999; AFSCME, 2006; Chatman, 1991; Box, Odom and Dunn (1999). In the medical profession, this is the most important factor as it is viewed as more than just a job but a profession. However, in the current climate of high unemployment, it is not known whether doctors still see the profession as a calling or as a means to an end. The American Federation of State, County and Municipal Employees (AFSCME, 2006) report on medical doctors shortage goes further to suggest that there is no real shortage of doctors but a shortage of doctors willing to work under current employment conditions. Recruiting and retaining doctors subsequently require a delicate balance of what the hospitals require and what potential/current medical doctors expect from the job. This research drew from work of this nature to create a conceptual framework for the retention strategies of medical doctors. Hoyal (1995) proposed that important factors influencing rural medical doctor's retention in Australia are professional. He also highlighted the need for community support as well

as emotional and financial hospital support for the doctors. Hays(1997), in a survey of Queensland doctors of Australia, emphasized the positive aspects of rural practice to be professional autonomy and support, community relationships, work variety, family lifestyle and continuity of care.

In proposing retention strategies; Hays, Veitch, Cheers and Crossland (1997) developed a conceptual model of a balance between influences to stay or to leave and triggers that could shift the balance, which include management training for doctors and educational packages for families.

2.4 Motivation theories

Faced with the current challenge of medical doctors shortage in South Africa and the importance they contribute to the healthcare system, it becomes increasingly important to assess what motivates them and if the healthcare institutions are in turn satisfying their needs. Motivational theories do assist us to recognize how best to motivate employees to ensure effective attainment of organizational goals. Motivation theories assist us to identify how best to motivate employees and in this case, doctors to ensure the effective attainment of organization's goals. People's behaviour is determined by what motivates them. Their performance is an outcome of both ability level and motivation. The underlying concept is some driving force within individuals by which they attempt to achieve some goal in order to fulfill some need or expectation (Mitchell, 1982:43-45).

Needs and expectations can be categorized in a number of ways; they break up into physiological and social motives or into intrinsic and extrinsic motivations. Extrinsic motivation is related to tangible rewards such as salary and benefits, security, promotion, contract of service, the work environment and conditions of work. Such tangible rewards are often determined at the organizational level and may be largely outside the control of individual managers. Intrinsic motivation is related to psychological rewards such as the opportunity to use one's ability, a sense of challenge and achievement, receiving appreciation, positive recognition, and being treated in a caring and considerate manner. The psychological rewards are those that can usually be determined by the actions and behavior of individual managers (Mullins, 1999:630). Motivators are intrinsic to the experience of doing work and include aspects such as autonomy, skill variety, recognition, self-satisfaction and responsibility. Hygiene factors are extrinsic work motivational factors or job qualifiers with disqualifying potentials. They include factors like management, administration, salary and working conditions (Pundit, 2006:17).

There are many competing theories which attempt to explain the nature of motivation. These theories are all partially true and all help to explain the behaviour of employees at certain times. However, the search for a generalized theory of motivation at work appears to be in vain. Motivated people take more pride in their jobs and work better. Collectively, the different theories provide a framework within which to direct attention to the problem of how best to motivate employees to work willingly and effectively (Mullins, 1999). Nel, Van Dyk, Haasbroek, Schultz, Sono and Werner (2004) describes content theories as a concentration on the needs and factors that motivate behaviour and includes Maslow's hierarchy of needs theory, Herzberg's two factor theory and McClelland's achievement motivation theory, while process theories are focused on the source of behaviour and the factors that affect the strength and direction of the behaviour given attention to The Valence Instrumental Expectancy theory, Equity theory and Goal Setting theory.

2.4.1 Content theories

The Content theories are an attempt to explain specific factors that actually motivate the individual at work. These theories are concerned with identifying people's needs, their relative strengths and the goals they pursue in order to satisfy these needs; as this theory places much emphasis on the nature of needs and what motivates individuals.

2.4.1.1 Maslow's Hierarchy of Needs theory

According to Maslow, the individual personality continuously strives to satisfy needs that are hierarchical with an inherent tendency towards self-actualization (Joubert, 2000) Maslow (1964) developed a hierarchy of needs where his classification of human needs varied from very basic needs (level 1) to the more complex needs (levels 3, 4 and 5) and these five categories of needs include:

1. **Physiological** needs like food, water, air and sex
2. **Safety** – need to be in a safe stable environment
3. **Social** – need for relations with others and acceptance by peers
4. **Self esteem** – need for self-confidence, recognition, freedom, independence
5. **Self-actualization** – need to realize one's full potential and self-fulfilment

According to Maslow (1964), individuals' behaviour is dominated by those needs which are unfulfilled and furthermore, individuals have to satisfy their basic needs first before the higher order needs become important as motivators. This theory highlights the recruiting need to clearly identify

and address those factors that are seen as positively satisfying by doctors. Although the theory is used extensively, critics cite a lack of empirical evidence substantiating the theory (Arnolds and Boshoff, 2001). Furthermore, Steers and Porter (1991) question lack of evidence categorizing the needs following any particular order of hierarchy.

2.4.1.2 Herzberg's Two-Factor theory

Herzberg (1966) developed a two-factor motivation theory comprising of motivators and hygiene factors, and focused on intrinsic and extrinsic rewards as incentives to work. Hygiene factors cause dissatisfaction by their absence but do not cause motivation by their increased presence. The theory suggests that the more extrinsic factors a job offers, the greater the intrinsic motivation at work (Hackman and Oldman, 1975). However, it assumes that an individual's motivation to work is derived solely from his or her job. This classic theory also acknowledges that individual personal characteristics need to be considered when work is designed (Pundit, 2006). The motivation-hygiene theory has extended Maslow's (1964) hierarchy of needs theory and is more directly applicable to work situation. Herzberg's theory suggests that if management is to provide positive motivation, then attention must be given not only to hygiene factors but to the motivating factors also (Herzberg, 1966). The work of Herzberg indicates that it is more likely that good performance leads to job satisfaction rather than the reverse (Mullins, 1999:421-423).

Reviewers like House and Wigdor (1967) drew attention to the influence of individual differences. They suggest that within the sample of people, a given factor can be the source of both satisfaction and dissatisfaction. House and Wigdor conclude that the two-factor theory of Herzberg is an oversimplification of the sources of satisfaction and dissatisfaction. There are two common general criticisms of Herzberg's theory. Firstly, is that the theory has only limited application to manual workers and secondly, is that the theory is not methodologically clear. It is often claimed that the theory applies to at least people with largely unskilled jobs or whose work is interesting, repetitive, and limited in scope. Herzberg's Motivation Hygiene theory has dominated the study of the nature of job satisfaction (Lu, *et al.*, 2000) and is therefore the basis of assessment of job satisfaction in this research.

2.4.1.3 McClelland's Needs theory

McClelland's theory on motivation is similar to that developed by Maslow; it suggests that individuals have three fundamental needs which exist in different balances and determine human behaviour.

N-ach: Need for achievement: Advancement of goals; sense of accomplishment.

N-aff: Need for affiliation: Need for acceptance; to be liked.

N-pow: Need for power: Strong need to lead, and make an impact; need to increase personal reputation.

According to McClelland (1961), a strong need for affiliation undermines objectivity as individuals concentrate on being accepted. A strong need for achievement results in a goal-orientated and progress-driven individual while a strong need for power produces a committed and determined individual with personal prestige as his/her motivation. Individuals with a high need for achievement see the reward as the achievement of a goal and this is more satisfying than monetary rewards.

2.4.2 Process theories

This is concerned with how behaviour is initiated, directed and sustained, and places much emphasis on the actual process of motivation. It strives to identify the relationship between variables which make up motivation (Mullins, 1999:426).

2.4.2.1 Valence Instrumental Expectancy theory

Vroom (1964) viewed Herzberg's two factor theory and Maslow's need theory as excessively unsophisticated and put forward a model that was made up of the concepts of valence (V) instrumentality (I) and expectancy (E). Vroom gave details to the scope of motivation as a process governing choices between alternative forms of voluntary activities. The VIE theory as it is alternatively known, describes most behaviours as under the voluntary control of an individual (Abdullah, 2002). According to Vroom (1964), motivation is a product of valence, instrumentality and expectancy. Valence is the importance individuals place on specific outcomes or rewards. Instrumentality is the belief individuals attach to the recognition of the outcome. Expectancy refers to the effort a human being makes in order to achieve a particular outcome. Motivation is therefore created when individuals place importance on a reward, believing that the incentive is attainable and making efforts to attain the reward (Vroom, 1964).

Hunt (1992) illustrated the differences in examples of motivation as he has developed an average 'goal profile' presenting the relative importance of different groups of needs for people in different profession, and changes in profiles at different phases for example a medical doctor. In the same way that age and the type of job influence a person's motivation,

Porter and Lawler (1965) have developed Vroom's Expectancy Theory further. Their model goes beyond motivational force and considers performance as a whole. Satisfaction instruments which use intrinsic and extrinsic factors in analyzing job satisfaction imply the direct or indirect use of Herzberg's model. A criticism of Vroom's theory however, is that he did not succeed to convert motivation to perform an act into the actual performance of that 'act' (Bottomley, 1987).

From the literature review, it is obvious that job satisfaction is a occurrence that has been broadly researched and is of considerable importance to human resources and managers alike. In this regard, the literature concludes with the significance of job satisfaction on the physical and psychological health of employees and effect it has on efficiency

2.5 Current research

Pillay (2008:13) researched on work satisfaction, future plans and retention strategies for professional nurses in South African public sector and revealed dissatisfaction with pay and workload of professional nurses followed by the inadequate resources available for them to develop their career opportunities within the sector and outside it. Lack of safety at the work environment was also identified. Overall dissatisfaction among public sector nurses and plans of leaving current positions within the next five years were revealed. The research clearly identified job satisfaction and improvement of work environment as key factors in the retention of nurses in South Africa.

Relatively, Pundit (2006) work on nurses' satisfaction identified more than 66% of surveyed nurses in South Africa being less than satisfied with their work environment and related factors. There were higher satisfaction levels among private sector nurses than their public sector counterparts. Pay and workload were identified as the most dissatisfying factors for both public and private sector nurses. Pundit (2006:42) concluded that healthcare managers need to identify and address those factors which are stumbling blocks to job satisfaction and therefore retention of nurses in South Africa.

The effective, efficient and sustainable delivery of health care is linked to the availability of sufficient numbers of well-trained and motivated health workers. In his research, Pillay (2008:17) found work satisfaction of nurses to be important as he claimed that there was sufficient empirical evidence to show that it had the propensity to impact on individual, organizational and greater health and social outcomes. One of the major challenges facing the public health sector in South Africa is the international migration of professional nurses coupled with their migration from rural to urban areas and from the public sector gravitation to the private sector. His paper presents evidence that public health provision in South Africa is facing an imminent crisis. It highlighted the overall dissatisfaction among public sector nurses and has shown that the overwhelming majority of nurses were planning to leave their current positions within the next five years (Pillay, 2008).

The financial crisis in the South African health care industry has forced participants to look for ways to contain costs. The shift to a new paradigm where cost-effectiveness is a prerogative has major implications for the doctor workforce. Pillay (2002) researched on the concerns about the negative impact of this philosophy of health care delivery on the recruitment, retention and motivation of medical doctors. He concluded that policymakers and administrators should be cognizant of the effects various organizational structures and management interventions may have upon doctor's clinical freedom and satisfaction as they consider new approaches to health care organization.

2.6 Gaps in the literature

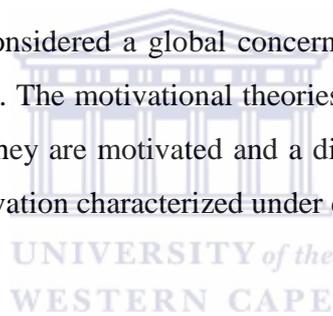
There is a scarcity of literature on the comparative analysis of job satisfaction of medical doctors in the public sectors. There is however a greater availability of literature on job satisfaction in general. It is worth noting however, that most of the available literature is from first world countries, a different context from this current research.

The existing research does give a trend of the growing problems in the health sector of South Africa but a direct impact of how nurse's dissatisfaction affects their medical colleagues can only be imagined. Since medical doctors do not function in isolation, a research focused at identifying their current job satisfaction levels will enable management in implementing adequate measures to avoiding a crisis situation. This research therefore attempts to address the lack of literature on the topic in an emerging economy, South Africa.

2.7 Chapter summary

The chapter introduced how employers are placing higher requirements on employments causing scarce skilled professionals like medical doctors to consider lucrative offers from competing sectors and even countries needing their skills. It describes how managers of public hospitals are having a tough task at motivating and retaining doctors. A greater understanding of the human behaviour by managers highlighted to enable adequate structure and policies to be provided. The general view of researchers is that individuals base job satisfaction on personal needs and what they seek to achieve. The hygiene factors top the widely accepted measure of job satisfaction with elements comprising of extrinsic (tangible) and intrinsic (psychological) factors to an individual using the measure attained due to the presence and absence of each and the relationship thereof.

Immigration of professionals is considered a global concern that is leading countries to reviewing their policies to manage brain drain. The motivational theories examined helps show how employees attain organizational goals when they are motivated and a direct correlation of how performance is an outcome of both level and motivation characterized under content and process theories.



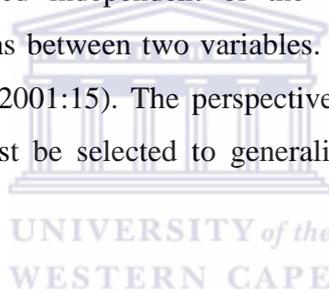
CHAPTER 3. RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The chapter draws attention to how the research problem was investigated with particular mention given to how the participants were chosen and the methods used to assemble the data. Additionally, the ethical deliberation and discretion aspects are tackled; the measuring instruments to gather the data and its consequent properties are discussed. This chapter concludes with the statistical techniques utilized for the data analysis.

3.2 Overview

The basic principle of positivism is evident in this research as all factual knowledge gained from observable experience is obtained independent of the observer. Positivism seeks empirical regularities, which are correlations between two variables. It tends to allow for predictions to be made (Girod-Seville and Perret, 2001:15). The perspective of the study is deductive, indicating that a sufficient sample size must be selected to generalize conclusions (Saunders, Lewis and Thornhill, 2000:91).



This research made use of a descriptive survey tool employing a self administered pre-tested questionnaire. Self-administered questionnaires have been previously and broadly used in improved understanding of job satisfaction (Pillay, 2008; Pundit, 2006; Willem, 2006; Verplanken, 2004; Soe, Ko and Prince 2004; Cimete, Gencalp and Keskin 2003; Pillay, 2002; Tzeng, 2002; Westaway, Wessie, Viljoen, Booysen and Wolmarans, 1996; Coward, Hogan, Duncan, Horne, Hilker and Felsen, 1995). Pillay (2002) researched on the work satisfaction of medical doctors in the private health sector of South Africa, utilizing this methodology with a recorded great success. A decision to use self-administered questionnaires as the preference of research methodology was made considering a number of important reasons. One of such reasons was that questionnaires allowed for uniformity of questions and the data processing, which in turn, enhanced the possibility of taking a broad view of findings especially needed for such kind of research where generalization was relevant. Secondly, mailing surveys provided respondents confidentiality and as such encouraged open and honest responses. And the third very important reason was the monetary constraints which

gave the research limited resources but had the advantage of obtaining data from a large number of diverse individuals across a vast area namely South Africa in this case (Struwig and Stead, 2001).

3.3 The sample

A simple random sample of 1,000 qualified medical doctors in employment from the National Database of the South African Medical Association (SAMA) was used for this research. This survey was geared towards medical doctors practicing in a public hospital within the borders of South Africa. It was expected that all practicing medical doctors in South Africa were registered with SAMA and so the choice of this database gave the most comprehensive list of medical doctor's listings in South Africa. The sample included participants from the nine provinces in South Africa exclusively in the public sector listings. The questionnaires were each posted with pre-paid return envelopes enclosed.

3.4 Method

Using a positivism philosophy with a deductive approach adopted in order to conduct a nation-wide survey, self administered posted questionnaires were chosen to carry out the survey. Independent factors such as pay, autonomy, working hours, supervision amongst others were examined. The questionnaire was thus adapted to the various components of job satisfaction the research attempted to assess and also included questions that investigated respondents' perceptions to retention strategies. This survey method is appropriate for this kind of research, for it allows for the collection of large amount of data in a highly economical way (Saunders, *et al.*, 2000:94). Bias is minimized from the use of questionnaires and it is a non-intrusive means of gathering data, and completing questionnaires is relatively simple and straight-forward (McClelland, 1994).

A simple random sample of professional medical doctors employed in one of South Africa's public hospitals and such individuals registered to the South African Medical Association (SAMA) was used for the purpose of this research. The SAMA database was the source of the entire sample size used in the research as it was assumed that all practicing medical doctors were registered with this association. The selection of the participants was an electronic random process done by SAMA independent of the researcher. The simple random sampling method was engaged as this type of probability sampling was found to be the most widespread among survey based researches, where

attempts to make conclusion from a sample about a population were in accordance with Saunders, *et al.*, (2000). The research methodology was based on Pillay's survey approach of 2008.

3.5 Questionnaire and questionnaire design

Questionnaires are a common tool used to gather data in identifying needs (Brown, 2002:574; McGehee and Thayer, 1961; Moore and Duton, 1978:539; Roberts, 2004:482). In conducting a self-administered questionnaire, the respondents were reached by post; closed questions were used while simple questions were asked with the interest of meeting the needs of the respondents (Saunders, *et al.*, 1997). All these factors were critically taken into consideration during the generation of the questionnaire. Based on research by Van Saane, *et al.*,(2003) who did a systemic review on the reliability and validity of instruments measuring job satisfaction in general, it was revealed that work factors relevant to job satisfaction were an appropriate measure of content validity (Van Saane, *et al.*, 2003). Work factors consequently consisted of 11 main categories listed below and all were considered important to the research objectives and were incorporated in the final development of the questionnaire.

1. Autonomy
2. Patient care
3. Financial rewards
4. Growth and development
5. Promotion
6. Communication
7. Colleagues
8. Career meaningfulness
9. Work load
10. Supervision
11. Work demands

In an attempt to optimize the response rate, the questionnaire (Appendix I) was designed to be as brief as possible with a length of four pages. There were three sections with the first section assessing the demographic details of the respondents as well as their work experiences and future plans. The second section contained closed questions where respondents had to record responses on

a 5-point ordinal rating scale to specific questions relating to various work factors. The respondents were asked to indicate their levels of satisfaction (very dissatisfied; dissatisfied; somewhat satisfied; satisfied; very satisfied) to specific work-related questions. The 5-point scale (similar to the Likert scale) was employed to require the respondents to make a choice instead of allowing them to remain undecided and tick an 'unsure' category. The third section focused on the retention aspects of the research and looked at grouped questions that would encourage the medical doctors in their current positions be influenced to remain in their positions, and both sections two and three gave room for additional open-ended comments to be given on the work satisfaction and retention of medical doctors by the respondents.

3.6 Pilot study

A pilot study was completed in an attempt to further assess the face, content and construct validity of the questionnaire and to ensure that the data collected was adequate for testing of the hypothesis as has been recommended (Cooper and Schindler 2001; Saunders 2000). The pilot study was conducted among 45 final year medical students from the University of Cape Town. The questionnaire was handed out to the students during one of their lectures with prior concession from the lecturer. The purpose of the survey was explained verbally. They were urged to answer the questionnaire without including any personal details of themselves and to freely comment on the clarity of instructions, ease of answering the questions, the time taken to complete the questionnaire and any uncertainty of the questions. The questionnaires were collected on completion from the medical students and then analyzed with specific attention to the comments and criticisms made as has been suggested by (Fink, 1995:108). The Cronbach's alpha test was also performed to assess the construct validity of the questionnaire and any survey item less than a score of 0.7 was disregarded (Bowling, 2002:149; Santos, 1999). Based on all of these findings, the appropriate minor changes were then made to the questionnaire and the final questionnaire is appended in Appendix I.

3.7 Survey procedure

The questionnaires were posted to all 1 000 randomly selected professional medical doctors. Pre-paid envelopes were included with each questionnaire as well as a cover letter introducing the participants to the research and its purpose. The respondents were offered an executive summary of the research should they be interested in return for completing the questionnaire. Each questionnaire was numbered on the first page in order to be able to identify non-respondents for follow-ups.

The first mailings of the questionnaires were done weekly in batches of 50. Mailing began on the 5th of October 2007 and the final batch was sent on the 5th of November 2007. The data from the SAMA database had only postal addresses so the respondents could not have been contacted in advance to alert them of the arrival of questionnaires and to follow-up on receipt. Two months after the last batch were sent out, *i.e.*, from February 5, 2008, a follow-up on questionnaires was made to doctors whose feedback had not been received.

A second questionnaire was then sent to such set of doctors with an assumption that the first mails were not received or lost, and this ended in May of 2008. Follow-ups were further necessitated with some phone calls after searching for telephone numbers of the respondents through the addresses provided by SAMA. However, this attempt nevertheless yielded very little benefit as most public doctors are hardly accessible in offices.

3.8 Brief procedure of data analysis

The data are captured and analyzed quantitatively and in accordance with Saunders *et al.*, (2000) recommendations. Data coding was done on responses. A univariate analysis was done on the single independent variables and bi-variate analysis on pair variables to assess empirical relationships that included frequency distributions and central tendency dispersions. Cronbach's alpha was carried out to assess the reliability of sub-scales to the factors and consistency (Cooper and Schindler, 2006: 322). The higher the score, the more reliable the generated scale turned out to be. The *Chi*-squared test was used to investigate the statistical significance of associations between categorical variables. The analysis of variance (ANOVA) test was used to evaluate statistical significance differences between the categorical variables and factors; this was done both for satisfaction and retention factors (Saunders, 2000:362). The qualitative data analysis saw open-ended questions categorized and coded due to their problematic nature. It was then possible to detect errors and omit them.

3.9 Ethics statement

The respondents to the questionnaire were completely anonymous and voluntary. This research ensured that the information supplied was kept confidential and only used for the purpose of research; the goal being to ensure that no one could experience unpleasant consequences from the research activities (Cooper and Schindler, 2006:118). In order to protect the interests and rights of

all the respondents, the questionnaire did not require names of the respondents neither did it require the locations of hospitals in which the doctors were working.

3.10 Chapter summary

This chapter extensively outlined the research design best used to eliminate subjective views of the researcher affecting the results, indicating respondents had the freedom to comment further and it adequately utilized the nature of the sample satisfactory for national research. The method used to collect data addressed issues concerning confidentiality. The questionnaire design adhered to validity and reliability procedures, the description of the measuring instruments adopted and statistical techniques employed to test the research hypotheses. The results of the research design are comprehensively detailed in the chapter that follows.



CHAPTER 4. DATA ANALYSIS

4.1 Introduction

An outline of the data obtained for the study is presented and discussed in this chapter. The demographic information, response rate and characteristics of categories tested are also talked about. The statistical significant associations between categorical variables and the scientific reliability of the factors examined in this research are examined in this chapter. Significance associations with job satisfaction were reported on and how they impact on the retention of medical doctors in the South African public health sector were illustrated.

4.2 The responses

A total of 1000 questionnaires were sent out for the sampling of professional medical doctors in the public sector only. A process of batch mailing ensured a safe return of the mailed questionnaires. A deadline on the acceptance of returned questionnaires was set in order to progress on statistical analysis and at the same time, to meet the research deadlines. A response rate of 13.5% (n = 135) was attained already by 1 May 2008, and this was the cut-off date to make progress on the research. Of the total number sent out, 62 questionnaires returned incomplete, an additional 73 were not filled due to mostly non-current existence of the medical doctors in the hospitals, while 35 had remarks indicating that the practitioners were no longer in the public sector; and these limitations were all kept in mind during the interpretation of the results.

Table 7: Diagram of responses and percentage of total

	Responses	% of Total
Completed	135	13.5%
Incomplete	170	17%

The simple random sampling was employed as this type of probability sampling was found to be the most widespread among survey based research where there is an attempt to make inferences from a sample about a population (Saunders, *et al.*, 2000).

The minimum sample size of 135 was calculated at a 95% level of certainty, allowing a margin of error of 5% based on the following formula (Saunders, *et al.*, 2000).

$$n = p \% \times q \% \times [z/e\%]$$

where: n is the minimum sample size required
 $p\%$ is the proportion belonging to the specified category (40%)
 $q\%$ is the proportion not belonging to the specified category (60%)
 z is the z value indicating the level of confidence required (95%)
 $e\%$ is the margin of error required (5%)

4.3 Univariate analysis

4.3.1 Characteristics of respondents

The study respondents were primarily 56% male and 44% female doctors. A total of 44% of the total respondents were within the 30-40 years of age range while 24% of the respondents were less than 30 years of age, and 32% of the respondents being older than 40 years. More than half the respondents (87%) had graduated from South African medical schools and only 13% from abroad. The majority of respondents (49%) had over 10 years working experience, while 26% had between 5-10 years experience with 25% of them having less than 5 years experience. Out of the number of respondents, 37% had been in the public sector for more than 10 years while 30% and 33% had been in the public sector for only between 5-10 years and less than 5 years respectively. More than half the respondents (59%) were at the time of the study, medical officers while 41% of them were serving as specialists (refer to Table 8).

About 43% of the respondents indicated that they were working between 40-59 hours per week in patient care, 26% of them working for 60-70 hours, 15% working for more than 80 hours, 11% working for 20-39 hours and 5% working for less than 20 hours per week. Of the total number of participated doctors, 33% of them reported that they had been seeing an average of more than 50 patients per week, and in relation to this, hospital levels had recorded a 48% patient admission at tertiary level, 29% patient admission at regional level while a 23% of patient admission was recorded at a district level. A total of 58% of the respondents indicated that they needed to change their current sector of employment within the next five years while 42% were still willing to remain

in the public sector. Of those who had intentions to go and work abroad, 54% indicated that they would one day want to return to South Africa some time in the future while 46% had no intentions of returning. (See Table 9 and 10; refer to Figure 2 for the summary of findings on respondents' characteristics).

Table 8: Various characteristics of the respondents.

Gender	%
Male	56
Female	44
Country of Graduation	%
South Africa	87
Abroad	13
Position	%
Medical Officers	59
Specialist	41
Next five year plan	%
Change Sector	58
Remain in Current	42
Future Plans	%
Emigrate permanently	46
Return after years	54

Table 9 &10: Biographic characteristics of the respondents(cont)

Age	%
< 30	23
30 - 40	44
> 40	33
Year since Graduation	%
< 5	25
5- 10	26
> 10	49
Years in Public Sector	%
< 5	33
5 – 10	31
> 10	36
Hospital Level	%
District	23
Regional	29
Tertiary	48

Hours Worked per with in Patient care	%
< 20	5
20 -39	11
40 -59	43
60 -70	26
>80	15
No. of Patients seen in average Week	%
< 50	33
50 -99	23
100 -149	20
150 -199	10
> 200	14

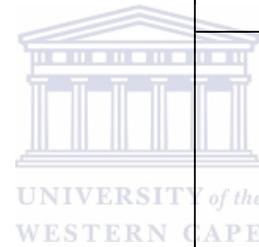
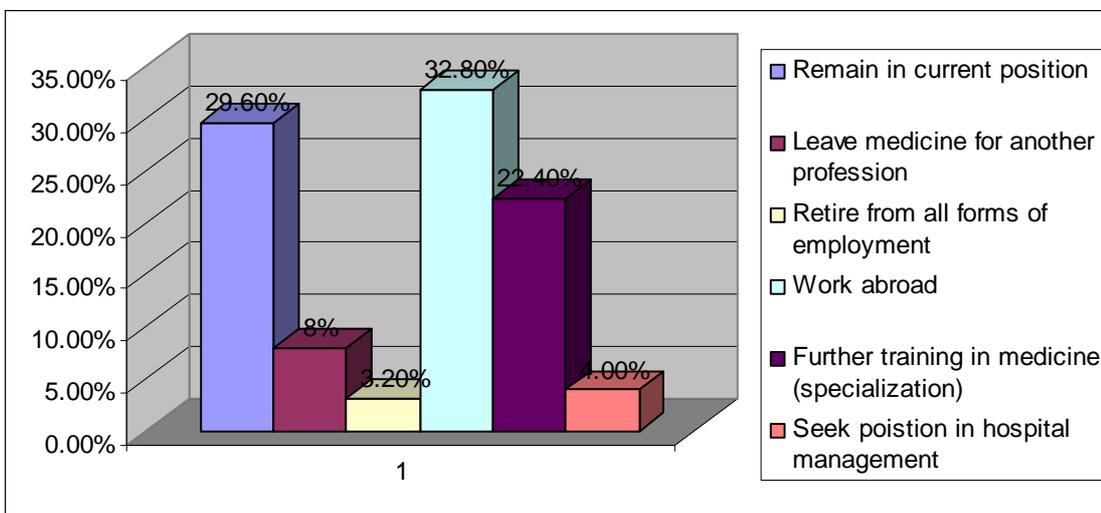


Figure 2: Work plans of the respondents for the next five years.



The inference drawn from the projected plans above of respondents paints a realistic picture of the problems facing the sector. With the greater 58% of the respondents anticipating a move out of the sector in the next five years either working abroad, leaving medicine entirely or retiring, strategies and arrangement need to be considered in retaining doctors in the public sector with consideration to involve current medical students who will form the bulk of the country’s future doctors.

4.4 Bivariate analysis

4.4.1a Chi-Square

A Chi-square test was done to evaluate any existing statistical significance association between two categorical variables. A significant relationship was found between age and gender; country of graduation, year since graduation from medical school, number of years in public sector, position, number of patients per week, hospital level, and work plan. Country of graduation had higher significant relationships with year since graduation from medical school and number of years in the public sector. A significant relationship was found between year since graduation from medical school and number of years in public sector, position, number of hours per week, number of patients per week, and work plan. Number of years in the public sector showed a significant relationship with position; number of hours per week, number of patients per week, intention to change sector and work plan. Position had significant relationships with number of hours per week, number of patients consultation per week, hospital level, place of employment and work plan. There was evidence of

significance between number of work hours per week and number of patients per week. Number of patients per week had significant relationships with hospital level and intention to change sector showed some significance with work plan. (refer to Table 11 below for a snapshot view with detailed Tables in Appendix II).



Table 11: A *chi*-squared test showing significant associations between different categorical variables.

	Gender	Age	Country of Graduation	Years since Graduation from Medical School	Number of Years in Public Sector	Position	Number of Hours Per Week	Number of Patients Per Week	Hospital Level	Intention to Change Sector	Work Plan	Intention to Return
Gender	-----											
Age	7.633, 0.022	-----										
Country of Graduation	3.446, 0.063	23.325, 0.000	-----									
Years since Graduation from Medical School	3.311, 0.191	118.051, 0.000	16.350, 0.000	-----								
Number of Years in Public Sector	1.783, 0.410	90.175, 0.000	18.487, 0.000	148.477, 0.000								
Position	3.173, 0.075	22.681, 0.000	0.219, 0.640	27.339, 0.000	26.183, 0.000	-----						
Number of Hours Per Week	2.438, 0.656	14.696, 0.065	5.379, 0.251	21.540, 0.006	15.989, 0.043	12.088, 0.017	-----					
Number of Patients Per Week	2.526, 0.640	15.831, 0.045	4.939, 0.294	20.052, 0.010	16.481, 0.036	16.032, 0.003	56.337, 0.000	-----				
Hospital Level	1.397, 0.497	11.012, 0.026	4.758, 0.093	5.523, 0.238	4.084, 0.395	34.348, 0.000	11.652, 0.167	36.229, 0.000	-----			
Intention to Change Sector	0.972, 0.324	5.703, 0.058	0.206, 0.650	5.196, 0.074	8.560, 0.014	3.065, 0.080	3.812, 0.432	5.785, 0.216	1.735, 0.420	-----		
Work Plan	2.003, 0.849	51.429, 0.000	2.569, 0.766	33.709, 0.000	40.917, 0.000	22.338, 0.000	26.815, 0.141	22.546, 0.312	16.289, 0.092	41.662, 0.000	-----	
Intention to Return	0.013, 0.911	2.520, 0.284	0.191, 0.662	3.753, 0.153	3.359, 0.186	0.059, 0.808	5.226, 0.265	1.416, 0.841	3.178, 0.204	0.006, 0.938	1.208, 0.547	-----

4.4.1b Discussion of findings

4.4.1.1 Hours worked versus years after graduation

The significance between the number of years from medical school and the number of hours worked per week in patient care ($p=0.006$) indicated the highest significance for under 5 years experienced doctors working over 80 hours per week (expected = 5.3; actual = 9), while the significance for the 5-10 years experienced doctors working for 40-59 hours was 19 (expected = 14.5) and for the significance for the over 10 years experienced doctors working between 20-39 hours was 13 (expected = 6.6). This scenario indicated that fresh graduates were getting the most weekly workloads and that the more the experienced doctors became, the lesser they were given hours to attend to patients. The association between the number of patients seen in an average week and age indicated that fresh graduates from medical school attended to more patients than the more experienced doctors with those doctors under 5 years of experience having less than 50 patients per week (expected = 11.2; actual 4), while those with 5-10 years experience having 100-149 weekly patients (expected = 6.6; actual 4), and those over 10 years experience having a significant number of patients (expected = 19.7; actual 28). More graduates fresh from medical school were indeed assigned to handle the bulk of patients.

4.4.1.2 Years as medical doctor versus future plans

There was a significant association between the next five years future plans and the age of working after medical school ($p=0.000$). Those doctors with over 10 years of working after medical school were most likely to remain in their current positions (expected = 17.4; actual 24), while those having between 5-10 years of working after medical school were mostly planning to work abroad (expected = 10.9; actual 14), and those doctors with under 5 years from graduate school were planning to go into further training which would eventually lead them into specialization. The relationship between the number of years in public sector and the position showed that the public sector doctors started as medical officers and then specialized as they stayed longer in the profession. The category of doctors with under 5 years of working experience had specialists (expected = 16.6; actual = 4) and medical officers (expected = 24.4; actual = 37), while the 5-10 years category of doctors had specialists (expected = 15; actual = 17) and medical officers (expected = 22; actual = 20), and the over 10 years category of doctors had specialists (expected = 19.4; actual 30) and medical officers (expected = 28.8; actual 18).

4.4.1.3 Years in public sector versus weekly hours worked

The association between the number of years in public sector and the number of hours worked per week in patient care ($p=0.036$) indicated that doctors with lesser years of experience spent more than their share of time in patient care per week. The under 5 years in the public sector category was highly significant in the over 60 hours per week (expected = 6.8; actual = 9), while the 5-10 years in the public sector category had the most significant value in the 20-39 hours per week section (expected = 4.4; actual 2), and the over 10 years in the public sector category was most significant in the 20-39 hours per week (expected = 4.8; actual 11). The significance between the number of years in the public sector and the intention to change sector of employment within the next five years indicated doctors with fewer than 5 years in the public sector responding, Yes (expected = 25.5; actual = 31), and No (expected = 18.5; actual = 13), while those between 5-10 years in the public sector responding, Yes (expected = 23.8; actual = 26), and No (expected = 17.2; actual = 15), and those over 10 years in the public sector responding, Yes (expected = 26.7; actual = 19), and No (expected = 19.3; actual = 27), indicating that doctors tended to like to leave the sector in their early years and preferring to remain in the public sector the longer they had spent more time in it.

4.4.1.4 Years in public sector versus future work plans

Medical doctor's number of years in the public sector cross-tabulated against what their work plans for the next five years were likely to be ($p=0.000$) showed the greatest significance for those under 5 years in the sector and not willing to remain in their current job (expected = 12.1; actual = 2), while doctors with experience between 5-10 years had a significance of 15 (expected = 12.5) and were willing to work abroad, and those over 10 years had a significance of 23 (expected = 13.6) and willing to remain on current job. The association between position and number of hours worked per week in patient care indicated that specialist doctors spent mostly an average of 20-39 hours with patients (expected = 5.5; actual = 11) whilst medical officers spent mostly 40-49 hours weekly with patients (expected = 30.9; actual 35). On position and number of patients seen in an average week, specialist were found mostly to be in the under 50 patients per week range (expected = 15.9; actual = 22), while medical officers were within the 150-199 patients per week range (expected = 7.8; actual = 11).

4.4.1.5 Position versus hospital level

The significance between position and hospital level was as follows for specialist; district (expected = 11.8; actual = 2), regional (expected = 14.6; actual = 9), and tertiary (expected = 23.6; actual = 39), while for medical officers it was as follows; district (expected = 17.2; actual = 27), regional (expected = 21.4; actual = 27), and tertiary (expected = 34.4; actual = 19). This outcome indicated that the least specialist worked at district levels against most of the medical doctors while the least medical officer operated at tertiary levels where the most specialists were found. The association between position and work plans for the next five years ($p=0.000$) was likely to be for specialist in the public sector indicating the majority of them with desires to further their training (expected = 10.3; actual = 2), while for medical officers in the same category intending to remain in their current jobs (expected = 21.2; actual = 12).

4.4.1.6 Hospital level with number of patients per week

The association between number of patients in an average week and hospital level ($p=0.000$) showed a trend of increased number of doctors at tertiary level working mostly with less than 50 patients in a week (expected = 19.7; actual = 31), and those at regional level seeing mostly between 50-99 patients per week (expected = 8.5; actual = 11) while those at district level were working with the most number of patients weekly and in the 150-199 bracket (expected = 2.8; actual = 7). The significant association between the intention to change sector of employment within the next five years and what the doctor's work plans for the next five years ($p=0.000$) were mostly likely to be, indicated that those who answered 'Yes' to an intention to change their current sector, opted mostly to work abroad (expected 23.4; actual = 36), while those with 'No' on intention to change their current sector of employment, indicated mostly to remain in their current positions (expected = 15.3; actual = 28).

4.4.2 Reliability

The reliability was established using Cronbach's alpha which assessed the degree at which the instrument items were homogenous and reveal the same underlying constructions (Cooper and Schindler, 2006). The higher the score, the more reliable is the generated scale. All factors were found to be reliable with the Cronbach's alpha and were greater than 0.7 indicating an acceptable reliability coefficient (Bowling, 2002:149; Santos, 1999).

Table 12: Cronbach alpha – Satisfaction and retention.

<u>Satisfaction Factors</u>	<u>Cronbach's alpha</u>	<u>N of Items</u>	<u>Mean</u>
Autonomy	0.718	4	2.706
Resources	0.786	6	2.430
Work Load	0.792	4	2.687
Relation with Nurses	0.909	4	3.323
Patient Care	0.797	5	3.347
Relation with Management	0.928	5	2.208
Relation with Medical Colleagues	0.858	4	3.738
Personal Time	0.927	4	2.722
Safety	0.875	4	2.826
Community	0.910	3	2.903
Pay	0.919	4	2.133
Career Opportunities	0.874	6	2.275
My Career	0.821	4	3.261
<u>Retention Factors</u>	<u>Cronbach's alpha</u>	<u>N of Items</u>	<u>Mean</u>
Work Load	0.872	6	4.035
Work life/ home life	0.766	5	3.517
Working environment	0.881	13	4.268
Employment security	0.674	3	4.471
Professional practice	0.786	6	4.306
Work place organization	0.919	8	4.326
External influences	0.784	8	4.029

The reliability of variables was established using Cronbach's alpha. All factors except employment security were found to be reliable with Cronbach's alpha greater than 0.72. It was established that the omission of any of the individual subscales including those of employment security did not significantly decrease the Cronbach's alpha therefore none of the subscales were omitted from the analysis which scientifically validated the questionnaire used in the research. Cronbach's alpha for the factors are found in appendix III in detail.

4.4.3a Analysis of job satisfaction (ANOVA)

ANOVA is a statistical procedure for testing the effects of one or more treatments on different groups by comparing the inconsistency between groups to the variability within groups. An analysis of variance was conducted in order to establish any significant differences between the categorical variables and the individual factors used to assess job satisfaction.

Table 13: ANOVA - Significant association between categorical variables of job satisfaction.

	Gender	Age	Country of Graduation	Years since Graduation from Medical School	Number of Years in Public Sector	Position	Number of Hours Per Week	Number of Patients Per Week	Hospital Level	Intention to Change Sector	Future Work Plan	Intention to Return
Autonomy	0.175	0.538	0.988	0.395	0.224	0.771	0.177	0.765	0.732	0.000	0.000	0.518
Resources	0.735	0.570	0.721	0.539	0.767	0.724	0.443	0.079	0.960	0.001	0.004	0.259
Work Load	0.966	0.445	0.881	0.062	0.140	0.150	0.000	0.001	0.289	0.011	0.006	0.290
Relation with Nurses	0.555	0.847	0.896	0.977	0.855	0.165	0.679	0.457	0.563	0.105	0.106	0.280
Patient Care	0.231	0.109	0.450	0.564	0.565	0.056	0.072	0.999	0.158	0.099	0.012	0.917
Relation with Management	0.073	0.034	0.973	0.126	0.019	0.361	0.334	0.770	0.072	0.000	0.000	0.969
Relation with Medical Colleagues	0.052	0.003	0.330	0.004	0.007	0.144	0.576	0.262	0.162	0.033	0.008	0.078
Personal Time	0.072	0.015	0.948	0.035	0.111	0.115	0.000	0.008	0.791	0.013	0.114	0.467
Safety	0.011	0.100	0.796	0.009	0.052	0.078	0.051	0.148	0.988	0.000	0.004	0.301
Community	0.310	0.128	0.570	0.066	0.107	0.232	0.635	0.890	0.189	0.016	0.025	0.400
Pay	0.145	0.097	0.510	0.658	0.867	0.583	0.800	0.571	0.448	0.000	0.000	0.120
Career Opportunities	0.615	0.131	0.360	0.165	0.392	0.283	0.287	0.253	0.416	0.097	0.054	0.824
My Career	0.897	0.770	0.149	0.573	0.558	0.048	0.547	0.998	0.044	0.000	0.000	0.446

Values in Bold – indicate very significant differences

Other values – indicate not-significant differences

4.4.3b Discussion of findings

4.4.3.1 Gender

There was a significant difference between the responses from female doctors on safety ($p=0.011$) as compared to their male counterparts. Female doctors indicated significantly to be unsafe with their work more than male doctors.

4.4.3.2 Age

There was a significant difference between doctors younger than thirty years of age (<30) and the relationship they had with management ($p=0.034$). Doctors younger than thirty years showed significant dissatisfaction in their relationship with their medical colleagues more than the older doctors. Doctors under thirty years of age also showed lower satisfaction levels with regards to their personal time than their older colleagues.

4.4.3.3 Year since graduation from medical school

Respondents with less than five years since leaving medical school showed the most significant difference ($p=0.004$) in their relationship with other medical colleagues' factor. The same group responded with significant dissatisfaction in their personal time spending. The same indication was recorded in their responses on safety as they felt most dissatisfied compared to their colleagues with longer years since leaving medical school.

4.4.3.4 Number of years in the public sector

Responding doctors with less than five years in the sector showed higher significant differences in their relationship with management ($p=0.019$). There were significant differences in the responses of doctors with less than five years in the public sector with respect to their relationship with medical colleagues.

4.4.3.5 Position

There were significant difference in the responses of medical doctors that were medical officers with respect to their position and were not satisfied in their careers while their counterparts who were specialist medical doctors were satisfied with their current positions and the prospects for their careers.

4.4.3.6 Number of hours per week

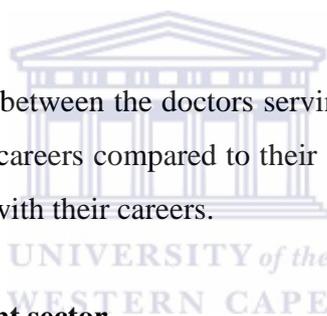
There was a significant difference between the number of hours worked per week and the workload with those working over eighty hours. Doctors complained of their workloads with those working over eighty hours per week being dissatisfied with the personal time they had.

4.4.3.7 Number of patients per week

There was a significant difference between the number of patients doctors saw per week ($p=0.000$) and the workload implications. Doctors showed higher dissatisfaction with seeing patients over two hundred a week. The respondents showed significant differences in the hours of personal time they had in relation to the number of patients they had per week. This reflected the highest significance as some doctors were seeing between 150-199 patients weekly.

4.4.3.8. Hospital level

There was a significant difference between the doctors serving in district levels of hospitals and the dissatisfaction they had with their careers compared to their colleagues who were serving in tertiary hospital levels who were satisfied with their careers.



4.4.3.9 Intention to change current sector

There was a significant difference between the responses obtained from medical doctors on autonomy ($p=0.000$). Respondents indicated higher levels of dissatisfaction than satisfaction with autonomy. There was a significant difference between respondents who indicated an intention to change sector ($p=0.001$) and the current availability of resources. More individuals were with inadequate resources in their current sector. Doctors who indicated an intention to leave their sector had also cited dissatisfaction regarding poor relationship with management ($p=0.000$); poor relationship with colleagues ($p=0.003$); lack of quality personal time ($p=0.013$); as well as safety of the career ($p=0.000$). Those who indicated an intention to change the sector also indicated poor job satisfaction regarding workloads ($p=0.011$) and their relationships with the community ($p=0.016$) they were serving. Doctors who indicated an intention to change their sector cited dissatisfaction with pay ($p=0.000$) and their overall career ($p=0.000$) as doctors.

4.4.3.10 Future work plan

There were significant differences ($p=0.000$) in the manner respondents with different plans for the next five years responded to the question on autonomy. The doctors who indicated highest levels of satisfaction from job autonomy also indicated intentions to remain in current positions while those doctors with the lowest indication of satisfaction were most likely to leave medicine entirely for other professions. The doctors, who indicated highest levels of satisfaction with the availability of resources ($p=0.014$) and pay ($p=0.000$), also indicated intentions to retire from all forms of employment within the next five years while those with the lowest levels of satisfaction were most likely to seek positions in hospital management within the next five years ($p=0.000$). Doctors who indicated the highest levels of satisfaction with their workloads ($p=0.006$) and safety ($p=0.004$) also indicated intentions to remain in their current positions within the next five years while those dissatisfied with their workloads and safety were planning to seek positions in hospital management within the next five years of their profession.

The doctors who indicated the highest levels of satisfaction from patient care and their relationships with colleagues loved their careers and also indicated intentions to remain in their current positions as a plan for their next five years while those with the lowest levels of satisfaction indicated plans to leave the medical field for other professions within their next five years. There was a significant difference in the responses from doctors on their future work plans and their relationships with management ($p=0.000$). Those with the highest level of satisfaction were planning to retire from all forms of employment while those dissatisfied were planning to work abroad. Doctors with the highest indications of satisfaction from their service in the community ($p=0.025$) indicated a future work plan of seeking positions in hospital management ($p=0.000$) while those dissatisfied with the community were planning to work abroad in the next five years.

4.5. Qualitative analysis

Respondents' general comments on factors affecting work satisfaction of medical doctors in South Africa and how they could be addressed pointed out to the greatest factors of being the lack of participation of doctors in the strategies made by management to policies in the administration of public hospitals. This factor was indicated by nineteen doctors. The next single factor affecting work satisfaction was that of excess workloads with inadequate or no remuneration from government, which sixteen doctors had pointed out. Coupled with these factors, the other factors also included

long working hours, pay, nurse shortages, and personal time for doctors. Equally important, a sizeable number of the respondents identified discrimination in the workplace as well as dilapidating infrastructures and the recognition of doctors' self-worth in the hospitals as other contributing factors.

With clear identifications from respondents to what factors currently contribute to work satisfaction in the public sector, sources of medical doctor's job dissatisfaction are brought to light. The primary research questions set in pages 11 and 12 have been comprehensively identified

In attempting to answer the secondary research question, we refer to the data analyzed in Table 14 below



4.6a Analysis of Retention Strategies (ANOVA)

Table 14. ANOVA - Significant association between categorical variables on retention.

	Gender	Age	Country of Graduation	Years since Graduation from Medical School	Number of Years in Public Sector	Position	Number of Hours Per Week	Number of Patients Per Week	Hospital Level	Intention to Change Sector	Work Plan	Intention to Return
Work Load	0.322	0.463	0.216	0.594	0.370	0.924	0.335	0.837	0.768	0.937	0.222	0.152
Work life/home life	0.015	0.932	0.392	0.543	0.030	0.431	0.088	0.621	0.477	0.398	0.528	0.638
Working environment	0.155	0.123	0.568	0.075	0.035	0.494	0.140	0.591	0.959	0.094	0.125	0.306
Employment security	0.930	0.235	0.468	0.571	0.377	0.480	0.580	0.801	0.972	0.240	0.185	0.756
Professional practice	0.929	0.000	0.074	0.007	0.013	0.066	0.456	0.679	0.127	0.678	0.095	0.224
Work place organization	0.600	0.170	0.879	0.040	0.296	0.113	0.530	0.965	0.929	0.019	0.519	0.533
External influences	0.335	0.433	0.668	0.673	0.890	0.261	0.586	0.522	0.340	0.488	0.602	0.849

4.6b Discussion of findings

4.6.1 Gender

There was a significant difference ($p=0.015$) between the male and female doctors on satisfaction with work and home lives. The female doctors indicated a greater satisfaction with their work and home lives, thus showing a key factor influencing their retention in the public health sector as compared to their male counterparts who were less satisfied.

4.6.2 Age

There was a significant difference ($p=0.000$) in the age of doctors that were willing to remain in their present public sector jobs. Doctors over the age of forty years were significantly willing to remain in their jobs far more than doctors who were young.

4.6.3 Year since graduation from medical school

There was a significant difference ($p=0.007$) between the number of years a doctor had been practicing since graduation and the willingness to remain in the sector. Doctors who had over ten years of working experience in the public sector and practicing indicated the most willingness to remain in the same sector while those within the five to ten years of experience ($p=0.040$) showed some significant differences on remaining within the public sector.

4.6.4 Number of years in the public sector

A significant difference ($p=0.030$) was evident in the relationship between work and home lives of doctors. Those between five to ten years in the sector were most likely to remain in the sector. Similarly, it was also significantly evident ($p=0.035$) on how doctors graded their working environments as doctors between five to ten years of experience in the public sector were also willing to remain in the sector. Examining the responses based on doctors' professional practices and the years they had spent in the profession ($p=0.013$), doctors with over ten years of experience were the most willing respondents to be retained in the public sector.

4.6.5 Intention to change sector

The responses from the doctors showed a significant difference ($p=0.019$) with regard to their work place as an influence to remain in the sector. Doctors indicated willingness to remain in their present sector as they received more satisfaction with the support systems, participation in decision-making

and other work-related factors and hence, a strong willingness to remain in their current sector as they considered this to be a vital contributor to retention in their public sector service.

4.7 Qualitative analysis

More than a few similar words were identified in the qualitative analysis. These were words that stood out amongst the respondents. In total, thirty-eight respondents did not give any general comments on factors affecting work satisfaction neither on advices on how to improve the retention of medical doctors in the public sector. Various factors were suggested that if there were improved upon would eventually lead to the retention of medical doctors in the public sector. Some of the factors which stood out vehemently included sixteen respondents pointing out to improvements on current working conditions, and thirteen respondents pointing out to recognition of doctors in the workplaces and appropriate promotions. Nine respondents focused on future developments of doctors as an incentive for retention, while discrimination and the wrong application of affirmative action was strongly pointed out by eight respondents as reasons why doctors do leave the sector. The two most pressing factors that were indicated by the respondents to require some thorough improvements were those of pay and unsuitable management. On financial stimulus, twenty one respondents cited it as the top on the improvements that government needed to look into while inappropriate management in public hospitals was also referred to by twenty-five respondents as the main factor that needed the most improvement by the government. Doctors considered this as the helm of affairs in leading their movement out of the public sector. Notwithstanding, other areas of improvements that were indicated as motivation to retention included additional nurses and administrative assistants, opportunities to specialize, incentives like housing of doctors at hospitals, education for dependents of doctors, part time working options, improvement on aging infrastructures, and some called for the need of unions.

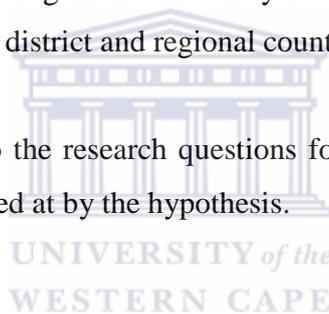
The analysis above extensively addresses the secondary question the research set out to answer in page 11 of this research. Responses gave individual and accessed factors that are keeping medical doctors in the sector currently and these help point to areas that can be improved upon and curb wastage in other areas that are not contributing to retention strategies.

4.8. Chapter summary

The chapter presented the research results in tabular and descriptive forms. Statistical bi-variate and ANOVA analysis on job satisfaction and retention strategies were identified and discussed in detail. The data gathered were statistically analyzed by means of the Statistical Package for the Social Sciences (SPSS).

Responses showed a correlation to groupings of where medical doctor's problems of job satisfaction normally occur. Younger medical doctors with less than five years of practice experience and within the age brackets of twenty to thirty years of age are more prone to migrate to other sectors and countries compared to those with over five years of experience and within the age bracket of forty to fifty years of age. The latter group shows a shift towards specialization within the public sector and a more push for involvement with management. The analysis showed doctors in tertiary hospitals attend to lesser patients compared to their district and regional counterparts.

This chapter attends adequately to the research questions formed in chapter one and goes further to address the specific objectives aimed at by the hypothesis.



CHAPTER 5. DISCUSSION OF RESULTS

5.1 Introduction

The chapter discusses the prominent findings of the study and makes reference to relevant research to support the findings of the current study. The discussion includes demographic information about the sample obtained from the descriptive statistics for the dimensions of job satisfaction, correlation between the dimensions of job satisfaction, multiple regression analysis and significant statistical differences between biographical variables,

5.2 Survey response

The response rate is realistic for a self-administered and nationwide survey. The overall response of 13.5% was similar to those obtained in other nationwide studies of doctors (Pillay, 2002; Bekker, 1995), and constant with common rates obtained among professionals in the fields of business and medicine. Sorbal, De Forge and Ferentz (1990). Reports have noted the increasing difficulty of achieving desirable response rates in national surveys of medical doctors (Hill and Winfrey, 1996; Mcilrath, 1996; Tambor, 1993). Despite the excess of the minimum 368 responses required, the response rate suggests that some non-response bias may exist in our recordings. The demographic distribution of the respondents did not differ considerably from all public sector general practitioners registered with the South African Medical Association neither did our respondents differ greatly from all the general practitioners nationally (Joubert, 2000). The sample was therefore representative of all general practitioners in the country thereby making it possible to make conclusions about the population as a whole, and from the data acquired.

5.3 The respondents

The demographic profile of our respondents reflects a healthy balance of both male and female medical doctors in the public sector. With males taking 56% and females 44%, a greater evidence of gender equity, one of the governments' key issues for the past decade, can be seen to be reaping some success. Women are increasingly joining the medical doctors profession and with a potential to increase greatly the foundation of medical practitioners. Notable progress is evident from the apartheid government's high proportion of males (82%), tied with a low proportion of male Africans (10%) in the health sector. Progress was achieved with establishing structures and measures for managing reform. Legislation comprising the *Employment Equity Act* (1998), *Labour Relations Act* (1995) and

the *Skills Development Act* (1999) constituted policy documents of relevance for human resources in health which include the *White Paper on Affirmation Action* (1996), the *White Paper on Human Resource Management* (1997) and the *White Paper for the Transformation of the Health System* (van Rensburg, 1999 cited in Health Systems Trust, 1999). These policies have impacted on the admission criteria of medical universities and great changes are evident as the demographic profiles reflect in this research.

The respondents were mostly between the 30-40 years age bracket indicating a vibrant workforce populating the public sector, which is one less problem to worry about but to focus on retaining them in the sector. With this result, a shift from medical practitioners predominantly being of older age is changing, which guarantees a longer possibility of stay in the public sector to gain more experience by these young doctors and coupled with the introduction of compulsory community service, newly graduated doctors tend to remain in the public sector. Young doctors are also more likely than older doctors, to be employees, a pattern attributable to a prevalent career cycle in which many doctors begin their careers as employees and later move to self-employed positions when they have accumulated significant resources to start new practices or partner with existing ones (Wilke, 1999; Gillies and Wilke, 1989).



South African doctors are enticed by overseas countries annually where high standards are placed on their healthcare, signifying the high quality of university learning in South Africa. Its medical students are largely trained within the country as respondents showed (87% were trained in South Africa while only 13% were trained abroad). This positive advantage adds to retaining doctors who start their careers within the country and the more retention programmes become practical, the better the crisis problem can be easily managed. The respondents showed a 37% response of having worked in the public sector for over 10 years and 31% having worked between 5-10 years in the public healthcare, and hence the assumption that doctors do not last a while in the public sector is therefore flawed. This confirms that doctors are willing to work in the public health sector and it is only dissatisfaction with working conditions that leads to either moving out of the sector or emigrating out of the country.

5.4. Job satisfaction

The findings recorded indicate that 70% of public sector medical doctors in South Africa are less than satisfied with several work-related factors as they all signified plans to move away from their current

positions within the next five years. From a comparative study previously carried out on the nurses' job dissatisfaction in South Africa, pay and workload were repeatedly identified as the principal contributors (Pundit, 2006; Erasmus, 1998; Kaplan, Boshoff and Kellerman, 1991) and these have been confirmed as the second and third major contributors of job dissatisfaction in this study. The primary contributor of job dissatisfaction among public medical doctors, in this research, was identified to be the relationship with management. Respondents highlighted the lack of participation in management decision as the topmost factor of work dissatisfaction.

Kotzee and Couper (2006) identified government increases in salaries, introduction of foreign doctors and efforts in upgrading clinics and hospitals but despite all these past and continuous efforts, the maldistribution/inadequacy of medical doctors working in South Africa has not improved significantly and perhaps little has ever been done to address the relationship between doctors and management as has been identified through this study. A dedicated interest on this factor problem is therefore necessarily needed in order to, in no small measures; address the long term problem of doctor's migration.

The factors that most positively contributed to medical doctor's work satisfaction in South Africa included patient care and their relationship with doctors with a mean of (3.3) as well as the relationship of doctors with their other medical colleagues having a mean of (3.7). These findings were supported by Kotzee and Couper (2006) who indicated that personal factors and professional support are major sources of job satisfaction. The total or partial absence of control that management appears to have over intrinsic factors, which in turn contributes to job satisfaction among medical doctors, was a very important finding of this study. Other important satisfying factors were the support from community and the doctor's relationship with the community, which again management has no control over. Kotzee and Couper (2006) discovered that a healthy community relationship with the doctor's family greatly influenced his job in the rural area as satisfied medical doctors had less absenteeism whereas dissatisfaction among doctors strongly contributed to higher absenteeism. This is in keeping with the values and profiles of individuals who choose medicine as a career where healing patients is most satisfying. It also indicates the importance of management's awareness of the hygiene factors which contribute to doctor's satisfaction.

Pay and workload were cited as the next most dissatisfying factors to work, with a mean of (2.1 and 2.6) respectively as indicated in Table 12. The issue with doctor's salaries has been highlighted repeatedly and very little has since been done to address this problem (WHO, 2006; Hays, Veitch, Cheers and Crossland, 1997; Awoses, Gbary, Nyoni, and Chantora, 2004:41). Higher salaries offered by overseas hospitals are also proving to be an ideal pull factor. The current pay package for practitioners in South Africa is low especially when considering their flexible and long working hours as well as their overall contribution to the healthcare system in South Africa. An increased workload among doctors has been associated with burn-outs and intentions to leave (Awoses, Gbary, Nyoni, and Chantora, 2004:35; Dovlo and Martineau, 2004:33). Excessive workloads have also been shown to significantly contribute to doctor's dissatisfaction in South Africa.

On reflection to international results on job satisfaction among doctors, there is correspondence between reasons of migration and the most likely country of destination. Interviewed doctors from Cameroon, Uganda, South Africa, Ghana, Senegal, and Zimbabwe indicated intentions to migrate to the UK, USA Canada while most South African doctors indicated their top destinations to be Australia and New Zealand. The reasons for migrating were ranked from better remuneration, personal training, improved management involvement, and better work environment (Awoses, Gbary, Nyoni, and Chantora, 2004:35-42). These findings highlight the varying contexts of these studies and the increased control of management over those factors, which are most satisfying.

5.5 Significant associations

An association of different categories in Table 11 of a *chi*-square test showed various significances between the several variables that the respondents answered in the survey. Relational to the highlighted key variables to enhancing our focus on retention of public health medical doctors, significance was placed on the age group of doctors who dominantly were between 30-40 years and with most being, over 5 years in the public sector had a significance of ($p=0.000$) showing a desire to serve the population yet the intrinsic dissatisfactory factors did influence their migration. On another note, the significant association between the respondents' positions relating to their number of hours worked per week ($p=0.017$) significance revealed that most medical officers found themselves working between 40-59 hours per week with no incentives or further training. Where there were few specialists, it emerged that the number of hours worked per medical officer could rise to between 60 and 70 hours per week. Tertiary level doctors significantly saw more patients in a week than their

district or regional colleagues and to do this with no motivation but with degrading health facilities, greater exposure to communicable diseases and injuries was what the doctors were left to deal with.

ANOVA identification of public health doctors' autonomy and resources have both shown high significance of doctors desiring to change from the public sector and setting for future work plans. Most doctors showed greater dissatisfaction with the inability to exercise professional freedom in influencing their work processes and developing innovative methods of treating their patients. They further showed significant dissatisfaction in accessing resources at workstations to facilitate better care to their patients. With adequate investigation into ways of allaying concerns of doctors, contribution towards job satisfaction can be sought. In relation to the workloads endured by doctors, the number of hours worked per week, in addition to the number of patients treated per week, was very significant. Dovlo and Martineau (2004) earlier pointed to this factor affecting immense dissatisfaction of health workers. On this note, the workload variable immensely affected the future work plans and intentions to change sector by the doctors. This shows that improvements in these areas will certainly change significantly the manner in which future work plans will be viewed and planned by the doctors. Lighter and manageable workloads can definitely accelerate the wheel of satisfaction a doctor can derive from his or her job.

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Four variables were significant as the highest rated factors causing job dissatisfaction under the relationship doctors had with their management. The age was a significant factor, and experience in the public sector was also a factor to consider in attaining improved work satisfaction. The intention to change sector was very strong among doctors and an undesirable long stay in the public sector was also significantly identified. It is evident in this current work that in environments where management view employees as numbers, greater work dissatisfaction is recorded whereas in environments with channels of incorporating employees' contributions towards the running of organizations, greater percentages of job satisfaction are seen. A shift of the mindset that people are not just numbers in a business world needs to dominantly make its entrance into the healthcare sector too. In this research, doctors made significant indications of how safety was crucial to work. The safety of doctors from communicable diseases was growing ever lesser with the increased number of patients a doctor was expected to see weekly. Challenging work environments often make doctors and especially female doctors more prone to several risks when trying to help and save their patients' lives. Several researches have published the risks of working in the public health sectors as the practitioner's safety

at work places needs to be upgraded to ensure better working environments, and this is just one among the various provisions doctors tend to receive in the private sector.

Doctors' personal time and relations with medical colleagues are also determinants of job satisfaction. Kotzee and Couper (2006) research on job satisfaction on doctors in Limpopo identified that the relational time a doctor spends with the community in which he operates contributes to his job satisfaction. Doctors in Limpopo who had an intrinsic positive acceptance among their community were more satisfied with their work and this in turn, positively influenced their work performances as they did not feel scared going to work. The flexibility of doctors saw them hardly being able to stay in a shift since with limited personal time; doctors tend to get easily frustrated with constant expectations of meeting growing numbers of patient size accompanied with continuous shrinkage in the number of doctors. A careful structuring of individual doctor's relational time by management will induce a retention drive that is encouraged by the more number of doctors benefiting from such a structure.

5.6 Significant retention variables

In South Africa, the health system faces a variety of problems, such as an overall shortage and misdistribution of healthcare workers. Like this is not enough, doctors in the public sector leave in droves annually and a strategy of retaining existing doctors will go far in no small measure in providing a sustainable solution to this crisis. The identified variables were those solely recommended by the respondents as workable areas healthcare administrators can improve upon to enhance possibilities of retaining public medical doctors in South Africa.

A significant relationship as shown in Table 14 was made between the gender of the respondents and his or her work and home lives with a score of ($p=0.015$). It was found that females tend to be more comfortable with working in the public health sector because it can provide them with better personal time. Hence, the more health administrators focus at ensuring that this factor is properly addressed, the more the increase of female doctors can be expected. Already the shift from an all male dominated profession already sees females occupying 44% of medical doctors in South Africa.

The work environment was identified to have a significant influence on the retention of doctors. Researches on job satisfaction have identified the need for personal time; relational time with other

health colleagues is needed for job satisfaction to thrive. Respondents have reiterated that for the work environment to be able to retain doctors, it has to significantly improve from where it is currently.

Significantly having three variables in leading to doctors' retention in the public sector is the factor of professional practice. Internal confidence at work leverages the performance and desire to stay on longer. Doctors pointed to this factor as a drive in assisting the retention of medical colleagues in the hospitals. Professional practice is the ability of the professional to influence the quality of medical care he or she finds themselves in. Management has a lot to play in this very important aspect of work to be manifested and creating room for minimal mistakes will somewhat encourage ingenuity by professionals including doctors. Monotony at work easily leads to boredom, lack of commitment to excellence because an achieved standard is set as a benchmark with little or no enthusiasm to surpass it. Professionalism allows the doctor to use all his skills and abilities to perform his duties of which this would leave the patients in a much caring and involved individual taking care of them. Age, years of experience in the sector, and years since leaving medical school, were considered as significant variables to the factor of doctors' retention in the public sector. Management cannot operate effectively without understanding and structuring the improvement of this factor to encourage the retention of doctors.

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5.7.1 Management impact

The next identified factor was work place organization. All the recommended changes specified above would make no lasting impacts if they do not have the support of management. To do this, management staff need to understand the doctors needs, respect the valuable contribution each doctor makes; create and allow for training and development opportunities; channels of communication established for doctors to reach management on grievances or suggestions as the doctor is the greatest influence on the patient; opportunities in peer interactions and ultimately participation in decision-making. Without participation in decision-making, hardly would any employee feel to be part of the mission of an organization, and this is not to be mistakenly set into motion as a structure by management alone but put under regular reviews as this would ultimately ensure that new and changing situations are not just at ear's length.

CHAPTER 6. SUMMARY. CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary

With the South African public health sector suffering from poor access to medical doctors, mismanagement, unbalanced regional allocations of funds inherited from the apartheid regime; this study set out to determine problems of motivation and retention of medical doctors in the public healthcare. This research found the public sector is reaching its maximum capacity and further pressure might lead to its collapse with medical doctors classed under scarce skilled professionals.

The public healthcare employers are placing higher expectations on professionals like medical doctors causing greater consideration and immigration of doctors to more lucrative offers from competing sectors and countries needing scarce skills they possess. Responses showed a correlation to groupings of where medical doctor's problems of job satisfaction normally occur.

6.2 Conclusions

The South African health professional recruitment and retention strategy is a notable exception that is attempting to develop a broad-based and multi-faceted set of interventions, which include addressing social and economic push factors. Medical doctors make up a pivotal component of the healthcare system in South Africa and are essential to the preservation of life.

In the face of international recruitment as well as a disturbing decline in medicine as a career, understanding the sources of satisfaction among these important caregivers becomes paramount. This study, in attempting to address these issues, highlighted the overall dissatisfactions among South African public sector medical doctors. The wide disparity between the private and public sector hospitals is reflective in the provision of healthcare in South Africa.

The findings in this research indicate that public sector doctors are clearly more dissatisfied with their working environment than their private sector counterparts are, and the number of doctors leaving the public sector substantiates this. This becomes a pressing issue because approximately 40 million South Africans are dependent on public health services, which are primarily staffed by unsatisfied doctors. Consequently, there is a compromise of doctor's ability to provide competent and compassionate

patient care. It therefore becomes essential for the public sector managers to reorganize its current strategies

November 21, 2006, saw the then Minister of Finance and Tourism for the Western Cape, Lynn. Brown announcing in her medium term budget and policy statement 2007-2010, that approximately R402 million was to be targeted for the implementation of the Health Professionals Remuneration Review over the medium term expenditure framework (METF).

The proposal included salary increases for nurses, followed by doctors and other health professionals, as well as the recruitment of additional health professionals to address the problem of workload. Mandatory community service for doctors after qualifying is one of the solutions to resolve doctors' migration government is considering. These outlined solutions are indications of the public sector's commitment to addressing the challenges facing medical doctors in South Africa. Ironically, this strategy cannot address a major cause of emigration and it makes no comment on the desirability of developing a strategy for the replacement of immigration.

Restrictions on outward movement are not generally feasible in states that guarantee freedom of movement to its citizens. Instead, South Africa can seek to exercise advantage over the pull factors by making appeals to the morality of industrial countries or entering into bilateral or multi-lateral agreements with the Western governments to control the recruitment or hiring of medical professionals on segmented basis.

Job satisfaction for medical doctors extends beyond pay and although this study has identified wage as a non-satisfying factor, it is still only one aspect of satisfaction. The provision of better management within the public healthcare institutions, enforced protective and safety measures, recognition of dedicated employees and ensuring access to skills improvement and career opportunities are examples of the almost immediate relevant solutions available to the public sector. Flexibility on the part of doctors' working hours is what needs to be encouraged during these challenging times.

Career opportunities and skills training offers doctors the prospect to further their knowledge and improve their skills as some of them can then move on to become specialists. This translates not only to improved efficiencies for the institution, but also personal satisfaction and growth among doctors.

The recognition of doctors' invaluable contribution to the delivery of healthcare must not go unnoticed. Rewards for dedicated service is an excellent example of giving doctors their much-needed recognition and with indication of lack or participation of doctors by management, this will go a long way to enhancing a closer channel of communication.

A direct means of addressing the number one reason identified by doctors for leaving the public sector is the involvement of doctors in managerial decisions so that doctors with intentions of progressing further may be given enrolment for (doctors') management educational degrees, which in turn would effectively improve the doctors' rewarding careers. With the current meagre budgets to meet the growing demands of healthcare in South Africa, the provision of adequate quality healthcare in the public sector requires that management be resourceful. The push factors, which are driving away the healthcare workers, are embedded in the healthcare system and the recognition of these factors is the first step towards formulating meaningful and effective solutions.

6.3 Recommendations

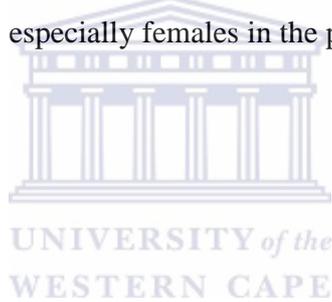
For the intention of retaining medical doctors in the South African public sector to achieve results; concrete strategic measures must be put in place in order to sustain recommendations. Caution is warranted with regards to absolute generalization of the present findings to include other professionals in the public health sector. It is recommended that for future research a larger sample be used and ample time on follow-ups on respondents be apportioned.

From literature surveyed, it is evident that the public health sector is experiencing an exodus of professional skilled employees to other sectors and countries.

- The empirical findings of this study suggest that low pay is identified as the second most important factor that leads to medical doctor's departure from this sector. It is recommended that executive management accord significant attention to future studies to identify more variables having major impacts on job satisfaction in an attempt to retain high-quality skills, in particular scarce skills like medical doctors that are in line with the human resource development strategy of the Department of Labour. According to Marx (1995), offering competitive salaries and opportunity for upward mobility enhances the chances of employee retention.

- Meyer, Mabaso and Lancaster (2002) maintain that it is crucial to protect the supply of scarce skills in order to meet with societal needs. It is therefore recommended that the provision of medical doctors access to better accommodation; career progression; continued medical education; increasing support by specialist consultants; will immensely indicate a greater determination by management in improving the dignity of the medical profession in society.
- The work place environment is a determinant of how well an individual performs at his or her work. The research findings reported makes a valuable contribution to the awareness of government and managers understanding the concept of job satisfaction and the effect of underlying variables to medical doctor's work like the hospital infrastructure and referral systems; and ensuring the availability of essential medical equipments, medicines and improving the working conditions of doctors.
- Respondents emphasized the need for more involvement in decision making processes of public hospitals. Strengthening hospital management and doctors relationship can be enhanced by increasing the role of doctors in management through establishing private-public collaborations with private general practitioners; ensuring adequate senior support for junior doctors; improving rural hospital environments and providing recognition of the work doctors do. By no means are these expected to be all put in place at once; the onus lies on management to develop the best strategic ways of implementing a sustainable long-term plan concrete enough to convince the ever-emigrating doctors.
- Additional research is needed to further investigate the role push factors currently present in the health system and the potential relationship effect these and other extraneous variables, such as job level, dependent rewards have in the retention of public doctors. The recommendation is to include various interventions involving different levels of the healthcare system. It also recommended that incentive packages be created for doctors who serve in public hospitals.

- In addition to work-life, the factor of “the number of years served by a medical doctor in the public sector” was prominent. The years of service a doctor spends in the public sector is a growing concern as most doctors barely spend 5 years before leaving. This needs to be improved upon because with short service periods by junior doctors, there is soon going to be no replacement of specialists as the senior doctors retire or leave with fewer junior doctors to ensure constancy.
- Pregnant female doctors go on maternity leave with some never returning either because they would have taken up new passions and jobs or simply moving away from the current workloads that would eventually confront them on returning. The establishment of a child care facility at hospitals is one variable for management to consider, better working shifts for nursing doctors to encourage balance in home and work lives will greatly contribute to the retention of doctors; especially females in the public hospitals.



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APPENDICES

Appendix I: The Research Questionnaire.





UNIVERSITY of the
WESTERN CAPE

Survey on the work satisfaction & retention of Doctors in the public health sector

Instructions

1. Please read all questions carefully and make sure you know exactly what is required.
2. Answer each question, where relevant, by making a cross in the appropriate block next to the question. Please answer all questions.
3. All results will be aggregated and statistically treated before being incorporated into the research findings. The general research findings will be made available for publication.
4. This survey is **completely anonymous**. Please **do not provide** any personal information such as a name or contact number.
5. **All information will be treated as strictly confidential.**

No.....

Answer the following questions by marking a cross in the appropriate block

Section 1: Demographic Details

1.1 GENDER

MALE	FEMALE
------	--------

1.2 AGE

<30	30-40	>40
-----	-------	-----

1.3 YEARS SINCE GRADUATION FROM MEDICAL SCHOOL

<5	5-10	>10
----	------	-----

1.4 NUMBER OF YEARS IN PUBLIC SECTOR

0-5	5-10	>10
-----	------	-----

1.5 POSITION

Specialist	Medical officer
------------	-----------------

1.6 NUMBER OF HOURS WORKED PER WEEK IN PATIENTS CARE

<20	20-39	40-59	60-70	>80
-----	-------	-------	-------	-----

1.7 NUMBER OF PATIENTS SEEN IN AN AVERAGE WEEK?

<50	50-99	100-149	150-199	>200
-----	-------	---------	---------	------

1.8 HOSPITAL LEVEL

District	Regional	Tertiary
----------	----------	----------

1.9 PLACE OF EMPLOYMENT (Province)

Mpumalanga	Limpopo	Northern Cape	Gauteng	Free State
North West	Eastern Cape	Kwa-Zulu Natal	Western Cape	

1.9.1 Do you intend to change your sector of employment within the next five years?

YES	NO
-----	----

2. WHAT ARE YOUR WORK PLANS FOR THE NEXT FIVE YEARS MOST LIKELY TO BE?
(Please tick one box only. If you choose option four (4), indicate whether you intend to return or not, by selecting the appropriate box)

- Remain in current position
- Leave medicine for another profession
- Quit medicine and retire from all forms of employment
- Work abroad
- Further training in medicine
- Specialize in other areas of health

<input type="checkbox"/>

Do you intent to return?

YES	NO
-----	----

P.T.O

Section 2: Work Satisfaction

Please indicate your level of satisfaction with the following:

	very dissatisfied	dissatisfied	somewhat satisfied	satisfied	very satisfied
2.1 Autonomy					
• Freedom to treat patients as I deem fit	<input type="radio"/>				
• Freedom to order whatever I believe will help my patients	<input type="radio"/>				
• Freedom to control my own work schedule	<input type="radio"/>				
• Freedom to initiate change to the way work is done	<input type="radio"/>				
2.2 Resources					
• Working equipment available	<input type="radio"/>				
• Medication and supplies available	<input type="radio"/>				
• Examination facilities	<input type="radio"/>				
• Time available for each patient	<input type="radio"/>				
• Number of doctor staff	<input type="radio"/>				
2.3 Career Opportunities					
• Incentives to further education and training	<input type="radio"/>				
• Career progression opportunities	<input type="radio"/>				
• Training and development opportunities	<input type="radio"/>				
• Management opportunities in medicine	<input type="radio"/>				
• Opportunity to multi skill	<input type="radio"/>				
• Funding of professional development	<input type="radio"/>				
2.4 Relationships with nursing colleagues					
• My relationships with nurses	<input type="radio"/>				
• Professional support and stimulation from nurses	<input type="radio"/>				
• Personal support from nurses	<input type="radio"/>				
• Team spirit from nurses I work with	<input type="radio"/>				
2.5 Patient Care					
• My relationship with patients	<input type="radio"/>				
• My ability to improve health status of patients	<input type="radio"/>				
• Personal gratification from patient care	<input type="radio"/>				
• Gratitude displayed by patients	<input type="radio"/>				
• Continuity of care for patients	<input type="radio"/>				

P.T.O

	very dissatisfied	dissatisfied	somewhat satisfied	satisfied	very satisfied
2.6 Relationship with management					
• Communication with management staff	<input type="radio"/>				
• Support and recognition from management staff	<input type="radio"/>				
• Management understanding of my needs	<input type="radio"/>				
• Opportunity to participate in management decisions	<input type="radio"/>				
• My relationship with management staff	<input type="radio"/>				
2.7 Relationship with medical doctors					
• My relationship with doctors	<input type="radio"/>				
• Professional support from doctors	<input type="radio"/>				
• Recognition from doctors	<input type="radio"/>				
• Team spirit of doctors	<input type="radio"/>				
2.8 Personal time					
• My after-hours work load	<input type="radio"/>				
• Amount of time for personal and family life	<input type="radio"/>				
• Leisure time off the job	<input type="radio"/>				
• Work schedule	<input type="radio"/>				
2.9 Safety					
• My personal safety at work	<input type="radio"/>				
• Risk of infection(s) on duty	<input type="radio"/>				
• Risk of injury on duty	<input type="radio"/>				
• Physical work environment (building & equipment, etc.)	<input type="radio"/>				
2.10 Community					
• My sense of belonging to the community where I work	<input type="radio"/>				
• My family's connection to the community where I work	<input type="radio"/>				
• Support of community in which I work	<input type="radio"/>				
2.11 Pay					
• My income	<input type="radio"/>				
• My income given my training and experience	<input type="radio"/>				
• My bonus and benefits	<input type="radio"/>				
• My income relative to other health professionals/specialists	<input type="radio"/>				



P.T.O

Section 3: Attraction to medicine

When choosing medicine as a career, how important, if at all, were the following:

	not important	somewhat important	not sure	important	very important
3.1 Intrinsic attraction to medicine					
• Ability to make a contribution to society	<input type="radio"/>				
• Ability to help others	<input type="radio"/>				
• Ability to work closely with people	<input type="radio"/>				
• Exciting and challenging work	<input type="radio"/>				
• Mentally challenging work	<input type="radio"/>				
• Community respect for doctors	<input type="radio"/>				
• Profession perceived to carry prestige	<input type="radio"/>				
3.2 Extrinsic rewards of medicine					
• Starting salary	<input type="radio"/>				
• Future earnings potential	<input type="radio"/>				
• Opportunities for promotion/advancement	<input type="radio"/>				
• Pleasant working conditions	<input type="radio"/>				
• Opportunities for creativity and originality	<input type="radio"/>				
• Proper working hours	<input type="radio"/>				
• Responsibility and autonomy in profession	<input type="radio"/>				
• Time required to qualify for profession	<input type="radio"/>				
• Opportunities for self development	<input type="radio"/>				
• Opportunities for career growth	<input type="radio"/>				
• Opportunities to travel	<input type="radio"/>				
• Opportunities to work in other countries	<input type="radio"/>				
3.3 Employment security over life of being a doctor					
• Ability to leave the job and return later	<input type="radio"/>				
• Doctor skills always seem in demand	<input type="radio"/>				
• Ability to combine work and family commitments	<input type="radio"/>				
• Availability of permanent position	<input type="radio"/>				
• Full time employment	<input type="radio"/>				
• Guaranteed employment	<input type="radio"/>				
3.4 Immediacy of support on entering profession					
• Training provided on the job	<input type="radio"/>				
• Ability to earn while studying	<input type="radio"/>				
• Accommodation provided while training	<input type="radio"/>				
• Availability of bursaries	<input type="radio"/>				
3.5 Influence of others					
• Career adviser's/teacher's advice	<input type="radio"/>				
• Parental advice	<input type="radio"/>				
• Ability to be with friends who had chosen medicine	<input type="radio"/>				
• Advice from doctors	<input type="radio"/>				
• Image of medicine in the media	<input type="radio"/>				

Section 4: Retention

In your present position, how important would the following factors be in influencing your decision to remain in your current position?

	not important	somewhat important	not sure	important	very important
4.1 Work load					
• My work timetable	<input type="radio"/>				
• My work load	<input type="radio"/>				
• Amount of responsibilities I have	<input type="radio"/>				
• Amount of over-time work	<input type="radio"/>				
• Time available to complete my work	<input type="radio"/>				
• Number of doctor staff	<input type="radio"/>				
4.2 Work life/home life					
• Leisure time off	<input type="radio"/>				
• Ability to balance work and home life	<input type="radio"/>				
• Child care at work	<input type="radio"/>				
• Affordable child care	<input type="radio"/>				
• Shift work	<input type="radio"/>				
4.3 Working environment					
• Opportunities for career development	<input type="radio"/>				
• Opportunities for self development	<input type="radio"/>				
• Safe work environment	<input type="radio"/>				
• Stable work environment	<input type="radio"/>				
• Good working relationships with nurses	<input type="radio"/>				
• Relationship with management	<input type="radio"/>				
• Availability of working equipment	<input type="radio"/>				
• Risk of injury and infection(s)	<input type="radio"/>				
• Recognition and respect for my contribution from management	<input type="radio"/>				
• Availability of modern technology and equipment	<input type="radio"/>				
• Good working relationship with medical doctor colleagues	<input type="radio"/>				
• Non-discriminating work environment	<input type="radio"/>				
• Stressful work environment	<input type="radio"/>				
4.4 Employment security					
• Availability of permanent position	<input type="radio"/>				
• Adequate compensation for my work(<i>salary</i>)	<input type="radio"/>				
• Adequate benefits for my work (<i>eg. traveling, medical aid & housing</i>)	<input type="radio"/>				
4.5 Professional practice					
• Autonomy in decision making	<input type="radio"/>				
• Flexibility of work roles	<input type="radio"/>				
• Challenging work	<input type="radio"/>				
• Opportunity to use all my skills and abilities	<input type="radio"/>				
• Ability to influence the quality of care	<input type="radio"/>				
• Commitment to excellence in medical care	<input type="radio"/>				



	not important	somewhat important	not sure	important	very important
4.6 Work place organization					
• Support from management	<input type="radio"/>				
• Management understanding of my needs	<input type="radio"/>				
• Recognition and respect for my contribution	<input type="radio"/>				
• Training and development opportunities	<input type="radio"/>				
• Availability of good management	<input type="radio"/>				
• Availability of channels to communicate concerns	<input type="radio"/>				
• Opportunities for peer interaction	<input type="radio"/>				
• Participation in decision making	<input type="radio"/>				
4.7 External influences					
• Support and acceptance by the community	<input type="radio"/>				
• Support and acceptance of my family by the community	<input type="radio"/>				
• Availability of employment for my spouse	<input type="radio"/>				
• Attitude of Department of Health towards medical doctors	<input type="radio"/>				
• Support from Department of Health for medical doctors	<input type="radio"/>				
• Vision of Department of Health for health care delivery in SA	<input type="radio"/>				
• Public expectations of our health care system	<input type="radio"/>				
• Public expectations of medical doctors	<input type="radio"/>				



What advise do you have to improve the attraction and retention of doctors in South Africa?

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Thank you for your time and valuable comments

Appendix II: The Chi-Squared Test - Significant association between different categorical variables.

	Gender	Age	Country of Graduation	Years since Graduation from Medical School	Number of Years in Public Sector	Position	Number of Hours Per Week	Number of Patients Per Week	Hospital Level	Intention to Change Sector	Work Plan	Intention to Return
Gender	-----											
Age	7.633, 0.022	-----										
Country of Graduation	3.446, 0.063	23.325, 0.000	-----									
Years since Graduation from Medical School	3.311, 0.191	118.051, 0.000	16.350, 0.000	-----								
Number of Years in Public Sector	1.783, 0.410	90.175, 0.000	18.487, 0.000	148.477, 0.000	-----							
Position	3.173, 0.075	22.681, 0.000	0.219, 0.640	27.339, 0.000	26.183, 0.000	-----						
Number of Hours Per Week	2.438, 0.656	14.696, 0.065	5.379, 0.251	21.540, 0.006	15.989, 0.043	12.088, 0.017	-----					
Number of Patients Per Week	2.526, 0.640	15.831, 0.045	4.939, 0.294	20.052, 0.010	16.481, 0.036	16.032, 0.003	56.337, 0.000	-----				
Hospital Level	1.397, 0.497	11.012, 0.026	4.758, 0.093	5.523, 0.238	4.084, 0.395	34.348, 0.000	11.652, 0.167	36.229, 0.000	-----			
Intention to Change Sector	0.972, 0.324	5.703, 0.058	0.206, 0.650	5.196, 0.074	8.560, 0.014	3.065, 0.080	3.812, 0.432	5.785, 0.216	1.735, 0.420	-----		
Work Plan	2.003, 0.849	51.429, 0.000	2.569, 0.766	33.709, 0.000	40.917, 0.000	22.338, 0.000	26.815, 0.141	22.546, 0.312	16.289, 0.092	41.662, 0.000	-----	
Intention to Return	0.013, 0.911	2.520, 0.284	0.191, 0.662	3.753, 0.153	3.359, 0.186	0.059, 0.808	5.226, 0.265	1.416, 0.841	3.178, 0.204	0.006, 0.938	1.208, 0.547	-----

Appendix III: The Cronbach alpha – Satisfaction and Retention.

Satisfaction Factors	Cronbach's alpha	N of Items	Mean
Autonomy	0.718	4	2.706
Resources	0.786	6	2.430
Work Load	0.792	4	2.687
Relation with Nurses	0.909	4	3.323
Patient Care	0.797	5	3.347
Relation with Management	0.928	5	2.208
Relation with Medical Colleagues	0.858	4	3.738
Personal Time	0.927	4	2.722
Safety	0.875	4	2.826
Community	0.910	3	2.903
Pay	0.919	4	2.133
Career Opportunities	0.874	6	2.275
My Career	0.821	4	3.261

Retention Factors	Cronbach's alpha	N of Items	Mean
Work Load	0.872	6	4.035
Work life/ home life	0.766	5	3.517
Working environment	0.881	13	4.268
Employment security	0.674	3	4.471
Professional practice	0.786	6	4.306
Work place organization	0.919	8	4.326
External influences	0.784	8	4.029

Appendix IV: The ANOVA - Significant association between different categorical variables on Job Satisfaction.

	Gender	Age	Country of Graduation	Years since Graduation from Medical School	Number of Years in Public Sector	Position	Number of Hours Per Week	Number of Patients Per Week	Hospital Level	Intention to Change Sector	Future Work Plan	Intention to Return
Autonomy	0.175	0.538	0.988	0.395	0.224	0.771	0.177	0.765	0.732	0.000	0.000	0.518
Resources	0.735	0.570	0.721	0.539	0.767	0.724	0.443	0.079	0.960	0.001	0.004	0.259
Work Load	0.966	0.445	0.881	0.062	0.140	0.150	0.000	0.001	0.289	0.011	0.006	0.290
Relation with Nurses	0.555	0.847	0.896	0.977	0.855	0.165	0.679	0.457	0.563	0.105	0.106	0.280
Patient Care	0.231	0.109	0.450	0.564	0.565	0.056	0.072	0.999	0.158	0.099	0.012	0.917
Relation with Management	0.073	0.034	0.973	0.126	0.019	0.361	0.334	0.770	0.072	0.000	0.000	0.969
Relation with Medical Colleagues	0.052	0.003	0.330	0.004	0.007	0.144	0.576	0.262	0.162	0.033	0.008	0.078
Personal Time	0.072	0.015	0.948	0.035	0.111	0.115	0.000	0.008	0.791	0.013	0.114	0.467
Safety	0.011	0.100	0.796	0.009	0.052	0.078	0.051	0.148	0.988	0.000	0.004	0.301
Community	0.310	0.128	0.570	0.066	0.107	0.232	0.635	0.890	0.189	0.016	0.025	0.400
Pay	0.145	0.097	0.510	0.658	0.867	0.583	0.800	0.571	0.448	0.000	0.000	0.120
Career Opportunities	0.615	0.131	0.360	0.165	0.392	0.283	0.287	0.253	0.416	0.097	0.054	0.824
My Career	0.897	0.770	0.149	0.573	0.558	0.048	0.547	0.998	0.044	0.000	0.000	0.446

Appendix V: ANOVA - Significant association between different categorical variables on Retention.

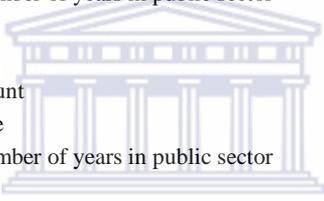
	Gender	Age	Country of Graduation	Years since Graduation from Medical School	Number of Years in Public Sector	Position	Number of Hours Per Week	Number of Patients Per Week	Hospital Level	Intention to Change Sector	Work Plan	Intention to Return
Work Load	0.322	0.463	0.216	0.594	0.370	0.924	0.335	0.837	0.768	0.937	0.222	0.152
Work life/ home life	0.015	0.932	0.392	0.543	0.030	0.431	0.088	0.621	0.477	0.398	0.528	0.638
Working environment	0.155	0.123	0.568	0.075	0.035	0.494	0.140	0.591	0.959	0.094	0.125	0.306
Employment security	0.930	0.235	0.468	0.571	0.377	0.480	0.580	0.801	0.972	0.240	0.185	0.756
Professional practice	0.929	0.000	0.074	0.007	0.013	0.066	0.456	0.679	0.127	0.678	0.095	0.224
Work place organization	0.600	0.170	0.879	0.040	0.296	0.113	0.530	0.965	0.929	0.019	0.519	0.533
External influences	0.335	0.433	0.668	0.673	0.890	0.261	0.586	0.522	0.340	0.488	0.602	0.849

Appendix VI: The *Chi*-Squared tests

			Age			Total
			<30	30-40	>40	
Gender	male	Count	11	37	27	75
		Expected Count	17.8	33.3	23.9	75
		% within				
		Gender	14.70%	49.30%	36.00%	100.00%
		% within Age	34.40%	61.70%	62.80%	55.60%
		% of Total	8.10%	27.40%	20.00%	55.60%
	female	Count	21	23	16	60
		Expected Count	14.2	26.7	19.1	60
		% within				
		Gender	35.00%	38.30%	26.70%	100.00%
		% within Age	65.60%	38.30%	37.20%	44.40%
		% of Total	15.60%	17.00%	11.90%	44.40%
Total	Count	32	60	43	135	
	Expected Count	32	60	43	135	
	% within					
	Gender	23.70%	44.40%	31.90%	100.00%	
	% within Age	100.00%	100.00%	100.00%	100.00%	
	% of Total	23.70%	44.40%	31.90%	100.00%	
Chi-Square Tests						
	Value	Df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	7.633(a)	2	0.022			

Age * Country of Graduation Cross tabulation			Country of Graduation		Total
Age			SA	Abroad	
	<30	Count	32	0	32
		Expected Count	28	4	32
		% within Age	100.00%	0.00%	100.00%
		% within Country of Graduation	27.10%	0.00%	23.70%
		% of Total	23.70%	0.00%	23.70%
	30-40	Count	57	3	60
		Expected Count	52.4	7.6	60
		% within Age	95.00%	5.00%	100.00%
		% within Country of Graduation	48.30%	17.60%	44.40%
		% of Total	42.20%	2.20%	44.40%
	>40	Count	29	14	43
		Expected Count	37.6	5.4	43
% within Age		67.40%	32.60%	100.00%	
% within Country of Graduation		24.60%	82.40%	31.90%	
% of Total		21.50%	10.40%	31.90%	
Total	Count	118	17	135	
	Expected Count	118	17	135	
	% within Age	87.40%	12.60%	100.00%	
	% within Country of Graduation	100.00%	100.00%	100.00%	
	% of Total	87.40%	12.60%	100.00%	
Chi-Square Tests					
	Value	Df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	23.325(a)	2	0.000		

			Years since graduation from medical school			Total
			<5	5-10	>10	
Age	<30	Count	27	5	0	32
		Expected Count	8.1	8.4	15.5	32
		% within Age	84.40%	15.60%	0.00%	100.00%
		% within Years since graduation from medical school	79.40%	14.30%	0.00%	23.90%
		% of Total	20.10%	3.70%	0.00%	23.90%
	30-40	Count	7	29	24	60
		Expected Count	15.2	15.7	29.1	60
		% within Age	11.70%	48.30%	40.00%	100.00%
		% within Years since graduation from medical school	20.60%	82.90%	36.90%	44.80%
		% of Total	5.20%	21.60%	17.90%	44.80%
>40	Count	0	1	41	42	
	Expected Count	10.7	11	20.4	42	
	% within Age	0.00%	2.40%	97.60%	100.00%	
	% within Years since graduation from medical school	0.00%	2.90%	63.10%	31.30%	
	% of Total	0.00%	0.70%	30.60%	31.30%	
Total	Count	34	35	65	134	
	Expected Count	34	35	65	134	
	% within Age	25.40%	26.10%	48.50%	100.00%	
	% within Years since graduation from medical school	100.00%	100.00%	100.00%	100.00%	
	% of Total	25.40%	26.10%	48.50%	100.00%	
Chi-Square Tests						
	Value	Df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	118.051(a)	4	0.000			

Age * Number of Years in Public Sector Cross tabulation			Number of years in public sector			Total
			<5	5-10	>10	
Age	<30	Count	28	4	0	32
		Expected Count	10.5	9.8	11.7	32
		% within Age	87.50%	12.50%	0.00%	100.00%
		% within Number of years in public sector	63.60%	9.80%	0.00%	23.90%
		% of Total	20.90%	3.00%	0.00%	23.90%
	30-40	Count	14	30	15	59
		Expected Count	19.4	18.1	21.6	59
		% within Age	23.70%	50.80%	25.40%	100.00%
		% within Number of years in public sector	31.80%	73.20%	30.60%	44.00%
		% of Total	10.40%	22.40%	11.20%	44.00%
	>40	Count	2	7	34	43
		Expected Count	14.1	13.2	15.7	43
		% within Age	4.70%	16.30%	79.10%	100.00%
		% within Number of years in public sector	4.50%	17.10%	69.40%	32.10%
		% of Total	1.50%	5.20%	25.40%	32.10%
Total	Count	44	41	49	134	
	Expected Count	44	41	49	134	
	% within Age	32.80%	30.60%	36.60%	100.00%	
	% within Number of years in public sector	100.00%	100.00%	100.00%	100.00%	
	% of Total	32.80%	30.60%	36.60%	100.00%	
 UNIVERSITY of the WESTERN CAPE						
Chi-Square Tests						
	Value	Df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	90.175(a)	4	0.000			

Age * Position Cross tabulation					
Age			Position		Total
			specialist	medical officer	
<30	Count		1	29	30
		Expected Count	12.1	17.9	30
		% within Age	3.30%	96.70%	100.00%
		% within Position	2.00%	38.70%	23.80%
	% of Total		0.80%	23.00%	23.80%
		Count	29	25	54
		Expected Count	21.9	32.1	54
		% within Age	53.70%	46.30%	100.00%
	% within Position		56.90%	33.30%	42.90%
		Position	23.00%	19.80%	42.90%
		% of Total			
		Count	21	21	42
Expected Count		17	25	42	
	% within Age	50.00%	50.00%	100.00%	
	% within Position	41.20%	28.00%	33.30%	
	Position	16.70%	16.70%	33.30%	
% of Total					
	Count	51	75	126	
	Expected Count	51	75	126	
	% within Age	40.50%	59.50%	100.00%	
% within Position		100.00%	100.00%	100.00%	
	Position	40.50%	59.50%	100.00%	
	% of Total				
	Count				
Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	22.681(a)	2	0.000		

Number of Patients seen in an Average Week			<50	50-99	100-149	150-199	>200	Total
Age	<30	Count	7	5	8	7	5	32
		Expected Count	10.4	7.4	6.4	3.2	4.5	32
		% within Age	21.90%	15.60%	25.00%	21.90%	15.60%	100.00%
		% within Number of patients seen in an average week	16.70%	16.70%	30.80%	53.80%	27.80%	24.80%
		% of Total	5.40%	3.90%	6.20%	5.40%	3.90%	24.80%
	30-40	Count	19	18	7	4	10	58
		Expected Count	18.9	13.5	11.7	5.8	8.1	58
		% within Age	32.80%	31.00%	12.10%	6.90%	17.20%	100.00%
		% within Number of patients seen in an average week	45.20%	60.00%	26.90%	30.80%	55.60%	45.00%
		% of Total	14.70%	14.00%	5.40%	3.10%	7.80%	45.00%
	>40	Count	16	7	11	2	3	39
		Expected Count	12.7	9.1	7.9	3.9	5.4	39
		% within Age	41.00%	17.90%	28.20%	5.10%	7.70%	100.00%
		% within Number of patients seen in an average week	38.10%	23.30%	42.30%	15.40%	16.70%	30.20%
		% of Total	12.40%	5.40%	8.50%	1.60%	2.30%	30.20%
Total	Count	42	30	26	13	18	129	
	Expected Count	42	30	26	13	18	129	
	% within Age	32.60%	23.30%	20.20%	10.10%	14.00%	100.00%	
	% within Number of patients seen in an average week	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
	% of Total	32.60%	23.30%	20.20%	10.10%	14.00%	100.00%	
Chi-Square Tests								
	Value	df	Asymp. Sig. (2-sided)					
Pearson Chi-Square	15.831(a)	8	0.045					

			Hospital level			Total
			District	Regional	Tertiary	
Age	<30	Count	9	12	11	32
		Expected Count	7.3	9.3	15.4	32
		% within Age	28.10%	37.50%	34.40%	100.00%
		% within Hospital level	30.00%	31.60%	17.50%	24.40%
		% of Total	6.90%	9.20%	8.40%	24.40%
	30-40	Count	7	16	36	59
		Expected Count	13.5	17.1	28.4	59
		% within Age	11.90%	27.10%	61.00%	100.00%
		% within Hospital level	23.30%	42.10%	57.10%	45.00%
		% of Total	5.30%	12.20%	27.50%	45.00%
	>40	Count	14	10	16	40
		Expected Count	9.2	11.6	19.2	40
		% within Age	35.00%	25.00%	40.00%	100.00%
		% within Hospital level	46.70%	26.30%	25.40%	30.50%
		% of Total	10.70%	7.60%	12.20%	30.50%
Total	Count	30	38	63	131	
	Expected Count	30	38	63	131	
	% within Age	22.90%	29.00%	48.10%	100.00%	
	% within Hospital level	100.00%	100.00%	100.00%	100.00%	
	% of Total	22.90%	29.00%	48.10%	100.00%	
Chi-Square Tests						
	Value	Df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	11.012(a)	4	0.026			

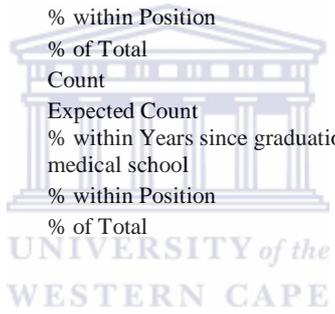
			Years since graduation from medical school			Total
			<5	5-10	>10	
Country of Graduation	SA	Count	33	35	49	117
		Expected Count	29.7	30.6	56.8	117
		% within Country of Graduation	28.20%	29.90%	41.90%	100.00%
		% within Years since graduation from medical school	97.10%	100.00%	75.40%	87.30%
		% of Total	24.60%	26.10%	36.60%	87.30%
	Abroad	Count	1	0	16	17
		Expected Count	4.3	4.4	8.2	17
		% within Country of Graduation	5.90%	0.00%	94.10%	100.00%
		% within Years since graduation from medical school	2.90%	0.00%	24.60%	12.70%
		% of Total	0.70%	0.00%	11.90%	12.70%
Total	Count	34	35	65	134	
	Expected Count	34	35	65	134	
	% within Country of Graduation	25.40%	26.10%	48.50%	100.00%	
	% within Years since graduation from medical school	100.00%	100.00%	100.00%	100.00%	
	% of Total	25.40%	26.10%	48.50%	100.00%	
Chi-Square Tests						
		Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square		16.350(a)	2		0.000	

			Number of years in public sector			Total
			<5	5-10	>10	
Country of Graduation	SA	Count	41	41	35	117
		Expected Count	38.4	35.8	42.8	117
		% within Country of Graduation	35.00%	35.00%	29.90%	100.00%
		% within Number of years in public sector	93.20%	100.00%	71.40%	87.30%
		% of Total	30.60%	30.60%	26.10%	87.30%
		Count	3	0	14	17
	Abroad	Expected Count	5.6	5.2	6.2	17
		% within Country of Graduation	17.60%	0.00%	82.40%	100.00%
		% within Number of years in public sector	6.80%	0.00%	28.60%	12.70%
		% of Total	2.20%	0.00%	10.40%	12.70%
		Count	44	41	49	134
		Expected Count	44	41	49	134
Total	% within Country of Graduation	32.80%	30.60%	36.60%	100.00%	
	% within Number of years in public sector	100.00%	100.00%	100.00%	100.00%	
	% of Total	32.80%	30.60%	36.60%	100.00%	
	Count	44	41	49	134	
Chi-Square Tests						
	Value	Df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	18.487(a)	2	0.000			

		Number of years in public sector			Total		
		<5	5-10	>10			
Years since graduation from medical school	<5	Count	33	1	0	34	
		Expected Count	11.2	10.5	12.3	34	
		% within Years since graduation from medical school	97.10%	2.90%	0.00%	100.00%	
	5-10	Count	6	28	0	34	
		Expected Count	11.2	10.5	12.3	34	
		% within Years since graduation from medical school	17.60%	82.40%	0.00%	100.00%	
	>10	Count	5	12	48	65	
		Expected Count	21.5	20	23.5	65	
		% within Years since graduation from medical school	7.70%	18.50%	73.80%	100.00%	
	Total		% within Number of years in public sector	75.00%	2.40%	0.00%	25.60%
			% of Total	24.80%	0.80%	0.00%	25.60%
			Count	44	41	48	133
		Expected Count	44	41	48	133	
		% within Years since graduation from medical school	33.10%	30.80%	36.10%	100.00%	
		% within Number of years in public sector	100.00%	100.00%	100.00%	100.00%	
		% of Total	33.10%	30.80%	36.10%	100.00%	
		Chi-Square Tests					
			Value	Df	Asymp. Sig. (2-sided)		
Pearson Chi-Square		148.477(a)	4	0.000			

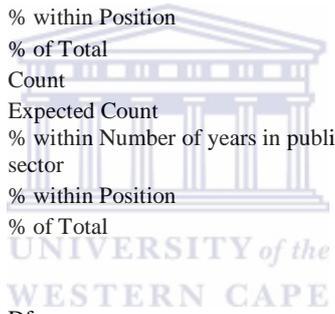
Years since Graduation from Medical School * Position Cross tabulation

			Position specialist	Total medical officer	
Years since graduation from medical school	<5	Count	1	31	32
		Expected Count	12.8	19.2	32
		% within Years since graduation from medical school	3.10%	96.90%	100.00%
	5-10	% within Position	2.00%	41.30%	25.60%
		% of Total	0.80%	24.80%	25.60%
		Count	12	18	30
	>10	Expected Count	12	18	30
		% within Years since graduation from medical school	40.00%	60.00%	100.00%
		% within Position	24.00%	24.00%	24.00%
	Total	% of Total	9.60%	14.40%	24.00%
		Count	37	26	63
		Expected Count	25.2	37.8	63
	Total	% within Years since graduation from medical school	58.70%	41.30%	100.00%
		% within Position	74.00%	34.70%	50.40%
		% of Total	29.60%	20.80%	50.40%
Count		50	75	125	
Expected Count		50	75	125	
Chi-Square Tests	% within Years since graduation from medical school	40.00%	60.00%	100.00%	
	% within Position	100.00%	100.00%	100.00%	
	% of Total	40.00%	60.00%	100.00%	
	Value	Df	Asymp. Sig. (2- sided)		
	Pearson Chi-Square	27.339(a)	2	0.000	



Number of Years in Public Sector * Position Cross tabulation

			Position specialist	medical officer	Total	
Number of years in public sector	<5	Count	4	37	41	
		Expected Count	16.6	24.4	41	
		% within Number of years in public sector	9.80%	90.20%	100.00%	
	5/10/2008	Count	17	20	37	
		Expected Count	15	22	37	
		% within Number of years in public sector	45.90%	54.10%	100.00%	
	>10	Count	30	18	48	
		Expected Count	19.4	28.6	48	
		% within Number of years in public sector	62.50%	37.50%	100.00%	
	Total		% within Position	7.80%	49.30%	32.50%
			% of Total	3.20%	29.40%	32.50%
			Count	51	75	126
			Expected Count	51	75	126
			% within Number of years in public sector	40.50%	59.50%	100.00%
			% within Position	100.00%	100.00%	100.00%
Chi-Square Tests		Value	% of Total	23.80%	14.30%	38.10%
			Df	2		
			Asymp. Sig. (2-sided)	0.000		
Pearson Chi-Square		26.183(a)				



Number of Years in Public Sector * Do you Intend to Change Your Sector of Employment within the next Five Years Cross tabulation

		Do you intend to change your sector of employment within the next five years		Total	
		Yes	No		
Number of years in public sector	<5	Count	31	13	44
		Expected Count	25.5	18.5	44
		% within Number of years in public sector	70.50%	29.50%	100.00%
	5-10	% within Do you intend to change your sector of employment within the next five years	40.80%	23.60%	33.60%
		% of Total	23.70%	9.90%	33.60%
		Count	26	15	41
	>10	Expected Count	23.8	17.2	41
		% within Number of years in public sector	63.40%	36.60%	100.00%
		% within Do you intend to change your sector of employment within the next five years	34.20%	27.30%	31.30%
	Total	% of Total	19.80%	11.50%	31.30%
		Count	19	27	46
		Expected Count	26.7	19.3	46
	Total	% within Number of years in public sector	41.30%	58.70%	100.00%
		% within Do you intend to change your sector of employment within the next five years	25.00%	49.10%	35.10%
		% of Total	14.50%	20.60%	35.10%
Count		76	55	131	
Expected Count		76	55	131	
Chi-Square Tests	% within Number of years in public sector	58.00%	42.00%	100.00%	
	% within Do you intend to change your sector of employment within the next five years	100.00%	100.00%	100.00%	
	% of Total	58.00%	42.00%	100.00%	
	Value	Df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	8.560(a)	2	0.014		

Position * Hospital Level Cross tabulation			Hospital level			Total
			District	Regional	Tertiary	
Position	specialist	Count	2	9	39	50
		Expected Count	11.8	14.6	23.6	50
		% within Position	4.00%	18.00%	78.00%	100.00%
		% within Hospital level	6.90%	25.00%	67.20%	40.70%
		% of Total	1.60%	7.30%	31.70%	40.70%
	medical officer	Count	27	27	19	73
		Expected Count	17.2	21.4	34.4	73
		% within Position	37.00%	37.00%	26.00%	100.00%
		% within Hospital level	93.10%	75.00%	32.80%	59.30%
		% of Total	22.00%	22.00%	15.40%	59.30%
Total	Count	29	36	58	123	
	Expected Count	29	36	58	123	
	% within Position	23.60%	29.30%	47.20%	100.00%	
	% within Hospital level	100.00%	100.00%	100.00%	100.00%	
	% of Total	23.60%	29.30%	47.20%	100.00%	
Chi-Square Tests						
	Value	Df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	34.348(a)	2	0.000			

Number of Hours Worked per Week in Patient Care * Number of Patients seen in an Average Week Cross tabulation

		Number of patients seen in an average week					Total	
		<50	50-99	100-149	150-199	>200		
Number of hours worked per week in patient care	<20	Count	6	0	0	0	0	6
		Expected Count	1.9	1.4	1.2	0.6	0.8	6
		% within Number of hours worked per week in patient care	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	20-39	% within Number of patients seen in an average week	14.60%	0.00%	0.00%	0.00%	0.00%	4.70%
		% of Total	4.70%	0.00%	0.00%	0.00%	0.00%	4.70%
		Count	11	2	1	0	0	14
	40-59	Expected Count	4.5	3.3	2.8	1.4	2	14
		% within Number of hours worked per week in patient care	78.60%	14.30%	7.10%	0.00%	0.00%	100.00%
		% within Number of patients seen in an average week	26.80%	6.70%	3.80%	0.00%	0.00%	10.90%
	60-70	% of Total	8.60%	1.60%	0.80%	0.00%	0.00%	10.90%
		Count	16	16	14	3	6	55
		Expected Count	17.6	12.9	11.2	5.6	7.7	55
	>80	% within Number of hours worked per week in patient care	29.10%	29.10%	25.50%	5.50%	10.90%	100.00%
		% within Number of patients seen in an average week	39.00%	53.30%	53.80%	23.10%	33.30%	43.00%
		% of Total	12.50%	12.50%	10.90%	2.30%	4.70%	43.00%
	Total	Count	6	10	7	7	3	33
		Expected Count	10.6	7.7	6.7	3.4	4.6	33
		% within Number of hours worked per week in patient care	18.20%	30.30%	21.20%	21.20%	9.10%	100.00%
	Total	% within Number of patients seen in an average week	14.60%	33.30%	26.90%	53.80%	16.70%	25.80%
		% of Total	4.70%	7.80%	5.50%	5.50%	2.30%	25.80%
Count		2	2	4	3	9	20	
Total	Expected Count	6.4	4.7	4.1	2	2.8	20	
	% within Number of hours worked per week in patient care	10.00%	10.00%	20.00%	15.00%	45.00%	100.00%	
	% within Number of patients seen in an average week	4.90%	6.70%	15.40%	23.10%	50.00%	15.60%	
Total	% of Total	1.60%	1.60%	3.10%	2.30%	7.00%	15.60%	
	Count	41	30	26	13	18	128	
	Expected Count	41	30	26	13	18	128	
Total	% within Number of hours worked per week in patient care	32.00%	23.40%	20.30%	10.20%	14.10%	100.00%	
	% within Number of patients seen in an average week	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
	% of Total	32.00%	23.40%	20.30%	10.20%	14.10%	100.00%	

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	56.337(a)	16	0.000

		Hospital level			Total	
		District	Regional	Tertiary		
Number of patients seen in an average week	<50	Count	4	6	31	41
		Expected Count	9.7	11.6	19.7	41
		% within Number of patients seen in an average week	9.80%	14.60%	75.60%	100.00%
		% within Hospital level	13.30%	16.70%	50.80%	32.30%
	% of Total	3.10%	4.70%	24.40%	32.30%	
	50-99	Count	2	11	17	30
		Expected Count	7.1	8.5	14.4	30
		% within Number of patients seen in an average week	6.70%	36.70%	56.70%	100.00%
		% within Hospital level	6.70%	30.60%	27.90%	23.60%
	% of Total	1.60%	8.70%	13.40%	23.60%	
	100-149	Count	10	10	6	26
		Expected Count	6.1	7.4	12.5	26
		% within Number of patients seen in an average week	38.50%	38.50%	23.10%	100.00%
		% within Hospital level	33.30%	27.80%	9.80%	20.50%
	% of Total	7.90%	7.90%	4.70%	20.50%	
	150-199	Count	7	3	2	12
		Expected Count	2.8	3.4	5.8	12
		% within Number of patients seen in an average week	58.30%	25.00%	16.70%	100.00%
		% within Hospital level	23.30%	8.30%	3.30%	9.40%
	% of Total	5.50%	2.40%	1.60%	9.40%	
>200	Count	7	6	5	18	
	Expected Count	4.3	5.1	8.6	18	
	% within Number of patients seen in an average week	38.90%	33.30%	27.80%	100.00%	
	% within Hospital level	23.30%	16.70%	8.20%	14.20%	
% of Total	5.50%	4.70%	3.90%	14.20%		
Total	Count	30	36	61	127	
	Expected Count	30	36	61	127	
	% within Number of patients seen in an average week	23.60%	28.30%	48.00%	100.00%	
	% within Hospital level	100.00%	100.00%	100.00%	100.00%	
	% of Total	23.60%	28.30%	48.00%	100.00%	
Chi-Square Tests						
	Value	Df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	36.229(a)	8	0.000			