GP preferences for contracting with the public health sector

A research report submitted by

Pravay Padia

Student number: 0303586T

Tel: 0836605692

Email: pravaypadia@gmail.com

Supervisor: Professor Alex van den Heever

Wits Business School

30 September 2015

Abstract

The report investigates the parameters of a suitable contract regime between government and general practitioners (GPs) that will help to ensure the successful implementation of the National Health Insurance (NHI) plan. The study gauges a suitable fee and determines the criteria that should be used to determine a fee to contract GPs to the public sector. It also examines the potential contract approaches to ensure that the barriers to the large-scale strategic use of public sector GP contracting can be overcome. Finally, the study uses demographic data to establish which GPs will accept low rates and agree to contract with the government. Subsequently, the government will be able to use available resources to target only suitable doctors to contract with the public sector.

The results show that GPs in South Africa believe that an appropriate take-home income should be higher than there international peers. The preferred method of remuneration is an hourly fee and with the majority of GPs willing to discount their fees, an hourly fee of R520-R540 is proposed to be tested in NHI pilot districts. The results also provided evidence that GPs would prefer a contract approach that allows *all* GPs to contract with the public sector, and that GPs should not be limited to either public or private sector patients. There was also evidence that strongly suggests that GPs preferred working at their own facilities rather than at public facilities.

Lastly, a target group comprising people of African, Indian or coloured origin, and with nine years of experience or fewer, would contract at a suitable fee of less than R700 per hour. Resources should be aimed at targeting this demographic group to increase the rate of contracting.

DECLARATION

I hereby declare that this research report is my own unaided work. It is submitted in partial fulfilment of the degree of Master in Business Administration by course work and research report at the University of the Witwatersrand, Business School, Johannesburg. It has not been submitted elsewhere for the purposes of being awarded another degree or for examination purposes at any other university.

Dr Pravay Padia

26 February 2015

Contents

Contents

1 INTRODUCTION

1.1 Purpose of the study

The purpose of this research was to provide recommendations for a suitable form of contract between the state and general practitioners (GPs) that will help to ensure the successful implementation of the National Health Insurance (NHI) plan in South Africa. In addition, conditions that will influence the way in which private sector GPs contract with the state were investigated and the attitudes of GPs with respect to the proposed NHI plan were examined in order to determine which doctors should be engaged.

1.2 Context of the study

1.2.1 Health care in South Africa

The health of South Africans is plagued by non-communicable and infectious diseases and insufficient medical professionals to care for a rapidly growing population (Mayosi & Benatar, 2014). South Africa currently has the highest inequality in the world and thus, coupled with extreme poverty, poor access to water and sanitation and inadequate housing and jobs. Health and longevity is predictably poor (Karim, Churchyard, Karim, & Lawn, 2009; Rowe & Moodley, 2013).

Overall, the doctor-to-patient ratio in South Africa is low, 0.77 per 1 000, compared to other emerging countries: Russia (4.31), China (1.46) and Brazil (1.76) (Mayosi & Benatar, 2014). Furthermore, ratios are lower in the public sector at 0.36. The problem is even worse in rural areas, where the average doctor in a rural hospital cares for 18 000 people, a ratio of 0.05 per 1 000 (Coleman, 2012; Strachan, Zabow, & Van der Spuy, 2011).

Total health expenditure in South Africa is around 8.8 per cent of gross domestic product (GDP), which is the highest per capita spending in Africa. This raises the possibility that there are adequate resources available to provide basic health care to everyone (Garrett, 2007; Mills et al., 2012; Surender, Van Niekerk, Hannah, Allan, & Shung-King, 2014). However, only 16% of the population have medical insurance, which accounts for 45% of health spend in South Africa (Rowe & Moodley, 2013). It is suggested by some that the scale of the private sector is such that its capacity to respond fully to the health crisis is restricted because private medicine absorbs disproportionate numbers of skilled nurses and doctors (Chopra et al., 2009). However, the reduction in staff numbers in the public sector correlates with changes in the health budget. This implies that, with conventional contracts, the public sector could attract staff if improved budgets were allocated (Van den Heever, 2McIntyre011).

1.2.2 *NHI in South Africa*

For many years an NHI scheme has been put forward as a way to raise substantial resources to improve health systems in the public sector, mainly through salary improvements for health workers (Chopra et al., 2009). Accordingly, a radical NHI system, accompanied by the re-engineering of primary health care, has been proposed to enhance universal, equitable and affordable health coverage (Mayosi et al., 2012). Currently, pilot studies are being conducted in 11 health districts to ensure that the system adapts as new information becomes available prior to any national roll-out (Matsoso & Fryatt, 2013; Green Policy Paper, 2011).

In essence, there are three main areas that will need to be restructured with the implementation of the proposed NHI. Firstly, the introduction of a purchaser–provider split, with district health authorities able to act as “purchasers”. This would appear not to be contrary to key aspects of this research focus. Secondly, the implementation of a central fund which would be the both public funder and purchaser, thus replacing district funds – this is controversial and could even hold

back all reform. Thirdly, an increase of taxes equivalent to around 3% of GDP to fund an expanded public sector – this is also controversial (Van den Heever, 2011).

This report examines a range of contracts for independent practitioners within the context of a purchaser–provider split. These contracts can be implemented at any time and technically do not need NHI. In this report, when using the term NHI, we are referring to private sector contracting by the public sector and not to the implementation of a central fund or to the increase of taxes to fund the expanded public sector.

Although many studies have been conducted to assess the feasibility and infrastructure requirements of NHI, few studies have been conducted to determine the acceptability of the envisaged policy to medical professionals (Surender et al., 2014). With any health reform, comparative analysis has shown that the role of health professionals is vital in determining its success and character (Surender et al., 2014).

A study conducted by Moosa, Luiz, and Carmichael (2012) explored the views of medical practitioners regarding capitation, as proposed by the NHI system, but also included attitudes toward an NHI system. The study found that 47 per cent was neutral, while 21.5 per cent supported NHI and 31.5 per cent opposed it, with some indicating that they would leave the country if the system were implemented. However, those aspects that rendered NHI acceptable or unacceptable were not explored.

Blecher, Bachmann, and McIntyre (1995) found that, when designing contracts between the provider and the agent (government and the health care practitioner), forms of reimbursement, workload, income and effects on professional autonomy influence the GP's decision to contract with the state. A more recent study conducted by Surender et al. (2014) revealed that GP concerns in the Eastern Cape regarding NHI include remuneration, workload, quality of care, professional autonomy and state control. The core themes of contract design in both Blecher

and Surender's studies are similar and will be important areas to investigate to help determine a suitable form of contract.

This study will help address some of these concerns so that the implementation of health reform can be successful. Furthermore, this nationwide study, which surveyed GPs, provides more accurate information about the acceptability and buy-in of NHI among practitioners and focused specifically on the contract approaches that may determine the success of NHI.

1.3 Problem statement

Contracts between the public sector and private GPs are unlikely to be successful unless both parties are willing and able to contract. To date, no evaluation has been carried out to determine the boundaries of a successful contracting regime.

1.3.1 Sub-problem

The first sub-problem gauges the current incomes of private practitioners and explores the criteria that should be considered when deciding on a fee.

The second sub-problem examines the potential contract approaches to ensure that the barriers to the large-scale strategic use of public sector GP contracting can be overcome.

The third sub-problem uses demographic data to establish which GPs will accept low rates, work in rural areas and agree to contract with the government. Subsequently, the government, at least initially, will be able to use available resources to target only suitable doctors to contract with the public sector.

1.4 Significance of the study

In addition to the issues discussed in section 1.2, the study fills a gap in that it attempts to make recommendations for a suitable form of contract between

government and practitioners. In view of the fact that, as Van den Heever (2011) has noted, the public sector in South Africa is unable to manage complex contractual arrangements or meet requirements regarding quality, the results of this study will provide quantitative data to determine the parameters of a range of contracts and conditions that GPs will accept. By offering such a range of contracts, public health services in South Africa can identify contracts that, while not the preferred contract modality for GPs, may be, as a minimum, acceptable by GPs under certain conditions. In addition, the study profiles GPs to provide an understanding of who will accept certain of the contract forms that inform contract design.

The study also assists by assessing the overall feasibility of NHI by determining the current attitudes of healthcare professionals towards it. Powerful lobby groups, including health care professionals, can influence the acceptability and workability of a health care model (Blecher et al., 1995). For example, in Denmark, the Association of Health Authorities has refused to come to an agreement with the Organisation of General Practitioners after announcing laws that will force GPs to accept new working conditions. In response, GPs have given up their practice numbers and the Danish Primary Healthcare system is at risk of collapsing (Nexøe, 2013). Currently, 37 per cent of South African doctors have moved out of the country because there is greater opportunity overseas (Garrett, 2007; George, Quinlan, Reardon, & Aguilera, 2012), and if the new NHI provides fewer incentives for doctors to stay in South Africa, further attrition of South African doctors could exacerbate the already low doctor–patient ratio.

Numerous studies have been done exploring the public's acceptance of NHI and the financing of NHI in South Africa (Jehu-Appiah, Aryeetey, Agyepong, Spaan, & Baltussen, 2012; McIntyre, Bloom, Doherty, & Brijlal, 1995; McIntyre et al., 2009; Palmer, Mueller, Gilson, Mills, & Haines, 2004; Shisana et al., 2006). This study aims to understand the attitudes of health care professionals towards an NHI system and could help to guide policy by assisting in the design of a contract framework that is not only cost-effective and beneficial to the public, but also

beneficial to health care professionals within the South African context. The new information discovered can be used to modify the design of the 11 pilot studies that are currently underway. Furthermore, findings from this research could be tested in the pilot districts.

1.5 Limitations of the study

This study focuses on the priority need to improve the quality of the primary care system. For this reason, specialists were excluded from the survey. In addition, other health professionals are appropriately attracted through conventional contracts of employment and thus will be excluded from the study. In contrast, independent GPs need to be attracted to the public service using various forms of temporary contract. This study was limited to GPs in South Africa who are working in the private sector and who are registered with the Board of Healthcare Funders (BHF) in order to receive the practice code numbers that are required for billing the medical schemes. GPs who are registered with the Health Professions Council of South Africa (HPCSA), but do not have a registered private practice, were also excluded from the study. Laslty, the study only explores the GPs viewpoint and other stakeholders, the government and patients, are not the core focus of this research. The outcome of this research will provide a range of GPs' preferences. Exploring government's parameters and finally designing a contract that is both feasible for the government and acceptable by GPs is not within the scope of the report.

In addition, the following limitations were identified for this study:

- Complex concepts pertaining to forms of contracts needed to be well understood
- The sample was limited to registered private practices and GPs working as locums or in the public sector was not included in the scope of this study

- New, innovative concepts for contracting doctors may not have been well understood

- Respondents had to reveal their incomes, which could have deterred participation or resulted in inaccurate information

- The sample was limited to those with internet access

- Although the study explored contract types to be accepted by GPs, these contracts may either not be feasible or could have detrimental effects on the quality of health. These possibilities were not evaluated

- Estimations of average income may be difficult to compute, and the capacity to see patients is highly subjective and could be inaccurate

- Monitoring and reporting systems were excluded from the scope of the study. However, if implemented, these would be essential to the determination of the selected contract types

- Using the PPP to make a comparison of incomes with other nations has its limitations, because the index is designed for low-income earners and, accordingly, a more relevant index for doctors should be used. Xpatulor's index, better suited to higher earners, would result in a fairer comparison (Wilson & Wilson, 2014)

- Adjustments of incomes to other countries using inflation rates over a six-year period may be inaccurate because GPs' income could have deviated drastically from inflation rates

1.6 Definition of terms

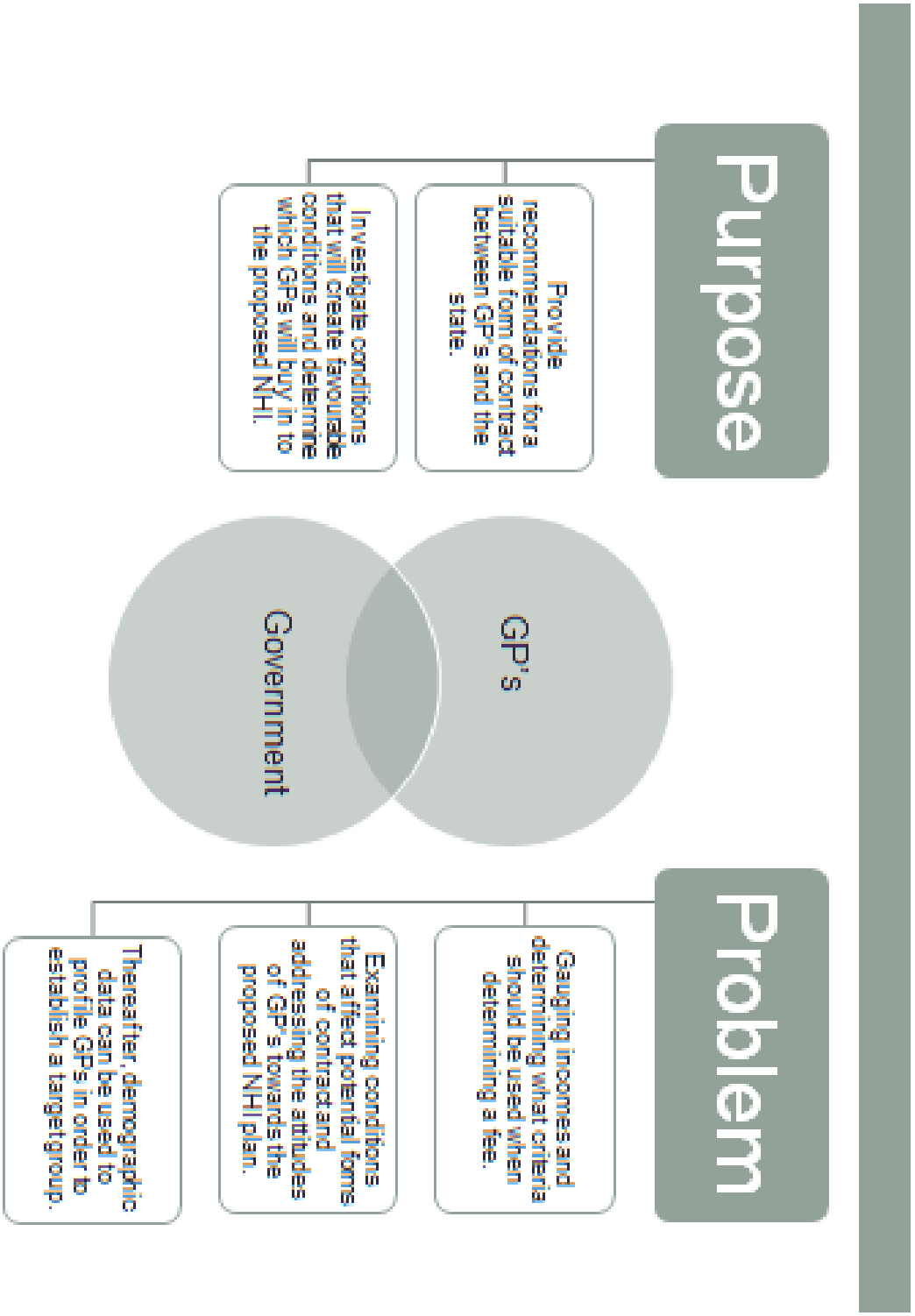
National Health Insurance (NHI) is a financing system that will ensure that **all** citizens of South Africa (and legal long-term residents) are provided with essential healthcare, regardless of their employment status and ability to make a direct monetary contribution to the NHI fund (Cline & Luiz, 2013). The system (as proposed) is to be government controlled and tax funded, with no fees required at the point of service delivery (Rowe & Moodley, 2013).

Contract may be defined as a form of institutionally guided behaviour that serves to reduce complexity in social exchange. It is an agreement made between two parties regarding a supply of goods or performance of work at a fixed price. It is an agreement which is upheld by law (Collins, 2006; Petsoulas, Allen, Hughes, Vincent-Jones, & Roberts, 2011).

1.7 Assumptions

In this study, it is assumed that the surveyed sample has the required information and is able and willing to share this information.

Summary of purpose and problems



2 LITERATURE REVIEW

2.1 Introduction

The literature review commences by providing background on the NHI in South Africa, private GPs in South Africa, and contracting. Section 2.3 covers the capacity of private sector GPs to contribute to the public sector and the criteria that will help set suitable fees. Section 2.4 explores factors that influence the potential form of contract and the criteria that will create favourable working conditions for GPs.

2.2 Background discussion

The NHI proposed for South Africa takes the form of a government-managed central purchaser of health care services with the aim of improving access to healthcare. Membership will be compulsory for all South Africans and legal permanent residents, with existing medical schemes continuing alongside NHI (Surender et al., 2014). The resources needed for health-spend in South Africa will be derived by increasing taxes by approximately 3 per cent of GDP (Van den Heever, 2011). Moreover, the existing resources available nationally for health care are substantial, and include grants from the European Union and the United Kingdom. Nevertheless, the minister of health is reluctant to contract GPs on a full-time basis, being more concerned with 'How will we monitor them?' As a result, GPs in the pilot districts have been contracted to do sessional work a few hours a week (Moosa, 2014).

The purpose of NHI is to integrate traditional government services with services in the private sector. Together, both systems can work more effectively and efficiently by pooling risks, resources and competencies to deliver greater shared public benefits (Kula & Fryatt, 2013; Nishtar, 2010). However, the ideal of universal coverage is only possible if risk pools allow for income and risk cross-

subsidies (from the rich to the poor and the healthy to the ill) in the overall health system (McIntyre, 2010). Nevertheless, the goal of the proposed NHI for high quality equitable health care is unlikely to be achieved over the short to medium term, in particular because of the large disparities and the considerable numbers of additional health care professionals required (Mayosi & Benatar, 2014).

2.2.1 GPs in South Africa

From 2000 to 2012, the number of medical students increased by 34 per cent (Mayosi & Benatar, 2014). However, doctor-to-patient ratios remain low and doctors are not attracted to the public sector, where GPs are often subordinate to nurse managers and "push queues" instead of comprehensively treating and managing patients (Moosa & Gibbs, 2013). In addition to the low doctor-to-population ratios, there is a perception that GPs in South Africa are poorly equipped and badly trained, which would limit patient access if they are faced with high volumes (Moosa, 2014a). Consequently, the current staffing levels will require private practitioners, at least initially, to be part of the national health reform (Surender et al., 2014).

The role of the GP is weakening in both the private and the public sectors. In the private sector the ratio of specialists to GPs is increasing, yet the number of chronic illnesses that require GP-based treatment is increasing (Cheng et al., 2012). This is particularly apparent in South Africa, where specialist claims have increased from 35.3 per cent in 1992 to 60 per cent in 2012, while GP claims have decreased from 11.5 per cent in 1992 to 6.3 per cent in 2012 (Moosa, 2014). The new NHI system seeks to strengthen the role of GPs as gate-keepers to higher levels of care (Surender et al., 2014).

It is a widespread belief among policymakers that by increasing the role of primary health care in disease management, overall health outcomes will improve and the best society-wide outcome for health expenditure will be achieved (Moosa, 2014)). However, a study conducted by Dusheiko, Gravelle, Martin, Rice, and Smith

(2011) showed that better primary care reduced hospital costs for stroke patients only, a reduction in secondary care costs in only 1 out of the 10 medical conditions examined. Moreover, the additional funds used to fund primary care may not decrease overall lifetime health expenditure. Therefore, when budgeting for secondary health care, costs should not be expected to decrease with an increase in primary health care expenditure (Cohen, Neumann, & Weinstein, 2008; Dusheiko et al., 2011).

The National Department of Health initially planned to contract approximately 600 GPs to provide sessional services in primary healthcare clinics (Ogunbanjo, 2013). However, recent publications show that the government contracted only 96 GPs from March 2013 to March 2014, well short of their target of 600 GPs (Surender et al., 2014). In order to provide guidance on the form of contract that will help the department of health meet its targets, the theory of contracting will add value in determining the type of contract suitable for a GP.

2.2.2 Contracting

Revenue is collected from general taxes to fund public services and is also available to contract private healthcare providers – central to the split between purchaser and provider is the process of contracting (Rowe & Moodley, 2013). One of the key functions of a contract is to minimise uncertainty and to allocate risk between the contracting parties, in this case the government and GPs (Petsoulas et al., 2011). The role played by contracts is thus relevant, regardless of the model of healthcare, and may bring several benefits to any health system (Ashton, Cumming, & McLean, 2004).

According to Ashton et al. (2004), contracting can improve the focus on the quantity, quality and cost of services. It may also offer opportunities for providers, who, traditionally, might not have had access to them. Moreover, in South Africa, it can boost black economic empowerment (BEE) and help to overcome possible discrepancies in income between race groups. In addition, by allocating resources

efficiently, health goals and services can be brought in line with the health needs of a particular region. Finally, contracting will reduce the risk of corruption and improve accountability with regard to health care funds. However, contracting is made difficult by data inadequacies and disagreements about measuring quality, and can be hampered by significant central dictation and constant organisational and policy change (Petsoulas et al., 2011).

In health care, robust monitoring mechanisms need to be in place to achieve health objectives (Petsoulas et al., 2011). Systems should be in place to identify where funds are spent and the GPs' performance regarding the number of patients seen and the services provided, as well as the quality of care provided (Ashton et al., 2004). However, quality frameworks for measuring the components of performance are difficult to design and may be ineffective or rejected by GPs (Eijkenaar, Emmert, Scheppach, & Schöffski, 2013). If a successful health system is to be implemented, any failure to adhere to agreed processes should result in the termination of a contract or appropriate penalties (Hughes et al., 2011).

In South Africa, public health authorities lack the skills, tools and guidelines to contract effectively. For example, the inability to work with information systems can make monitoring and reporting difficult to execute (Harding, 2010; Kula & Fryatt, 2013). The challenge therefore is to train and retrain health care workers in skills and expertise that are in line with the changing demands of the new health system (George et al., 2012).

Initially, the costs of contracting can be high, especially if it is based on a commercial model, where language is formal and relationships are adversarial. But costs should come down over time as relationships are established (Ashton et al., 2004). Relationship contract theory, which is preferred over classical contracts in health care, argues that contracting is based on behaviours that shape the contractual relations (Hughes et al., 2011). It is important to recognise that doctors are consistently rated as the most honest and ethical professionals and, therefore, government should seek to design contracts based more on relationship contract

theory than on rule-based, classical contract theory (Johar, 2012). In addition, longer contract durations increase the quality of care, as they are strongly associated with the doctor–patient relationship (Dumontet & Franc, 2014).

A contract that uses a centralised national template for contracting can reduce costs and allow for a more standardised contract that will have fewer discrepancies among regions with regard to earnings and other working conditions (Hughes et al., 2011). Developing or purchasing information and communication systems can be costly and such costs may be increased by the tendering processes in South Africa (Ashton et al., 2004). Lengthy negotiations can also increase costs. Therefore a standardised contract, that is generally understood and easy to implement, could reduce time and costs. Accordingly, in order to identify such a contract, it is necessary to capture data on the providers' needs and preferences.

2.3 Suitable fees

2.3.1 Capacity with regard to volume of services

A major concern for private practitioners is the human resource capacity required to meet health care needs (Surender et al., 2014). South Africa has a population of approximately 55 million and, according to Laugesen and Glied (2011), the average visits per capita per annum to a GP are 5.95. According to this benchmark, the South African population will require 330 million consultations per annum. With approximately 12 000 GPs in South Africa, the capacity of the private sector to contribute to the overall health needs was investigated to determine if private GPs could contribute significantly to the new health reform.

In Surender et al.'s (2014) study, GPs expressed the concern that contracting with the public sector might negatively affect their private practice:

> If they are going to sit in a waiting room and they are going to be seen only for 5 minutes … they are not coming back to me. I'll lose my existing patients … they will go and see someone else. (Surender et al., 2014)

Therefore, government needs to manage patient-load carefully and allow GPs to manage an appropriate number of patients without damaging their current private sector patient base.

2.3.2 Fees

An appropriate fee will be crucial for attracting private sector GPs to the public sector (Surender et al., 2014). Setting prices can be difficult and, thus, comparing prices to international benchmarks could be used as a starting point to gauge an appropriate fee for GPs (Ashton et al., 2004). It has been recognised that remuneration can influence the labour supply and GP behaviour and improve the quality of care and cost-effectiveness (Lippi Bruni, Nobilio, & Ugolini, 2009; Cheng et al., 2012).

In the pilot districts in South Africa, fees are currently based on the number of hours worked. The fees, which amount to R355 per hour, attracted only 96 GPs – well short of the target of 600. Therefore, a suitable hourly fee will be investigated to determine whether an inappropriate fee was the cause of the poor buy-in by private practitioners in the pilot districts (Surender et al., 2014). By contrast, the public sector has successfully contracted over 11 000 GPs using conventional contracts. It is therefore possible that targets will be met through conventional contracts and the creation of additional posts instead of temporary contracts (Van den Heever, 2011).

In order to convert an average fee per patient into average annual income, previous data on the number of hours worked a week, the number of weeks worked a year and average consultation times can be used. In a French study, consultation length was, on average, determined to be approximately 24.8 minutes, similar to the average in Australia of approximately 20 minutes (Johar,

2012; Laugesen & Glied, 2011). Australian GPs work on average 39.2 hours per week and 51.6 weeks per annum (Cheng et al., 2012). In England, GPs earn on average 51 pounds per hour, or approximately R900, and work on average 43 hours per week (Morris et al., 2011).

The table below was taken from a study conducted by Laugesen and Glied (2011), which compared incomes of GPs across six nations – Australia, Canada, France, Germany, the United Kingdom (UK) and the United States of America (USA). Exchange rates and the cost of living are volatile, and therefore average incomes using international benchmarking can be difficult to compare (Aron & Muellbauer, 2012). Thus, the incomes were presented after practice expenses and tax were adjusted according to consumer price indices and purchasing power parity (PPP) so that a more reliable comparison could be made (Laugesen & Glied, 2011). The PPP is a reflection of how many monetary units will be required to purchase a basket of identical goods (Haidar, 2011); it therefore reflects the cost of living and allows for GP' income in South Africa to be adjusted for a fair international comparison.

Table 2.1: Average Fees per Patient and Average Income

Country	*Average fee per patient in private practice(US) dollars*	*Average take home income per annum in (US) dollars*	*Average per capita visit to a GP.*
Australia	45	92 844	6.1
Canada		125 104	5.8
France	34	95 585	7
Germany	104	131 809	7.4
UK	129	159 532	5.1
US	133	186 582	3.8

Although the countries in Table 2.1 are industrialised countries and therefore quite different from South Africa, almost $2 billion of investment has been lost due to doctors from sub-Saharan Africa emigrating to Australia, Canada, the USA and the UK (Mayosi & Benatar, 2014). Consequently, benchmarking GPs' salaries against these nations will indicate GPs' opportunity costs if they remain in South Africa.

2.3.3 Payment mechanism

A great deal of emphasis is placed on payment mechanisms because they are more easily changed by policymakers than non-financial incentives (Kroneman, Meeus, Kringos, Groot, & Van der Zee, 2013). In South Africa, GPs have expressed concerns about the capacity of government to pay on time (Moosa et

al., 2012). Moreover, South African GPs have also stated that, regardless of the form of payment, the system can and will be manipulated for financial gains (Surender et al., 2014).

There is great variation across countries in terms of the type of payment mechanisms used, and each has advantages and disadvantages (McIntyre, 2010). Countries with a single mechanism for paying GPs no longer exist, and payment mechanisms have increased both in detail and complexity (Kroneman et al., 2013).

Fee for service

There is consensus that payment for services (itemised **fees for each service** provided) as the sole mechanism for payment is unsustainable (Carrin & Hanvoravongchai, 2002; Kutzin, 2001; Langenbrunner, Cashin, & O'Dougherty, 2009; Di McIntyre, 2010). This is because a fee-for-service mechanism can lead to supplier-induced demand, where doctors provide unnecessary procedures for economic reimbursement (Andersen & Serritzlew, 2012). An introduction of fees for service in the Netherlands health system led to higher supplier initiated utilisation (Dijk et al., 2013). Fee-for-service, however, can provide incentives for GPs to treat patients in their own practice, rather than to refer them to secondary care or other health care providers (Kroneman et al., 2013).

Capitation

In terms of this model, a prospective fee, paid per person covered per year, is given for a standard range of services. Globally, the minimum fee that GPs accept for looking after 10 000 patients is R4.03 million. Hence, if GPs were to accept this minimum fee, capitation would be affordable, as it would cost R17.1 billion per annum to attend to the 42.4 million South Africans that do not belong to medical aid schemes (Moosa et al., 2012). If a GP was responsible for looking after 10 000 patients and the average consults per capita is 5.95 visits per annum (Laugesen and Glied, 2011), each GP may have approximately 60 000 consultations per

annum. GPs believes on what they think is an appropriate number of consultaions per day was investigated to help determine the number of patients a GP should be responsible for, without compromising in quality of care. In addition, whether GPs would prefer the capitation system over the alternative forms of remuneration was investigated.

As private practitioners only have to deal with residual demand and not the entire public sector, increasing their patient load drastically might be unfeasible (Van den Heever, 2011). Therefore, the use of conventional contracts in the public sector, contracting over 11 000 GPs, could be increased to care for the larger public sector. More GPs could be attracted to the public sector simply by increasing funding to create more posts.

However, capitation can incentivise under-servicing and unnecessary referrals. Under a capitation system, there are limited incentives for GPs to identify new cases of chronic disease and to treat them fully (Lippi Bruni et al., 2009). Screening and diagnosing patients is time consuming and, if uncompensated, GPs might exert insufficient levels of effort (Lippi Bruni et al., 2009).Despite the fact that it resonates with debates in the industrial world around escalating healthcare costs and the affordability constraints on comprehensive health insurance (Moosa et al., 2012), a switch to a capitation system from fee-for-service in private practice is ambitious, especially for an emerging country

Pay-for-performance payments

Pay-for-performance was introduced in 1990 and consequently had a major impact on health systems. Such a system rewards practitioners for their level of performance and its main aim is to improve the quality of health care (Fleetcroft, Steel, Cookson, Walker, & Howe, 2012). However, it has been noted that the number of treatments tends to increase with this payment mechanism (Lippi Bruni et al., 2009). The UK is currently the world's largest experiment on pay-for-

performance in primary care, with costs amounting to 1 billion pounds a year (Fleetcroft et al., 2012). In the UK, a contract for general practitioners has been introduced that increases their existing income according to performance with respect to 146 quality indicators (Lippi Bruni et al., 2009). Similar developments are taking place in other countries including the USA, Canada, Australia, New Zealand, Germany, Netherlands and Spain (Fleetcroft et al., 2012).

According to Lippi Bruni et al. (2009), when designing a pay-for-performance system, decisions about the size of the financial incentive attached to an indicator should be informed by information on the health gain to be expected by that indicator. Although there is growing adoption of this approach, there are risks of unintended consequences. These include redirecting the physician's time and attention away from the purpose of caring for patients, ethical values may dilute the influence of monetary returns (Lippi Bruni et al., 2009; Mooney & Ryan, 1993), and physicians could chose patients with a high probability of good health outcomes giving physicians an opportunity to manipulate the system for their own gain.

Combination of mechanisms and co-payments

Many countries have adopted a mixture of capitation and fee-for-service or capitation and fee-for-performance mechanisms (Fleetcroft et al., 2012). The combined reimbursement mechanism should include needed treatment, regardless of how often patients consult the GP, and the incentive to work efficiently when seeing any patient (Pedersen, Andersen, & Søndergaard, 2012).

GPs have been found to be concerned about consumer moral hazard, where patients will seek treatment for trivial reasons because it is free (Moosa et al., 2012). For that reason co-payments are sometimes used to control demand. In Australia, for example, the government provides a standard rebate, and if the GP wishes to charge an amount higher than this, the difference is paid at the point-of-service as a co-payment (Johar, 2012). A co-payment can therefore help to increase GPs' autonomy in terms of charging an appropriate fee and financing the

health system. There is evidence to show that incentives for providers can be a powerful tool for containing costs (Volpp, 2012).

(Moosa et al., 2012). However, in the NHI Policy (Green) Paper (2011), the possibility of co-payments as an option was dismissed.

2.3.4 *Inflation and practice expenses*

Once a fee has been determined, it needs to be adapted and adjusted over time. Since the implementation of the current contract in the UK, turnover has increased. However, with rapid increases in practice expenses, overall income has decreased in real terms (Square & Lane, 2013).

The form of contract that is decided on will need to apply to the short to medium term, and further research will need to be done periodically to investigate the effects of inflation and changes in practice expenses. Practice expenses can vary drastically with the introduction of new treatment protocols that may require the use of new technology and equipment (McCartney, 2014). However, inflation in emerging markets is difficult to forecast because of changing monetary policies and highly volatile exchange rates and food prices (Aron & Muellbauer, 2012). Administrative costs, facilities and equipment and staff costs will all rise with inflation, and doctors will not be able to sustain quality health care for their patients without an increase in fees (McCartney, 2014).

Conclusion with regard to suitable fees

On the basis of the preceding discussion the following points are identified: Firstly, GPs in the private sector need to be assessed in order to ascertain whether they have the capacity to contribute to the public sector needs, so that the process of contracting private sector GPs improves the performance of the health system. Secondly, if private sector GPs are to be encouraged to contract with the public sector, their current fees, and an appropriate fee that they are willing to accept, will need to be determined. Thirdly, the preferred forms of remuneration, as well

as the other criteria that have to be considered when setting a fee, will need to be ascertained to provide data that will assist in drafting a more acceptable contract.

Research question 1: *According to GPs, what is a suitable fee and what criteria should be used to determine fees?*

2.4 Forms of contract to create favourable conditions for GPs

2.4.1 Factors influencing the form of contract

Facilities

According to the chairman of the Royal College of General Practitioners in the UK, the small business model of the general practitioner has served its time, and general practitioners now need to be integrated with primary, secondary and community care (Iacobucci, 2013). In the Scandinavian countries, and Spain and Italy, government provides clinics, hospitals and doctors to all citizens (Mack, 2011). In South Africa, however, facilities are poor and, hence, the public sector could benefit from adopting private sector facilities (Surender et al., 2014). This study will investigate whether GP practices should be integrated into the public system or contracted separately from such practices.

The barriers to accessing public facilities include distances to travel, the availability of facilities and the cost of commuting. In addition, there are differences in the quality of services between the private and public sectors with regard to waiting times, equipment, medication and infection control (Surender et al., 2014). GPs are accordingly anxious that they will be required to work at inferior facilities with inferior equipment (Surender et al., 2014). The public sector has poor health outcomes relative to expenditure and, for that reason, resources could be wasted when upgrades and expansion are done to host private sector GPs (O'Dowd, 2012). On the other hand, contracting GPs together with their practices will need a robust monitoring and reporting system, as it will have to

monitor the number and quality of staff, infection control measures and outcomes, patient autonomy and treatment protocols, among other issues. Moreover, these checks will need to done over many locations if GPs are contracted together with their practice (Ashton et al., 2004).

Closed versus open network

If a closed network is adopted, where a fixed number of GPs are contracted selectively to meet the healthcare needs of the community, competition between health care providers could be stimulated and could improve the quality of care (Bes, Wendel, Curfs, Groenewegen, & de Jong, 2013). In addition, selective contracting can contain costs and make costs increasingly predictable compared to an open network or demand-based system, which is highly unpredictable (White, 1999). If only a select number of doctors can contract with the public sector, this may mean that certain practitioners will not benefit from the proposed NHI and, thus, that GPs may not accept this form of contract (Shisana, 2001). What needs to be clarified is whether the government should contract a select network of GPs or whether private practitioners will work with the public system on a demand basis (at the GPs' discretion).

Public and private patients

Taiwan has successfully implemented an NHI system where medical practitioners, who are contracted with government, are not allowed to work in the private sector (Mack, 2011). Doctors in Taiwan are either salaried staff physicians in hospitals or self-employed owners of medical practices known as clinics (Cheng, 2003). In South Africa, if private practitioners treat patients that belong to medical schemes over and above the public sector, this may cause moral hazard, as is the case in Ghana where private patients receive preferential treatment compared to NHI patients (Amado, Christofides, Pieters, & Rusch, 2012). Accordingly, contracted

GPs could either treat public sector patients exclusively or in addition to paying patients.

Sessional

Sessional GPs show a strong commitment to their patients and their profession (Dwan, Douglas, & Forrest, 2014). Thus, an alternative contract form that could be implemented would be to allow GPs in the private sector to treat their current patient base (private) and, if they have excess capacity, public sector patients could be consulted at agreed rates. Public sector patients could then either be referred to a GP practice that has excess capacity, or GPs could travel to a public clinic or hospital to treat patients in their residual time. The pilot districts are currently using this model and contracting for sessional work in public hospitals at R355 per hour (Surender et al., 2014). Whether GPs believe that the sessional form of contract is the acceptable and what should the fee for a sessional model be was investigated in the report and aims to provide reasons for government's failure to attract GPs through the sessional form of contract

2.4.2 Criteria for creating favourable conditions

In order to contract GPs in the public sector, the factors that might promote either favourable or unfavourable conditions will need to be investigated. Unnecessary administration, for instance, has been shown to be one of the factors that discourage prospective practitioners from pursuing careers as physicians (Kuikka et al., 2012). As the new health system has the potential to create significant paperwork, this might easily discourage practitioners from contracting in this regard (McCartney, 2014).

In Canada, the contract is characterised by local control, doctor autonomy and consumer choice (Mack, 2011). An important variable in this form of contract relates to whether GPs will be responsible for caring for allocated patients or whether consumers can select GPs at their discretion. This form of contract gives doctors autonomy as "free professionals" who can control the circumstances in which they contribute to the health sector and maintain their self-employed status (Heins & Parry, 2011).

The discretion for patients to choose their GPs, together with allowing professional autonomy, creates a culture of individualism and competition (Glendinning, 1999). Competition among GPs has been shown to increase the quality of care, suggesting that professional autonomy would benefit both practitioners and patients (Hughes et al., 2011). There are already concerns that autonomy has been lost with more stringent protocols introduced by medical aids. GPs' perceptions are that the proposed NHI will negatively affect their autonomy and their professional life (Surender et al., 2014). A constant battle is thus foreseen between professional autonomy on the one hand, and managerial accountability to prevent manipulation of the system and to ensure quality care for consumers, on the other (Glendinning, 1999).

2.4.3 Attitudes

A study conducted by Moosa et al. (2012) explored GPs' views on capitation in an NHI system, as well as attitudes toward an NHI system. The survey revealed that 47 per cent were neutral, 21.5 per cent supported NHI and 31.5 per cent opposed it. A few of the respondents mentioned that they might leave the country if the system were implemented.

According to Surender et al. (2014), most GPs felt that there was no need for health reform and that the current system represented the universal coverage that the government is trying to achieve. Theoretically, no patient at public facilities is refused treatment due to lack of financial affordability and what is required is better management of these facilities rather than drastic reform. Overall, most GPs had a good understanding of what was being proposed by NHI. The five major categories of concerns were 1) the feasibility of NHI; 2) GPs' remuneration; 3) the impact on workload, professional life and clinical autonomy; 4) the ability to influence the policy process; and 5) lack of trust on the part of private practitioners in the South African government to plan, implement and monitor NHI effectively. Many practitioners, including members of the ruling party, the African National Congress (ANC), are frustrated by the corruption within the ANC and the

government's wasteful spending. This makes it difficult to convince private practitioners that the implementation of the NHI will be successful and of benefit to health care practitioners rather than the government and policymakers (Mayosi & Benatar, 2014).

Conclusion to forms of contract

The literature revealed several factors that are important when drawing up a GP contract. These include the GPs' preferences as regards to which facilities should be used, which patients to treat and which doctors will become part of a network. Whether GPs will accept the sessional form of contract that is currently being used in the pilot districts, or whether full-time employment will be preferred, should form part of the contract design. Finally, in order to enable the wider use of GP contracting, it is important that GPs' attitudes be adequately ascertained so that any concerns they may have are addressed.

***Research question 2**: According to GPs, which conditions are preferred in a potential form of contract between the state and private practitioners?*

2.5 GP demographics

There has been a huge shift in the numbers of doctors graduating from medical schools towards black African and female doctors, with fewer Indian and white graduates (Mayosi & Benatar, 2014). This is due to the controversial affirmative action policies, which allow black students with lower test scores to be admitted over students from other race groups with higher test scores (Mayosi & Benatar, 2014). Race is therefore an important variable that could form part of a target group created for contracting with the government.

A target group that will accept lower fees when contracting with the public sector and a target group more willing to work in the public sector could be created to help contract GPs to the public sector at a faster rate. Morris et al. (2011) showed that GPs' fees are dependent on gender, the number of patients a GP sees, work

experience and employment type. Female GPs earn on average 20 to 22 per cent less than male GPs (Dumontet, Gravelle, Martin, Rice, & Smith, 2014). This suggests that they work fewer hours or accept a lower fee. If lower earnings are not a result of a lower workload, it will make female GPs more affordable when contracting with the public sector.

According to Dumontet and Franc (2014) the more experience a GP has, the more likely it is that he will be in private practice. However, there is a tipping point of 33 years of experience for males and 29 years for females where GPs will decrease their activity. Age has been shown to be correlated negatively with private activity, and older practitioners may require lower incomes. Married males also show higher levels of private sector activity compared to single males, whereas married females show negative correlations with working in the private sector, and having a dependant younger than the age of 12 has shown to increase the activity of male GPs in the private sector and decrease the activity of female GPs.

The determinants of earnings can also be influenced by the location of the practice with regard to the amount of competition and cost of living in that area (Cheng et al., 2012). In the private sector, the location of practices in areas with high practice density has been shown to be associated with lower levels of activity (Dumontet & Franc, 2014).

The majority of GPs work in the major cities, with fewer doctors in rural areas (Cheng et al., 2012; Moosa et al., 2012). To address the lower doctor-to-population ratio in rural areas, a target group that will be affordable and willing to work in rural areas will need to be created. GPs located in rural areas are likely to have backgrounds stemming from rural areas; therefore to address the shortage of doctors in rural areas, medical schools should look to accepting more students with rural backgrounds (McGrail, Humphreys, & Joyce, 2011). Moreover, male GPs are more likely to work in rural areas than female GPs (McGrail et al., 2011). GPs working in rural practices work more hours a week, consult more patients a

day and have shorter consultation times; thus they can be expected to have higher incomes, even though fewer of their patients are privately insured (Goetz et al., 2013).

Conclusion to GP demographics

The literature reveals that the earnings or incomes of GPs can be explained by demographic data. The approach taken in this research was therefore to obtain relevant demographic data on GPs and practice characteristics that could help to explain the level of earnings. The demographic data was then used to create target groups for contracting based on willingness to accept public sector contracts. Also, a target group based on the attitudes of GPs would allow for a more problem-free implementation of NHI.

Research question 3: *When contracting GPs, which demographic profiles should be targeted to make public sector contracts more viable?*

2.6 Conclusion

This review revealed that various contract approaches are plausible in South Africa. With (possibly) large numbers of GPs emigrating and greater opportunity abroad, the appropriate fee paid to GPs in the private sector will be an important factor in the successful implementation of NHI (Wilson & Wilson, 2014).

The contract form alone presents many possibilities. Moosa et al. (2012) states that the NHI would be feasible in South African under the capitation system, assuming that GPs will accept the minimum global annual earnings of R4.03 million for 10 000 patients. However, the appropriate income for getting GPs to substitute some public sector patients into their practices was not established, and the capacity of GPs to treat 10 000 patients per annum needs to be investigated.

Studies conducted in other countries generally reveal two systems for contracting doctors – either doctors are selected to become part of a public system or any

willing registered doctor may contract to become part of such a system. Furthermore, if doctors contracted with government, they were either permitted to see private and privately insured persons over and above public patients, or were forced to treat public patients only (Mack, 2011). Lastly, doctors who contract with the public sector were allowed to maintain their self-employed status and work in their own practices, or they were integrated into the public sector and worked in the public sector facilities.

The contract approach used in the South African pilot districts requires that GPs do sessional work a few times a week, and that doctors treat patients at public facilities while maintaining their private practices (Surender et al., 2014). The proposed form of reimbursement in this regard is a sessional hourly rate. However, whether or not GPs have the excess capacity to treat the proposed number of patients still needs to be investigated. GPs in the pilot districts have been slow in buying in to this system and a more suitable fee or a more acceptable contract approach therefore needs to be considered (Surender et al., 2014).

Literature on the demographic profiles of GPs reveals that experience, gender, marital status, race and location can help predict incomes and determine the GP profiles most likely to contract with the public sector.

On the basis of the literature, the following research questions have therefore been formulated for the study:

Research question 1: *According to GPs, what is a suitable fee and what criteria should be used to determine fees?*

Research question 2: *According to GPs, which conditions are preferred in a potential form of contract between the state and private practitioners?*

Research question 3: *When contracting GPs, which demographic profiles should be targeted to make public sector contracts more viable?*

3 RESEARCH METHODOLOGY

This section describes the methodology to determine GPs' preferences on the most suitable forms of contract for health care practitioners, and which criteria and conditions need to be created to obtain buy-in from GPs.

3.1 Research design

In this research, a cross-sectional study, using an online survey design approach, was considered appropriate for determining a suitable fee and preferred contract conditions for private sector GPs in South Africa. Thus, a sample for the survey was identified that could be inferred to all private sector GPs in South Africa. Online surveys have been discussed extensively in the literature (Creswell, 2013; Nesbary, 2008; Sue & Ritter, 2011) and, in this study, were considered to be the most convenient and cost-effective design for accessing a large, representative sample of GPs in South Africa. According to this design, GPs were able to access the information required by the survey at their leisure. The NHI is a topical issue which directly affects the participants, thus incentivising a higher response rate.

While an online survey is convenient, questions need to be clear and unambiguous because if the participant misreads or misinterprets questions, no explanations or help can be provided by the researcher. Furthermore, the survey in this study required familiarity with complex concepts that might have required extensive explanations. In addition, online surveys are dependent on internet access and computer literate participants, which might have skewed the representation of the sample.

3.2 Research methodology/paradigm

The purpose of this study was to provide suitable contract approaches for public sector contracting of private GPs, and to determine the conditions that need to be achieved for maximum acceptance of such contracts. In addition, the results had to be generalisable and to be inferred to all practitioners so that they could be used for planning and budgeting purposes. In view of the fact that quantitative research seeks nomothetic explanations that are generalisable (Babbie & Mouton, 2002), a quantitative method will be used in this study. Quantitative research is associated with a postpositivist philosophy in terms of which causes determine effects or outcomes (Creswell, 2013). Such research was deemed useful for determining a suitable form of contract (cause) that would make public sector contracting (an important feature of the NHI proposals) more acceptable to GPs (effect).

Population

The population for this study included all general practitioners registered with the BHF and therefore included GPs with their own registered private practice.

Sample and sampling method

A database including all registered private GPs was obtained from the BHF. The sample included 12 313 registered practitioners, 10 301 GPs provided email addresses, and the survey was subsequently sent to 10 301 medical practitioners. However, 1016 emails were not delivered and the survey reached 9 285 medical practitioners with valid email addresses. A standard response rate of 5 per cent (Ghauri, 2005) would provide a minimum sample size of 464. Table 2 below illustrates the number of registered private practitioners in each province; these can be used to weight results to better reflect GPs' needs and preferences in South Africa.

Table 2: Profile of respondents (Moosa et al., 2012)

Province	*No of GPs 2011*
Western Cape	1,955
Eastern Cape	887
Northern Cape	187
Free State	587
Kwa-zulu Natal	1,879
Gauteng	4,348
Mpumalanga	603
North West	567
Limpopo	503
TOTAL	**11,552**

3.3 The research instrument (Appendix A)

The research instrument comprised an open-ended, online questionnaire. The language used was simple, and the questionnaire consisted of 33 questions and took approximately 10 minutes to complete. The questionnaire was constructed from the literature and interpretation of the literature.

Demographic data that could affect their earnings was ascertained in order to identify a target group that the public sector should engage. The literature showed that gender, work experience, race, marital status and practice location are important predictors in level of income. The tables in Appendix A clarify which research question the research instrument is attempting to answer and shows where in the literature review in section 2 the question was drawn from.

The location of practices is divided according to province, and further information regarding the classification of the practice was obtained to determine whether practice location affects earnings. A brief description was provided to repondents

to accurately classify the location of their practices; City center - central business district in a city, 2) City suburb - residential area in a city, 3) Town - smaller than a city but larger than a village or rural, 4) Township - periphery of city or town and often underdeveloped, 5) Rural - geographic location outside a city or town. Race was classified according to the South African census framework; African, Caucasian, Coloured, Indian and Asian or Other (Ferree K.E, 2010).

Participants in surveys do not always disclose their income accurately and for that reason multiple questions were asked to cross-check responses (Fink, 2012). Questions relating to revenue, cost, appropriate take-home income after tax, average number of patients consulted in a day, average fee per patient, appropriate fee per hour and appropriate fees in rural areas provided data that would enable the researcher in this study to determine a suitable fee for GPs.

Two major categories were investigated to gauge a suitable fee: what GPs actually earn and what they feel is an appropriate income. Actual monthly take-home income can be determined by subtracting cost from revenue or multiplying the average fee per patient by the number of patients seen in a month. Using data obtained from the literature review and discussed in section 2.3.1, that is, 40 hours worked per week and 4.3 weeks worked per month, we can multiply the appropriate fee per hour by the hours worked in a week and weeks worked in a month to determine an appropriate monthly fee.

If GPs were willing to discount their fees for the benefit of the entire health system, lower fees could be set. We consequently asked GPs if they would be willing to discount their fees and what percentage discount they would be willing to offer. This enabled us to quantify a new appropriate fee.

Factors extracted from the literature review were tested to help indicate preferences with regard to certain components of contract design (Q10–Q12). Thereafter, respondents are requested to rate five possible contract types on a sliding scale. The contract type could involve a form of payment mechanism; a closed or open network; discounting; public or private facilities; either public or

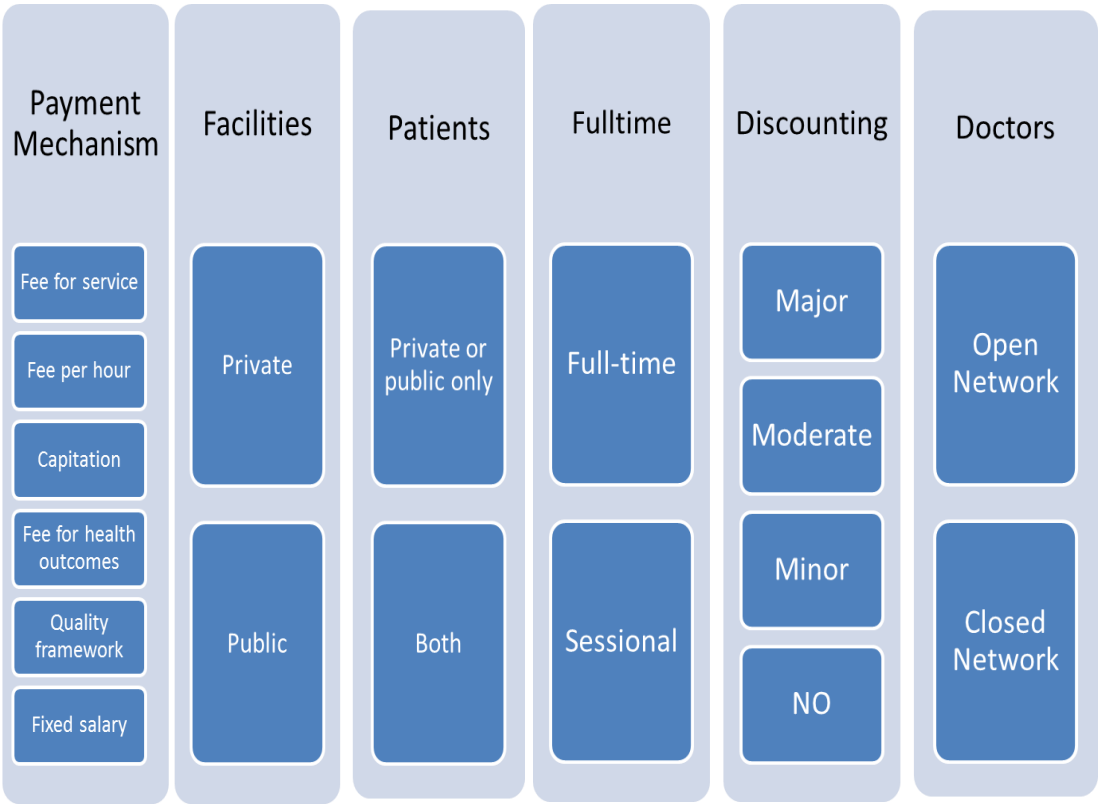
private sector; private or public sector patients only or both; and lastly, sessional or full-time contractual work. The use of all these factors involved 192 possible combinations. Thus, by combining these issues to produce just five different types of contract, we were able to ascertain the most crucial attributes that would make contracts acceptable to GPs.

Contract 1 was designed according to the current contract used in the pilot districts. This enabled us to determine how acceptable the current contract design is. Contract 2 was also based on the current pilot district contract with three key changes; 1) a fee for service, 2) doctors remain at their private practice and 3) major discounts provided for overall benefit of health care in the country.

Contract 3 was based on a capitation system in public facilities. Contract 4 was designed according to the current contract in the public sector to determine if the current contract actually needs to be re-drafted. Contract 5 was based on contract 4 with two key differences; 1) a fee for service instead of a fixed salary and 2) private facilities would be used.

The contracts were designed so that if there were significant differences in acceptability, key differences between each contract type would be identified as either a promoting or detracting factor to contracting GPs in the public sector.

Figure 3.1: Forms of contract



Contract 1:					
Fee per hour	Public facilities	Both sectors	Sessional	NO	Open Network

Contract 2:					
Fee per Service	Private facilities	Both sectors	Sessional	Major	Open Network

Contract 3:					
Capitation	Public facilities	Public sector	Full-time	NO	Closed Network

The questionnaire then sought to quantify the respondents' preferences for certain variables and attributes in order to create contracts containing favourable conditions that were acceptable to GPs, while still being viable for public sector contracting. Overall, through medical associations and discussions with colleagues, GPs have a good understanding of what is being proposed in the envisaged NHI (Surender et al., 2014). However, some concepts may not have been well understood or there may have been different interpretations of terminology. For this reason, complex terms in the questionnaire had to be explained and core advantages or disadvantages described so that participants could make an informed response. The attitudes of practitioners also were explored in an open-ended question in order to obtain a deeper understanding of their current attitudes.

3.4 Procedure for data collection

An online survey was designed on qualtrics, an online software program to design and send surveys, and was emailed to GPs identified from the BHF database. Following the initial email, reminders to participate were sent out 3, 7, 10, 14 and 21 days later. The data obtained from the questionnaires was transferred to Excel and SPSS.

3.5 Data analysis and interpretation

On examining the sample size and the number of completed responses, a good response rate was found, although respondent–non-respondent bias may be present (Creswell, 2013). The analysis and interpretation of data of suitable fees, forms of contract and creating a target group are explained below. The presentation of results in chapter four were presented in three forms. Either a table, a graph or a decision tree. Graphs were used to compare attributes and variables within a question and decision trees were used in the CHAID method to illustrate the likelihood of contracting under certain conditions.

3.5.1 Suitable fees

GP capacity was ascertained by calculating the difference between what GPs feel is an appropriate number of patients and the actual number of patients they treat in a day. Those that yielded a negative value believed they are overworked, an answer of 0 revealed that they are working to capacity, while those with positive values have excess capacity to treat patients.

Appropriate take-home income had to be compared with actual take-home income. It is a known fact that survey respondents do not report their revenue accurately. For that reason, revenue was calculated so as to give an alternative take-home income. Accordingly, revenue was calculated for each respondent by

multiplying the average fee per patient by the number of patients seen in a day. This was multiplied by 22 working days, which is based on the average number of hours worked, that is, 39.4 and 43.0 hours per week (Johar, 2012; Morris et al., 2011). Finally, the respondent's practice expenses and a tax rate of 28 per cent were subtracted from the revenue in order to calculate take-home income.

3.5.2 Forms of Contract

In addition, descriptive statistics were used to describe the results pertaining to the forms of contract. The resulting rankings were clear and could be explained through reasoning and logic. A graph reflecting the mean of GPs preffered contract and criteria provided a clear picture and ranking of the forms of contract and criteria. The spread of the data was also presented to show the reliability of the data.

3.5.3 Target groups

Two types of data were ascertained to create target groups. Categorical data, where respondents could chose between categories. Demographic data like race, location and gender are examples of categorical data. Descriptive statistics, including the number of respondents and the percentage of respondents, were used to describe GP demographics. The second type of data gathered to determine target groups was interval data. Number of years worked is an example of interval data. Interval and categorical data were used in decision trees or the CHAID method to attempt to find target groups that would; 1) be the most feasible for the government to contract with, 2) be more likely to contract with the government and 3) help address the low doctor to patient ratio in rural areas.

Decision trees

Decision trees and the chi-squared automatic interaction detector (CHAID) method were preferred over logistic regression, which produces an output that is

very complex owing to the many different values that some of the demographic variables can have. Decision trees can be used on a large set of variables to distinguish variables that have the discriminating power to describe a dependent variable (Berry & Linoff, 2004). Furthermore, decision trees can capture data with complex relationships that other methods may not be able to. The data also need not be linear or normally distributed, and the dependent variable can be ordinal or continuous data, depending on the method selected (Berry & Linoff, 2004).

The dependent variables that were used in the CHAID method were based on

- lowest appropriate income
- appropriate fee per hour
- discounting the fee per hour
- respondents who worked in rural areas
- lowest appropriate income in rural areas
- those who object to the proposed NHI.

The explanatory variables that were explored comprised demographic data and data on the form of contract.

3.7 Validity and reliability

3.7.1 Internal validity

Internal validity threats relate to the extent to which the predictors in the study fail to explain what is being tested (Creswell, 2013). To date, limited research has been conducted on the possible contract types. The questionnaire was therefore self-designed and thus the ability of the variables to explain a construct may be limited and may result in poor face validity.

The sliding scales of 100 in this study were designed to provide interval data; however, the extent to which the scale correlates to the underlying data is questionable. For example, if a contract mode received a score that is twice as high compared to another contract modality this may not imply that the contract is twice as suitable.

3.7.2 External validity

External validity refers to the degree to which you can draw inferences from the sample data and apply them to other persons, other settings, and past or future situations (Creswell, 2013). Respondents who chose to participate may have a stronger interest in the research topic and can skew the validity of the data. When analysing data, a check for respondent bias is used to reduce this threat to external validity.

The survey was performed online, restricting respondents to those with computer access. Accordingly, although the results can be inferred to other GPs in South Africa, the extent to which they can be generalisable to an international context is questionable. In addition, the study is limited to private GPs and GPs working in the public sector, which can mean that other health care practitioners may have differing opinions. Because of the specific context in which this study is conducted, there is poor external reliability. In addition, reactive and researcher effects are present, in terms of which respondents answer questions according to what they perceive to be the desired response, while researchers ask questions with a desired response in mind (Babbie, 2012). Besides being aware of this fact and making respondents aware of it, little could be done in this research to completely negate this effect.

3.7.3 Reliability

Reliability refers to the accuracy and precision of the measuring procedure, while equivalence refers to the biases that may occur between different investigators

and different scales, or when different questions are used in the study. This study was conducted using a standardised questionnaire, which meant that there was both stability and equivalence. Internal consistency ensures that the variables that make up a construct are, in fact, homogenous and can be summated to make the construct.

4 PRESENTATION OF RESULTS

4.1 Introduction

The results obtained from the survey are presented in three subsections: 1) the results relating to the fees for GPs; 2) the results on contract types that will help create favourable conditions for GPs, and the attitudes of GPs towards NHI in South Africa; and lastly 3) demographic information and the results extrapolated using the CHAID method are presented in order to generate a prospective target group of GPS to contract with the public sector.

4.2 Results pertaining to fees

4.2.1 *Capacity with regard to volume of services*

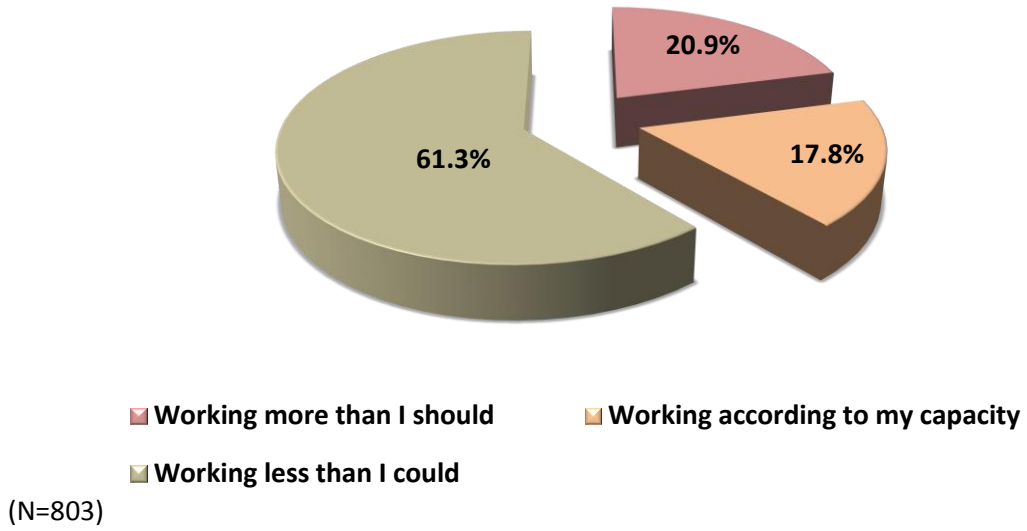
The following table (Table 4.1) presents the average difference between what GPs feel is an appropriate number of patients to treat in a day and the actual number of patients GPs treat per day. It thus gives us an indication of the excess capacity with regards to the number of additional patients GPs can treat in working day.

Table 4.1: Difference between the Appropriate and Actual Patients seen per Day

	N	***Minimum***	***Maximum***	***Mean***	***Std. Deviation***
Difference between appropriate and actual number of patients seen per day	764	-260	95	4.56	21.157

The GPs average excess capacity was determined by calculating the difference between the appropriate and actual number of patients seen, as presented in Table 4.1 and Figure 4.1. Accordingly, the mean excess capacity to treat patients is identified as 4.56 with a standard deviation of 21.16. This means that on average GPs can treat four to five additional patients per day, but a standard deviation of 21.16, indicates that some doctors do not have any access capacity, while some GPs have an even larger capacity to treat additional patients.

Figure 4.1: Percentage of GPs with Excess Capacity



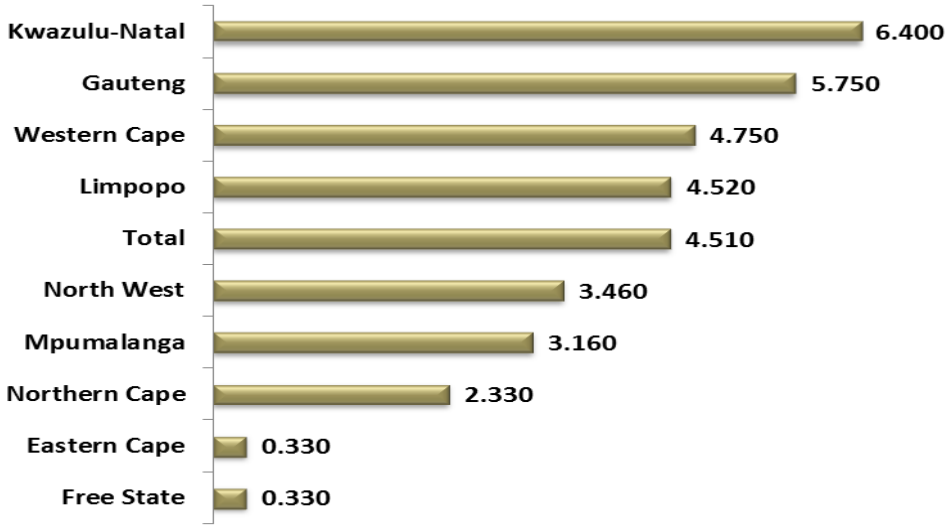
(N=803)

In answer to the question on how many patients per day is appropriate for a GP, as well as how many patients they actually see per day, 732 of the 803 participants responded. Overall, 449 of the 732 respondents displayed a positive difference between these two pieces of data, which means that 61.3 per cent of the GPs are working less than they could.

Figure 4.2 show the difference between the appropriate number of patients and the actual number of patients GPs treat in a day, segmented by province. The mean (M) was calculated by adding theses differences and dividing it by the number of respondents in each province (N). Adding the standard deviation to the mean and

subtracting it from the mean results in two new numbers that provide a range that will include two thirds of GPs' responses with regard to capacity.

Figure 4.2: Excess Capacity Segmented by Province



(N=726)

In terms of excess capacity, most was found to be in KwaZulu-Natal, Gauteng and the Western Cape. By contrast, the lowest capacity is seen to be in the Eastern Cape and the Free State, where GPs have an excess capacity to see just 0.33 patients per day.

4.2.2 *Appropriate fees*

Table 4.2: No. of Patients and Fee per Patient

	N	***Mean***	***SE***	***SD***
On average, how many patients do you see per day?	771	26.70	.70	19.62
What is the average fee per patient per visit?	745	R319.68	R4.42	R120.87

With regard to the number of patients and fee per patient, 771 of the 803 respondents provided information on the average number of patients they see per day and 745 on their average fee per patient per visit. On average, the respondents see 26.7 patients per day. The standard deviation was 19.6 patients per day indicating a great deal of variation in the number of patients the individual respondent sees per day. On average, respondents charge a fee of R319.68 per patient per visit with a relatively small variance, as indicated by the standard deviation of R120.87.

Table 4.3: Appropriate Income and Patients per Day

	N	*Mean*	*SE*	*SD*
What do you think is the appropriate number of patients a GP should see in a day?	776	31.20	0.55	15.44
What do you think is an appropriate take-home income (monthly income after all practice expenses and tax) for a GP?	723	R82 213.69	R1 574.82	R42 344.98

Of the 803 respondents, 776 provided information about the appropriate number of patients a GP should see per day and 727 indicated what an appropriate monthly take-home income is for a GP.

On average, the respondents felt that an appropriate number of patients that should be seen per day is 31.20, with a coefficient of variance (0.50) that indicates an average variation in what the individual respondents think. On average, the respondents felt that R82 213.69 is an appropriate monthly take-home income for a GP, after the deduction of expenses, with a relatively large coefficient of variance of 0.515.

Table 4.4: Appropriate Fee per Hour, Rural Income and Self-reported Revenue and Expenses

	N	*Mean*	*SE*	*SD*
What is an appropriate fee per hour for a GP doing sessional work at a public hospital – fee per hour in rands	742	R1 016	R22	R604
What is your total revenue per month?	544	R122 603	R4 048	R94 426
What are your total expenses per month?	561	R70 226	R2 835	R67 153
What do you think is an appropriate income (monthly income after practice expenses and tax) for a GP in a rural area?	617	R88 465	R2 709	R67 296

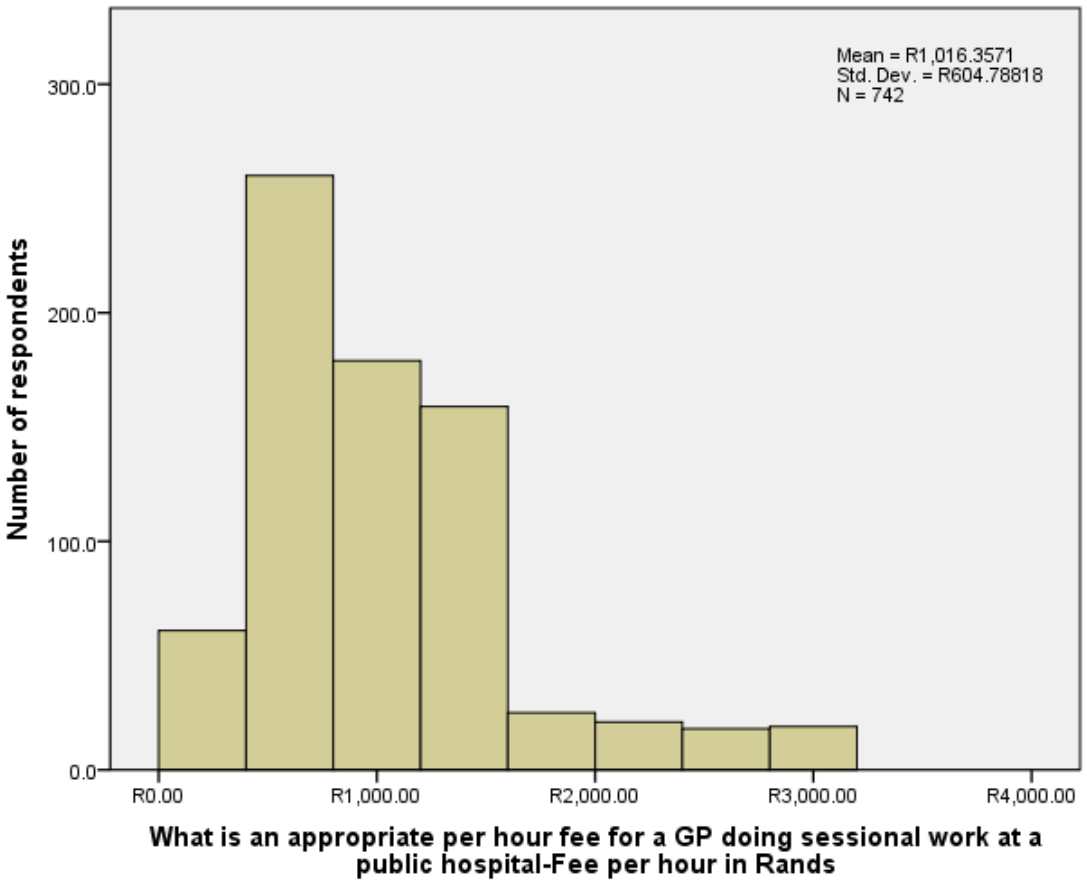
Of the 803 respondents, 742 provided information about the appropriate hourly fee for sessional work at a public hospital, 544 about their total revenue per month, 561 about their total monthly expenses and 617 indicated what an appropriate monthly take-home income is for a GP working in a rural area.

On average, the respondents felt that an appropriate hourly fee for sessional work at a public hospital would be R1 016.36, with a coefficient of variance of 0.595.

The respondents also reported average monthly revenue of R122 603.86, with a relatively large variance, as indicated by a coefficient of variance of 0.770. In addition, the respondents reported, on average, monthly expenses of R70 226.30 per month, with a very large variance as indicated by a coefficient of variance of 0.956.

The respondents also felt, on average, that an appropriate monthly income for a GP in a rural area would be R88 465.15; this result displayed a coefficient of variance of 0.761.

Figure 4.3: Appropriate Fee per Hour



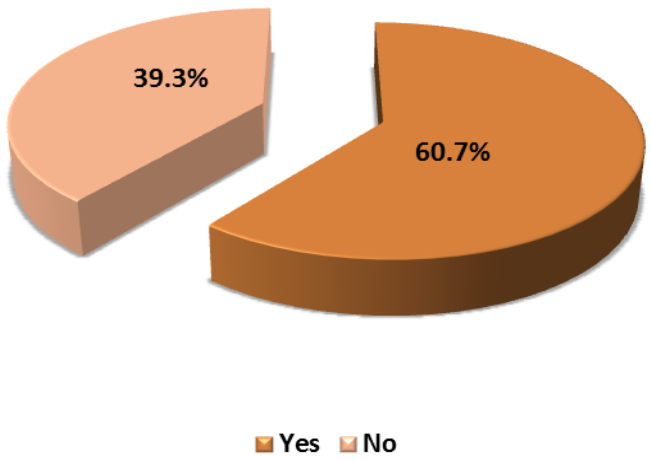
In answer to the question on an appropriate fee per hour for GPs, the majority of respondents indicated that a fee of between R400 and R800 would be appropriate.

Table 4.5: Self-reported and Calculated Income before Tax

	N	*Mean*	*Std. Deviation*
Revenue (calculated) minus cost	533	R98 037.05	R94 059.79
Revenue (self-reported) minus cost	524	R53 679.85	R69 064.94

Self-reported monthly revenue was, on average, R53 679.85. However, calculated revenue was on average R98 037.85. In this study, revenue was calculated by multiplying the number of patients seen in a day by the average fee per patient and then by the number of working days. This amounted to net profit before tax; after tax was deducted the average calculated take-home income is R70 587, while the self-reported take-home income was R38 649.

Figure 4.4: Percentage of GPs willing to Discount their Fees



(N=803)

In response to the question of whether they would be prepared to offer a discount, more than 60 per cent (n = 467) of the respondents stated that they would be prepared to discount their fees.

Table 4.6: Average Percentage Discount

	N	*Mean*	*SE*	*SD*
If yes, what per cent discount are you willing to offer on your monthly take-home income?-per cent discount on take-home income	469	18.0277	.64148	13.89219

With regard to how much discount the respondents would be prepared to accept, they on average indicated that they would be prepared to accept an 18 per cent (n = 469) discount on their take-home income.

Table 4.7: Average Rand Value of Discount

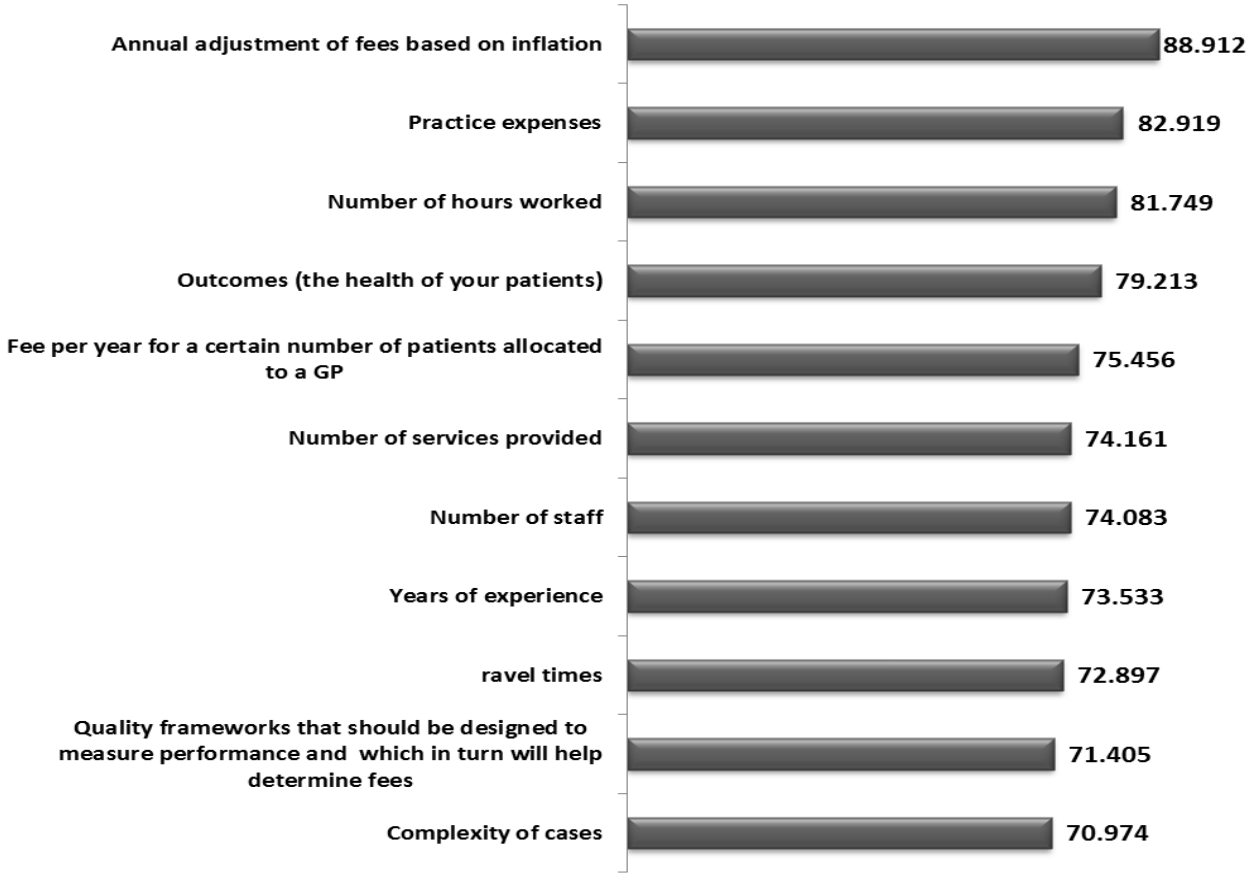
	N	*Mean*	*SD*
Discount on average fee per patient per visit	432	R54.91	R40.78

On average, GPs were willing to discount their fees by 18 per cent, which, on average would decrease their fees by R54.91 per patient.

4.2.3 Payment mechanism and criteria

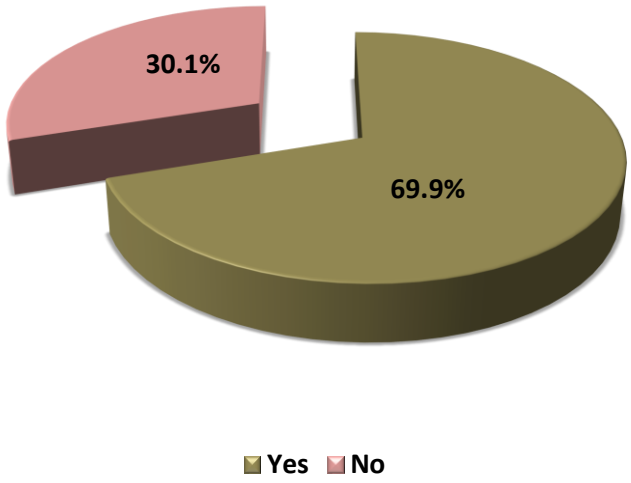
Respondents were asked to rate how important the criteria in Figure 4.5 are when deciding a fee. The sliding scale was numbered 0-100 and five intervals were created to help give the scale meaning and were labelled as follows; 0-20 is not at all important, 20-40 indicates the criteria is very unimportant, 40-60 is neither important nor unimportant, 60-80 shows that the criteria is very important and 80-100 is extremely important.

Figure 4.5: Payment mechanism and other criteria ranked in order of importance when deciding on a fee.



On average, the importance rating for all criteria was found to be above 70 out of 100. As per the respondents, the most important criterion when deciding a fee is the annual adjustment of fees based on inflation (Mean = 88.9). The other criteria that were rated above 80 on a scale of 0 to 100 were “practice expenses” (Mean = 82.9) and “number of hours worked” (Mean = 81.7). A number of outliers were found in each case, indicating that a few respondents did not consider these criteria very important. In addition, the distribution in each case was found to be negatively skewed.

Figure 4.6: Percentage of respondents that believe co-payments should be used to control the number of patients seeking treatment

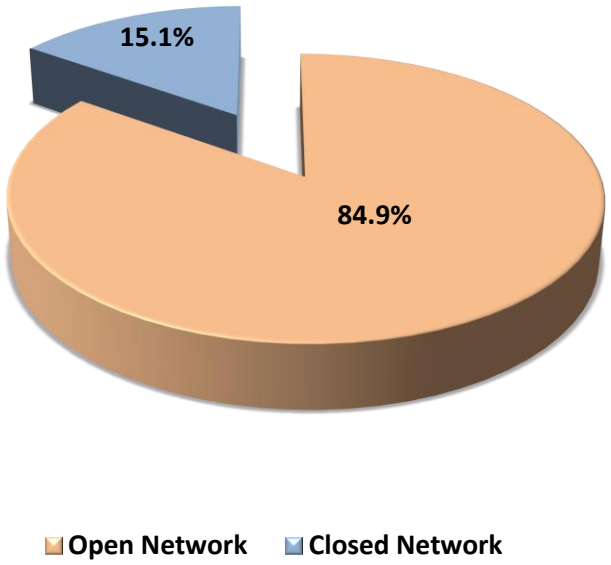


With regard to the question on whether or not the use of co-payments to limit the number of patients seeking treatment is appropriate, almost 70 per cent (no. of respondents = 534) of the respondents replied in the affirmative.

4.4 Results pertaining to forms of contract to create favourable conditions for GPs

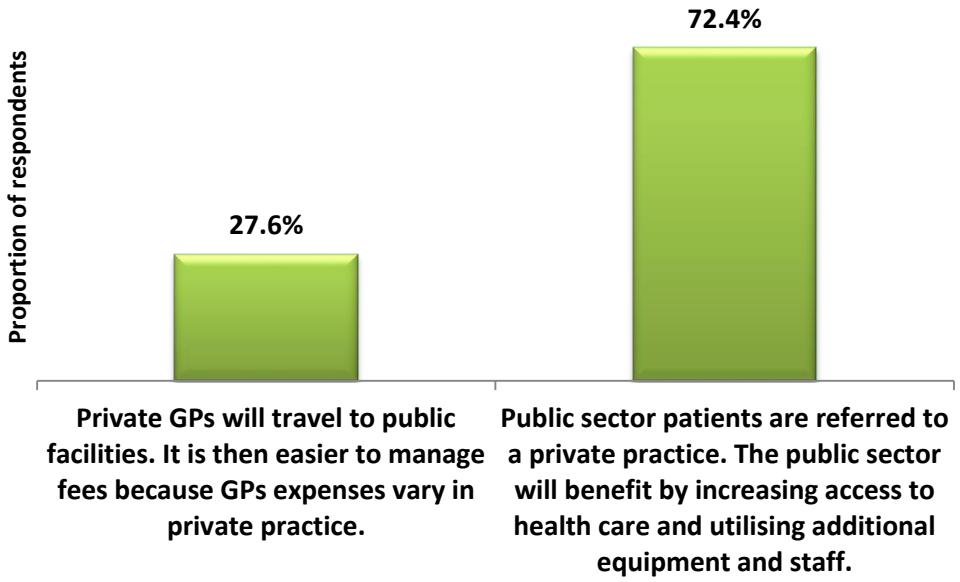
4.4.1 Factors influencing the form of contract

Figure 4.7: Responses relating to Open or Closed Network for GPs



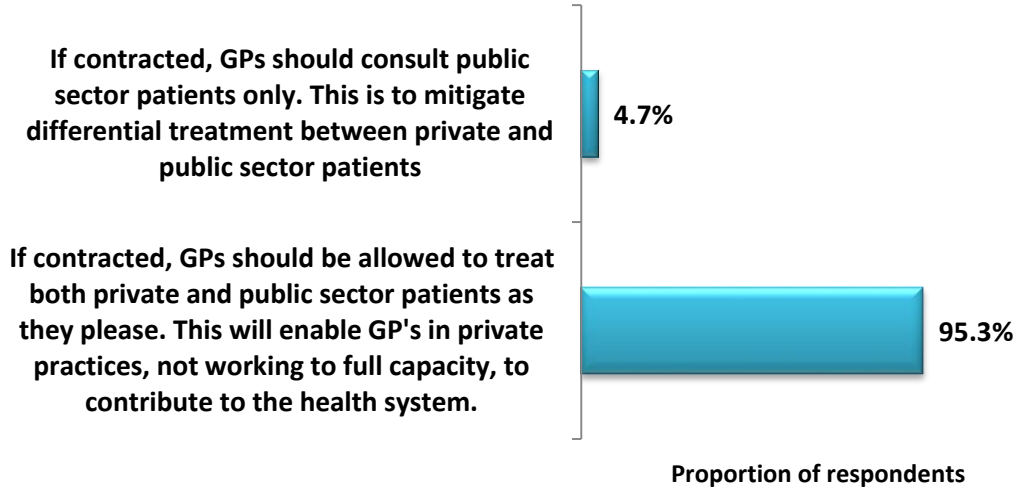
As indicated in the pie chart contained in Figure 4.7, of the 784 respondents, 84.9 per cent believed that it would be suitable to contract an open network of GPs regardless of the number of GPs that have already been contracted by the public sector.

Figure 4.8: Public or Private Facilities



In response to which option is more suitable when contracting with GPs, that is, GPs working in public health facilities or public sector patients being referred to a private practice, 72.4 per cent indicated the latter option. This result is illustrated by the histogram in Figure 4.8.

Figure 4.9: Public or Private Sector Patients Only or Both



As regards whether GPs contracted by the government should consult public sector patients only or whether they should be allowed to treat both private and public sector clients, 95.3 per cent of the 784 respondents felt that once contracted, GPs should be allowed to treat both public and private sector patients, as indicated by Figure 4.9.

Table 4.8: Frequency of Differential Treatment

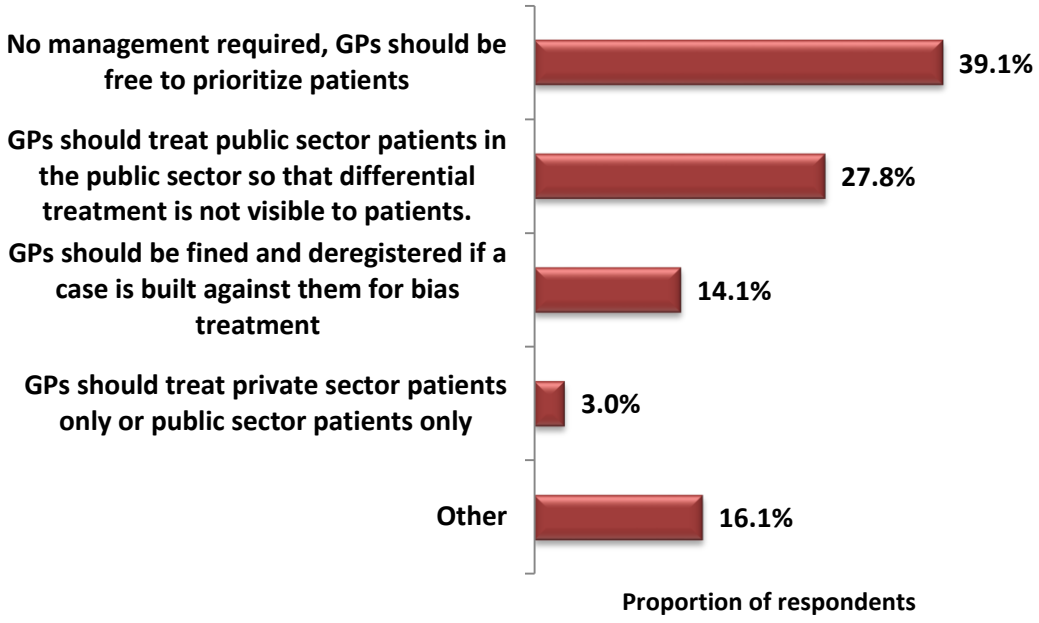
If GPs were allowed to treat both private and public patients in the envisaged national health proposal do you think GPs would generally prioritise private patients over public patients?

		N	***%***	***Cumulative %***
Valid	Never	106	13.8	13.8
	Rarely	136	17.8	31.6
	Sometimes	300	39.2	70.8
	Often	169	22.1	92.8
	All of the Time	55	7.2	100.0
	Total	766	100.0	
Missing	System	37		
Total		803		
Mean		2.91 (SD=1.11)		

With regard to the question on whether GPs, if allowed to treat both public and private sector clients would prioritise their private patients, it was found that on average (M = 2.91, n = 766) there was a tendency to believe that, in general, GPs would indeed prioritise their private patients.

The following table (Figure 4.10) displays some of the suggestions that were made by respondents as to how such prioritisation should be managed:

Figure 4.10: Percentage of respondents' preferred method for mitigating differential treatment



(N=803)

With regard to whether or not the prioritisation of patients by GPs should be managed, almost 40 per cent (n = 264) of respondents felt that it should not be managed at all.

Table 4.9: Additional Ideas for Managing Differential Treatment

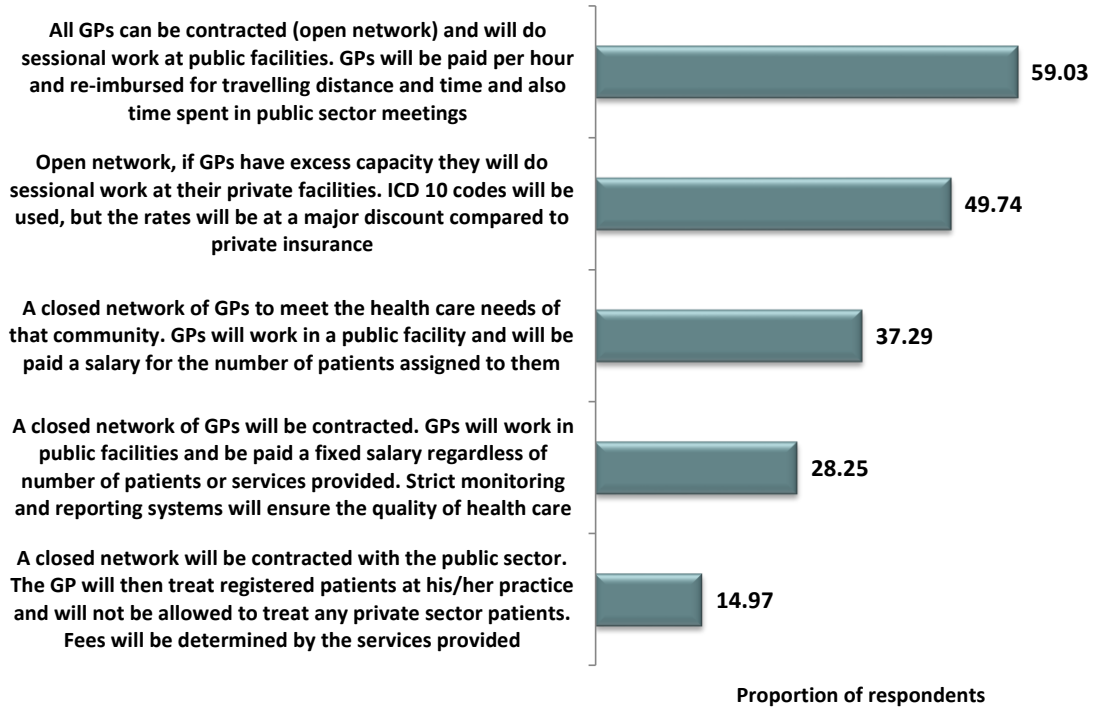
		N	*%*	*Cumulative %*
Valid	Equal treatment/GP Morality/first come first serve/prioritize emergencies/Triage	65	48.1	48.1
	Scheduling/limiting public sector patients	20	14.8	63.0
	Co-payments	4	3.0	65.9
	Remuneration	46	34.1	100.0
	Total	135	100.0	
Missing	System	668		
Total		803		

Of the 144 respondents who responded to the open-ended question triggered by selecting the “Other” option, 135 offered suggestions for ways in which the problem of prioritising could be managed. 48.1 per cent of these respondents believe that the GPs morals should guide fair treatment and factors like medical conditions or who arrived first will help guide GPs decision making. The second most common response is that there will be no differential treatment if GPs are remunerated at the same rates for treating both public and private patients.

4.4.2 *Forms of contract investigated*

Respondents rated the five forms of contract on a scale of 0-100 and five intervals were used to help differentiate the degree of acceptability. A mean of; 0-20 is not at all acceptable, 20-40 is slightly acceptable, 40-60 is moderately acceptable, 60-80 is very acceptable and 80-100 is completely acceptable. All five forms had an average score which was, at best, moderately acceptable.

Figure 4.11: GP Preferences for the Five Forms of Contract

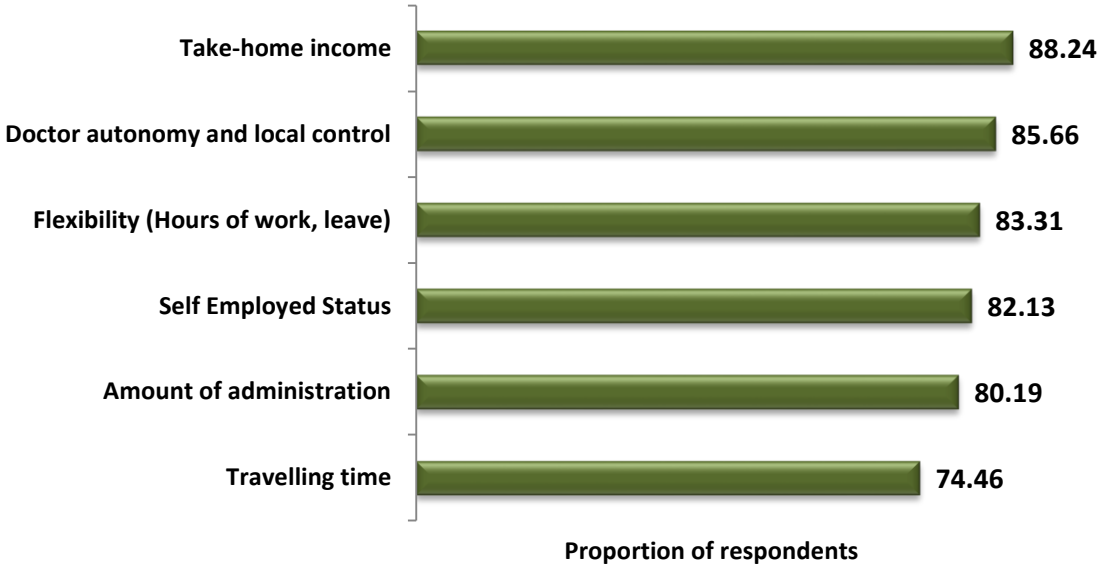


Of the forms of contract proposed in the survey, Contract 1, an open network with GPs being paid per hour for travelling distance and time, and time spent in public sector meetings, was on average rated the most acceptable (M = 59.034, n = 707). This was followed by Contract 2, an open network using ICD10 codes at majorly discounted rates compared to private insurance (49.741, n = 722). The least popular contract option for contracting with the public sector was Contract 5 (see Figure 4.11), a closed network that restricts GPs to treating registered patients only at their own practice (14.967, n = 646). However, the number of outliers for this response would indicate there are a few GPs that may prefer this to the other options.

4.4.3 *Criteria to help create favourable conditions*

The table below shows the importance of certain criteria rated on a sliding scale of 0-100, with five labels to help qualitatively understand the numerical values; 0-20 is not at all important, 20-40 indicates the criteria is very unimportant, 40-60 is neither important nor unimportant, 60-80 shows that the criteria is very important and 80-100 is an extremely important criterion.

Figure 4.12: Criteria for creating Favourable Conditions for Contract Acceptance in Order of Importance



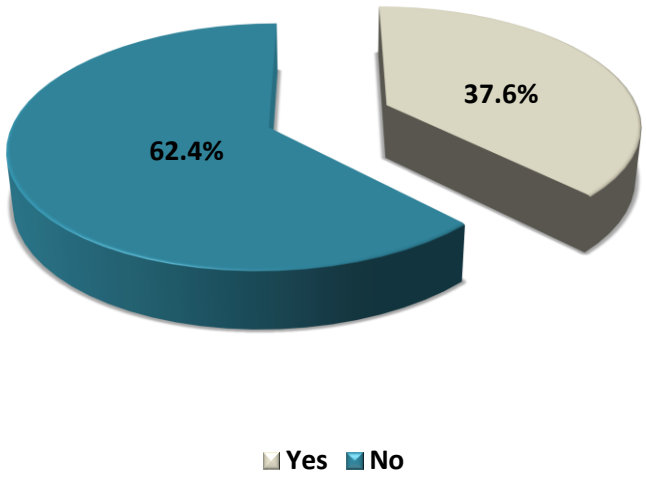
With regard to the criteria for creating favourable conditions for contract acceptance by GPs, it was found that, on average, the importance rating for five of the six criteria (take-home income, doctor autonomy, flexibility, self-employed status and amount of administration) was above 80 out of 100, while the sixth criterion (travelling time) was rated at almost 75 per cent. The most important criterion was identified as take-home income (M = 88.241, n = 752), while the least important criterion was travelling time (74.462, n = 742).

From the graph in Figure 4.12, one can see that although the average is high for all the criteria, there is a number of outliers in each case that do not consider that particular criterion very important. The distribution in each case is negatively skewed.

4.4.4 *Attitudes*

When asked whether they had any objections to the envisaged national health proposal, 62.4 per cent (n = 458) of the respondents indicated that they did not, in principle, have any objections that would prevent them from contracting with the public sector.

Figure 4.13: Percentage of GPs that Object to the Proposed NHI System



(N=803)

Table 4.10: High Level Categories for Objections to the Proposed NHI

		N	*%*	*Cumulative %*
Valid	Funding model	8	3.5	3.5
	Autonomy/forced/against free will/governed	44	19.5	23.0
	Fees/fees not on time	35	15.5	38.5
	Admin	7	3.1	41.6
	Flexibility/working hours	4	1.8	43.4
	Closed network/discrimination	36	15.9	59.3
	Corruption	8	3.5	62.8
	Freedom to treat both public and private	41	18.1	81.0
	Public facilities/staff	21	9.3	90.3
	Government capacity to execute/management	22	9.7	100.0
	Total	226	100.0	
Missing	System	577		
Total		803		

With regard to the open question asking respondents to list any objections to the national health scheme, 226 responded. The most common response was that GPs would object because of the effect it would have on their autonomy and their freedom of choice.

Summary of results pertaining to forms of contract

It was found that an open network of GPs should be allowed to contract, GPs would remain in their practice and treat both private and public sector patients, was conclusively preferred over the alternatives. Contract 1 (see Figure 4.11), the sessional form of contract that is being used in the pilot districts, was found to be the preferred form of contract of the five that were investigated. Nevertheless, Contract 1 was rated only as moderately acceptable. With a large number of contract variations, however, it could be that other forms of contract not investigated by the study might be more acceptable than Contract 1. Lastly, the majority of private practitioners had no objections to the proposed NHI system. Nevertheless, a number of major themes emerged encapsulating certain concerns that would prevent GPs. These were doctors' autonomy, remuneration, government's capacity to manage the system, discrimination, GPs' freedom to treat both public and private patients, and the public sector's poor facilities and staff.

4.5 Target groups to contract with the public sector

Demographics

On examining the returned questionnaires, the usable sample consisted of 803 respondents.

Table 4.11: GP Characteristics: Gender, Marital Status and University

		N	*%*
What is your gender?	Male	527	68.4%
	Female	243	31.6%
	Total	770	100.0%
What is your marital status?	Never married	70	9.1%
	Divorced	52	6.8%
	Widowed	12	1.6%
	Married	635	82.6%
	Total	769	100.0%
What is your race?	African	207	28.0%
	Caucasian	321	43.4%
	Indian	137	18.5%
	Asian	13	1.8%
	Coloured	23	3.1%
	Other	38	5.1%
	Total	739	100.0%
Where did you obtain your undergraduate medical degree?	A South African university	720	90.8%
	An African university outside South Africa	28	3.5%
	A university outside Africa	45	5.7%
	Total	793	100.0%

With regard to gender, 770 of the 803 respondents provided information. The largest proportion of these respondents was male (68.4%, n = 527).

Only 769 of the 803 respondents provided information about their marital status. Of these, more than 80 per cent (82.6%, n = 635) of the respondents were married.

Only 739 of the 803 respondents provided information about their race. Of these, 43.4 per cent (n = 321) were Caucasian.

Only 793 of the 803 respondents provided information about the university where they obtained their undergraduate degree. Most of the respondents (90.8%, n = 720) had obtained their degree at a South African university.

Table 4.12: GP Characteristics: Years in Practice, Age and Dependants

	N	***Mean***	***SE***	***SD***
How many years have you practiced as a GP?	764	17.91	.43	12.00
What is your age?	750	48.18	.42	11.72
How many dependants do you have?	752	2.64	.07	1.92

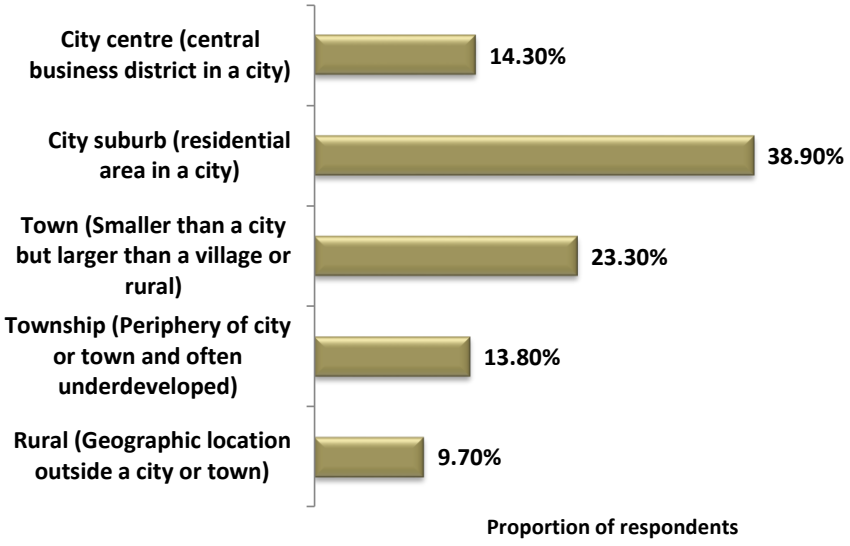
Of the 803 respondents, 764 provided information on their tenure as a GP, 750 on their age and 752 indicated how many dependants they had. On average, the respondents had practised as a GP for just under 18 years with a coefficient of variance (.670) that indicates significant variation in the individual tenure specified by the respondents. On average, the respondents were just over 48 years of age at the time of the survey, with little variance, as indicated by the small coefficient of variance (.243). On average, the respondents have two to three dependants but this information varies a great deal, which is indicated by a Co-efficient of variance of (0.73).

Table 4.13: Practice Location

		N	*%*
In which province is your practice located?	Gauteng	252	31.7%
	Western Cape	160	20.1%
	KwaZulu-Natal	142	17.9%
	Eastern Cape	66	8.3%
	Northern Cape	10	1.3%
	Free State	51	6.4%
	Mpumalanga	47	5.9%
	North West	31	3.9%
	Limpopo	36	4.5%
	Total	795	100.0%
How would you classify the location of your practice?	City centre (central business district in a city)	114	14.3%
	City suburb (residential area in a city)	310	38.9%
	Town (Smaller than a city but larger than a village or rural)	186	23.3%
	Township (Periphery of city or town and often underdeveloped)	110	13.8%
	Rural (Geographic location outside a city or town)	77	9.7%
	Total	797	100.0%

Of the 803 respondents, 795 indicated the location in which they practice as a GP. It was found that the largest proportion of GPs practice in Gauteng (31.7%, n = 252).

Figure 4:14: Classification of Practice Location

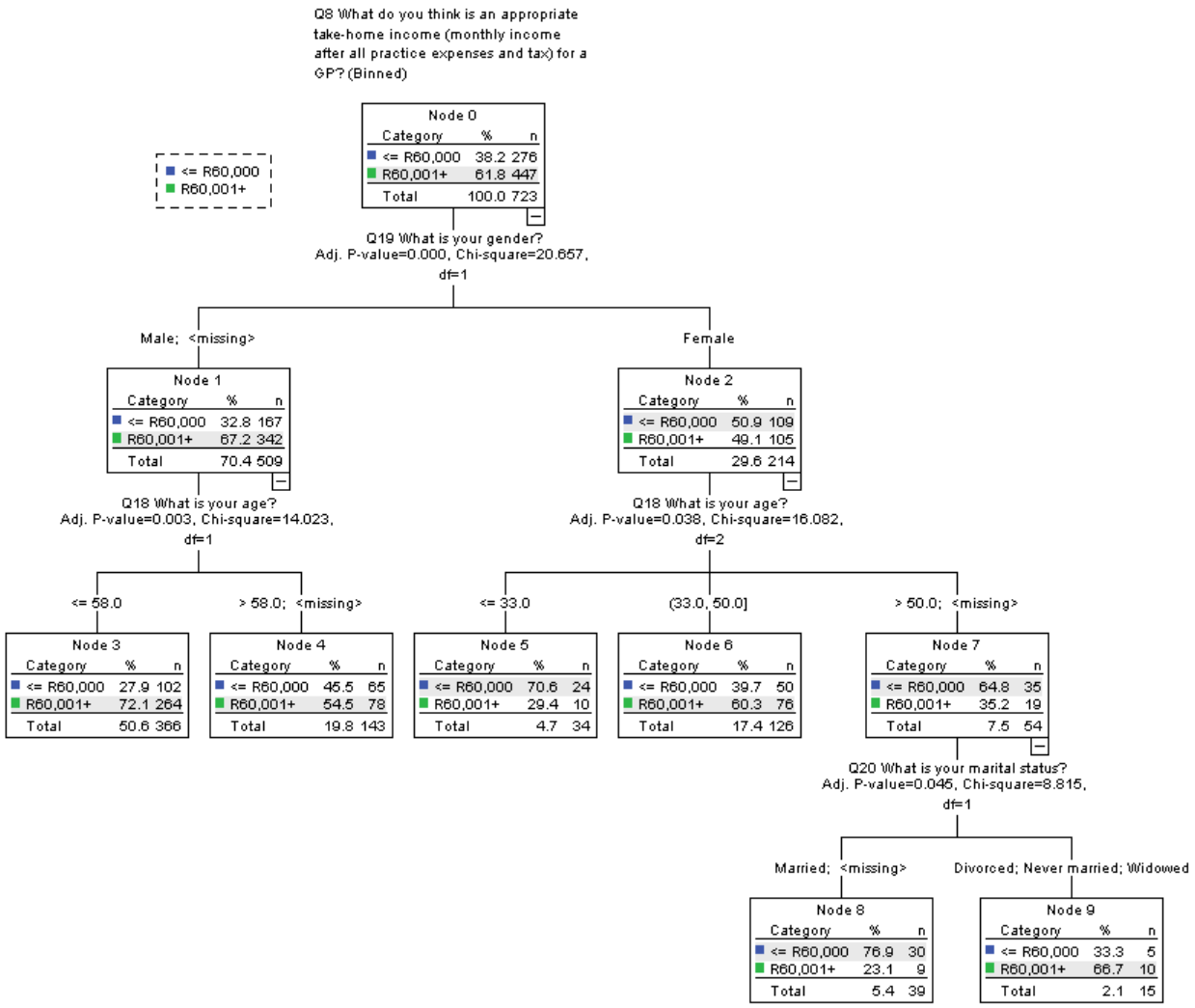


Of the 803 respondents, 797 indicated the location of their practice. If was accordingly found that almost 40 per cent (38.9%, n = 310) of these respondents practice in a city suburb.

Chi-Square Automatic Interaction Detection (CHAID) method

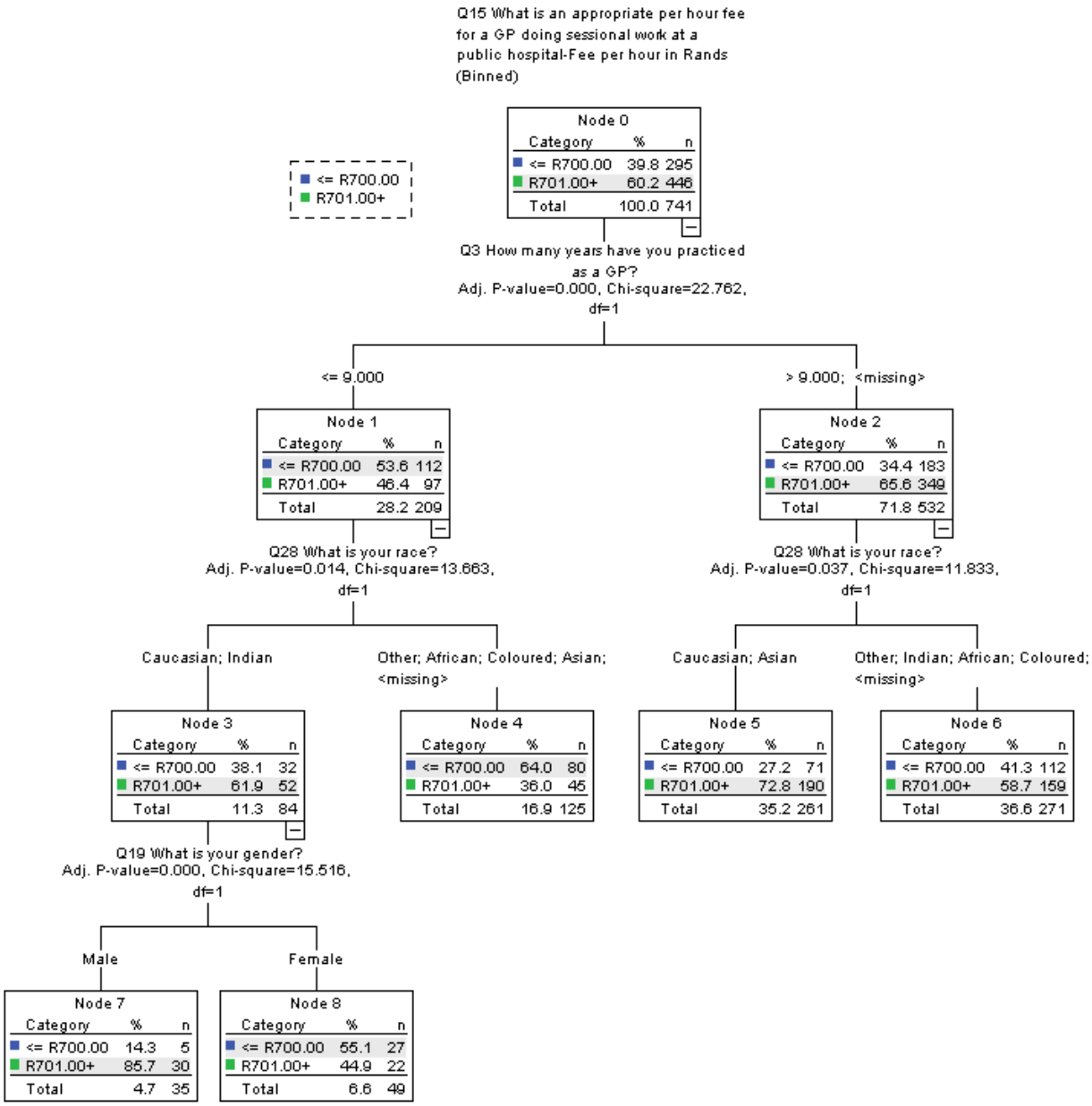
The CHAID technique efficiently searches for relations between a set of predictor variables and a categorical outcome measure. The variables are based on the statistical significance or p value for a chi-square test. The first step involves extracting the more significant variable, thereafter if the most significant predictor has more than one category, the least significant categories will be clumped together until there are two categories. This process is repeated for other predictor variables or nodes to increase the prediction accuracy.

Table 4.14 : CHAID Method based on Lowest Appropriate Income



Node 8 has a prediction accuracy of 76.9 per cent and, in second place, node 5 demonstrates a prediction accuracy of 70.6 per cent. One can therefore deduce that GPs who consider an appropriate take-home income for GPs to be R60 000 or less are generally married females older than 50 years of age (76.9% accuracy) or females younger than 33 (70.6% accuracy).

Table 4.15: Appropriate Fee per Hour



Although the procedure used gender for a further split, the leaf nodes did not improve on the prediction accuracy of node 4, which demonstrates a prediction accuracy of 64 per cent. Thus, one can deduce that GPs who consider an appropriate per hour fee to be R700 or less tend to have practised as a GP for nine years or less and are African, coloured, Asian or other race (64.0% accuracy).

Discounted Appropriate Fee per Hour

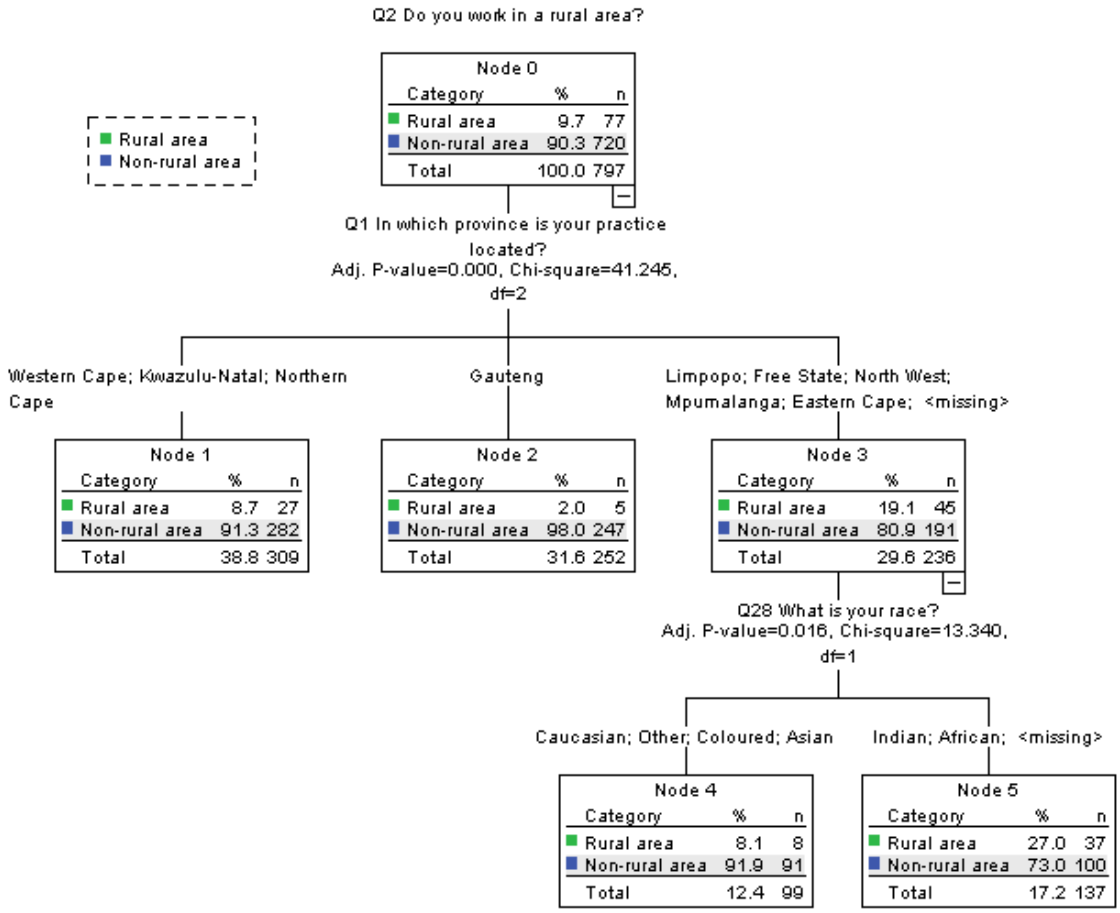
To determine the demographics that have an influence on whether a respondent thinks that a discounted appropriate hourly fee is R700 or less, demographic data was subjected to a CHAID analysis as independent variables and the dichotomous variable, an appropriate per hour fee of below R700 was used as the dependent variable.

The only demographic variable that has a distinguishing effect on the discounted appropriate hourly fee is length of tenure as a GP. The improvement over the baseline model is not large, however. Node 1 demonstrates a prediction accuracy of 66.4 per cent.

Thus, one can deduce that GPs who consider an appropriate discounted hourly fee to be R700 or less tend to be those who have practised as a GP for nine years or less.

Table 4.16: Working in a Rural Area

To determine which demographic variables are indicative of a GP working in a rural area, they were subjected to a CHAID analysis as the independent variables, and the dichotomous variable, working in a rural area or not (1 = rural area; 2 = non-rural area), as the dependent variable.



The sample of respondents that practise in rural areas is considerably smaller than the sample that does not (77 vs. 720) and therefore building a prediction model

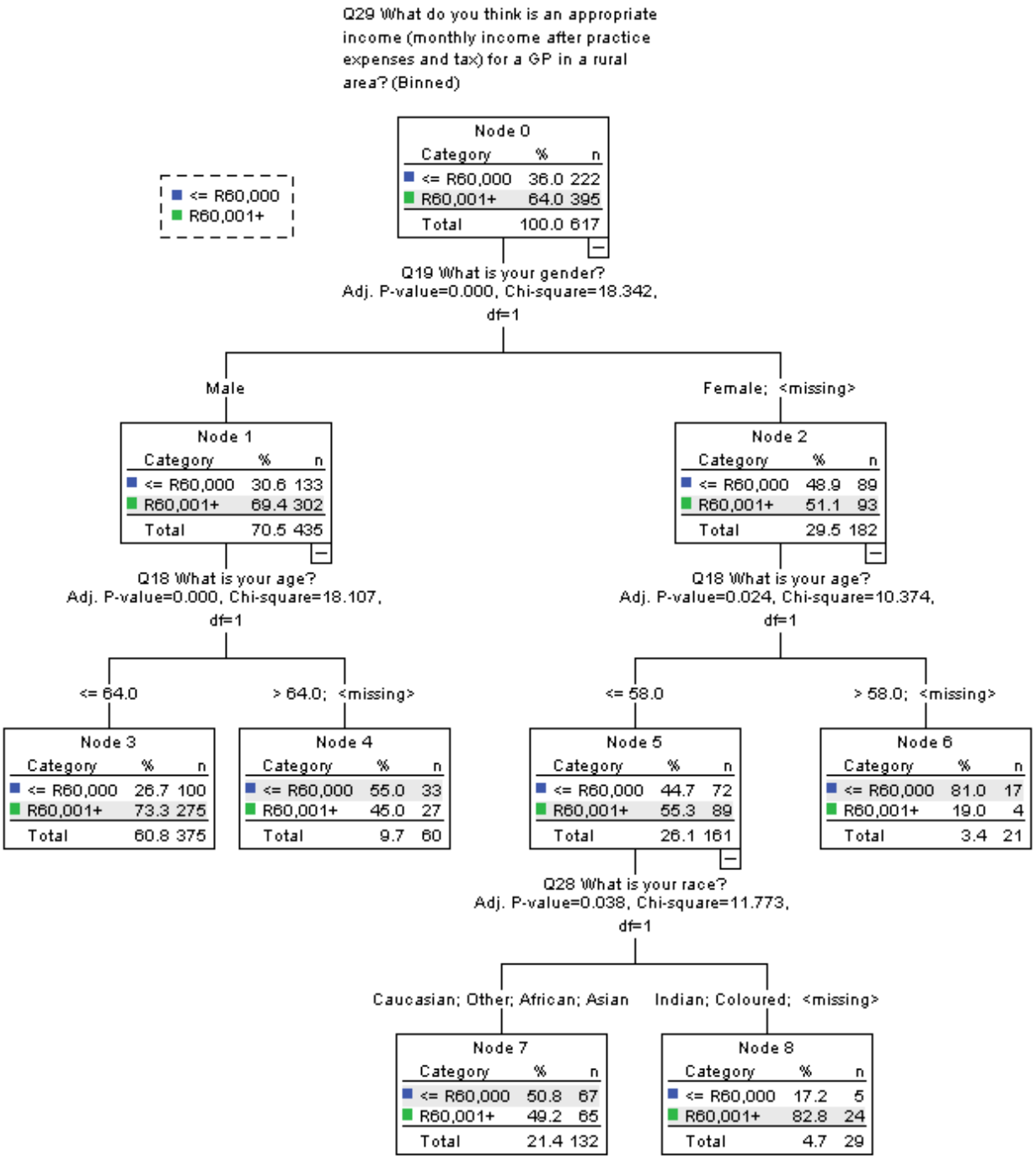
would not have been very successful. However, the model improved from 9.7 per cent baseline to 27 per cent in node 5.

The demographics and their values that tend to be indicators for working in rural areas are

- practising in Limpopo, Free State, North West, Mpumalanga and the Eastern Cape, and
- being Indian or African.

Table 4.17: Appropriate Incomes in Rural Areas

To determine which demographic variables have an effect on whether a respondent thinks that an appropriate income in rural areas is R700 or less, they were subjected to a CHAID analysis as independent variables and the dichotomous variable, appropriate income in rural areas that are less than or over R700 (1=<=R700; 2=>R700), as the dependent variable.

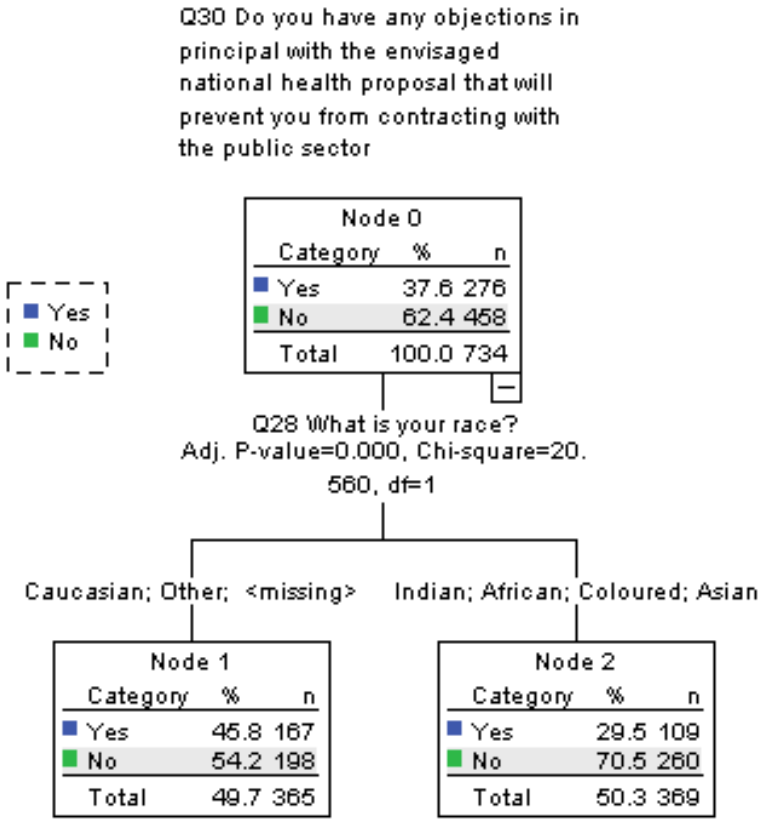

Q29 What do you think is an appropriate income (monthly income after practice expenses and tax) for a GP in a rural area? (Binned)
<= R60,000
R60,001+
Node 0
Category % n
<= R60,000 36.0 222
R60,001+ 64.0 395
Total 100.0 617
Q19 What is your gender?
Adj. P-value=0.000, Chi-square=18.342, df=1
Male
Female; <missing>
Node 1
Category % n
<= R60,000 30.6 133
R60,001+ 69.4 302
Total 70.5 435
Node 2
Category % n
<= R60,000 48.9 89
R60,001+ 51.1 93
Total 29.5 182
Q18 What is your age?
Adj. P-value=0.000, Chi-square=18.107, df=1
Q18 What is your age?
Adj. P-value=0.024, Chi-square=10.374, df=1
<= 64.0
> 64.0; <missing>
<= 58.0
> 58.0; <missing>
Node 3
Category % n
<= R60,000 26.7 100
R60,001+ 73.3 275
Total 60.8 375
Node 4
Category % n
<= R60,000 55.0 33
R60,001+ 45.0 27
Total 9.7 60
Node 5
Category % n
<= R60,000 44.7 72
R60,001+ 55.3 89
Total 26.1 161
Node 6
Category % n
<= R60,000 81.0 17
R60,001+ 19.0 4
Total 3.4 21
Q28 What is your race?
Adj. P-value=0.038, Chi-square=11.773, df=1
Caucasian; Other; African; Asian
Indian; Coloured; <missing>
Node 7
Category % n
<= R60,000 50.8 67
R60,001+ 49.2 65
Total 21.4 132
Node 8
Category % n
<= R60,000 17.2 5
R60,001+ 82.8 24
Total 4.7 29

The demographic variables that can be used to predict that an appropriate annual income in rural areas will be R60 000 or less are gender and age. The split using race did not improve the predictive accuracy.

Node 6 demonstrates a good prediction accuracy of 81 per cent.

Thus, one can deduce that GPs who consider an appropriate monthly income in rural areas to be R60 000 or less are female and older than 58 years.

Table 4.18: Objections to the Envisaged NH System



To determine which demographic variables are indicative of a GP objecting to the envisaged NHI system, they were subjected to a CHAID analysis as the independent variables with the dichotomous variable, objecting to the NHS (1 = yes; 2 = no), as the dependent variable.

The only demographic variable that has a distinguishing effect on whether a respondent objects to the envisaged NHS is race. However, it should be borne in mind that the model performs reasonably poorly as a classifier, and the improvement over the baseline model is small (from 37.6 to 45.8%). It was thus found that respondents who are Caucasian or “other” tend to object more to the envisaged NHI than the Indian, African, Asian and coloured race groups.

4.6 Summary of the results

The results with regard to private sector GPs’ capacity to contribute to the public sector reveal that 61.3 per cent of GPs have the capacity to increase their volume of patients. On average, private sector GPs reported that they had the capacity to consult an additional 4.5 patients per day. GPs in KwaZulu-Natal, Gauteng and the Western Cape show the highest capacity to treat additional patients, whereas those in the Eastern Cape and Free State had minimal excess capacity and could only see an additional 0.33 patients per day.

GPs believe that an appropriate take-home income, after all practice expenses and tax has been paid, to be on average R82 213 per month. The actual self-reported take-home income is on average R38 649; however, using data provided by the same respondents, take-home income was calculated to be an average of R70 587. If GPs travel to public facilities and are paid based on the number of hours worked, GPs reported that a fee of R1 016 per hour would be appropriate. An appropriate take-home income for GPs working in rural areas was reported to be on average R88 465 per month.

According to the GPs, the preferred mode of remuneration is an hourly fee, but all modes of remuneration, including capitation, fee for service and fee based on health outcomes, were rated as important when deciding a fee. Although all types of payment mechanism were rated as important, an annual adjustment of fees based on inflation and increased practice expenses was scored as the most important criterion when deciding on a fee. Furthermore, when determining a suitable fee, it should be noted that 61.3 per cent were willing to discount their fees at an average of 18 per cent if it would benefit the overall healthcare system.

The results show that almost 85 per cent of respondents believed that an open network should be allowed to contract with the public sector and just over 90 per cent believed that GPs should be allowed to treat both private and public sector patients. In addition, approximately 72 per cent of GPs would prefer to work at their own practice rather than travel to public facilities.

Of the five forms of contract investigated, the preferred form was found to be Contract 1 (see Figure 4.11), in terms of which all GPs could be contracted (open network) to do sessional work at public facilities. Accordingly, GPs would be paid by the hour and would be reimbursed for travelling distance and time, and also time spent in public sector meetings. However, although Contract 1 was the preferred form of contract, it was only rated as moderately acceptable, with the remaining four forms being rated as slightly acceptable or unacceptable. Consequently, using the results derived from this study, a form of contract other than the five forms investigated, and which is more acceptable to GPs, could be designed. Criteria that GPs believe are *extremely* important and that would help to create favourable conditions for GPs to contract with the public sector include the amount of take-home income, the degree of doctor autonomy, flexibility with regard to working hours, the amount of administration and self-employed status.

The CHAID method revealed a number of demographic groups that could be targeted. Married female GPs over the age of fifty and female GPs under the age of 33 identified an appropriate monthly take-home income that was lower than the other demographic groups. Alternatively, if a fee-per-hour model were to be adopted, GPs

with nine or fewer years of experience indicated that they would be prepared to accept lower hourly rates. These GPs are more likely to be African, Asian, coloured or a race group other than Indian or Caucasian. Lastly, with low prediction accuracy, we can speculate that GPs who object to contracting with the public sector would be more likely to be Caucasian.

5 DISCUSSION OF THE RESULTS

5.1 Introduction

This discussion covers the key themes raised by the problem statement and the research questions. The discussion pertaining to fees includes the capacity of private sector GPs to contribute to the public sector and a comparison of appropriate incomes for GPs in South Africa with the actual incomes of GPs in South Africa and other nations.

The discussion regarding the form of contract includes GP preferences on certain components of the contract with the public sector. Subsequently, a form of contract that GPs believe to be most suitable will be designed, and the acceptability of the current contract form used in the pilot districts will be critically evaluated. Attitudes towards the proposed NHI are investigated and factors that may prevent GPs from contracting with the public sector are evaluated.

The demographic data obtained and their relevance to contracting are discussed with reference to the literature in section 2 and, finally, target groups that have no objections to contracting with the public sector and making NHI more viable for the South African government will be identified.

5.2 Discussion pertaining to fees

5.2.1 Capacity with regard to volume of services

Before discussing a suitable fee and the payment mechanism and criteria to be considered when deciding a fee, it is important to determine whether or not GPs in the private sector have the spare capacity to contribute to the public sector. If already working to capacity, GPs cannot care for more patients without compromising the quality of care they currently provide, regardless of the fee government offers. Figure 4.1 indicates that just over 61 per cent of GPs have the

capacity to treat additional patients; based on this it would appear that the private sector has the capacity to contribute to the public sector. However, when the capacity to contribute to the public sector is segmented by province (Figure 4.2), it is clear that GPs in the Free State and the Eastern Cape are at this point unable to make a meaningful contribution to the public sector.

Table 5.1: Excess Capacity

Capacity	
No. of appropriate patients in a day	31.2
Less (no. of actual patients seen in a day)	26.7
Excess capacity per day	**4.5**
No. of GPs in private practice	**12,313.0**
No. of hours in a week	40.0
Therefore no. of days in week (8 hour days)	5.0
No of weeks worked in a year	51.6
No. of working days per year	**258.0**
Capacity for additional consults per year (million) **4.5 * 12,313.0 * 258.0**	**14.3**
No of visits per capita	3.8
Capacity to care additional citizens (million) **14.3/3.8**	**3.8**
Costing	
Fee per patient	319.7
Capacity for additional consults per year (million)	14.3
Fee to maximise capacity at private rates(R billion)	4.6

The data show that doctors are currently working at approximately 84 per cent of their capacity in private practice; therefore there is excess capacity to treat 4.5 more patients per day. There are currently 12 313 GPs with registered practices and, by inferring data from Johar (2012) and Morris et al. (2011), we can calculate that

private practitioners work 258 days per year. If GPs were to work 258 days a year and consult an additional 4.5 patients per day, 12 313 GPs would have the capacity to treat an additional 14.3 million patients per year. If we make a conservative inference that patients in South Africa will have the same per capita visits as patients in the USA, that is, 3.8 times per annum, private sector GPs in South Africa have the capacity to care for an additional 3.8 million people per annum. Therefore, contracting all registered private practitioners to work at full capacity (see Table 5.1) would cost the government an additional R4.57 billion per annum, assuming that GPs's private rates are matched at R319.70 per consultation.

This approximate figure of 3.8 million out of the 42.4 million uninsured citizens means that only a small percentage of citizens would suddenly have access to private sector health care. Hence, the selection of public sector patients to receive private sector care is an issue that will need to be researched further.

While it is encouraging to see that the private sector does have capacity to contribute to the public sector, it is important to maximise private GPs' time. The average doctor works approximately 40 hours per week and, therefore, approximately six hours (16 per cent) a week would be available to contribute to the public sector. These potential additional hours include travelling time, administrative work, attending meetings and treating patients. To maximise the time spent on treating patients, GPs could do longer sessional hours fewer times per week, which would reduce travelling time. Alternatively, patients could travel to GPs' rooms, which could result in over 12 000 additional service points, and therefore both GPs' and patients' travel times would be reduced, resulting in a more efficient health system.

5.2.2 Appropriate fees

The results presented in Figure 4.3 show that the largest group of respondents believe that the hourly fee should be set at between R400 and R800, while approximately 40 per cent of private sector GPs believed that a fee of less than R800 per hour would be appropriate. However, less than 10 per cent of respondents believed that a fee of less than R400 would be appropriate, and therefore the

majority of private practitioners would reject the proposed R355 per hour offered in the pilot districts.

Table 5.2: Appropriate Incomes

	Fee per hour	***Take-home income***	***Rural***
Per hour, sessional at hospital	**1 016**	**659**	**709**
Hours worked in a week	40	40	40
Weeks in a month	4	4	4
Appropriate turnover	176 169	114 186	122 868
Cost	-		
Travel time	-		
Meeting	-		
Admin	-		
Less Tax (28%)	49 327.20	31 972	34 403
Take-home income	126 841	82 214	88 465
Higher than app take-home income	54%	-	8%

The table above (Table 5.2) compares data on GPs appropriate monthly and hourly incomes. Practice expenses were negated because, in the public sector, patients would be treated at public facilities. Moreover, GPs would be compensated for travelling time and time spent in meetings (Surender et al., 2014). Data from the literature allows us to assume that a GP works, on average, approximately 40 hours per week and an average of 4.3 weeks per month (Johar, 2012). Tax was taken to be at a rate of 28 per cent. By multiplying the fee per hour by the number of hours worked in a week and by the number of weeks worked in a month, we can determine that monthly turnover is R176 169. After deducting tax we can then determine the take-home monthly income, namely, R126 841. Question 8 revealed that an appropriate take-home income is R82 214. Again, assuming that this was in the public sector, practice expenses that GPs incur would be nil. Therefore, R82 214 is 72 per cent of turnover, and dividing R82 214 by 72 and multiplying by 100 gives us

a turnover of R114 186. Turnover divided by the number of weeks in a month and further divided by the number of hours per week yields a fee per hour of R659. Similarly, an appropriate take-home income in rural areas of R88 465 yields an appropriate fee per hour of R709.

Following the conversion of the fee per hour to a monthly take-home income, the difference in an appropriate fee can be explained by the following findings:

1. Doctors will primarily be in their own practice and believe that sessional, supplementary income will need to be more lucrative than their standard practice income.
2. GPs will demand higher take-home income if they do sessional work at public facilities because of the additional effort that will have to be made in to and working in a different or more difficult environment.
3. GPs calculated their current hourly turnover and extrapolated it as an appropriate income, not realising that they do not have to incur any practice expenses at public facilities; thus the high hourly rate with large variances may be due to a computational error on the part of GPs.

The finding that explains why GPs require a fee per hour that would yield a monthly fee that is 54 per cent higher than the reported appropriate monthly take-home income will influence the payment mechanism and the size of the fee. In a scenario where finding 1 or 2 is the reason for a higher appropriate fee per hour, then an alternative payment mechanism would result in GPs contracting at a lower fee. If finding 3 is the primary reason for the difference in appropriate fees, then good communication, emphasising that practice expenses at public facilities are minimal, may allow the government to contract GPs at lower rates than the R1 016 per hour that was believed to be appropriate.

To earn an appropriate income of R82 214, the hourly fee for GPs doing sessional work at public facilities should be R659, which is R457 lower than the suggested R1 016, but R304 higher than the proposed R355 per hour in the pilot districts. The large variance in the response indicates that a fee that is too low will not obtain

sufficient buy-in by GPs to contract with the public sector, and a fee that is set too high in order to ensure sufficient buy-in may be financially unfeasible.

According to GPs in private practice, an appropriate take-home income for a GP working in a rural area (geographic location outside a city or town) is R88 465, which is R6 251 or 7.6 per cent higher than the overall appropriate take-home income for GPs. Table 5.2 uses data from Johar (2012) and Morris et al. (2011) to calculate that the fee per hour in rural areas should be R709. To attract GPs to contract to work in rural areas, the public sector may need to double the proposed R355 per hour.

Table 5.3: Comparison to Other Countries

Country	Avg take-home income per annum (2008)	Avg take-home income per annum (2008)	Avg take-home income per month adjusted for inflation (2014)	Avg take-home income per month (PPP adjusted)	Compared to RSA Appropriate	Compared to RSA Actual Reported	Compared to RSA Actual Calculated
	US$	Rands	Rands	Rands			
Australia	92 844	827 181	95 940	95 940	23%	49%	27%
Canada	125 104	1 114 598	129 276	129 276	31%	66%	36%
France	95 585	851 602	98 772	98 772	24%	50%	27%
Germany	131 809	1 174 335	136 204	136 204	32%	69%	38%
UK	159 532	1 421 329	164 852	164 852	39%	84%	46%
US	186 582	1 662 328	192 804	192 804	46%	98%	54%
SA Appropriate			82 214	419 291	100%	213%	116%
SA Actual Reported			38 648	197 107	47%	100%	55%
SA Actual Calculated			70 587	359 992	86%	183%	100%

The table above compares the take-home income of six other nations with the appropriate take-home income of GPs in South Africa, the reported take-home income of GPs in South Africa and the calculated income of GPs in South Africa. The data in the table were captured in 2008 and subsequently adjustments were

made to make a fairer comparison. Average take-home income in dollars was converted to rand using the average dollar to rand exchange rate for the period 2012 to 2014 (Appendix D). Incomes were adjusted according to inflation in South Africa over the six-year period. The inflation adjustment was based on the percentage increase of the Consumer Price Index. (Appendix D). The incomes reported in South Africa were adjusted using the Purchasing Power Parity (PPP) index for the period 2011 to 2013, which was on average 5.1. Lastly, a percentage in relation to South African appropriate, reported and calculated incomes was computed. Although adjusting for differences in currency and cost of living and predicting changes in income based on inflation may produce inaccurate results, it does provides a benchmark to help gauge suitable fees.

The results show that the reported take-home income is R38 648 (Table 4.7), which is 55 per cent of the calculated take-home income and 47 per cent of the appropriate take-home income. The results suggest that GPs may report less income than they actually earn. Furthermore, the question regarding revenue yielded the lowest response rate compared to the 32 other questions, 544 out of the 803 respondents, which shows that GPs may not feel comfortable reporting their revenue. The calculated take-home income is R70 587, that is, 86 per cent of what was deemed to be an appropriate income, and we can therefore conclude that GPs in private practice across South Africa feel that they currently do not earn an appropriate take-home income. This has major implications for contracting GPs because the public sector could bridge the gap between GPs' current income and what they feel is an appropriate income.

Without adjusting incomes using the PPP index, which makes provision for the cost of living, it would appear that there is great incentive to emigrate because South African GPs' take-home incomes are the lowest among the six nations compared. However, after adjusting for the cost of living, it becomes clear that GPs in South Africa are earning extremely well and their take-home income is higher than the other six nations. Nevertheless, South African GPs still feel that they are not earning

appropriately and are demanding incomes in real terms that are more than four times what GPs in Australia and France are earning.

This suggests that South African GPs either emigrate without realising that in real terms they will in fact earn incomes lower than they are currently earning or their motive for emigrating is associated with factors other than GP income. Table 4.3 shows that over 90 per cent of GPs in the private sector qualified in South Africa and Table 5.3 demonstrates that, in real terms, South African GPs in private practice demand extremely high incomes. It may thus be more financially feasible for the government to look at GPs graduating outside South African universities because they may be willing to accept lower fees.

Discounting

Remarkably, over 60 per cent of GPs would be willing to discount their fees at an average rate of 18.8 per cent. The table below shows a revised fee per hour, based on data given by GPs regarding discounting private sector rates.

Table 5.4: Suitable Fees after GPs Willingly Discount

Discounting	***Fee per hour***	***Take-home income***	***Rural***
Appropriate fee before discounting	1016	659	709
Appropriate fee after discount	**833**	**540**	**581**
Average % GPs are willing to discount	18.03%		
Alternatively			
Appropriate fee before discounting	1016	659	709
Discount fee per patient (Table 4.7)	55	55	55
Average length of consultation	24	24	24
Discount per hour	137	137	137
	879	**522**	**572**

In Table 5.4, the hourly fee in Table 5.2 is multiplied by the average discount rate of those willing to discount in order to determine a plausible hourly fee. Alternatively, the average discount per patient in rand terms and the average consultation time of 24 minutes was used to calculate the discounted fee per hour.

The percentage discount provided by the GPs in Q17 was based on individual GPs incomes, and for that reason the average discount in rand was calculated in Table 4.7. We calculated a revised appropriate fee per hour of R879. We have discussed that GPs demand a higher fee per hour and if we discount an appropriate monthly take-home income, we can calculate that the appropriate fee is approximately R540 per hour. With the majority of GPs willing to discount their fees, these revised fees per hour could result in a large number of GPs contracting.

5.2.3 Payment mechanisms

From the payment mechanisms investigated, capitation, fee for service, fee for performance and, interestingly, an hourly payment mechanism was rated as the preferred payment mechanism when deciding a fee. Pilot districts are currently using a fee-per-hour payment mechanism and GPs in private practice supported this as a suitable method. Only annual adjustments of fees based on inflation and practice expenses were rated as more important when deciding a fee, but these are criteria other than forms of payment.

When looking at a payment mechanism to help decide a fee, every payment mechanism had an average score of over 70 (Figure 4.5). GPs believe that all criteria and payment mechanisms investigated in this study are, at the very least, “very important” when deciding a fee. If GPs reported that all payment mechanisms are important when deciding a fee, it is not advisable that a single payment mechanism be used to determine a fee, but rather a combination of mechanisms.

Figure 4.6 shows that 69.9 per cent of respondents believed that co-payments should be used to control the patient demand. Not only would this control demand by reducing the number of redundant consultations but it would also help to finance the health system and could be used to contribute directly to the income of GPs. With the preferred mode of payment being a fee per hour, co-payments could be used to motivate health providers to be more productive with his/her time.

5.2.4 Criteria to help determine fees

The most crucial among the criteria investigated when deciding a fee was annual adjustment for inflation. This shows that once a fee has been decided and GPs are contracted, the national health budget needs to make provision for an increase based on inflation. Inflation in emerging markets is difficult to forecast because of changing monetary policies and highly volatile exchange rates and food prices (Aron & Muellbauer, 2012). In addition, with South Africa’s culture of strike action, inflation

should be at the forefront of contract design and adequate increases should be given on an annual basis (Clark & Worger, 2014).

The second most important criterion with regard to fees is practice expenses. The average practice expense is R70 266.30 with a covariance of 0.953 (Table 4.4), showing that expenses vary hugely and are therefore difficult to predict. Every GP practice will use different equipment and pay different salaries, and rent will vary to meet the needs and preferences of different customer segments (McCartney, 2014). Currently, medical aids pay standard rates but practice expenses still vary significantly. This demonstrates that certain GPs may be more cost-effective than others and therefore, even though practice expenses were rated as extremely important to GPs when deciding a fee, the government should budget for an average value of practice expenses and it would then be up to providers to become more cost-effective without compromising the quality of care. Alternatively, the use of co-payments could be used to compensate varying practice expenses. GPs that have excessive expenses could use co-payments as a source of additional income. If patients are unwilling to pay high co-payment rates they could then seek treatment elsewhere.

Summary of suitable fees

GPs in the Eastern Cape and Free State do not have the capacity to contribute to the public sector but, overall, the study revealed that private sector GPs do have excess capacity to care for approximately 3.8 million additional patients per annum.

According to GPs, their preferred mode of remuneration is a fee per hour. GPs responded that they believe a suitable hourly fee is R1 016 per hour. The same respondents believe that a suitable monthly fee should be R82 214 per month. Interestingly, if we convert this fee per hour (R1 1016/hour) to a fee per month, it will yield an income which is 54 percent higher than the R82 214 per month.Therefore, an alternative payment mechanism to the fee per hour form of remuneration or a combination of mechanisms might allow the government to contract with GPs at a lower price.

Overall, a suitable fee was calculated to be R659 per hour but, with a large percentage of doctors willing to discount their fees, a fee of R522 to R540 might result in sufficient buy-in and could be piloted. Moreover, nearly 70 per cent of private sector GPs supports the use of co-payments, which could help to subsidise their fee per hour and incentivise them to be more productive. Lastly, fees must be adjusted annually according to inflation.

5.3 Discussion pertaining to forms of contract to create favourable conditions for GPs

5.3.1 Three key factors influencing the form of contract

Open versus closed network

Figure 4.7 illustrate that 84.9 per cent of GPs believe that it is more suitable to contract an open network of GPs. This would allow all registered GPs to contract with the public sector if they wished to do so. This is despite the fact that selective contracting would contain costs in the system and make costs increasingly predictable compared to a demand-based system, which is highly unpredictable (White, 1999). The results are conclusive and an open network of GPs is the GPs' preference when contracting with the public sector.

The reasons for this preference could be due to the fact that a large number of GPs want to contribute to the public sector. As one respondent stated:

> *GPs must be allowed to positively contribute in the healthcare provision for both private & public sector* (Appendix C).

They might be unable to do this in a closed network (Surender et al., 2014). Furthermore, GPs do not want to lose out on any additional income and a closed network might result in some of their peers earning higher incomes. A closed network of GPs could also pose problems with regard to the way in which GPs would

be selected to become a part of the network. This form has the potential to raise issues of unfair and differential treatment and could also lead to corruption when deciding who will be chosen to become a part of a closed network.

Public or private patients only or both

The results in Figure 4.9 conclusively show that the large majority of GPs (95.3%) believe that it is more suitable for GPs to treat both public sector and private patients. This would give them the flexibility to choose which patients they want to treat, depending on which sector is more lucrative for a specific GP at a specific time. There are also significant differences between public and private sector patients, as public sector patients present with more serious illnesses whereas private sector patients are healthier but have higher expectations of health care and on average require more time to treat (Mayosi & Benatar, 2014; McCartney, 2014).

The data suggests that GPs want more freedom of choice in terms of treating patients that would increase their income. With such conclusive evidence that GPs do not want to be restricted to either the private or public sector, policy makers will have to allow GPs the freedom to treat both public and private sector patients. A limitation of the study that was identified is that the survey investigates private sector GPs preferences. In a scenario where the government wants to enforce a polivy where GPs treat private or public sector patients exclusively, they should expect a poor rate of adoption from GPs in the private sector.

Private practice versus public facilities

The results on public practice as opposed to public facilities were not as overwhelming as the two previous factors discussed, but nevertheless strongly suggest that GPs believe that it would be more suitable for public sector patients to visit private practitioners at his/her private practice.

The reason for these results is that public sector facilities in South Africa are far inferior to those in the private sector, which is why GPs will prefer working in their current environment (Ataguba, Day, & McIntyre, 2014). It is believed that greater

access to health care will be possible if patients are allowed to travel to private facilities and, consequently, the quality of care for public sector patients will improve if they are referred to a practice with more appropriate facilities and greater numbers of nurses and support staff. Although an increased number of channels for patients to access healthcare would be beneficial, it would also be more difficult to manage because monitoring and reporting procedures would have to be done across many more locations.If patients travel to private practices, GPs would expect a higher fee to help cover practice expenses; however, this may be a more cost-effective alternative when offset against the cost of upgrading, replacing or building new facilities in the public sector (O'Dowd, 2012).

However, if GPs are allowed to treat both private and public sector patients in private facilities, it could create a moral hazard because GPs may prioritise private, higher paying patients, over public patients. Figure 4.112 shows that only 13.8 per cent of respondents believed that differential treatment will never occur. If differential treatment occurs even rarely it could possibly pose a problem in South Africa where differential treatment was a characteristic of the apartheid regime and might be strongly rejected by the public.

Approximately 39 per cent of GPs believe that it is not important to mitigate differential treatment and GPs should be free to prioritise private and public patients as they see fit. The remaining 61 per cent, however, does feel that differential treatment should be mitigated and the most common method for doing so is by contracting doctors separately from his/her practice; accordingly, the GP will treat private sector patients at the private practice and public sector patients at public facilities.

The most common response for mitigating differential treatment when public sector patients are treated in private facilities is to de-register GPs if they are found guilty of doing so, after a case has been built up against them and there is sufficient evidence to prove that unfair treatment did indeed occur. From the just over 16 per cent of respondents that thought that other methods would stop differential treatment between private and public sector patients, the most common response (39.1%, see

Figure 4.10) based their answer on a category that suggests that patients should not be prioritised and the treatment of patients should be based on medical conditions, on a first-come-first-served basis or left to the dictates of the GPs' conscience. The second most common response was that if the remuneration were the same, there would be no differential treatment.

We have already determined that GPs are working to 84 per cent of capacity and have limited time to contribute to the public sector. Hence, requiring GPs to travel to public sector clinics would mean that scarce free time would be spent travelling. In addition, GPs prefer treating patients at their facilities and if an effective monitoring and reporting system could be implemented, GPs contracted together with their practice would create the best result for health-spend.

5.3.2 Five forms of contracts investigated

From the results displayed in section 4.2.2, we can see that any contract design that would contract a closed network of GPs would be unacceptable. The two forms of contract that were identified a most acceptable demonstrated that GPs are in favour of doing sessional work. Additionally, the results obtained on the preferred mode of payment were verified and an hourly fee was identified as the most acceptable form of contract in this study.

The second most acceptable contract identified by this study requires public sector patients to travel to private facilities. Although this was in line with what GPs recommended, the contract form which states that GPs will travel to public facilities was rated as more acceptable. This is due to the fact that the highest rated contract contains the most preferred payment mechanism, namely, a fee determined by the number of hours worked. Although a fee for service was not rated much lower than a fee per hour in Figure 4.5, the second form of contract included a clause which would force GPs to charge a fee per service at a *major* discount, which could have led to GPs being more reluctant to accept this form of contract. We have already seen that the majority of doctors are willing to discount their fees; however, Figure 4.12 indicates that take-home income is the most important criterion for accepting a

contract; thus, the statement that there would be major discounts implies that this contract approach might not be financially viable for the GP and for that reason contract 1 was preferred over contract 2 (see Figure 4.11).

Contract 3 was based on the capitation model, in terms of which a number of public sector clients would be assigned to a GP. This form was rated as slightly acceptable by respondents, although it would be easier to manage and budget for and resources could be placed where they are needed. However, the GP respondents indicated that they would reject this form of contract. This might be because they believe that it would decrease the quality of healthcare or increase the number of referrals to secondary care. Contracts 4 and 5 were on average rated as completely unacceptable and it can thus be concluded that this form of contract would not suitable in the South African context and should be dismissed.

With the data available, it is possible to design contracts that are more acceptable than the five forms that were investigated in this study. A contract that includes contracting an open network of GPs, at a fee per hour for sessional work provided at the GPs' private practice, with additional co-payments being endorsed and allowing the GPs to see both private and public sector patients at their discretion should be more acceptable than any of the forms investigated here. These could subsequently be tested in pilot districts. In addition, monitoring and reporting procedures, which are not included in the scope of this study, will need to be investigated to verify viable forms of contract.

5.3.3 Criteria for creating favourable conditions

Take-home income was rated as the most important criterion when accepting a contract with the public sector. This emphasises the importance of determining a suitable fee, as discussed in section 5.3.2, and substantiates the significance of the study. Figure 4.12 shows that a high rating was awarded for doctor autonomy and local control, which indicates that contract design will need to err on the side of a contract that is more relationship based rather than a classical, rule-based contract.

The results suggest that GPs do not want to be answerable to management or a governing body.

In addition, GPs rate flexibility and the amount of administration as important factors in creating favourable conditions to work in the public sector. Hence, these issues will have to be considered when implementing a monitoring and reporting system. Lastly, doctors believe that their self-employed status is crucial and sessional or part-time contractual work, which was preferred over other contract designs, as demonstrated by the graph in Figure 4.11, will allow them to keep their self-employed status.

5.3.4 Attitudes

Lastly, the attitudes of GPs towards the proposed NHI were determined. Of the respondents, 37.6 per cent have objections that would prevent them from contracting with the proposed NHI system, which is slightly higher than the 31.5 per cent that opposed the implementation of NHI (Moosa et al., 2012). Reasons for this attitude vary and will need to be addressed before implementing an NHI system. The major themes that emerged from the GPs' qualitative responses was doctors' autonomy and working against free will, remuneration, discrimination between GPs, the government's capacity to execute such a system and the state of public facilities and poor support staff (see responses in Appendix C). These findings are similar to those of Blecher's (1995) and Surender et al.'s (2104) studies in which doctors' autonomy and remuneration are common themes.

5.4 Target groups to contract with the public sector

5.4.1 Demographics

The majority of doctors in this survey were male (68.4%). As the literature shows, males, especially married males, are more likely to display increased activity in the private sector. In addition, female GPs cost on average 20 to 22 per cent less than

males and are more likely to work in the public sector; however, they make up only 31.2 per cent of GPs in the private sector in South Africa. Thus, it can be stated that the training of female practitioners should be accelerated in this country in order to benefit the overall health system. On the other hand, female practitioners are less likely work in a rural area (Dumontet & Franc, 2014).

Although the intake of Caucasian medical students has decreased (Mayosi & Benatar, 2014), private practice is still dominated by Caucasian GPs, with 43.4 per cent of registered private practitioners being Caucasian. Over 90 per cent of respondents in private practice qualified at a South African university and fewer than 10 percent studied abroad. With 38 per cent emigration rate, there is clearly an attrition problem in the private sector.

The vast majority of practices are located in residential areas or towns in the major provinces – Gauteng, Western Cape and KwaZulu-Natal. The number of practices located in rural areas was the lowest and the low doctor-to-patient ratio in these areas is a very real problem that needs to be addressed.

5.4.2 Demographic profiles that make up target groups depending on government's objectives

Based on lowest appropriate income

GPs who believe lower incomes are appropriate might possibly contract with the government at a lower rate. For that reason a target group that believes that an appropriate monthly take-home income is lower than R60 000 was created. It was found that married female GPs over the age of fifty are the most likely to believe that an appropriate monthly income is lower than R60 000 (with 76.9% prediction accuracy). In addition, female GPs who are younger than 33 are almost as likely to believe that an appropriate income is lower than R60 000 (with 70% prediction accuracy). Female GPs, who are above 50 or younger than 33, should therefore be targeted to contract with the public sector.

Earnings are a reflection of price multiplied by volume. There are two possible reasons for believing lower earnings is an appropriate income compared to male GPs: 1) female practitioners believe that a lower fee per patient is appropriate or 2) femal practitioners believe that they should treat lower volumes of patients or work fewer hours per day. Only if the first reason is proven to be true, can government target this demographic group to contract GPs at a more affordable rate.

Based on an appropriate fee per hour

From the payment mechanisms investigated, a fee per hour was rated as the most important criterion for deciding a fee and that a fee of R659 per hour would yield an appropriate income. For this reason, a target group that will accept a fee per hour of less than R700 was created. An analysis using the CHAID methodology revealed with 64 per cent prediction accuracy that GPs who will accept a contract with a fee of less than R700 per hour will be black, coloured, Indian or other race group (excluding Asian and Caucasian) and will have nine or fewer than nine years of experience. However, this target group is already sought after in South Africa, where it is necessary to attract an appropriate quota of non-white employees (Ponte, Roberts, & Van Sittert, 2007).

Based on those willing to discount to a fee under R700

After considering the discounts that GPs would be willing to offer if it would benefit the overall health system, we created a target group that would be willing to discount its fee per hour to less than R700. The only predictor for this dependent variable was GPs practising for fewer than nine years. GPs with fewer than nine years of experience should be targeted to increase the rate of contracting at a more affordable fee.

Working in a rural area

In view of the small sample (77 respondents who indicated that they work in rural areas), we can speculate that rural GPs are more likely to practise in Limpopo, Free

State, North West, Mpumalanga and Eastern Cape and are either Indian or African. Limpopo, Free State, North West, Mpumalanga and the Eastern Cape contain more rural areas than the other provinces and this explains why GPs in these provinces are more likely to be working in a rural area. The literature showed that GPs who work in rural areas are more likely to have been brought up in a rural area. Moreover, an appropriate income in rural areas was identified as 7.6 per cent higher than in other areas, therefore the public sector should look to contract black or Indian GPs, originally from a rural area, at a higher fee to address the shortage of GPs in these areas (McGrail et al., 2011).

Appropriate income in rural areas

With a high prediction accuracy of 81 per cent, females older than 58 years of age believe that a monthly income of R60 000 or less is appropriate in a rural area. This income is on average R28 465 lower than the average appropriate income and in addition female GPs are less likely to work in rural areas (Dumontet & Franc, 2014). Therefore it is uncertain whether this demographic profile would accept a contract to work in a rural area. In addition, whether female GPs would accept a lower rate or whether they would work fewer hours needs to be determined in order to ascertain their suitability as a target group for contracting with the public sector in rural areas.

Objections to NHI

With regard to the respondents who have objections to the NHI, prediction accuracy was poor; nevertheless, the only explanatory variable for GPs who objected to the proposed NHI was race. Accordingly, it was found that Caucasians object more to the envisaged NHI compared to other race groups. It is important that their concerns about the proposed system need to be addressed in order for the NHI to be implemented successfully, because Caucasians make up the largest proportion of private practitioners in South Africa (43.4%, Table 4.11).

5.5 Conclusion

In order to identify guidelines for appropriate contracting, GP preferences with regard to an appropriate fee, the conditions that affect the potential forms of contract and current attitudes were addressed. It was consequently found that the majority of GPs would be willing to discount their fees, with a suitable fee of R522 to R540 per hour being proposed. In addition, it was found that fees have to be increased on an annual basis in order to allow for inflation.

The preferred contract type is a fee per hour (sessional), which supports the mode of payment currently used in the pilot districts and which has, historically, been in use in the provinces. However, this mode was not significantly more preferred than the other types of payment mechanism, such as capitation and fee for service. The reported appropriate hourly fee is R1 016, which is 54 per cent higher than the R659 per hour that would yield the reported appropriate take-home income. The reason for this difference will need to be established so that GPs can be educated to understand that a fee of R1 016 per hour is exorbitant; otherwise an alternative mode of payment will have to be used to contract GPs at a lower fee.

The study provided evidence that GPs would prefer a contract approach that allows *all* GPs to contract with the public sector, and that GPs should not be limited to either public or private sector patients. There was also evidence that strongly suggests that GPs preferred working at their own facilities rather than at public facilities. Public facilities are often inferior and might prevent GPs from contracting with the public sector. Furthermore, GPs have limited capacity to contribute to the public sector and travelling time spent to reach public facilities would waste scarce excess time.

Of the five contract types investigated the current contract type used in the NHI pilot districts was preferred, but was nevertheless rated as only moderately acceptable. A sessional form of contract incorporating the GPs' practice into the contract would be aligned with GPs preferences. We therefore recommend that if a robust monitoring and reporting procedure could be designed, the incorporation of private sector

practices into the public sector should increase access to health care and improve staffing, facilities and equipment.

Lastly, a target group comprising people of African, Indian or coloured origin, and with nine years of experience or fewer, would contract at a suitable fee of less than R700 per hour. Resources should be aimed at targeting this demographic group to increase the rate of contracting. The overall success of the health reform will depend greatly on the buy-in of medical professionals and this study provides a range of recommendations which will be useful in drafting a contract between GPs and any purchaser, in this case the South African government.

6 REFERENCES

Amado, L. A., Christofides, N., Pieters, R., & Rusch, J. (2012). NHI: A lofty ideal in need of cautious, planned implementation. *South African Journal of Bioethics and Law, 5*(1), 4-10.

Andersen, L. L. B., & Serritzlew, S. (2012). Remunerating general practitioners with fees: Between economic incentives and professional norms. *Scandinavian Journal of Public Administration, 15*(4), 25-44.

Annandale, E., Field, D., & Cockerham, W. (2001). Medical sociology in Great Britain. *The Blackwell companion to medical sociology*.

Aron, J., & Muellbauer, J. (2012). Improving forecasting in an emerging economy, South Africa: Changing trends, long run restrictions and disaggregation. *International Journal of Forecasting, 28*(2), 456-476.

Ashton, T., Cumming, J., & McLean, J. (2004). Contracting for health services in a public health system: the New Zealand experience. *Health Policy, 69*(1), 21-31.

Ataguba, J. E., Day, C., & McIntyre, D. (2014). Monitoring and evaluating progress towards universal health coverage in South Africa. *PLoS Medicine, 11*(9), e1001686.

Babbie, E. (2012). *The practice of social research*. CengageBrain.com.

Babbie, E., & Mouton, J. (2002). *Social research*. Belmont, CA: Wadsworth.

Benatar, S. (2013). The challenges of health disparities in South Africa. *SAMJ: South African Medical Journal, 103*(3), 154-155.

Berry, M. J., & Linoff, G. S. (2004). *Data mining techniques: for marketing, sales, and customer relationship management.* Hoboken, NJ: John Wiley & Sons.

Bes, R. E., Wendel, S., Curfs, E. C., Groenewegen, P. P., & De Jong, J. D. (2013). Acceptance of selective contracting: the role of trust in the health insurer. *BMC health services research, 13*(1), 375.

Blecher, M., Bachmann, M., & McIntyre, D. (1995). Acceptability to general practitioners of NHI and capitation as a reimbursement mechanism. *South African Medical Journal*.

Carrin, G., & Hanvoravongchai, P. (2002). Health care cost-containment policies in high-income countries: How successful are monetary incentives? *Human Resources for Health, 1*(6).

Cheng, T.-M. (2003). Taiwan's new NHI program: Genesis and experience so far. *Health Affairs, 22*(3), 61-76.

Cheng, T. C., Scott, A., Jeon, S. H., Kalb, G., Humphreys, J., & Joyce, C. (2012). What factors influence the earnings of general practitioners and medical specialists? Evidence from the Medicine In Australia: Balancing Employment and Life survey. *Health Economics, 21*(11), 1300-1317.

Chopra, M., Lawn, J. E., Sanders, D., Barron, P., Karim, S. S. A., Bradshaw, D., … Mayosi, B. M. (2009). Achieving the health Millennium Development Goals for South Africa: Challenges and priorities. *The Lancet, 374*(9694), 1023-1031.

Clark, N. L., & Worger, W. H. (2014). *South Africa: The rise and fall of apartheid*: New York: Routledge.

Cline, G. B., & Luiz, J. M. (2013). Information technology systems in public sector health facilities in developing countries: the case of South Africa. *BMC Medical Informatics and Decision Making, 13*(1), 13.

Cohen, J. T., Neumann, P. J., & Weinstein, M. C. (2008). Does preventive care save money? Health economics and the presidential candidates. *New England Journal of Medicine, 358*(7), 661-663.

Coleman, A. (2012). A virtual community of practice framework to support doctors' practices in NHI (NHI) in South Africa. *Studies On Ethno-Medicine, 6*(3), 155-160.

Collins, H. (2006). Flexibility and stability of expectations in the contract of employment. *Socio-economic Review, 4*(1), 139-153.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.

Dijk, C. E., Berg, B., Verheij, R. A., Spreeuwenberg, P., Groenewegen, P. P., & Bakker, D. H. (2013). Moral hazard and supplier-induced demand: Empirical evidence in general practice. *Health Economics, 22*(3), 340-352.

Dumontet, M., & Franc, C. (2014). Gender differences in French GPs' activity: The contribution of quantile regressions. *The European Journal of Health Economics*, 1-15.

Dusheiko, M., Gravelle, H., Martin, S., Rice, N., & Smith, P. C. (2011). Does better disease management in primary care reduce hospital costs? Evidence from English primary care. *Journal of Health Economics, 30*(5), 919-932.

Dwan, K. M., Douglas, K. A., & Forrest, L. E. (2014). Are "part-time" general practitioners workforce idlers or committed professionals? *BMC Family Practice, 15*(1), 154-154.

Eijkenaar, F., Emmert, M., Scheppach, M., & Schöffski, O. (2013). Effects of pay for performance in health care: A systematic review of systematic reviews. *Health Policy, 110*(2), 115-130.

Ferree, K. E. (2010). *Framing the Race in South Africa: The Political Origins of Racial Census Elections*. Cambridge University Press.

Fink, A. G. (2012). *How to conduct surveys: A step-by-step guide.* Thousand Oaks, CA: Sage Publications.

Fleetcroft, R., Steel, N., Cookson, R., Walker, S., & Howe, A. (2012). Incentive payments are not related to expected health gain in the pay for performance scheme for UK primary care: Cross-sectional analysis. *BMC Health Services Research, 12*(1), 94.

Garrett, L. (2007). The challenge of global health. *Foreign Affairs*, 14-38.

George, G., Quinlan, T., Reardon, C., & Aguilera, J.-F. (2012). Where are we short and who are we short of? A review of the human resources for health in South Africa. *Health SA Gesondheid, 17*(1), 7 pages.

Ghauri, P. N. (2005). *Research methods in business studies: A practical guide*. Harlow, UK: Pearson Education.

Glendinning, C. (1999). GPs and contracts: Bringing general practice into primary care. *Social Policy & Administration, 33*(2), 115-131.

Goetz, K., Musselmann, B., Szecsenyi, J., & Joos, S. (2013). The influence of workload and health behavior on job satisfaction of general practitioners. *Fam Med, 45*(2), 95-101.

Haidar, J. I. (2011). Currency valuation and purchasing power parity. *World Economics, 12*(3), 1-12.

Harding, A. (2010). *Partnerships with the private sector in health: What the international community can do to strengthen health systems in developing countries*. Washington, DC: Center for Global Development.

Harris, B., Goudge, J., Ataguba, J. E., McIntyre, D., Nxumalo, N., Jikwana, S., & Chersich, M. (2011). Inequities in access to health care in South Africa. *Journal of Public Health Policy*, S102-S123.

Heins, E., & Parry, R. (2011). The role of wage bargaining partners in public sector reform: The case of primary care contracts. *European Journal of Industrial Relations, 17*(4), 381-396.

Hughes, D., Allen, P., Doheny, S., Petsoulas, C., Roberts, J., & Vincent-Jones, P. (2011). *NHS contracting in England and Wales: Changing contexts and*

relationships. National Institute for Health Research—NIHR Service Delivery and Organisation Programme Project 08/1618, 127.

Iacobucci, G. (2013). Independent contractor model for GPs has had its day, says RCGP chairwoman. *BMJ: British Medical Journal, 347*.

Jehu-Appiah, C., Aryeetey, G., Agyepong, I., Spaan, E., & Baltussen, R. (2012). Household perceptions and their implications for enrolment in the NHI Scheme in Ghana. *Health Policy and Planning, 27*(3), 222-233.

Johar, M. (2012). Do doctors charge high income patients more? *Economics Letters, 117*(3), 596-599.

Karim, S. S. A., Churchyard, G. J., Karim, Q. A., & Lawn, S. D. (2009). HIV infection and tuberculosis in South Africa: An urgent need to escalate the public health response. *The Lancet, 374*(9693), 921-933.

Kroneman, M., Meeus, P., Kringos, D. S., Groot, W., & Van der Zee, J. (2013). International developments in revenues and incomes of general practitioners from 2000 to 2010. *BMC Health Services Research, 13*(1), 436.

Kuikka, L., Nevalainen, M., Sjöberg, L., Salokekkilä, P., Karppinen, H., Torppa, M., … Pitkälä, K. (2012). The perceptions of a GPs work among fifth-year medical students in Helsinki, Finland. *Scandinavian Journal of Primary Health Care, 30*(2), 121-126.

Kula, N., & Fryatt, R. J. (2013). Public–private interactions on health in South Africa: Opportunities for scaling up. *Health Policy and Planning*, czt042.

Kutzin, J. (2001). A descriptive framework for country-level analysis of health care financing arrangements. *Health Policy, 56*(3), 171-204.

Langenbrunner, J., Cashin, C., & O'Dougherty, S. (2009). *Designing and implementing health care provider payment systems: How-to manuals.* Washington, DC: World Bank.

Laugesen, M. J., & Glied, S. A. (2011). Higher fees paid to US physicians drive higher spending for physician services compared to other countries. *Health Affairs, 30*(9), 1647-1656.

Lippi Bruni, M., Nobilio, L., & Ugolini, C. (2009). Economic incentives in general practice: The impact of pay-for-participation and pay-for-compliance programs on diabetes care. *Health Policy, 90*(2), 140-148.

Mack, Z. L. (2011). *A critical analysis of the suitability of a NHI scheme in South Africa.* Retrieved from http://hdl.handle.net/11189/309

Matsoso, M., & Fryatt, R. (2013). NHI: The first 18 months. *SAMJ: South African Medical Journal, 103*(3), 154-155.

Mayosi, B. M., & Benatar, S. R. (2014). Health and health care in South Africa: 20 years after Mandela. *New England Journal of Medicine*.

Mayosi, B. M., Lawn, J. E., van Niekerk, A., Bradshaw, D., Abdool Karim, S. S., & Coovadia, H. M. (2012). Health in South Africa: Changes and challenges since 2009. *The Lancet*.

McCartney, M. (2014). How to undermine general practice. *BMJ, 348*.

McGrail, M. R., Humphreys, J. S., & Joyce, C. M. (2011). Nature of association between rural background and practice location: A comparison of general practitioners and specialists. *BMC Health Services Research, 11*(1), 63.

Mcintyre, D. (2010). *NHI: Providing a vocabulary for public engagement: perspectives on a NHI.* Retrieved from http://www.healthlink.org.za/uploads/files/sahr10_15.pdf

McIntyre, D., Bloom, G., Doherty, J., & Brijlal, P. (1995). *Health expenditure and finance in South Africa*. Health Systems Trust and the World Bank. Retrieved from http://www.hst.org.za/uploads/files/hstefsa.pdf

McIntyre, D., Garshong, B., Mtei, G., Meheus, F., Thiede, M., Akazili, J., … Goudge, J. (2008). Beyond fragmentation and towards universal coverage: insights from Ghana, South Africa and the United Republic of Tanzania. *Bulletin of the World Health Organization, 86*(11), 871-876.

McIntyre, D., Goudge, J., Harris, B., Nxumalo, N., & Nkos, M. (2009). Prerequisites for NHI in South Africa: Results of a national household survey. *SAMJ: South African Medical Journal, 99*(10), 725-729.

Mills, A., Ataguba, J. E., Akazili, J., Borghi, J., Garshong, B., Makawia, S., … Meheus, F. (2012). Equity in financing and use of health care in Ghana, South Africa, and Tanzania: implications for paths to universal coverage. *The Lancet, 380*(9837), 126-133.

Montgomery, D. C., Peck, E. A., & Vining, G. G. (2012). *Introduction to linear regression analysis* (Vol. 821). Hoboken, NJ: Wiley.

Mooney, G., & Ryan, M. (1993). Agency in health care: Getting beyond first principles. *Journal of Health Economics, 12*(2), 125-135.

Moosa, S. (2014). A path to full-service contracting with general practitioners under NHI: Correspondence. *South African Medical Journal, 104*(3), 155-156.

Moosa, S., & Gibbs, A. (2013). A focus group study of primary health care in Johannesburg Health District, South Africa:'we are just pushing numbers'. *S Afr Fam Pract*.

Moosa, S., Luiz, J. M., & Carmichael, T. (2012). Introducing a NHI system in South Africa: A general practitioner's bottom-up approach to costing. *SAMJ: South African Medical Journal, 102*(10), 794-797.

Morris, S., Goudie, R., Sutton, M., Gravelle, H., Elliott, R., Hole, A. R., … Skåtun, D. (2011). Determinants of general practitioners' wages in England. *Health Economics, 20*(2), 147-160.

National Health Insurance in South Africa. Policy (Green) Paper. (2011). Paper presented at the SCIELO, Sao Paulo, Brasil.

Nesbary, D. (2008). Public wireless internet. *Handbook of Research on Public Information Technology, 1*, 61.

Nexøe, J. (2013). Developing Danish general practice. *Scandinavian Journal of Primary Health Care, 31*(3), 129.

Nishtar, S. (2010). The mixed health systems syndrome. *Bulletin of the World Health Organization, 88*(1), 66-73.

O'Dowd, A. (2012). GP earnings hit a five year low as practice expenses rise. *BMJ: British Medical Journal, 345*.

Ogunbanjo, G. A. (2013). What is the status quo of South Africa's NHI pilot project? *South African Family Practice, 55*(4), 301.

Palmer, N., Mueller, D. H., Gilson, L., Mills, A., & Haines, A. (2004). Health financing to promote access in low income setting: How much do we know? *The Lancet, 364*(9442), 1365-1370.

Pedersen, K. M., Andersen, J. S., & Søndergaard, J. (2012). General practice and primary health care in Denmark. *The Journal of the American Board of Family Medicine, 25*(Suppl 1), S34-S38.

Petsoulas, C., Allen, P., Hughes, D., Vincent-Jones, P., & Roberts, J. (2011). The use of standard contracts in the English National Health Service: A case study analysis. *Social Science & Medicine, 73*(2), 185-192.

Ponte, S., Roberts, S., & Van Sittert, L. (2007). 'Black Economic Empowerment', business and the state in South Africa. *Development and Change, 38*(5), 933-955.

Rowe, K., & Moodley, K. (2013). Patients as consumers of health care in South Africa: the ethical and legal implications. *BMC Medical Ethics, 14*(1), 15.

Shisana, O. (2001). Social health insurance and tax-based funding of health. *South African Medical Journal, 91*(12), 1048-1052.

Shisana, O., Rehle, T., Louw, J., Zungu-Dirwayi, N., Dana, P., & Rispel, L. (2006). Public perceptions on NHI: Moving towards universal health coverage in South Africa. *South African Medical Journal, 96*(9), 814-818.

South African Reserve Bank. (2014). Website. Retrieved from https://www.resbank.co.za/research/rates/pages/selectedhistoricalexchangeandinterestrates.aspx

Square, T., & Lane, B. (2013). Gradual fall in GP income continues.

Statistics South Africa. (2014). Website. Retrieved from http://beta2.statssa.gov.za/?page_id=1854&PPN=P0141

Strachan, B., Zabow, T., & Van der Spuy, Z. (2011). More doctors and dentists are needed in South Africa. *South African Medical Journal, 101*(8), 523-528.

Sue, V. M., & Ritter, L. A. (2011). *Conducting online surveys.* Thousand Oaks, CA: Sage Publications.

Surender, R., Van Niekerk, R., Hannah, B., Allan, L., & Shung-King, M. (2014). The drive for universal healthcare in South Africa: Views from private general practitioners. *Health Policy and Planning*, czu053.

Testa, P., & Block, W. E. (2013). Applying the free market philosophy to healthcare. *Humanomics, 29*(2), 105-114.

Ubel, P. A. (2013). *Free market madness: Why human nature is at odds with economics – and why it matters.* Boston, MA: Harvard Business Press.

Van den Heever, A. M. (2011). The role of insurance in the achievement of universal coverage within a developing country context: South Africa as a case study. *BMC Public Health, 12*(Suppl 1), S5.

Volpp, K. G., Loewenstein, G., & Asch, D. A. (2012). Choosing wisely: low-value services, utilization, and patient cost sharing. Jama, 308(16), 1635-1636.

White, J. (1999). Targets and systems of health care cost control. *Journal of Health Politics, Policy and Law, 24*(4), 653-696.

Wilson, J. M., & Wilson, T. K. (2014). Turning the Big Mac Index into the Medical MAC Index. *Southern African Journal of Anaesthesia and Analgesia, 19*(6), 306-313.

World Bank. (2014). Website. Retrieved from http://data.worldbank.org/indicator/PA.NUS.PRVT.PP

7 APPENDICE

7.1 APPENDIX A (Questionnaire)

Research Question 1: According to GPs, what is a suitable fee and what criteria should be used to determine fees?

Question	**Lit. Review**
Q5 On average, how many patients do you see per day?	2.3.1 Capacity 2.3.2 Fees
Q6 What is the average fee per patient per visit?	2.3.2 Fees
Q7 What do you think is the appropriate number of patients a GP should see in a day?	2.3.1 Capacity
Q8 What do you think is an appropriate take-home income (monthly income after all practice expenses and tax) for a GP?	2.3.2 Fees
Q9 How important is the following criteria when deciding a fee to contract doctors to the public sector? ____ Complexity of cases (1) ____ Number of hours worked (2) ____ Outcomes (the health of your patients) (3) ____ Number of services provided (4) ____ Practice expenses (5) ____ Number of staff (6) ____ Travel times (7) ____ Fee per year for a certain number of patients allocated to a GP (8) ____ Quality frameworks that should be designed to measure performance	2.3.3 Payment Mechanism 2.3.4 Other criteria explored in the literature

and which in turn will help determine fees (9) ____ Annual adjustment of fees based on inflation (10) ____ Years of experience (11)	
Q15 What is an appropriate per hour fee for a GP doing sessional work at a public hospital? _____ Fee per hour in Rands (1)	2.3.2 Fees
Q16 If the NHI proposal will be beneficial for the country as a whole, will you be willing to discount your fees? ❍ Yes (1) ❍ No (2)	2.3.2 Fees Discounting
Q17 If yes, what percentage discount are you willing to offer on your monthly take-home income?	2.3.2 Fees Discounting
Q22 What is your total revenue per month?	2.3.2 Fees
Q23 What are your total expenses per month?	2.3.1 Fees 2.3.4 Other factors
Q24 Do you think it is appropriate to use co-payments to control the number of patients seeking treatment. (Co-payments are payments that patients will have to pay the GP every time a medical service is accessed over and above the payment received from the government.) ❍ Yes (1) ❍ No (2)	2.3.3 Co-Payments

Q29 What do you think is an appropriate income (monthly income after practice expenses and tax) for a GP in a rural area?	2.3.2 Fees 2.5 Demographics

<u>Research Question 2: According to GPs which conditions are preferred in a potential form of contract between the state and private practitioners?</u>

Q10 Please select which option will be more suitable when contracting with GPs. ❍ Open Network: All doctors who want to contract will be able to do so, regardless of how many have already contracted with the public sector. (1) ❍ Closed Network: Only a select number of doctors will be contracted to meet the required needs of the community. (2)	2.4.1 Open v Closed Network
Q11 Please select which option will be more suitable when contracting with GPs. ❍ Private GPs will travel to public facilities. It is then easier to manage fees because GPs expenses vary in private practice. (1) ❍ Public sector patients are referred to a private practice. The public sector will benefit by increasing access to health care and utilising additional equipment and staff. (2)	2.4.1 Facilities
Q12 Please select which option will be more suitable when contracting with GPs. ❍ If contracted, GPs should consult public sector patients only. This is to mitigate differential treatment between private and public sector patients (1) ❍ If contracted, GPs should be allowed to treat both private and public sector patients as they please. This will enable GPs in private practices, not working to full capacity, to contribute to the health system. (2)	2.4.1 Public/private sector patients only or both

<table>
<tr>
<td>Q13 If you had to contract with the public sector, which form of contract do you think is the most suitable in a South African context.

_____ Open network, if GPs have excess capacity they will do sessional work at their private facilities. ICD 10 codes will be used, but the rates will be at a major discount compared to private insurance. (1)
_____ A closed network of GPs to meet the health care needs of that community. GPs will work in a public facility and will be paid a salary for the number of patients assigned to them. (2)
_____ All GPs can be contracted (open network) and will do sessional work at public facilities. GPs will be paid per hour and re-imbursed for travelling distance and travelling time and also time spent in public sector meetings. (3)
_____ A closed network of GPs will be contracted. GPs will work in public facilities and be paid a fixed salary regardless of number of patients or services provided. Strict monitornig and reporting systems will ensure the quality of health care. (4)
_____ A closed network will be contracted with the public sector. The GP will then treat registered patients at his/her practice and will not be allowed to treat any private sector patients. Fees will be determined by the services provided. (5)</td>
<td>2.4.1

2.3.3

Explained above in section 3.3</td>
</tr>
<tr>
<td>Q14 Score the following criteria according to how important it will be in creating conditions for accepting a contract with the public sector.

_____ Flexibility (Hours of work and leave) (1)
_____ Self Employed Status (2)
_____ Travelling time (3)
_____ Take-home income (4)
_____ Amount of administration (5)
_____ Doctor autonomy and local control (6)</td>
<td>2.4.2 Criteria to create favourable conditions</td>
</tr>
<tr>
<td>Q25 If GPs were allowed to treat both private and public patients in the envisaged national health proposal, do you think GPs would generally prioritize private patients.

<table>
<tr><th></th><th>Never (1)</th><th>Rarely (2)</th><th>Sometimes (3)</th><th>Often (4)</th><th>All of the Time (5)</th></tr>
<tr><td>GP will</td><td>❍</td><td>❍</td><td>❍</td><td>❍</td><td>❍</td></tr>
</table>
</td>
<td>2.4.1

Facilities</td>
</tr>
</table>

prioritize private patients over public patients (1)	
Q26 If yes, how do you propose that this should be managed? ❍ No management required, GPs should be free to prioritize patients (1) ❍ GPs should be fined and deregistered if a case is built against them for bias treatment (2) ❍ GPs should treat private sector patients only or public sector patients only (3) ❍ GPs should treat public sector patients in the public sector so that differential treatment is not visible to patients. (4) ❍ Other (5) Q27 If other, please specify.	Interpretive (Open ended)
Q30 Do you have any objections in principal with the envisaged national health proposal that will prevent you from contracting with the public sector. ❍ Yes (1) ❍ No (2)	2.4.3 Attitudes
Q31 If you object, what objections do you have?	2.4.3 Attitudes (Open ended)

Research question 3: When contracting GPs, which demographic profiles should be targeted to make NHI more viable and problem free for the government?

Q1 In which province is your practice located? ❍ Gauteng (1) ❍ Western Cape (2) ❍ Kwazulu-Natal (3) ❍ Eastern Cape (4) ❍ Northern Cape (5) ❍ Free State (6) ❍ Mpumalanga (7) ❍ North West (8) ❍ Limpopo (9)	2.5 GPs Demographics
Q2 How would you classify the location of your practice? ❍ City center (central business district in a city) (1) ❍ City suburb (residential area in a city) (2) ❍ Town (Smaller than a city but larger than a village or rural) (3) ❍ Township (Periphery of city or town and often underdeveloped) (4) ❍ Rural (Geographic location outside a city or town) (5)	2.5

Q3 How many years have you practiced as a GP?	2.5
Q4 Where did you obtain your undergraduate medical degree? ❍ A South African University (1) ❍ An African University outside South Africa (2) ❍ A University outside Africa (3)	2.5
Q18 What is your age?	2.5
Q19 What is your gender? ❍ Male (1) ❍ Female (2)	2.5
Q20 What is your marital status? ❍ Never married (1) ❍ Divorced (2) ❍ Widowed (3) ❍ Married (4)	2.5
Q28 What is your race?	2.5
Q32 Have you done contractual work in the public sector? ❍ Yes (1) ❍ No (2) Q33 If Yes, please specify the nature of contractual work done.	Interpretive

Questionnaire used in the survey:

Q1
In which province is your practice located?

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

Q2

How would you classify the location of your practice?

- City centre (central business district in a city)
- City suburb (residential area in a city)
- Town (Smaller than a city but larger than a village or rural)
- Township (Periphery of city or town and often underdeveloped)
- Rural (Geographic location outside a city or town)

Q3

How many years have you practiced as a GP?

Q4

Where did you obtain your undergraduate medical degree?

- A South African University
- An African University outside South Africa
- A University outside Africa

Q5

On average, how many patients do you see per day?

Q6

What is the average fee per patient per visit?

Q7

What do you think is the appropriate number of patients a GP should see in a day?

Q8

What do you think is an appropriate take-home income (monthly income after all practice expenses and tax) for a GP?

Q9

How important are the following criteria when deciding a fee to contract doctors to the public sector?

	Not at all Important / Very Unimportant / Neither Important nor Unimportant / Very Important / Extremely Important 0 10 20 30 40 50 60 70 80 90 100
Complexity of cases	
Number of hours worked	
Outcomes (the health of your patients)	
Number of services provided	
Practice expenses	
Number of staff	
Travel times	
Fee per year for a certain number of patients allocated to a GP	
Quality frameworks that should be designed to measure performance and which in turn will help determine fees	
Annual adjustment of fees based on inflation	
Years of experience	

Q10

Please select which option will be more suitable when contracting with GP's.

- Open Network: All doctors who want to contract will be able to do so, regardless of how many have already contracted with the public sector.
- Closed Network: Only a select number of doctors will be contracted to meet the required needs of the community.

Q11

Please select which option will be more suitable when contracting with GP's.

- Private GP's will travel to public facilities. It is then easier to manage fees because GP's expenses vary in private practice.
- Public sector patients are referred to a private practice. The public sector will benefit by increasing access to health care and utilising additional equipment and staff.

Q12

Please select which option will be more suitable when contracting with GP's.

- If contracted, GP's should consult public sector patients only. This is to mitigate differential treatment between private and public sector patients
- If contracted, GP's should be allowed to treat both private and public sector patients as they please. This will enable GP's in private practices, not working to full capacity, to contribute to the health system.

Q13

If you had to contract with the public sector, which form of contract do you think is the most suitable in a South African context.

	Not at all acceptable 0 10	20	Slightly acceptable 30	40	Moderately acceptable 50	60	Very acceptable 70	80	Completely acceptable 90	100
Open network, if GP's have excess capacity they will do sessional work at their private facilities. ICD 10 codes will be used, but the rates will be at a major discount compared to private insurance.										
A closed network of GP's to meet the health care needs of that community. GP's will work in a public facility and will be paid a salary for the number of patients assigned to them.										
All GP's can be contracted (open network) and will do sessional work at public facilities. GP's will be paid per hour and re-imbursed for travelling distance and travelling time and also time spent in public sector meetings.										
A closed network of GP's will be contracted. GP's will work in public facilities and be paid a fixed salary regardless of number of patients or services provided. Strict monitornig and reporting systems will ensure the quality of health care.										
A closed network will be contracted with the public sector. The GP will then treat registered patients at his/her practice and will not be										

	Not at all acceptable		Slightly acceptable		Moderately acceptable		Very acceptable		Completely acceptable	
	0	10	20	30	40	50	60	70	80	90	100
allowed to treat any private sector patients. Fees will be determined by the services provided.											

Q14

Score the following criteria according to how important it will be in creating conditions for accepting a contract with the public sector.

	Very unimportant		Unimportant		Neiterh important nor umimportant		Very important		Extremely importnat	
	0	10	20	30	40	50	60	70	80	90	100
Flexibility (Hours of work and leave)											
Self Employed Status											
Travelling time											
Take-home income											
Amount of administration											
Doctor autonomy and local control											

Q15

What is an appropriate per hour fee for a GP doing sessional work at a public hospital

	0	300	600	900	1200	1500	1800	2100	2400	2700	3000
Fee per hour in Rands											

Q16

If the NHI proposal will be beneficial for the country as a whole, will you be willing to discount your fees.

- Yes
- No

Q17

If yes, what percent discount are you willing to offer on your monthly take-home income?

	0	10	20	30	40	50	60	70	80	90	100
% discount on take-home income											

Q18

What is your age?

Q19

What is your gender?

- Male
- Female

Q20

What is your marital status?

- Never married
- Divorced
- Widowed
- Married

Q21

How many dependents do you have?

Q22

What is your total revenue per month?

Q23

What are your total expenses per month?

Q24

Do you think it is appropriate to use co-payments to control the number of patients seeking treatment. (Co-payments are payments that patients will have to pay the GP every time a medical service is accessed over and above the payment received from the government.)

- Yes
- No

Q25

If GP's were allowed to treat both private and public patients in the invisaged national health proposal, do you think GP's would generally prioritize private patients.

	Never	Rarely	Sometimes	Often	All of the Time
GP will prioritize private patients over public patients					

Q26

If yes, how do you propose that this should be managed

- No management required, GP's should be free to prioritize patients
- GP's should be fined and deregistered if a case is built against them for bias treatment

- GP's should treat private sector patients only or public sector patients only
- GP's should treat public sector patients in the public sector so that differential treatment is not visible to patients.
- Other

Q27

If other, please specify.

Q28

What is your race?

- African
- Caucasian
- Indian
- Asian
- Coloured
- Other

Q29

What do you think is an appropriate income (monthly income after practice expenses and tax) for a GP in a rural area?

Q30

Do you have any objections in principal with the envisaged national health proposal that will prevent you from contracting with the public sector.

- Yes
- No

Q31

If you object, what objections do you have?

Q32

Have you done contractual work in the public sector?

- Yes
- No

Q33

If Yes, please specify the nature of contractual work done.

7.2 Appendix B (Consistency matrix)

Table 1: Consistency matrix

Research problem stated here					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
The first sub problem gauges the current incomes of private practitioners and explores what criteria should be considered when deciding a fee.	Moosa et al., 2012 Surender, 2014 Laugesen, 2011	According to GPs, what is a suitable fee and what criteria should be used to determine fees?	Questions: 5-9, 15-17, 21-24, 29	Interval	Descriptive Statistics

Research problem stated here					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
The second sub problem examines the potential contract approaches to ensure that the obstacles to the large-scale strategic use of public sector GP contracting can be overcome.	Mack, 2011 Surender, 2014	According to GPs, which conditions are preferred in a potential form of contract between the state and private practitioners?	Questions 10-14, 25-27, 30-31	Ordinal Interval	Descriptive Statistics

Research problem stated here					
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Type of data**	**Analysis**
The third sub problem uses demographic data to establish which GPs will accept low rates, work in rural areas and will approve to contracting with the government. The government, at least initially, can use resources to target only suitable doctors to contract with the public sector.	Dumontet and Frank, 2013	Which demographic profile of GP should be targeted to make NHI more viable and problem-free for the government?	Q1-4, 18-21, 28,	Categorical	Descriptive Statistics CHAID

7.3 Appendix C (Qualitative responses)

Other methods to mitigate differential treatment between private and public sector patients:

		N
Valid		659
	Limit number of public sector patients to practice capacity. Educate public sector patients in appropriate use of medical services.	1
	adequate pay in public service results in equal care...	1
	ALL PATIENTS	1
	All patients have the right to be treated according to their needs, regardless of whether they can pay for it	1
	all patients should be treated equally	1
	all patients treated equally as is our current practice. Sometimes emergencies will fall in public sector and sometimes in private, Doctor's discretion imperative.	1
	Allow specific times for public sector patients at our one surgery and allow public sector patients anytime at our other surgery	1
	APPLY FIRST COME FIRST SERVE RULE OR APPOINTMENT SYSTEM	1
	Appointment is essential as well as urgency of a case	1
	appointment system	1
	As long as I am a doctor all patients are equal	1
	BOTH CAB BE TREATED EQUALLY	1
	Both Private and Public Patients should be treated equally.	1
	BOTH PUBLIC AND PRIVATE SECTOR PATIENTS IN SURGERY. MIGHT BE MORE CONVENIENT FOR PUBLIC SECTOR PATIENTS TO BE TREATED IN PRIVATE SURGERY.	1
	But everyone should have quality care.	1
	cannot be legislated up to GPS morality	1
	Certain hours for public patients where they can make appointments and will be seen on appointment. In case of emergency any hour	1
	Co payments will avoid preferential treatments	1
	Competitive rates always don't give rise to differences	1
	Consults should be by appointment except if it is an emergency	1
	continuous education, we don't need a heavy hand, we expect cooperation.	1
	dependant on the condition of the patient	1
	DEPENDENT ON VOLUME / RATIO OF PUBLIC TO PRIVATE PATIENTS AND FEE DIFFERENTIAL	1
	depending on the diagnosis	1
	Deregistered	1
	Educate GPs in medical ethics. Fine GPs for unethical behaviour, perhaps a temporary suspension	1
	emergencies prioritized. Communicate with waiting patients.	1
	Emergencies SHOULD ALWAYS take preference; whether private or public. Booked appointments for private pts. Clinic appointments for walk-ins and public.	1
	Ensure that the revenues from public patients and private patients are the same	1
	Equal access for both public and private patients	1
	Equal payment	1
	Fair remuneration will eliminate bias.	1
	From a doctor's perspective a patient is a patient but private patients tend to be more demanding.	1

Get service providers to indicate private-public mix for their own practice - incentivise upwards for higher public practices	1
go and see how Canadian medical system works	1
Go should treat public sector patients in their practice	1
Government must equalize the rates. To pay or suggest a lesser rate is discriminatory.	1
GP should be able to treat public and private sector patient and it should be on a first come first serve basis	1
GP should be given unallocated number of patients to attend to and a number that his practice can cope with	1
GP' s should be allowed to triage patients, not based on whether patient is private or public. In my view no patient is private or public, patients are patients need to be given quality healthcare. Let us consider to engage on appropriateness of the dichotomy of private vs. public.	1
GPS can be rated by public sector patients. If dissatisfied the doctor can be removed from the network.	1
GPs should be able to give the same care to all patients appropriate funding them for their work.	1
GPs should treat both private and public patients and reimbursement should be good	1
GPs currently do not treat patients with medical aids better than those who do not have medical aids.	1
GPs should not prioritise	1
GPs should prioritise patients based on the criticality of their sickness - then on the order of their arrival to the practice	1
GPS SHOULD TREAT THE PATIENTS EQUALLY PROVIDED THEY PAY THE SAME AMOUNT AS PRIVATE BECAUSE MEDICATION IS ALSO EXPENSIVE.	1
GPs should try not to prioritise	1
I personally think health and treatment of patients should be balanced across the board as it is in my practice all patients are the same and I don't use temporary treatments its either I give appropriate meds and ask patient to pay or I do not even star treating if I know the treatment is inadequate, do scopes and all basics procedures to prevent sending patients from pillar to post	1
I think as medical professionals we are able to access the situation of individual patients and we should just be fair with all our patients regardless of their economic status. We have taken an oath to do no harm.	1
I think this will depend on how much you bringing to the table	1
IF AMOUNT PAID BY THE PUBLIC SECTOR IS CLOSE TO THAT PAID BY PRIVATE, THERE WILL BE NO NEED FOR D	1
if compensation is adequate this will not be an issue	1
If enough GPs in an area are contracted, patients will be free to choose their doctor and will tend to favour those who show no bias.	1
If fee structure is similar to Private care, this should not be a problem	1
If government compensated the GPs in an equitable manner there would be no need to prioritise private patients	1
if government administration regarding salaries for GP is efficient then there shouldn't be a problem of prioritising patients.	1
if GPs are adequately compensated, no differentiation in treatment will be necessary.	1
If income per private versus public patient is comparable, prioritization won't happen	1
If NHI is to work in this country GPs should be allowed to charge the same fee for service for Public patients as for private patients, where there will then be no bias towards Private patients above Public Patients	1
If payment is the same, there will no prioritisation of patients	1
If the payment is similar, there will be no need to prioritise one over the other.	1
if we have co payments for all adult private and public being the same, but structured per areas it will bring a sort of control for both private and public	1
incentivise Doctors on performance based models	1
INCOME OF DR	1
install co-payment then you don't have to worry about income	1

	It all depends on what care is available outside the practice, for ex special investigations or referral to specialist as well as the limitations on treatment there will be for the public patients.	1
	It should be a first come, first serve unless there is an emergency	1
	It should not happen in the first place	1
	It would be difficult to manage in a limited space and with an appointment system.	1
	make it financially feasible so that all patients are perceived as the same	1
	Make the fee per public sector patient seen the same as for the private paying patient	1
	multiple GP practice sites could be considered and drs paid according to hours worked there or no of patients seen	1
	N\A	1
	na	1
	NB this is not the nature of GPs. Patients treated equally	1
	Need to see a percentage of public sector patients to private ratio to qualify to be able to continue to see public sector patients	1
	negotiate models	1
	Never if the fee paid is the same for private and state patients, but if the fees are less, then there will be prioritizing.	1
	No management required,	1
	No management required. We see government patients already and is not biased	1
	No NHI will be possible, unless all the facilities in public hospitals will be properly restored and maintained. No doctor would be prepared to work in a place where he will not be able to perform his duties.	1
	Not sure	1
	Number of allocated public sector patients should receive the service on the set day, there shouldn't be any conflict	1
	on a first come first serve basis	1
	only emergency cases should be prioritized it should be a first come first basis as is presently being practised in my rooms .medical aid patients do not have preference over cash paying patients . total income per mth and expenses per mth are varying each mth and it is confidential so it is unfair to disclose them furthermore I welcome NHI provided it is an open network system and we can see both public and private patients there must be a freedom of choice for the patients let them choose from 2-4 doctors from a list	1
	Option to be available for appointments for private sector patients with particular time being assigned for these appointments.	1
	Patient condition guides who gets urgent attention	1
	Patients should only be triaged according to the severity of their medical condition	1
	pay an acceptable rate then GP less likely to differentiate	1
	Pay equivalent rates. You cannot expect doctors to prioritize patients at a "highly discounted rate"	1
	Paying PATIENTS WILL ALWAYS DEMAND PRIORITY THEREFORE SEPARATE FACILITIES NEEDED	1
	payment should be the same for private and public sector patients	1
	Peer Review by committee elected by and from Contracted Doctors in an area with a grievance mechanism for the patients	1
	People need equal care	1
	Possibly have public sessions at the private rooms, and see private patients the rest of the time	1
	prioritize: for difference in fees or treatment.	1
	Prioritized according to triage/ urgency	1
	priority according to illness not if s state or private patient	1
	Private patients in Private Practice and Public sector patients at Public Facilities - control contract : hours spent + availability	1
	Private patients can make bookings and public patients not	1
	proper reimbursement to GP by government will reduce the bias treatment, and if NHI patients are seen by appointment it will reduce bias	1
	Public and private must be separate , even so always provide and practice good medicine to everyone. Inevitably more patients are seen in public sector per hour.	1

public patients must be given autonomy to opt out of a GP if they feel they are not getting comparable service to private patients, with resultant loss of income to GP	1
Public patients seen at certain times of the day only unless an emergency(which receives priority regardless). Go can choose which times are the most suitable to his/her circumstances.	1
public patients should have the freedom to select their providers from amongst all available service providers and that would take care of biased practitioners soon enough	1
public sector patients should be seen in public sector and private patients in private sector - locations should not be the same, dedicated hours/days for public and private practice patients - should not overlap. Just as we have been working for the last 12 years.	1
public sector should be subsidized by means of vouchers, with a annual limit to use at patients discretion,	1
randomised computer generated appt diaries	1
regular assessments should be made to ensure there is no prioritizing	1
Remuneration should be the same both in public and private. The state should process payments on time.	1
remunerate doctors at private practice rate	1
same fee for both	1
Same remuneration	1
same remuneration	1
see a certain number of public patients during a particular time interval (i.e. 8 am–10:30 am] unless an emergency arises	1
See pt both private n public in my rooms	1
Seriously?? If GPs are dictated or forced to see public sector patients at "reduced" rates I think the refuse collector with no education at all could work this one out	1
set specific hours for private and public	1
should be remunerated the same for public private pts	1
Since we already know our private patients, this will gradually decrease as we develop relationships with all patients, public and private.	1
Some GPs may... I will not. this will depend on individual ethics and be hard to police no idea	1
Strict protocols and reporting of management of public patients	1
The only thing that can cause prioritizing of patients it's when payments are not received in time because no one wants to work for free.	1
The same consultation and procedure fee paid by public sector to equal that of private sector. The private fee to be determined by the medical profession.	1
there should not be a National Health effort … rather go for a Medic Cheque type system … patient exchanges this cheque or voucher at any doctor or health facility	1
they must not prioritize, we need to get the rates to be acceptable on public and private patients so that there is no such bias.	1
They should be compensated at the same rate for both patients then they have no reason to prioritise	1
they should treat both, but if biased, disciplinary measures taken ,not deregister, that is too harsh	1
To seriously rectify unacceptable attitude and treatment from governments side; whether this is possible is unlikely since trust from private sector was thoroughly destroyed by Ministers and officials running public health (ESPECIALLY OVER PAST 20 YEARS) THE WILL AND SINCERITY FROM DEPARTMENT OF HEALTH IS NOT LONGER BELIEVED-HONESTY AND INTEGRITY WILL BE VERY DIFFICULT TO TO REINSTALL.; DESTRUCTION AND DAMAGE WILL TAKE DECADES ,IF AT ALL POSSIBLE QUALITY ETHICS(SEE PATIENT ORIENTATED)AND HIGH STANDARDS FOR WHICH SOUTH AFRICANS BEEN LOCALLY AND INTERNATIONALLY, IS KNOWN FOR WILL TAKE REAL DEDICATION, EXTREME HARD WORK AND MANY DECADES TO RESTORE IF POSSIBLE--I AM AFRAID THAT SHORT SIGHTEDNESS ,CORRUPTION, PLAIN CARELESSNESS AND PURE INABILITY FROM HEALTH LEADERSHIP FAILED PATIENTS AND TEIR TOTALLY I AM GLAD THAT I AM NOT THE MINISTER OF HEALTH ALL THE POWER AND MONEY IN THE WORLD WILL GIVE ME THE GUTS, ABILITY AND COURAGE TO UNDERTAKE WITH ANY SINCERITY AND HOPE OF SUCCESS HIS JOB.	1
treat all patients the same	1

	treat and manage their treatment as it is happening with the help of staff helping the doctor	1
	Treat both sectors EQUALLY and Cost effectively	1
	TREAT PEOPLE AS PEOPLE	1
	Triage	1
	triage the patients, but the patients paying for the service do influence the practice with their service expectation and will be seen as a priority	1
	tricky problem, worked in ireland and australia and neither systems really sort out problem	1
	Try to arrange appointment system so all patients get fair amount of time for consultation	1
	We only use an appointment system, so there would be no discrimination	1
	we always see patients as patients not as profit centres, the bottom line is always an issue in private business	1
	we treat patients the same. occasionally refer if more is needed to be done.	1
	won't happen	1
	Working on an appointment system, priority would be based on merit of the condition and person being treated or investigated. Spending less time on patients leads to poor health care. By spreading the doctors in private into public health is hopefully gong to improve the national health of the country.	1
	YOUR CONSCIOUSNESS SHOULD ALWAYS SPEAK TO YOU	1
	Total	803

Objections to the proposed NHI:

Valid	No comment	555
	10 per cent of people carrying 90 per cent of health	1
	a healthcare system that is so governed and more restrictions. Have you ever been to court ? why are other services like lawyers etc not governed, 15 min with a lawyer is R350 and state lawyers are swamped.	1
	Adequate remuneration	1
	admin	1
	Admin and fees	1
	Administration of NHI will have deficiencies..... timely payment of fees will not occur regularly..... red tap would hamper service delivery	1
	All GP must be given the opportunity to contract	1
	All GPs should be free to opt for contracts	1
	all GPs should be offered equal opportunities. This rollout should not be a competition	1
	Already very busy, travelling to public sector will be difficult, funding of public patients might be unreliable	1
	am getting older, less able to work efficiently!	1
	An apathy exists in the public sector that is highly frustrating	1
	Any proposal must be considered by all GPs	1
	At the moment I work hours that suit my family	1
	autonomy	1
	Bad experience with payment from Public Sector.	1
	because I wish in a public sector as well	1
	becoming a slave to protocols driven by state.	1
	Being streamlined to only private or public sector	1
	bias and anti competitive likely to be riddled with nepotism	1
	but will it be worth all our efforts?	1

capitation system will be a disaster to manage and will require the GP to employ more staff taking more financial risk to make it work	1
closed network for contracted doctors. this system has bias and favouritism and open to abuse	1
constitutional right to freely engage with any entity, if I don't meet the criteria then not to service, but an outright ban is taking us back to the apartheid days	1
Constitutional rights	1
Contracting should be freedom of choice	1
contracts should be open and free.....	1
Control over working conditions, patient management. Discounted fees (less income). Treating patients at facilities without good equipment.	1
corruption	1
Corruption !	1
Corruption needs to be eliminated so that moneys received will be used to benefit the healthcare industry as a whole.	1
Could make a difference	1
Current GPs in public sector not doing their work	1
discrimination	1
doctors should be able to contract with the public sector regardless	1
DOH incompetence	1
don’t want to become cheap labourers	1
Dr's should be able to render services for both public and private	1
Each doctor should have the choice of private public or both as he wishes	1
Envisaged funding model	1
Especially in the rural areas we are supposed to look after the whole community	1
Everyone should be included	1
EVERYONE SHOULD HAVE THE CHOICE	1
facilities should be upgraded	1
FAIR PAYMENT AND UPGRADING OF FACILITIES NOT LIKELY	1
fee for service	1
FEES	1
FEES PAYABLE TO GPS. COMPARED TO WHAT THEY MAY MAKE PER HOUR AT THEIR PRACTICES.	1
For NHI to succeed there should be private and public sector cooperation	1
Forced to do abortions.	1
Forced to except poor payments, dictate working hours, loss of time etc	1
fraud and abuse of the system. also abuse of doctors as has been prevalent in the public sector.	1
FREE ENTERPRISE IS ALWAYS BETTER	1
GOVERNMENT DOES NOT PAY, VERY UNRELIABLE TO CONTRACT WITH.	1
government very slow in payments and admin, so makes one reluctant to do business with government	1
govt needs GPs and not contracting will make NHI fail, public sector already burdened	1
GPS are already involved in the health care of patients in the public sector often at costs they can barely afford, but appreciate the more individualized care	1
GPs must be allowed to positively contribute in the healthcare provision for both private & public sector.	1
HAVE BEEN THRU NETWORK AND TRANSMED THIS BEFORE	1
HAVE DONE IT BEFORE LEADS TO ABUSE OF DOCTOR	1

I actually have no idea about what has been proposed	1
I AM ALREADY HELPING THE STATE AT CLINICS FOR MANY YEARS X 30. DO NOT PREVENT ME NOW	1
I am in favour of an open system for every doctor who wish to contract for service delivery	1
I am seeing many public sector patients already often at reduced fees and would like to be able to care for my patients further	1
I AM THE ONLY DOCTOR AVAILABLE	1
I believe that it will be poorly managed.	1
I do need to be contracted with the public sector if that what the country needs	1
I do not want to be forced to work in the public sector. GPs should have a choice to work in the public sector or not	1
I fear that the administration will be top heavy and another way for government administrators to make money off the tax payers	1
I feel doctors should be free to practice both in the public and private sector as they may desire. there should be no law preventing that	1
I feel government will burden the private sector with their administrative failures rather than take responsibility. It's quite plain to see.	1
I have done my share of public work, still doing it - don't need more - then I would rather go and work in the public sector and get a fat salary	1
I have no objection as long as the NHI does not in any way reduce the standard of service I can offer to my usual clients	1
I have patients coming to me for decades. I cannot dump them	1
I have worked for 10 years to build a successful practice of which my autonomy to make decisions will be taken away.	1
I should be able to exercise my options- it is a free country, the last time I checked.	1
I should be force to close private and move to public	1
I should be free to work where I want and am needed	1
I should not be forced to do my work in places or in circumstances that I do not choose if I have opted to have a private business. All other private businesses are allowed to do their private business as they choose.	1
I should not be prevented from contracting with public sector	1
I specialise in metabolic syndrome and obesity, work on my own, is a single mother and is fully booked most days. I cannot service any other clinic.	1
I suspect the fee paid for services or the hourly rate will not allow for the practice of good medicine.	1
I think a doctor should be free to work anywhere as long as you feel that you have a contribution to make and your experience and expertise are needed	1
I think it will discourage GPs from being involved	1
I think that the infrastructure is far from ready.	1
I want to be free to practice my chosen profession in the manner I deem fit as afforded to me under our constitution and as other professionals are allowed to in their fields.	1
I would like to be offered options and decide accordingly	1
IF IT WOULD PREVENT FROM SEEING PATIENTS. I DON'T THINK THE QUESTION IS CORRECTLY WORDED	1
If the ability to choose or decide how/ when/ where etc is taken away. I.e. if the government tries to enforce. I would chose to stop practising rather than be forced.	1
Imminent disaster	1
in a democratic society everybody should have the right to work wherever, central control leads to chaos as experiencing now	1

In Rural areas it is impossible to have only public and private Doctors. In the past with the district surgeon where the GP seen all the people all the rural small towns had GP s.	1
INCOME and autonomy	1
Income, I have children to take care off. Being a mother with a life outside work.	1
Inefficient administrators, lazy nurses, under-resourced facilities, non-medical managers	1
Insufficient facilities	1
It is a free access to be paid for	1
it is against free enterprise	1
IT MAKES THE NHI INEFFECTIVE	1
It may not be a principal, but my experience is that the public sector's ability to contract, pay appropriately, in the first month of contract, and on time is seriously deficient: their human resources is seriously incompetent. In addition, experience of friends has shown that when doctors work for NHI the nurses simply stop doing their job and take time off work. In addition the doctors are left filling out forms and bottles and making phone calls and finding lab results and doing all the admin that their practice staff would normally do in private.	1
it should be an open network and the dr should have the right to chose .autonomy not autocracy	1
It will be one of the greater catastrophes, of this regime … they cannot fill potholes, never mind manage South Africa's health system..best is..give out vouchers, to be redeemed at any registered health professional..including state hospitals..System exists, can be managed , is cost effective, leaves the choice with the patient,	1
it will let private GPs not be up to date with current treatment and national guidelines and trends plus it will deprive us of supplementary income and also deprive patients of quality care from experienced GPs	1
It will never work in SA.	1
It will perpetuate the inequity and accessibility of healthcare in South Africa … Private and Public sector should provide an integral health service e for ALL people in South Africa	1
It would be fine as long as there is no financial losses (decreased income) to the participating GP	1
its unfair	1
Lack of autonomy for GPs.	1
lack of trust with government institutions	1
let circumstances dictate -flexibility important	1
LIBERTY	1
limits autonomy	1
LOSS OF FREEDOM TO PRACTICE	1
More details about the NHI plan required	1
More work for less income.	1
Must be allowed to do both- free market system	1
must be free and fair to all GPs	1
must be open to all registered practitioners, patient to have a choice	1
my autonomy is compromised	1
my main priority is job flexibility, few overtime obligations and other lifestyle factors as I have 3 small children. safety of work location and short travel times are also important. recognition of diploma level GP skills also important	1
n/a	3
n/a	1
N\A	1
na	2

National health systems don' t work in first world countries, it will not work in South Africa and money will be wasted. The public will never experience a better health system unless the government stops wasting money	1
NB I do not have a view of the contract as it exists Sessional	1
NHI is about public sector why should they object the aim for me is to eventually have one system for the whole country	1
NHI should be a option not an obligation	1
nil	2
no	1
NO APPROPRIATE ADEQUATE INFRASTRUCTURE ITS APPALLING	1
no benefits and only contracting as sessional person- sick leave, 13th check, pension, medical insurance, family responsibility leave etc	1
no guarantee of inflation linked increases after contract begun	1
No guidelines re. remuneration . Talk a lot about input from all stakeholders and the implement something else.	1
No restrictions should be applied	1
none	2
NOT ENOUGH MONEY AND POOR STAFF IN PUBLIC SECTOR	1
Not enough time	1
Not in favour of a closed network	1
Not sure i understand the question, but all private practitioners should be able to contract with the public sector as various levels and with various contracts	1
not sustainable	1
not to be managed by non medical people	1
Number of patients to see per hour and remuneration not sustainable for practice	1
ONE HAS TO BE FREE TO CONSULT ANY PATIENT	1
Open contract is preferable.	1
option should be open to all	1
Patients have the right to see their doctor of choice	1
patients lose out and shortage of doctors will worsen, public sector will be even more overloaded and overworked	1
Patients should be free to choose.	1
patients will abuse the system I already do sessions and see a high level of abuse by patients and un realistic demands	1
Pay will be ridiculous and patient load will be high. Best to improve gov services and attract doctors to public sector	1
payment time lines	1
Payments are historically VERY poorly administered.	1
Payments should be per patient seen not standard salary & GP should feel free to see any patient whether private or public without any interference of politics	1
People who want to sell their services to the public sector should be allowed to, if the need for such services exists.	1
Poor circumstances. Not being paid for services rendered. Reverse racism. Poor patient understanding of own health/disease with poor compliance to treatment. Healthcare decisions made according to politics instead of best patient outcome. Etc.	1
Poor facilities and management, poor work ethic	1
Poor management, late payments, lack of support	1

Possibility of loss of business as NHI takes over because private patients may find NHI more attractive.	1
preserve autonomy of doctors	1
Preventing doctors to work in the public sector doesnt help the situation	1
principal of autonomy	1
principle not principal	1
private	1
private and public sector need each other	1
Private GPs can help with the burden of NHI patients	1
PRIVATE PUBLIC PARTNERSHIPS IS THE KEY TO ACCES TO HEALTH CARE AS A HUMAN RIGHT	1
provided the salary & time spent in public sector is suitable	1
pt has to have a choice , which doctor or clinic	1
Public facilities must increase standard of service and the facility maintenance must be improved!!	1
Public sector is run by a beaurocracy with no medical training and highly inefficient, but command huge salaries for very little work.	1
Recruiting the best staff	1
red tape. do's & don'ts	1
regulations required in public to monitor quality and fairness whereas quality and finances required in public sector as compared to how it stands today.	1
Remuneration	1
Restrictions on providers impacts on consumers	1
Restricts professional choice and freedom	1
rural allowance	1
Safety, travelling expenses, working in underequipped practice.	1
Should be open to all doctors … no exceptions	1
Should be able to assist to alleviate public health loaf	1
Should be free to contract if so desired	1
Should have choice	1
should not be compulsory	1
SHOULD NOT LIMIT MY FREEDOM OF CHOICE	1
taking patients away	1
that inflation related increases will not be forthcoming yearly	1
That the hourly fee will be similar to that of a cleaner, afte the amount of years of studies, I have done, it is a slap in the face if not offered appropriate levels of remuneration	1
That's patronizing.	1
The rate is low and I want to work in my own rooms	1
The current payment of R308 per hour is ridiculous	1
The current proposals do not provide adequately for private health care and remove the right of choice from the patient.	1
the exclusivity of the system	1
The nhi needs trained staff in all fronts, clerks, admin staff, nurses as well as good clean water, etc. pointless to treat patients if the real cause of illness is not addressed.	1
the opposite, with the current shortages of medical personnel, would not make sense.	1
The process exists currently and is failing. It will just renaming of an old failed system	1
the proposed remuneration i have seen is less than my practice expenses	1
The restrains on quality of care	1

The state CANNOT honour small debts. How will they pay a doctor on time. A service provider should not be begging for his/her money	1
THE SYSTEM SHOULD BE OPEN TO WHOEVER WANT TO PARTICIPATE	1
there is great shortage of doctors in country so it is in the best interest of patients that all doctors join forces to help reduce the shortage	1
There is not enough dr's in this country. The fact that public health is not doing well is that it is badly administered. Before 1993 the provincial hospitals were in fine condition and the patients were well looked after, and if you come to think of it..tha was nothing else than NHI!	1
There is not medicine available to treat patients. A diagnosis only is not what is healing the patient	1
there is shortage of drs in public sector if drs want to work there to supplement they income must be allowed	1
There should be free trade	1
There should be no closed prevention as to what doctors can do and where. Freedom of movement should be encouraged	1
There should be no limitations to GPs private practice. goverment can contract GPs for public work on a sessional basis, but it should not prevent GPs from having a private practice & private patients.	1
There should be space for sessional work	1
They should run it like a low cost medical aid (like GEMS Sapphire), otherwise payment will be too slow.	1
This must be optional	1
Time to see extra patients will be difficult to fit in	1
time, already in full time practice from eight to six at night, not sure when to fit in extra hours. very busy practice	1
Timely payment	1
to see patients at public facility and the consultation rate should more or less the same as in private sector, then there wouldn't be any discrimination whether a doctor is seeing a private or public sector patient	1
Too limiting for GP giving them no sense of freedom when it comes to managing their practices and their patients the way they want to and the way that works for their patients	1
too many patients	1
Too much interference by non medical people	1
treat patients and not their socio-economic background	1
Try to annihilate the private health sector. The bureaucratic service will be cumbersome and inefficient. Too much will go to admin.	1
uncertainty regarding autonomy, loss of income although expenses stays unchanged, uncontrollable patient load	1
unconstitutional	1
Unconstitutional action	1
unfair	1
UNSATISFACTORY COMPENSATION	1
Unsustainable due to managerial skill shortage and insufficient funds	1
Very concerned re Public Health System, Management, General Nursing Standard, Medicine avail.	1
We are a free market system and it would be detrimental to the health sector to be over regulated	1
We need all healthcare workers and professionals to be part of any health reform and actively participate in policy direction so that they can contribute in implementing the policy. With the shortages that we currently have we indeed need everybody to be involved.	1
we need to help the public sector	1
We should have a right to choose where we want to work	1

	we will earn far far less than we do currently. also, the nurses in the public sector are lazy and arrogant.	1
	What are the reasons for not being able to contract with the public sector?	1
	What will the basis of the decision be to exclude me from doing public work?	1
	When Doctors do not have the choice to behave in a way any other "professional" has the the freedom to do so the whole system becomes nothing more than a dictatorship. Why single out Doctors and force them to work at reduced rates ? What government minister with far less education than your average GP would be prepared to work at a reduced rate ? or any other "prefession for that matter?? No brainer!!!	1
	WHY SHOULDN'T i HAVE THE FREEDOM TO DO THAT?	1
	WHY? WHY? WHY?	1
	Work environment and availability of specialized services	1
	Worried about possible decrease in income and worried that my practice in city suburb will be deemed unnecessary and closed down compared to rural areas with bigger need of medical services	1
	Would like to see public sector patients on nhi	1
	WOULD WANT TO BE CONTRACTED	1
	yes	1
	THIS INTERFERES WITH FREEDOM OF CHOICE	1
	You are interfering with the Free Market System.	1
	Total	803

Nature of contractual work:

Valid		427
	Sessional work/calls in the local government hospital	1
	2 Hour Sessions	1
	20 sessions per week	2
	21 years of district surgeon and clinic work	1
	28 hrs session per week at district hospital	1
	30 YEARS AS A MEDICAL OFFICER AT LOCAL CLINIC , ON A SESSION BASE	1
	4 hour sessions in casualty in nearby public hospital.Mon-Fri.Stopped in 2012.	1
	4 satelite clinics for 12 years. Anaesthetics for local hospital. Ultrasound for the community.	1
	5/8th	1
	80 hours during day and 80 hours after hours	1
	A & E and aneasthtics - Ga- Rankuwa and Edenvale	1
	afer hours	1
	after hour work as a locum, in casualty and in hospital cover	1
	After hours anaesthetic calls	1
	after hours calls	1
	After hours sessions at Leratong hospital in Orthopedics.	1
	After hours standby service for emergency c-sections at severely reduced rates with too few doctors available.	1
	After hours work	1
	anaestesia for Oral health since 1983. District Surgeon 1977 till 2005. SANDF sessions 1977 till 2011	1
	Anaesthesia sessions, casualty locums	1
	Anaesthetic and ultrasound work at local hospital. Rare skills in arural set-up	1
	Anaesthetic list once epr week,Many years of Casualty work after hours 15 yrs	1
	Anaesthetics	1
	Appointment Sasolburg hospital decades ago	1

at nearby clinic, then went to hospital management, left because of politics around hosp management, thus making it difficult to manage	1
Both Dept Labour Workman's Compensation medicolegal work (payment and organisation very inefficient) and Department of Social Development hearings of appeals, medicolegal, organisation very efficient, thanks mainlt to excellent controls put in by Seniort administrator Virginia Petersen, now at Sassa, I believe. Previously did part-time contract work in govt hospitals, where Human Resources were fairly useless, and also tried at a later date, unsuccessfully, to get work in govt hospitals or clinics in Pretoria, quite unsuccessfully, due to incompetent Human Resource departments, despite the Heads of Department wanting me to work there!	1
Calls	1
CASUALTY	1
Casualties	1
casualty	1
CASUALTY	1
Casualty and after hour emergency ward rounds	1
Casualty cover	1
Casualty Officer	1
Casualty service for 3 year	1
Casualty sessions	1
Casualty sessions; Clinic Sessions	1
casualty state hospital	1
casualty work - weekly sessions	1
Casualty work as a junior doctor many years ago	1
Casualty, anaesthetics	1
Casualty/OPD etc. Administrative nightmare for me, working hours and pay ridiculous. Get minister to work in public hospitals	1
CASUALTY SESSIONS	1
clinic	1
CLINIC AND POST MORTEM	1
clinic sessions	1
Clinic sessions	2
clinic work	3
CLINIC WORK, PAID PER HOUR	1
Clinic work/ emergency casualty calls (16 hour) 6 times a month	1
Community service	1
correctional facility	1
Currently doing 20 hours session per week	1
Currently working at Clinics on a sessional basis	1
daily 2 hr sessions at a secondary care hospital	1
Did after hour call outs for theatre patients.	1
did sessional work at local hospital in the past	1
Disability assessment with SASSA	1
DISABILITY GRANTS ASSESSMENT	1
District Surgeon . Military sessions . Regional hospital sessions.	1
district medical officer	1
district medical officer	1
district surgeon	1
District Surgeon	1
District surgeon 1879-1992	1
district surgeon and sessions	1
District Surgeon for 7 years in previous dispensation	1
District surgeon for 8 years	1
district surgeon for many years-only to be fired without a word of thanks	1

	District surgeon work in the past. I was paid a fee lees 60 per cent per patient	1
	District Surgeon, hospital Superintendent of rural hospital	1
	District Surgeon, Karasburg, Namibia	1
	District Surgeon/Session Work 1994-2007	1
	District surgeon + Sessions at hospital	1
	doing prison patient all their surgical patients and starting soon with army	1
	DOING SESSIONS AT PROVINCIAL HOSPITALS	1
	doing sessions at state hosp	1
	done sessions in HIV clinic for 8 yrs at Tambo memorial hospital. currently doing sessions in internal medicine department for 4 yrs now.	1
	During service with state health	1
	Emergency medicine work	1
	emergency unit medical officer	1
	ER sessions	1
	EXAMINING VICTIMS OF RAPE	1
	Expert witness in court cases.	1
	family planning clinics and TB clinics	1
	Fixed contract for forensic services .	1
	Forensic medical officer and clinic Port Shepstone and Sassa	1
	Full time work in public hospital	1
	government clinic, see patients before I go to my practice	1
	GP	1
	grant assessment	1
	Had sessions at mines.	1
	Help at local clinic	1
	HIV clinic	1
	HIV TREATMENT AND PREVENTION	1
	HIV, NGO clinic - paediatrics	1
	hosp sessions	1
	HOSPITAL AND CLINIC SESSIONS	1
	Hospital and District surgeon work.	1
	Hospital rounds, clinic visit and overtime	1
	Hospital sessional work, Clinic-work on contract basis	1
	hospital sessions	1
	Hospital sessions	1
	HOSPITAL SESSIONS	1
	hospital sessions both surgical and gen medical and aneasthetics	1
	hospital sessions, clinic sessions	1
	Hospital sessions, District Surgeon	1
	hosptital	1
	Hourly sessions at NHI clinic in Laudium	1
	Hourly sessions in OP clinic	1
	Hourly worked sessional time	1
	hours at a public hospital	1
	I am permanent worker in the public sector	1
	I am doing sessions plus emergency call	1
	i currently do sessional work at the local hospital	1
	I currently do sessional work for the state	1
	I do managed health care for Carecross and Ingwe and Primecure	1
	I have a weekly clinic at the local hospital	1

i have post graduate diplomas in occupational health , public health and hiv . i have worked as an occupational health doctor in hospital and as hiv doctor for an NGO hospitals dont want to employ highly qualified gps some ceo's have professional jealusly they dislike private gps as if they are paying the doctors from their pockets they exhibit unpleasant behaviour towards us. if someone dislikes you you have to say goodbye of getting a sessional post at that hospital it could also imply that they ae corrupt and give positions to those who are willing to pay to get the job this could be a major setback for nhi these ceo /hospital medical managers when they indulge in these practises are not concerned about the patients welfare and the hospitalas a whole . i personally think that hospitals should be headed by accountants and all appointments should be done by a panel of independent health care professionals ie from various outside hospitals hospitals	1
I have worked in HIV field for 14 years. I consistently see between 35/40 patients a day and have to limit the number of new patients i see just to keep up with my exsisting patients. Where would i find the time to TRAVEL to the public sector to do "contrctual" work for ther public sector at "reduced" rates and still be able to pay the salaries, taxes, vat etc ????From the questions presented there is CLEARLY a complete lack of understanding of what it takes to run a successful private practise. If the coceptiion out there that GPs are earing fortunes then there is a need for a reality check!!! I recently applied for a housing loan which was rejected as the Banks did not think based on my financials that i earned enough to qualify for the loan so forgiv me when i am not first in line to work at reduced rates!!!!	1
I work in a full-time post in public sector, and part-time GP Emergency Department work in private	1
I WORK IN A HOSPICE TWICE A WEEK	1
I work in our local clinic on Friday mornings. I am supposed to work for 2.5 hours, but always stay 4-5 hours. I do see a lot of these patients for free follow-ups at the practice,but it is financially draining and not fair on the paying patients. The conept is, however, working rather well and I am able to help a LOT of people.	1
I'm doing sessions at provincial hospital and cover maternity	1
im a sessional doctor for HAST dept for the past 5 years and do run my own practise	1
In my early years of medicine	1
Internship and comm serve	1
internship and community service	1
Internship and Community service.	1
JHB Gen casualty sessions	1
Johannesburg clinic	1
Laudium CHC Uktrasound pregnant patients	1
local clinic primary health care	1
Local clinic. Services being abused because it is free. Monday and friday workers abound. I have been exposed to a familyc1 day sick	1
Local Government Clinics and an NPO	1
Local municipality	1
Locum	1
Locum sessions	1
Locum sessions at Correctional Centre	1
locum tenens	1
locum tenens in public facility	1
Locum work at dayhospital	1
Locum work in OPD and casualties	1
Locumed at various day hospitals	1
M.O.	1
Male and female sterilizations	1
Male Medical Circumscision	1
Max hours per day of proper work should not exceed 8 .	1
Medical officer and registrar at CHB and local clinics more than 11 years	1
medical oficer	1
Mine session	1
n/a	3

N/A	1
nhi	1
nhi pilot	1
One hour a day at the clinic doing primary health care	1
opd	1
OPD sessions and Theatre/casualty on call sessions	1
opd work in paediatris at KEH	1
operating a fortnightly list	1
Outpatient, and on call work	1
outpatients	1
outpatient clinics	1
OUTPATIENTS	1
Overnight Casualty sessions twice weekly, 15 hours each, for six years from 1998 to 2004 at local Primary level hospital.	1
Part time consultant provincial hospital	1
Part time Medical Officer Hosp/Outpatients/ Clinics township 1969 - 2002	1
part time senior anaesthetic cover	1
part time senior surgical officer	1
PART TIME SESSIONAL ANAESTHETIC SESSION	1
Part-time and full-time sessions	1
Part-time district surgeon work 1970 - 1979	1
Part-time district surgeon, sessional work in casualty	1
Part-time in a government clinic	1
Part-Time Medical Officer in Provincial Hospital for 18 years	1
partner with ngo for vmmc	1
Peadriatic Outpatient	1
Pivate work in ER24	1
poly clinic	1
previous employment public health sector and mission hospital	1
previously supt of hospital district surgeon	1
Primary Health Care Doctor	1
Run Diabetic Clinic at local Hospital and did sessional work at local clinics.	1
Sadf pensioners at own practice	1
Sassa	1
SASSA Disability Grants	1
seeing patients in two clinics	1
senior medical officer	1
Senior medical officer as part time - work.	1
SERVICE PROVIDER TO FORENSIC HEALTH AND SEE PRIVATE AND PUBLIC PATIENTS AND GIVE PRIORITY TO PUBLIC PATIENTS AND TREAT ALL PATIENTS ON FIRST COME FIRST SERVE EXCEPT IN EMERGENCY	1
sesional	1
Sesional at local clinic	1
sesional drs at local clinic 20hours per week	1
sesional work on hiv aids	1
session	1
session for the military	1
session at the hospital	1
Session at the local state hospital	1
Session in public hospital	1
SESSION MO	1
Session once a week at a specialist surgical clinic at local tertiary state hospital.	1

	session post at Steve Bhiko	1
	session with red cross cataract surgery	1
	Session work for defense fprce	1
	sessional	2
	Sessional	2
	SESSIONAL 80 HRS PER MONTH	1
	sessional after hour calls,anaesthsia, casualty calls	1
	sessional after hours work	1
	Sessional after hours work	1
	Sessional afterhours appointment at local hospital	1
	Sessional Anaesthtic MO	1
	SESSIONAL CALLS	1
	sessional docter	1
	SESSIONAL DOCTERE FOR NIGHT CALLS AND WEEKENDS AND WEEKDAYS 8AM TO 10AM OPD	1
	sessional doctor	4
	Sessional doctor	3
	Sessional Doctor	1
	sessional doctor at community healthy centre	1
	sessional doctor in a public hospital (doing calls once a week after hours)	1
	sessional doctor in m.o.p.d. xmonday to friday from 09h00 to 13h00.local hospital.	1
	sessional doctor in MOPD 2hr every week day	1
	sessional doctor in rural hospital	1
	SESSIONAL DOCTOR WORKING AT A RURAL HOSPITAL A 40HR WEEK	1
	sessional doctor, distric surgeon and social welfare service provider	1
	Sessional duties at Academic Hospital	1
	Sessional hospital and clinic work	1
	sessional hospital work	1
	Sessional Hospital Work	1
	sessional medical officer	1
	Sessional Medical Officer	1
	Sessional Medical Officer at District Hospital	1
	SESSIONAL MEDICAL OFFICER FOR 20 YEARS IN 2 HOSPITALS	1
	Sessional post at local state hospital	1
	sessional rural hospital calls	1
	sessional senior medical officer at local clinic	1
	sessional work	11
	Sessional work	1
	SESSIONAL WORK	1
	SESSIONAL WORK 4HOURS/DAY MEDICAL WARD	1
	sessional work after hours at primary health care facility	1
	sessional work as a Dr in 2 public hospital.	1
	sessional work at clinic	1
	sessional work at clinics in rural areas	1
	sessional work at community health centres and district hospitals	1
	Sessional work at Provincial Hospital for Anaesthetics (at present as well)	1
	sessional work at public hospital	1
	SESSIONAL WORK AT PUBLIC HOSPITAL & CLINIC	1
	sessional work at public hospitsls	1
	Sessional work consulting patients and performing minor procedures	1
	sessional work currently, obstetrics	1
	Sessional work in a rural hospital in the HIV clinic. After hour sessions in casualty	1

	SESSIONAL WORK IN CLINIC	1
	sessional work in past	1
	sessional work in public hospitals	1
	SESSIONAL WORK IN RURAL HOSPITAL FROM 1992 TO 2005.ST. ANREWS HOSPITAL,HARDING,KZN	1
	Sessional work in the out and Inpatient departments	1
	Sessional work.	1
	Sessional work. Extra overtime.	1
	sessional work(calls)	1
	sessional, doing after hours calls	1
	sessions	19
	Sessions	6
	SESSIONS	2
	Sessions / locums	1
	Sessions and "agency" calls	1
	SESSIONS AND FULLTIME	1
	Sessions at a gynae department in a public hospital for 12 hours a week	1
	sessions at casualties/outpatients	1
	sessions at clinic	1
	sessions at clinics	1
	Sessions at day hospital	1
	sessions at government clinic	1
	sessions at hospital	1
	sessions at hospital casualty department	1
	sessions at local clinic	1
	sessions at local clinic and Hospice	1
	Sessions at local hospital	1
	sessions at local hospital. before private practice full time in public system for 12 years.	1
	Sessions at local public sector hospital - emergencies in-hours and after hours	1
	sessions at metro clinic	1
	sessions at military sickbay	1
	SESSIONS AT NIGHT	1
	Sessions at public health clinic and hospital	1
	Sessions at rural clinic	1
	Sessions at SANDF	1
	sessions at state hospital	1
	Sessions at the Emergency Unit Steve Biko Hospital.	1
	Sessions at the hospital	1
	sessions at the state hospital	1
	Sessions before 1994 when replaced for correctional purposses	1
	sessions in a paediatric department for 12 years	1
	Sessions in clinic	1
	sessions in local clinic	1
	Sessions in Opd	1
	Sessions in the dept of O and G	1
	Sessions/After hour calls	1
	Specialist Clinics	1
	Teaching and clinical contract for 3 years	1
	THAT WAS MANY YEARS AGON AND IT WAS CASUALTY WORK	1
	the state's health care is about 12 x more expensive than private health care ... per patient	1
	Thuthuzela centres in Cape town	1
	Trauma doctor at Greys hospital and medical officer at Mantobello hospital	1

	Treating Cheshire home disabled at no charge because the paper work to get a fee of R70.00 per patient would cost more than fee earned. So I volunteered for several years at my own cost!	1
	ultrashort period sessional work	1
	visits to local clinics, I also do sessional work in the form of afterhours callls	1
	Was a District Surgeon for 20 years in a rural town and recently did sessions at provincial hospital in a rural town.	1
	WAS FULLY EMPLOYED IN PUBLIC SECTOR 20 YEARS AGO FOR 6 YEARS	1
	We run a day clinic and I am convinced that there is scope for a public- private- partnership to improve service delivery.	1
	weekend calls	1
	WEEKEND CALLS AT A LOCAL HOSPITAL AND OPD DURING THE WEEK FOR FEW HOURS.	1
	Work at a government clinic. Being paid per hour.	1
	Work in Venda every 2 months at the Ha-Makuya clinic. Have a contract with Limpopo health dept.	1
	Worked 8 years full time in public sector, paid on wrong salary scale for whole year, resigned due to that, still not sorted out 9 months later	1
	worked as a medical officer in the emergency department / casualty in Steve Biko Academic for four years before opening own practice.	1
	worked as a sessional casualty officer for many years.	1
	Worked as district surgeon for eight years.	1
	worked as Medical officer for 7 years in public hospital full time	1
	Worked as medical officer in day hospital	1
	worked at Cecilia Makiwane for 5 years	1
	Worked at local Municipal Clinic	1
	Worked at rural Govenment Clinics	1
	Worked for SASSA via GP network contract	1
	worked in casulty after hours	1
	Worked shifts at hospital	1
	worked via locum agency	1
	working in township as a GP	1
	working parttime in casualty, health days for gov departments	1
	zuma and army years	1
	Total	803

7.4 Appendix D: Inflation, PPP Index and Exchange Rates

Table 7.4 Exchange rate: Rand to Dollar

Date	Value	Date	Value	Date	Value
2012/12/31	8.4838	2013/12/31	10.4675	2014/12/01	11.1059
2012/12/28	8.5031	2013/12/30	10.4623	2014/11/28	11.0348
2012/12/27	8.5695	2013/12/27	10.3505	2014/11/27	10.9649
2012/12/24	8.566	2013/12/24	10.3439	2014/11/26	10.9594
2012/12/21	8.5461	2013/12/23	10.3442	2014/11/25	11.0318
2012/12/20	8.5083	2013/12/20	10.4429	2014/11/24	10.9584
2012/12/19	8.4822	2013/12/19	10.3313	2014/11/21	10.9513

2012/12/18	8.5607	2013/12/18	10.3329	2014/11/20	11.0435
2012/12/14	8.6507	2013/12/17	10.2982	2014/11/19	11.0196
2012/12/13	8.6418	2013/12/13	10.4036	2014/11/18	11.0869
2012/12/12	8.6763	2013/12/12	10.3885	2014/11/17	11.0954
2012/12/11	8.6635	2013/12/11	10.3516	2014/11/14	11.2169
2012/12/10	8.6756	2013/12/10	10.3528	2014/11/13	11.1939
2012/12/07	8.7031	2013/12/09	10.3311	2014/11/12	11.2223
2012/12/06	8.755	2013/12/06	10.473	2014/11/11	11.3157
2012/12/05	8.7957	2013/12/05	10.4849	2014/11/10	11.2159
2012/12/04	8.8523	2013/12/04	10.3761	2014/11/07	11.3025
2012/12/03	8.8895	2013/12/03	10.2942	2014/11/06	11.1415
2012/11/30	8.7732	2013/12/02	10.1627	2014/11/05	11.1338
2012/11/29	8.7818	2013/11/29	10.1911	2014/11/04	11.0385
2012/11/28	8.8407	2013/11/28	10.2267	2014/11/03	11.0665
2012/11/27	8.8384	2013/11/27	10.1488	2014/10/31	10.8578
2012/11/26	8.8582	2013/11/26	10.0959	2014/10/30	10.9789
2012/11/23	8.9432	2013/11/25	10.0708	2014/10/29	10.8364
2012/11/22	8.9418	2013/11/22	10.1217	2014/10/28	10.9332
2012/11/21	8.9105	2013/11/21	10.1658	2014/10/27	10.9509
2012/11/20	8.8608	2013/11/20	10.1689	2014/10/24	10.9692
2012/11/19	8.8479	2013/11/19	10.1004	2014/10/23	10.9355
2012/11/16	8.8887	2013/11/18	10.1485	2014/10/22	11.0339
2012/11/15	8.9172	2013/11/15	10.2163	2014/10/21	10.9876
2012/11/14	8.8008	2013/11/14	10.296	2014/10/20	11.0659
2012/11/13	8.8	2013/11/13	10.3584	2014/10/17	11.095
2012/11/12	8.7015	2013/11/12	10.4147	2014/10/16	11.1518
2012/11/09	8.6961	2013/11/11	10.3288	2014/10/15	11.0685
2012/11/08	8.6527	2013/11/08	10.2768	2014/10/14	11.0894
2012/11/07	8.6028	2013/11/07	10.2698	2014/10/13	11.047
2012/11/06	8.7371	2013/11/06	10.2261	2014/10/10	11.1219
2012/11/05	8.7925	2013/11/05	10.1658	2014/10/09	11.022
2012/11/02	8.6582	2013/11/04	10.1638	2014/10/08	11.2101
2012/11/01	8.6579	2013/11/01	10.0631	2014/10/07	11.2118
2012/10/31	8.6235	2013/10/31	9.956	2014/10/06	11.2696
2012/10/30	8.6632	2013/10/30	9.8816	2014/10/03	11.2138
2012/10/29	8.6788	2013/10/29	9.8553	2014/10/02	11.1845
2012/10/26	8.7508	2013/10/28	9.793	2014/10/01	11.3295
2012/10/25	8.7025	2013/10/25	9.8168	2014/09/30	11.2416
2012/10/24	8.7889	2013/10/24	9.7743	2014/09/29	11.2845

2012/10/23	8.7069	2013/10/23	9.8018	2014/09/26	11.1778
2012/10/22	8.6278	2013/10/22	9.85	2014/09/25	11.1736
2012/10/19	8.653	2013/10/21	9.8315	2014/09/23	11.1202
2012/10/18	8.6214	2013/10/18	9.8424	2014/09/22	11.1402
2012/10/17	8.7112	2013/10/17	9.8592	2014/09/19	11.0708
2012/10/16	8.7676	2013/10/16	9.9662	2014/09/18	10.9852
2012/10/15	8.7426	2013/10/15	9.896	2014/09/17	10.9309
2012/10/12	8.6288	2013/10/14	9.9189	2014/09/16	10.9399
2012/10/11	8.6658	2013/10/11	9.8931	2014/09/15	11.0719
2012/10/10	8.67	2013/10/10	9.9721	2014/09/12	10.9895
2012/10/09	8.8389	2013/10/09	10.0001	2014/09/11	10.8367
2012/10/08	8.8591	2013/10/08	9.9887	2014/09/10	10.9955
2012/10/05	8.6497	2013/10/07	10.0384	2014/09/09	10.8825
2012/10/04	8.476	2013/10/04	10.0136	2014/09/08	10.7625
2012/10/03	8.4275	2013/10/03	10.0572	2014/09/05	10.7434
2012/10/02	8.3413	2013/10/02	10.1287	2014/09/04	10.6799
2012/10/01	8.2804	2013/10/01	9.9807	2014/09/03	10.6919
2012/09/28	8.2222	2013/09/30	10.1012	2014/09/02	10.6934
2012/09/27	8.2042	2013/09/27	10.1036	2014/09/01	10.6722
2012/09/26	8.2197	2013/09/26	9.9777	2014/08/29	10.6038
2012/09/25	8.199	2013/09/25	9.854	2014/08/28	10.6435
2012/09/21	8.2786	2013/09/23	9.8667	2014/08/27	10.6418
2012/09/20	8.3399	2013/09/20	9.7323	2014/08/26	10.6879
2012/09/19	8.197	2013/09/19	9.6222	2014/08/25	10.692
2012/09/18	8.2666	2013/09/18	9.8341	2014/08/22	10.6905
2012/09/17	8.2728	2013/09/17	9.8282	2014/08/21	10.7064
2012/09/14	8.2598	2013/09/16	9.7614	2014/08/20	10.6652
2012/09/13	8.3826	2013/09/13	9.9675	2014/08/19	10.632
2012/09/12	8.189	2013/09/12	9.9333	2014/08/18	10.5909
2012/09/11	8.2214	2013/09/11	9.9367	2014/08/15	10.5469
2012/09/10	8.2093	2013/09/10	10.0149	2014/08/14	10.5873
2012/09/07	8.2401	2013/09/09	9.9774	2014/08/13	10.6268
2012/09/06	8.369	2013/09/06	10.1845	2014/08/12	10.6609
2012/09/05	8.4598	2013/09/05	10.2977	2014/08/11	10.6983
2012/09/04	8.3611	2013/09/04	10.2557	2014/08/08	10.7889
2012/09/03	8.4119	2013/09/03	10.2758	2014/08/07	10.7312
2012/08/31	8.4314	2013/09/02	10.2059	2014/08/06	10.7716
2012/08/30	8.4361	2013/08/30	10.3348	2014/08/05	10.6295
2012/08/29	8.4197	2013/08/29	10.3204	2014/08/04	10.6659

2012/08/28	8.4112	2013/08/28	10.3969	2014/08/01	10.7297
2012/08/27	8.3999	2013/08/27	10.4363	2014/07/31	10.7058
2012/08/24	8.3737	2013/08/26	10.2417	2014/07/30	10.6001
2012/08/23	8.2623	2013/08/23	10.1922	2014/07/29	10.614
2012/08/22	8.2915	2013/08/22	10.3141	2014/07/28	10.5317
2012/08/21	8.263	2013/08/21	10.2277	2014/07/25	10.5406
2012/08/20	8.3086	2013/08/20	10.1825	2014/07/24	10.5202
2012/08/17	8.2673	2013/08/19	10.1187	2014/07/23	10.5214
2012/08/16	8.2556	2013/08/16	9.984	2014/07/22	10.6254
2012/08/15	8.2	2013/08/15	9.9163	2014/07/21	10.6326
2012/08/14	8.11	2013/08/14	9.992	2014/07/18	10.6972
2012/08/13	8.1323	2013/08/13	9.9173	2014/07/17	10.6684
2012/08/10	8.1377	2013/08/12	9.8575	2014/07/16	10.694
2012/08/08	8.1854	2013/08/08	9.8878	2014/07/15	10.7074
2012/08/07	8.1675	2013/08/07	9.9347	2014/07/14	10.7268
2012/08/06	8.1675	2013/08/06	9.8393	2014/07/11	10.7156
2012/08/03	8.3026	2013/08/05	9.8098	2014/07/10	10.7058
2012/08/02	8.3259	2013/08/02	10.0203	2014/07/09	10.6729
2012/08/01	8.2324	2013/08/01	9.8915	2014/07/08	10.7043
2012/07/31	8.2074	2013/07/31	9.8551	2014/07/07	10.8215
2012/07/30	8.2105	2013/07/30	9.8168	2014/07/04	10.7516
2012/07/27	8.2425	2013/07/29	9.8185	2014/07/03	10.7787
2012/07/26	8.4238	2013/07/26	9.6993	2014/07/02	10.7059
2012/07/25	8.4836	2013/07/25	9.7847	2014/07/01	10.6172
2012/07/24	8.4519	2013/07/24	9.6933	2014/06/30	10.6135
2012/07/23	8.4059	2013/07/23	9.817	2014/06/27	10.6177
2012/07/20	8.1902	2013/07/22	9.8126	2014/06/26	10.6113
2012/07/19	8.1372	2013/07/19	9.9104	2014/06/25	10.6137
2012/07/18	8.1908	2013/07/18	9.8415	2014/06/24	10.5625
2012/07/17	8.1829	2013/07/17	9.8604	2014/06/23	10.6537
2012/07/16	8.2584	2013/07/16	9.9081	2014/06/20	10.7115
2012/07/13	8.3333	2013/07/15	9.9116	2014/06/19	10.6188
2012/07/12	8.3113	2013/07/12	10.034	2014/06/18	10.7996
2012/07/11	8.1897	2013/07/11	9.938	2014/06/17	10.7422
2012/07/10	8.2276	2013/07/10	10.0028	2014/06/13	10.7379
2012/07/09	8.2748	2013/07/09	10.062	2014/06/12	10.7429
2012/07/06	8.1596	2013/07/08	10.2698	2014/06/11	10.7876
2012/07/05	8.1574	2013/07/05	10.0284	2014/06/10	10.7058
2012/07/04	8.1116	2013/07/04	10.0562	2014/06/09	10.5698

2012/07/03	8.1298	2013/07/03	10.0616	2014/06/06	10.6506
2012/07/02	8.1737	2013/07/02	9.898	2014/06/05	10.743
2012/06/29	8.3075	2013/07/01	9.8918	2014/06/04	10.7979
2012/06/28	8.4405	2013/06/28	9.9655	2014/06/03	10.6638
2012/06/27	8.4262	2013/06/27	10.0445	2014/06/02	10.5829
2012/06/26	8.4574	2013/06/26	10.0604	2014/05/30	10.4422
2012/06/25	8.4485	2013/06/25	9.9696	2014/05/29	10.4201
2012/06/22	8.3833	2013/06/24	10.2195	2014/05/28	10.4906
2012/06/21	8.2616	2013/06/21	10.2354	2014/05/27	10.4022
2012/06/20	8.2201	2013/06/20	10.2832	2014/05/26	10.3364
2012/06/19	8.3134	2013/06/19	9.9223	2014/05/23	10.3489
2012/06/18	8.3219	2013/06/18	10.0265	2014/05/22	10.3808
2012/06/15	8.3724	2013/06/14	9.8735	2014/05/21	10.4435
2012/06/14	8.4151	2013/06/13	10.0322	2014/05/20	10.4459
2012/06/13	8.3787	2013/06/12	9.9853	2014/05/19	10.3439
2012/06/12	8.4368	2013/06/11	10.2511	2014/05/16	10.3988
2012/06/11	8.2913	2013/06/10	10.1561	2014/05/15	10.3248
2012/06/08	8.4913	2013/06/07	9.9308	2014/05/14	10.2815
2012/06/07	8.3191	2013/06/06	9.9987	2014/05/13	10.3334
2012/06/06	8.3968	2013/06/05	9.8587	2014/05/12	10.3528
2012/06/05	8.5025	2013/06/04	9.766	2014/05/09	10.3366
2012/06/04	8.5909	2013/06/03	10.0406	2014/05/08	10.373
2012/06/01	8.5671	2013/05/31	10.1985	2014/05/06	10.5228
2012/05/31	8.5206	2013/05/30	9.7869	2014/05/05	10.4776
2012/05/30	8.4055	2013/05/29	9.8325	2014/05/02	10.5145
2012/05/29	8.3156	2013/05/28	9.6863	2014/04/30	10.5525
2012/05/28	8.321	2013/05/27	9.6032	2014/04/29	10.5793
2012/05/25	8.3225	2013/05/24	9.5356	2014/04/25	10.6279
2012/05/24	8.4101	2013/05/23	9.6623	2014/04/24	10.5933
2012/05/23	8.4099	2013/05/22	9.5215	2014/04/23	10.5916
2012/05/22	8.2393	2013/05/21	9.4979	2014/04/22	10.5394
2012/05/21	8.2708	2013/05/20	9.3931	2014/04/17	10.5257
2012/05/18	8.3524	2013/05/17	9.4113	2014/04/16	10.5459
2012/05/17	8.2855	2013/05/16	9.3094	2014/04/15	10.5219
2012/05/16	8.3335	2013/05/15	9.2575	2014/04/14	10.5622
2012/05/15	8.1688	2013/05/14	9.1962	2014/04/11	10.4505
2012/05/14	8.1914	2013/05/13	9.0973	2014/04/10	10.3964
2012/05/11	8.0866	2013/05/10	9.0547	2014/04/09	10.4359
2012/05/10	8.0286	2013/05/09	8.9974	2014/04/08	10.4282

2012/05/09	7.9423	2013/05/08	9.0483	2014/04/07	10.5622
2012/05/08	7.8505	2013/05/07	9.0356	2014/04/04	10.6495
2012/05/07	7.8375	2013/05/06	8.9623	2014/04/03	10.6541
2012/05/04	7.7471	2013/05/03	8.9527	2014/04/02	10.5997
2012/05/03	7.7314	2013/05/02	9.0441	2014/04/01	10.5794
2012/05/02	7.7423	2013/04/30	8.9686	2014/03/31	10.5953
2012/04/30	7.7422	2013/04/29	9.0641	2014/03/28	10.6139
2012/04/26	7.7413	2013/04/26	9.1508	2014/03/27	10.7219
2012/04/25	7.7624	2013/04/25	9.0875	2014/03/26	10.7413
2012/04/24	7.8225	2013/04/24	9.2177	2014/03/25	10.8205
2012/04/23	7.8398	2013/04/23	9.3004	2014/03/24	10.8516
2012/04/20	7.8073	2013/04/22	9.2977	2014/03/20	10.8729
2012/04/19	7.8108	2013/04/19	9.1533	2014/03/19	10.6952
2012/04/18	7.8002	2013/04/18	9.1755	2014/03/18	10.7722
2012/04/17	7.9102	2013/04/17	9.1411	2014/03/17	10.6949
2012/04/16	8.004	2013/04/16	9.2137	2014/03/14	10.7768
2012/04/13	7.927	2013/04/15	9.017	2014/03/13	10.7771
2012/04/12	7.9424	2013/04/12	8.9339	2014/03/12	10.9062
2012/04/11	8.0295	2013/04/11	8.8762	2014/03/11	10.7272
2012/04/10	7.9109	2013/04/10	8.9074	2014/03/10	10.7354
2012/04/05	7.8233	2013/04/09	8.9786	2014/03/07	10.6126
2012/04/04	7.7705	2013/04/08	9.0625	2014/03/06	10.668
2012/04/03	7.649	2013/04/05	9.1574	2014/03/05	10.7554
2012/04/02	7.6268	2013/04/04	9.2699	2014/03/04	10.8299
2012/03/30	7.682	2013/04/03	9.2332	2014/03/03	10.7799
2012/03/29	7.6617	2013/04/02	9.1912	2014/02/28	10.7175
2012/03/28	7.607	2013/03/28	9.2521	2014/02/27	10.8085
2012/03/27	7.5789	2013/03/27	9.2861	2014/02/26	10.7483
2012/03/26	7.6898	2013/03/26	9.2576	2014/02/25	10.8308
2012/03/23	7.6826	2013/03/25	9.2372	2014/02/24	10.9475
2012/03/22	7.6862	2013/03/22	9.3247	2014/02/21	11.0272
2012/03/20	7.5898	2013/03/20	9.2178	2014/02/20	11.0848
2012/03/19	7.5822	2013/03/19	9.2023	2014/02/19	10.9376
2012/03/16	7.6369	2013/03/18	9.2196	2014/02/18	10.8761
2012/03/15	7.6718	2013/03/15	9.191	2014/02/17	10.8524
2012/03/14	7.558	2013/03/14	9.2442	2014/02/14	10.9946
2012/03/13	7.5444	2013/03/13	9.1464	2014/02/13	11.0495
2012/03/12	7.5885	2013/03/12	9.2005	2014/02/12	10.9492
2012/03/09	7.5077	2013/03/11	9.1116	2014/02/11	11.1253

2012/03/08	7.5622	2013/03/08	9.1336	2014/02/10	11.1395
2012/03/07	7.6381	2013/03/07	9.1014	2014/02/07	11.041
2012/03/06	7.6069	2013/03/06	9.0333	2014/02/06	11.1428
2012/03/05	7.5536	2013/03/05	9.0591	2014/02/05	11.1238
2012/03/02	7.4877	2013/03/04	9.0864	2014/02/04	11.1804
2012/03/01	7.4914	2013/03/01	9.0296	2014/02/03	11.1558
2012/02/29	7.4777	2013/02/28	8.841	2014/01/31	11.1715
2012/02/28	7.5172	2013/02/27	8.8387	2014/01/30	11.3573
2012/02/27	7.6377	2013/02/26	8.8343	2014/01/29	10.9749
2012/02/24	7.6305	2013/02/25	8.8673	2014/01/28	11.0593
2012/02/23	7.6858	2013/02/22	8.8681	2014/01/27	11.1939
2012/02/22	7.7313	2013/02/21	8.9016	2014/01/24	11.0118
2012/02/21	7.6941	2013/02/20	8.8461	2014/01/23	10.9175
2012/02/20	7.6904	2013/02/19	8.9228	2014/01/22	10.8085
2012/02/17	7.7709	2013/02/18	8.8402	2014/01/21	10.8425
2012/02/16	7.8105	2013/02/15	8.8109	2014/01/20	10.8811
2012/02/15	7.6929	2013/02/14	8.8742	2014/01/17	10.8662
2012/02/14	7.727	2013/02/13	8.907	2014/01/16	10.9422
2012/02/13	7.6489	2013/02/12	8.969	2014/01/15	10.8648
2012/02/10	7.6641	2013/02/11	8.8811	2014/01/14	10.8629
2012/02/09	7.5778	2013/02/08	8.9401	2014/01/13	10.7084
2012/02/08	7.53	2013/02/07	8.8888	2014/01/10	10.7647
2012/02/07	7.5481	2013/02/06	8.8542	2014/01/09	10.8024
2012/02/06	7.5877	2013/02/05	8.9181	2014/01/08	10.6668
2012/02/03	7.6606	2013/02/04	8.8862	2014/01/07	10.6659
2012/02/02	7.6942	2013/02/01	8.9682	2014/01/06	10.6925
2012/02/01	7.803	2013/01/31	9.0582	2014/01/03	10.6148
2012/01/31	7.8034	2013/01/30	9.0366	2014/01/02	10.5916
2012/01/30	7.8252	2013/01/29	9.0908		
2012/01/27	7.8113	2013/01/28	8.9655		
2012/01/26	7.8639	2013/01/25	8.9902		
2012/01/25	7.9383	2013/01/24	9.0414		
2012/01/24	7.9826	2013/01/23	8.8941		
2012/01/23	7.9409	2013/01/22	8.8375		
2012/01/20	7.9553	2013/01/21	8.8749		
2012/01/19	7.9819	2013/01/18	8.8528		
2012/01/18	8.0268	2013/01/17	8.7784		
2012/01/17	8.0194	2013/01/16	8.8642		
2012/01/16	8.1426	2013/01/15	8.7311		

2012/01/13	8.0373	2013/01/14	8.7209	
2012/01/12	8.0869	2013/01/11	8.6734	
2012/01/11	8.0979	2013/01/10	8.5965	
2012/01/10	8.1296	2013/01/09	8.5716	
2012/01/09	8.1594	2013/01/08	8.5882	
2012/01/06	8.1569	2013/01/07	8.6089	
2012/01/05	8.18	2013/01/04	8.6295	
2012/01/04	8.0613	2013/01/03	8.5224	
2012/01/03	8.0562	2013/01/02	8.4478	

Source: South African Reserve Bank (2014)

On average the exchange rate from 2012 to 2014 is R8.90 to the dollar.

Inflation was calculated by calculating the percentage change in the consumer price index (CPI) from 2008 to 2014. The average CPI for the year was calculated using a pivot table. Thereafter, the difference in CPI between 2008 and 2014 was calculated and divided by the CPI in 2008. The CPI increased by 39per cent from 2008 to 2014.

Year	Average of CPI
2008	78.8
2009	84.5
2010	88.0
2011	92.4
2012	97.7
2013	103.3
2014	109.7
Grand Total	**93.5**
Percentage change from 2008	
	39%

Source: Statistics South Africa (2014)

PPP index for the actual consumption of good for individuals was used to compare incomes of GPs compensating for the differences in the cost of living between countries.

2011	2012	2013	Average (2011-2013)
5.07	5.07	5.17	5.1

Source: World Bank (2014)