EXPLORING FACTORS MOTIVATING HEALTH WORKERS TO CHOOSE AND MAINTAIN A CAREER IN RURAL HEALTH PRACTICE IN SOUTH AFRICA.

BY

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DECLARATION

I declare that, *Exploring factors motivating health workers to choose and maintain a career in rural health practice in South Africa* is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

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ABSTRACT

The South African National Department of Health (NDoH) has committed itself to ensure that there is equity in the distribution of health workers especially to rural areas primarily through service requirements and incentives. Despite all initiatives put in place, the national health system struggles to recruit and retain health workers in rural health facilities. While the majority of health workers choose to practise in urban areas, some choose to pursue and persist in a career in rural health practice.

This study determines, in the South African context, factors that motivate health workers to choose and maintain a career in rural health practice. It establishes what makes health workers choose to work in rural areas, what encourages them to stay in rural health practice and what tempts them to leave rural health practice. These factors interact at different levels, at the level of an individual health worker, of a rural health organisation or level of a rural community, to influence the decision of a health worker to choose, stay in or leave rural health practice. The study combines both quantitative and qualitative methods in a cross-sectional survey to identify these factors from the perspective of rural health workers. It invites rural health workers to identify those factors that are applicable to them from the list of factors and rank them according to the degree of importance in their decision-making. A self-administered structured questionnaire and key informant interviews were used to collect data.

The findings of this study show that rural background, desire to gain work experience, family obligations, prior interest in underserved area practice, desire or requirement to perform community service, desire to live in a rural area, family friendly environment and having friends living in a rural area are very important factors motivating health workers to choose a career in rural health practice. According to the study, having a good relationship with colleagues and immediate supervisor, being part of a team, desire to gain work experience, flexible work hours, community recognition for work and

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ACRONYMS

NHS	South African National Health System
IMR	Infant Mortality Rate
TB	Tuberculosis
PHCA	Primary Health Care Approach
DHS	District Health System
RDP	Reconstruction and Development Programme
TOP	Termination of Pregnancy
VCT	Voluntary Testing and Counselling
HRH	Human Resources for Health
NDoH	National Department of Health
OECD	Organisation for Economic Cooperation and Development
PHC	Primary Health Care
HIV	Human Immunodeficiency Virus
AIDS	Acquired Immunodeficiency Syndrome
HWSETA	Health and Welfare Sector Training Authority
NQF	National Qualifications Framework
WSP	Workplace Skills Plan
HRP	Hospital Revitalisation Programme
CUBP	Clinic Upgrading and Building Programme
ISRDS	Integrated Sustainable Rural Development Strategy
PSBC	Public Service Coordinating Bargaining Council
RSN	Rural Support Network
RUDASA	Rural Doctors Association for Southern Africa
WHO	World Health Organisation
SSA	Sub-Saharan Africa
JLI	Joint Learning Initiative
CBC	Canadian Broadcasting Corporation
MoH	Ministry of Health
WWAMI	Washington, Wyoming, Alaska, Montana and Idaho
NHSC	National Health Service Corps
ROS	Return of Service Arrangements
AHEC	Area Health Education Centre
RPAP	Rural Physicians Action Plan
CI	Confidence Interval
ECDOH	Eastern Cape Department of Health
PMTCT	Programme for Mother to Child Transmission

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

The shortage of health professionals in rural areas is a long-standing worldwide problem. Financial and non-financial incentives have been employed by several governments in an attempt to recruit and retain health workers in rural and underserved areas. In spite of such initiatives, rural hospitals, health centres and clinics continue to rely upon fewer health workers to render quality health services. The South African national health system (NHS) is confronted by similar challenges. There is a shortage of health workers in the public sector and in geographic areas with the greatest health needs. In contrast, there is a concentration of health professionals in the private sector, urban areas and higher levels of the health care delivery system.

In South Africa, the private sector accounts for a higher proportion (58%) of total health expenditure but access to its services is limited to less than 20% of the population (Goudge et al 2001). About 53% of all general practitioners and 76% of all specialists worked in the private sector in 1998 (Goudge et al 2001). On the other hand, the public health sector which provides for more than 80% of the population (population not on medical aid and are dependent on the public sector for health care) is understaffed with about 30% of its 174 573 health professional posts unfilled, according to the PERSAL system on 31 July 2005. Both public and private sector health services and therefore health workers are concentrated in urban areas thereby leaving understaffed rural health facilities to serve the predominantly public sector dependent rural population. In 2003, provinces that are predominantly rural such as the Eastern Cape, Limpopo and North-West relied on fewer dental practitioners, of 0.99, 1.01, 1.49 per 100 000 public sector dependent population respectively, about three times less than that of Gauteng (2.79) and the Western Cape (3.35). The Eastern Cape employed 12.7, the North-West 11.5, and Limpopo 14.3 medical practitioners per 100 000 public sector dependent population compared to the Western Cape (31.9) and Gauteng (25.4). The

Western Cape has 14 times more medical specialists than the Eastern Cape and thirty three times more than Limpopo. The total number of pharmacists concentrated in the Western Cape is equivalent to the number of pharmacists from Limpopo, the Eastern Cape and the North-West combined (Padarath, Ntuli & Berthiaume 2004).

In 1980, the doctor to population ratio was 1: 1 237 in urban areas and 1: 5 396 in rural areas. The ratio in the then "homelands", which are predominantly rural, was 1: 13 000 and in some instances the ratio was more than 1: 30 000 (Pick 1995). Within each province, the distribution of health workers is uneven particularly between urban centres, peri-urban areas and rural areas. For example, in the Western Cape health workers are concentrated in the Cape Metropolitan area (Chitha 2005b). In the urban province of Gauteng, Jubilee Hospital which is located in a peri-urban setting, is struggling to recruit and retain health workers (Rural Support Network Report-back 2004). Similarly, the Eastern Cape, a predominantly rural province with less developed health service delivery infrastructure and fewer training institutions struggles to recruit and retain health workers. The vacancy rates in some of its facilities are high with some having more than 60% of their medical officer posts unfilled. The shortage is worse in rural facilities (Eastern Cape Department of Health 2005a). The rural-urban inequity in the distribution of health personnel derive from the concentration of such personnel within the higher levels of the health care system (Padarath et al 2003) and private sector facilities (Van Rensburg & Van Rensburg 1999) which are mostly urban-based.

The shortage of health professionals in rural areas has serious implications for access to health care, the quality of care provided and the health status of the population. The health status of the rural population is generally lower than that of the urban population. For instance, South Africa has an infant mortality rate (IMR) of 45 per 1000 live births but the predominantly rural provinces of the Eastern Cape, KwaZulu-Natal, Mpumalanga, the Northern Cape, the North-West and Limpopo have an IMR that is higher, and in some cases above the national average, compared to the urban province of the Western Cape. Similarly, some of the provinces that are predominantly rural, such as

the Eastern Cape (388), the Northern Cape (360) and the Free Sate (338) show TB incidence that is above the national average (254 per 100 000) compared to Gauteng Province (209). The exception in this regard is the urban province of the Western Cape that has the highest incidence in the country (Statistics South Africa 1998).

Subsequent to the first democratic elections, South Africa resolved to establish a new national health system (NHS) guided by the Primary Health Care Approach (PHCA) which would be implemented based on the district health system (DHS) (African National Congress 1994; Department of Health 1997). This set new challenges within the NHS including promotion of equity, efficiency and access to quality health care. The White Paper on the Transformation of the Health System in South Africa (1997) endorsed the position of the South African government's Reconstruction and Development Programme (RDP) that a primary health care package of services would be provided at the lowest level of the NHS called a district. Additional services such as the termination of pregnancy (TOP), voluntary testing and counselling (VCT) and prevention of mother to child transmission (PMTCT) have been included in the PHC package. The removal of user fees at primary health care level, first for children under six years of age and pregnant women and later for all people dependent on the public sector, have increased access and utilisation of health services. These policies have additional implications for the financial, human and infrastructural resources within the NHS. Despite all efforts and interventions to promote access to health services, there remain many challenges specific to human resources for health (HRH) including planning, development, management and sustainable redistribution of health workers.

1.2 RATIONALE

Although the South African government has implemented several HRH strategies such as the recruitment of foreign health professionals, the community service programme for health professionals and the scarce skills and rural allowances, health worker posts still go unfilled in the public sector

particularly in rural areas. However, some health workers choose to work and continue working in rural areas. Many studies in other countries have reported on factors that influence physicians and nurses to choose a career in rural health practice (Smith et al 2001, Hegney et al 2002, Dunbabin & Levitt 2003). Other studies have reported on those factors which encourage health workers to leave rural health practice (Kamien 1998, Hegney et al 2002, Struber 2004). To gain an understanding of the health workers who choose a career in rural health practice in the South African context, it is important to obtain information on factors that motivate their choice of rural health practice location and why they stay in or consider leaving rural health practice. It is hoped that this information will contribute to the design and implementation of successful recruitment, retention and redistribution strategies for health workers in South Africa's health sector.

1.3 AIM AND OBJECTIVES

The aim of this study is to explore factors motivating health workers to choose and maintain a career in rural health practice. The objectives of the study are:

- To perform a critical analysis of human resources for health (HRH) policies and strategies in South Africa.
- To determine factors that influence health workers to choose a career in rural health practice.
- To establish what factors motivate health workers to stay in rural health practice.
- To establish what factors encourage health workers to leave rural health practice.
- To suggest strategies that could be used to recruit and retain health workers in rural health practice.

1.4 ORGANISATIONAL STRUCTURE OF THE THESIS

This dissertation is made up of seven chapters. Chapter two focuses on the international literature reviewing health worker motivation and factors

motivating health workers to choose, to stay in or leave rural health practice and strategies and consolidates this review in a conceptual framework for determinants of a career in rural health practice. Chapter three provides a review of international strategies employed by different countries to promote recruitment and retention of human resources for health (HRH) in rural health practice. Chapter four describes the study's research methodology in detail. Chapter five presents a critical analysis of the South African human resources for health strategies while Chapter six presents analysis and findings of the study. Chapter seven covers discussion of the findings of the study and chapter eight draws conclusions and makes appropriate recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews theory of health worker motivation, evidence on factors motivating health workers to choose, stay in or leave rural health practice and concludes with a conceptual framework that shows determinants of a career in rural health practice.

2.2 HEALTH WORKER MOTIVATION

Worker motivation can be defined as a degree of willingness by the individual worker to exert and maintain an effort towards the attainment of organisational goals (Bennett & Franco 1999) and entails psychological processes that influence the individual worker to adopt and sustain hard work to achieve workplace-prescribed goals and tasks (Kanfer 1999). Health worker motivation refers to the degree of willingness by an individual health worker to adopt, work towards and maintain effort towards attainment of health sector organisational goals. It is influenced at different levels such as the individual, the organisation and the socio-cultural and environmental context (Franco, Bennett & Kanfer 2000).

Health care organisations draw their individual employees from society characterised by certain values and cultural practices. These health workers are unique in many ways including their personal needs, goals, abilities, values, personality traits, experiences and expectations. Their values are very much shaped by the values of the society from which they have been drawn and play a key role in setting boundaries in terms of what can or cannot motivate them. These elements (goals, values, abilities etc) are embodied within each individual health worker and are key determinants for them to commit their personal resources to achieve the goals of the organisation.

Bennett & Franco (1999) argue that, firstly, the worker's perception of his or her ability is a basis for self-confidence and for setting personal goals which

serve as a motivating factor for the worker to take on and persist in challenging tasks. Secondly, every worker has needs that must be met either in the workplace or outside. If an individual worker's needs are not met, the worker experiences a tension that leads her or him to try to satisfy these needs inside or outside the workplace. Lastly, the consequences or outcomes that workers experience from their behaviours are related to their expectations and become incentives for them to continue certain behaviours. If a worker believes that a reward given is inadequate to compensate for the effort expended, she or he may interpret this as a lack of care and appreciation even if the organisation meant otherwise. However, to some workers, the fact that they have achieved something or have shown competence and professionalism regardless of recognition for such achievement encourages them to put in more effort whereas others require reinforcement and recognition in the form of feedback, financial incentives and promotions in order to continue working hard. The individual worker's needs, values, abilities, experiences and expectations inform their individual goals. The individual worker's values, which are largely shaped by the societal values, provide a scope of application within which personal goals can be achieved while commitment to attainment of personal goals determine the degree to which resources, both personal and non-personal will be mobilised to achieve such goals.

The health organisation provides the context (structures, processes, resources and culture) within which the health worker employs both personal and organisational resources to achieve personally and organisationally defined goals. It is this context upon which a health worker's motivation also depends (Bennett & Franco 1999). In addition, the organisational context determines to some extent the degree to which some of the worker's individual goals can be met through the workplace. The greater the degree to which individual worker's goals are met through the workplace, the more positive will be the effects on worker motivation (*ibid*). If the salaries and working conditions are unsatisfactory, health workers are likely to find other strategies to cope under the circumstances. For instance, they will become more concerned with earning enough to cover their basic needs in other ways

than to work hard for the organisation (Lerbeghe et al 2002). The internal structures of the organisation are a true reflection of prevailing conditions in which workers work including reporting structures, relative status of different workers, delegation of responsibility and authority and level of worker autonomy. Moreover, the type of management structures and processes in place within the organisation are more likely to influence whether the organisation can articulate and communicate its goals, norms and standards for worker behaviour as well as information about the organisation in general (Bennett & Franco 1999). The nature of the organisational structures and processes will in all likelihood influence the worker's perception of the organisation, their abilities, the possibility of doing a good job and their experience of outcomes and feedback within the health organisation.

Besides, health organisations operate within the broader societal context and the source of employees as well as feedback for services provided is the society in which the organisation is located. However, individuals bring with them into the organisation not only the values they have learnt from society but also their experiences within specific parts of society. The effectiveness of organisational structures, processes and culture in achieving worker motivation will depend to a considerable extent on how well the characteristics of the organisation integrate with the local culture that frames individual health worker's values and goals (Bennett & Franco 1999). Societal values influence both the employees and the nature of feedback received. Motivating factors such as the relationships between health workers and clients, support from community leaders and perception of community members with respect to services are important factors informed by the organisational and socio-cultural relationship. A good blend of local or societal culture and organisational culture is likely to produce an organisation that is relevant to local communities in terms of meeting individual worker needs and goals, local community needs as well as producing positive societal feedback.

For sustainable worker motivation, it is critical that individual health worker goals be aligned with health organisational goals. For the health worker to adopt organisationally prescribed goals, these goals must effectively be

aligned to personal expectations, personal perceptions and personal goals. Commitment to a goal serves to direct an individual health worker's attention, mobilise the individual's effort toward goal attainment and encourage persistence to attain the goals (Kanfer 1999). Subsequent to goal adoption, the worker requires an environment that is enhancing (conducive to building self-confidence and trust in the organisation) as well as stimulating (giving challenging tasks, rewards, feedback, promotions etc.). These factors can engender a willingness to expend personal resources to perform organisationally prescribed tasks.

However, many of these individual characteristics can be enhanced through appropriate management interventions and organisational reforms. Organisations may influence an individual's goals by altering the perceived value of engaging in organisation-desired behaviours. For example, by providing allowances for working in designated areas, workers who seek monetary gain may decide to work in those areas. A worker's sense that she or he can do the job is increased when workers feel competent, know the standards for performance and receive feedback on what to improve. Changes in organisational culture, management practices and communication can further shape health worker behaviour. Human resource management systems (recruitment procedures, job descriptions, training, supervision and performance reviews and incentives) influence worker's perception of the organisation, their capabilities and the possibility of doing a good job. Communication systems that facilitate a constant flow of appropriate information are more likely to increase alignment between health workers' goals and those of the organisation and in turn affect the workers' motivation (Bennett & Franco 1999). Organisational practices that provide workers with clear and strong financial, non-financial and social incentives for allocating personal resources to achieve the organisationally prescribed job are more likely to facilitate worker motivation.

2.3 FACTORS MOTIVATING HEALTH WORKERS

2.3.1 To choose to work in rural health practice

The recruitment and retention of health professionals in rural communities have been studied in several countries including the United States of America, Canada and Australia. National health systems are grappling daily with questions of recruitment and retention of health workers and how they relate to demographic, practice and community characteristics. Recruitment and retention are two distinct processes. It has been established that those factors that influence health workers to choose a career in rural health practice do not necessarily apply when it comes to retention (LaRavia et al 2002). A recruitment strategy may do well and deliver a health professional but be unable to guarantee retention of the newly recruited health worker.

It is long established that medical students with a rural background are more likely to choose a career in rural medicine. These medical students have either grown up or lived previously in a rural community. This influenced training institutions in the United States of America in the 1970s to introduce curriculum reforms allowing for initiatives to select medical students with a rural background and exposing them to rural medicine during their training (Dunbabin & Levitt 2003). These reforms were the basis for the observations by Talley (1990) who pronounced four basic "truths" about rural health that:

- Students of rural origin were more likely to return to rural areas to practise medicine.
- Recent medical graduates trained in rural areas were more likely to choose rural practice.
- Family medicine was the key discipline of rural health care.
- Recent medical graduates are likely to practise close to where they train.

Rabinowitz et al (1999) reported on data collected as part of the Jefferson Longitudinal Study from 1972 to 1991 that "Growing up in a rural area" was

the most important predictor of practice in a rural area. Brooks et al (2002) reported that premedical school factors such as rural origin and specialty preferences were most strongly associated with choosing to work in rural health practice. In Australia, Kamien (1998) studied data from 1971 to 1976 in Western Australia and reported that a significant proportion (66%) of those with rural backgrounds had chosen to work as rural doctors in comparison to those without rural backgrounds (16%). Rolfe et al (1990) surveyed doctors who had graduated from the University of Newcastle medical school between 1982 and 1988 and found that those who had lived in a rural area before enrolling for medical training were more likely to be working in a rural community than those who lived in an urban area. Hegney et al (2002), in their survey of nurses from Queensland Health in 1999 to 2000, reported that previous experiences of rural environment either through living or working in a rural community were the most compelling reasons for nurses to choose rural and remote area practice. Smith et al (2001), in a survey of student nurses to investigate factors influencing them in their choice of a clinical placement, reported that a higher proportion (63%) of those who chose rural clinical placement had lived in a rural community for over ten years. The report also suggested that financial considerations had influenced student nurses in their choice of clinical placement. About 28% of the total student nurses sample had applied for a rural scholarship. De Vries and Reid (2003), in their study of the career choices of medical graduates of rural origin in South Africa found that a higher proportion (38.4%) of rural origin medical graduates chose to practise in rural areas compared to 12.4% of their urban counterparts.

Rabinowitz et al (1999) also reported on data collected in the Jefferson Longitudinal Study from 1972 to 1991 that prior plans to become a family physician before enrolling for medicine was the other important predictor of rural practice. Hegney et al (2002) also reported that factors such as the rural way of life, employment in close proximity to family and friends and the fact that employment was available in the area influenced the decision of the participants to choose a rural health career. From a national sample of physicians in the United States of America, Xu et al (1997) reported that personal features, financial obligations and prior interest to practise in an

underserved area were the most significant factors influencing choice of practice in an underserved area. Minarick and Allen (2003) also reported in Nebraska that factors influencing physician's choice of rural practice location were attending a non-metropolitan high school (67%), prior interest in rural medicine (63%), desire to return to rural lifestyle (48%), participating in a loan repayment program (38%) and childhood contact with a rural family physician (21%).

2.3.2 To stay in rural health practice

Rural background of a health professional has been found to be the most influential factor in the choice of rural practice location but is not a significant factor in retention of such a professional. Retention is a matter of personal adaptation both within the practice and the community and reflects the degree of congruency between personal factors, practice-related factors and community factors. Kamien (1998) reported in his follow up survey of 1996 on outcomes of rural doctors' stated intentions in 1986 that professional satisfaction was the main reason for doctors to stay in rural practice and that 60% of reasons for staying were related to job satisfaction. This satisfactory practice entails autonomy in clinical decision-making, challenging tasks and diversity in scope of practice and opportunity to perform clinical procedures. Pathman et al (2004) surveyed physicians working in health professional shortage areas in the USA correlating personal, practice and community characteristics to retention and found that only parenting a minor-age child and working in a state where one grew up or trained was associated with longer retention. The personal characteristics of physicians shown to predict rural recruitment- rural upbringing, male gender, family medicine specialty- were generally unrelated to how long doctors continued working in rural areas.

Matsumoto, Okayama and Kajii (2004) surveyed rural doctors' satisfaction with their jobs and lives in Japan relating this to intention to continue rural practice and reported a positive correlation between the degree of intent to remain in rural health practice and interactions with municipal government, interactions with colleagues, salary and job satisfaction. Hegney et al (2002)

reported on the data collected from nurses in Queensland Health from 1999 to 2000 that the reasons for nurses staying in rural practice are the broader, diverse and challenging scope of rural practice characterised by clinical autonomy and opportunity. In addition, Pathman's (1992) prospective study of rural physicians found that those who indicated that they felt better prepared for rural practice stayed longer than those who felt unprepared and were unaware of the special characteristics of rural practice. Being prepared for rural life in the social sense seems more important in this regard than being medically trained for rural practice. Those who felt prepared for life in a small town were twice as likely to remain in rural health practice for at least six years. Mayo and Mathew (ND) assessed spousal perspectives on factors influencing recruitment and retention of rural family physicians in Canada and reported that heavy workloads reduce time available for physician's involvement in family life and contribute to dissatisfaction. The report further suggested that social support from family and friends, involvement in the community (through social and children's activities) and employment activities contribute to satisfaction of spouses and the retention of rural physicians.

2.3.3 To leave rural health practice

Struber (2004) assessed why it is so difficult to recruit and retain Allied Health professionals in rural Australia and reported disincentives such as a lack of management support, a lack of appreciation or recognition of their role, a lack of professional supervision, support and mentoring, the difficulties in accessing professional development, a lack of support for postgraduate education, professional isolation, a lack of career progression, a lack of resources, income and terms of employment, difficulty in obtaining locum cover, large caseload and excessive travel, a lack of orientation to the community, a lack of employment or educational opportunities for spouse and children, social and cultural isolation and personal safety fears. In 1996, Kamien (1998) performed a follow up survey on intentions to quit rural practice on the 1986 cohort of rural doctors and found that the main reasons were a desire to change professional direction through specialisation, burnout and disillusionment from the downgrading of hospital facilities. The report also

suggested that overwork, deskilling, conflict with colleagues, a lack of privacy, poor income and inadequate housing accounted for 60% of the problems. According to Kamien (1998), the main social reasons for leaving rural health practice were children's education and marital difficulties.

2.4 CONCEPTUAL FRAMEWORK

2.4.1 Introduction

This conceptual framework describes a package of features characterising an area as rural, attempts to define rural health practice and describes determining factors for health workers to choose to work and maintain a career in rural health practice. It draws insight from the conceptual framework on worker motivation and health sector reform by Franco, Bennett & Kanfer (2000).

2.4.2 Definition of Rural area, Rural health practice and Health Worker

(a) Rural area:

There is no precise definition of the word "rural". However, some features describing an area as "rural" can be identified depending on whether a topographical perspective, a socio-economic perspective or functional perspective is taken. According to the topographical perspective, a "rural area" is an area located outside a large town or city to which it is linked through road networks. There is no rigidly defined demarcation but the land and scenery of a "rural area" are uncharacteristic of a town or city (Stevenson, Elliott & Jones 1990). Besides, a "rural area" is normally characterised by a population that is sparse and mobile. The socio-economic perspective describes a "rural area" as that area where agriculture is the main economic activity undertaken. It has a lower than average household income with households mainly relying on social grants, remittances from urban areas and government transfers. There are fewer employment opportunities and people in these areas are primarily dependent on urban areas for job opportunities (Department of Provincial and

Local Government 2000). In addition, shops, clinics and schools are mostly far away. The functional perspective describes a "rural area" from the viewpoint of the functioning and daily activities of rural people where no significant economic activity takes place, households are headed by old people, and young people commute regularly between the area and the city to work or in search of work. This migration occurs over a distance, is often costly and predominantly unidirectional.

(b) Rural health practice:

The definition of a "rural health practice" is adapted from the definition of rural medical practice by Hall (2003). Therefore, a rural health practice is a practice in which the delivery of health services occurs within a rural context whereby a health worker is expected to work within a broader scope of practice, as a generalist practitioner and an all-rounder and able to perform some tasks and procedures that would otherwise require highly skilled health professionals.

(c) Health worker

For the purpose of this study, health worker means all professional and sub-professional categories involved in clinical service delivery such as medical doctors, dentist, professional nurses, staff nurses, nursing assistants, speech therapists, physiotherapists, pharmacists, pharmacist assistants and radiographers.

2.4.3 Determinants of a career in rural health practice

This conceptual framework draws from Franco, Bennett & Kanfer (2000) and the literature review on international experience of rural health worker issues. The choice of a rural health career and persistence in rural health practice are two distinct processes and are both subject to different determinants which occur at the level of the individual health worker, the rural health organisation and the rural community. The ultimate decision of the individual health worker to choose or persist in rural health practice reflects the interaction between these determinants and the degree of fit between the individual-level

determinants, the organisational-level determinants and the community-level determinants. Table.1 below summarises the determinants of a career in rural health practice.

Table.1: Conceptual Framework on determinants of a career in rural health practice

Level of determinant	Choosing rural health practice	Staying in rural health practice	Leaving rural health practice
Individual health worker	Rural background (rural schooling, growing up in a rural area, previously lived in a rural area, previously worked in a rural area), Rural training exposure, prior interest in underserved area practice, financial/scholarship obligations, attended training institution with a rural mission, mentor & friends promoting rural practice, parenting a minor-age child, proximity to family and friends, male gender, desire to perform community service, childhood contact with a rural family physician, desire to raise family in rural setting	Good professional preparation (social & medical), job satisfaction, love rural way of life, proximity to family & friends, family commitments, partner would not move	Inadequate professional preparation, change in professional direction, burnout, desire to experience urban way of life, desire to raise family in urban setting, family commitments, Marital difficulties
Rural health organisation	Requirement to perform community service, financial incentives, only employment opportunity available	Type of practice(diversity & scope of work, clinical autonomy, opportunity to perform clinical procedures, providing care to needy patients), management systems and competence, leadership style, worker participation in decision-making, opportunities (professional development, promotion), remuneration and incentives, professional support, supervision & mentoring, management & peer recognition, relationship with colleagues & supervisors	Lack of opportunities (promotion, professional development, perform clinical procedures). lack of support for postgraduate education, workload, conflict with peers, poor management practices, lack of privacy, lower income, lack of locum cover, deskilling, lack of resources, professional isolation, inadequate staff housing, lack of professional supervision, support & mentoring
Rural community	Rural lifestyle, family friendly environment, partner employed in the area	Community recognition/appreciation, community respect for health professionals, employment opportunities for spouse/partner, social support, good infrastructure	Lack of quality schools, Lack of employment opportunities for partners, poor infrastructure, cultural & social isolation, fear for personal safety, lack of orientation to the community

An individual health worker's decision to choose and maintain a career in rural health practice is informed by personal needs, goals, experiences, expectations, values and abilities as well as influenced by family, mentors and friends. A health organisation provides the context, in the form of structures, processes, resources and culture, within which the health worker practises his or her career. It is the rural health organisation context in which personally defined career goals and organisationally defined practice goals interact resulting in adoption and maintenance of a rural health career. In reality, management systems and competence, leadership style and worker participation in decision-making within the organisation where the worker practises his or her career are important areas if the worker is to remain in that career. In the health organisational context, management competence determines partly the possibility of doing a good job and how the health professional's work is organised, which team to work with, if the necessary equipment and supplies are provided and if the health worker is remunerated appropriately and promptly. Leadership style determines how the organisation projects itself and the extent to which health workers participate in decision-making, are given autonomy over their tasks and have the space to be creative and innovative while carrying out their day-to-day tasks.

Health organisations operate within the broader societal context. Similarly, a rural health organisation operates within the rural community context. The environment in which the health worker and practice are located is influential in the manner in which the health worker perceives the practice. Rural community influences play an important role in the health worker's decision to choose, to stay in or leave rural health practice. In rural areas, schools, clinics and shops are usually distant, road and telecommunications infrastructure is generally poor and there are fewer employment opportunities. The quality of public schools is generally poor with no alternative schools for the health workers' children in the immediate environment. The poor condition of the road and telecommunications infrastructure reduces access to quality health care. In some areas, referral systems are virtually non-existent due to the poor condition of roads and the scarcity of reliable transport. The cost of maintaining personal transport is high and makes it a disincentive for health

workers to continue with rural health practice. The poor and dysfunctional telecommunications infrastructure hampers providing and sustaining professional support systems and providing access to professional development opportunities and recreational facilities.

In some of the rural areas, besides inadequate housing, there is limited or no capacity to develop alternative housing for use by health workers making housing an important deterrent to choosing and maintaining a rural health practice career. Besides, inadequate housing has been mentioned as one of the reasons for leaving rural health practice. Moreover, there are generally fewer employment opportunities in rural areas. This is important if rural health organisations are to retain health professionals in rural health practice. The spouses who may not be health professionals need to be able to get employment in the vicinity but are often unable due to unavailability of employment opportunities. The lack of employment opportunities for the spouse and the lack of educational opportunities for children have been mentioned as some of the reasons for leaving rural health practice.

For a sustainable career in rural health practice, it is important that the goals of the rural health worker are aligned with those of the rural health organisation. Subsequent to career choice, the worker requires an organisational or practice context that is enhancing (conducive to personal growth, professional growth and meeting personal needs and expectations) as well as stimulating (giving rewards, feedback, promotions etc.) in order to persist in the chosen career path. Besides the individual-level and organisational-level determinants, the rurality of the environment with its economic, social, educational and cultural influences is central to the ability of rural communities to attract and retain health workers in rural health practice. Financial incentives, non-financial incentives, social strategies and legislation combined have the potential to encourage health professionals to consider and persist in rural health practice. In addition, the socioeconomic development of rural communities is a key to sustainable recruitment and retention of health workers in rural health practice.

2.4.3 Summary

It is clear from the conceptual framework that individual level factors feature prominently in the decision to choose rural health practice while organisational and community level factors play a very influential role in the decision to stay or leave rural health practice. Taking note of these factors and the levels at which they interact to influence choice and maintenance of a career in rural health practice, it is important to review strategies that have been employed in different countries to recruit and retain health workers in rural areas and the level at which they have focussed.

CHAPTER THREE: REVIEW OF INTERNATIONAL HRH STRATEGIES TO INCREASE RECRUITMENT AND RETENTION

3.1 INTRODUCTION

The maldistribution of health professionals is an "old" worldwide challenge and no country seems to have successfully dealt with it. It is probably the most critical challenge facing national health systems in some parts of the world. In addition, almost all national health systems are faced with some kind of shortage of health workers especially those in the developing world (WHO 2003).

Covered in this review is an overview of human resource challenges facing national health systems as well as the strategies employed by different countries to encourage and support redistribution of health professionals to rural and other underserved areas.

3.2 HUMAN RESOURCES FOR HEALTH (HRH) CHALLENGES

The HRH challenges facing different national health systems tend to be similar across countries, but the extent to which they exist differs. These challenges include:

3.2.1 Shortage of health workers

The shortage of health workers confronts national health systems in both developed and developing countries but is prominent in developing countries, in particular Sub-Saharan Africa (SSA). About thirty eight of approximately forty seven SSA countries do not meet the WHO recommended minimum of twenty doctors per 100 000 population (i.e. 1 doctor per 5 000 population) (United Nations 2003). In the 1980s, there was a doctor-population ratio of one doctor to 10 000 persons in Sub-Saharan Africa compared to 1 400 persons in all developing countries and 300 persons in industrialised

countries. In the same period, one nurse catered to 2 100 persons in Africa compared to 1 700 persons in all developing countries and 170 in industrialised countries (World Bank 1994). The population-to-provider ratios in SSA continued to be high in the 1990s, with most countries ranging from one doctor per 10 000 population to one doctor per 30 000 population (World Bank 1994). In Sub-Saharan Africa, the shortage of health professionals derives from the inadequate number of trained health workers, inability of training institutions to keep pace with need and the burden of disease and the focus of some countries on producing more expensive cadres of health workers relative to their disease burden and their financial means (Picazo & Duale 2003) and continuing migration of health professionals to industrialised countries.

In most high income countries, the demand for health services and health personnel has been growing much faster than supply and the resulting shortages are likely to worsen. In large part, this is due to aging populations in rich countries which are consuming more health care services (JLI 2004). Some industrialised countries have suffered a loss of health professionals due to emigration as well. According to the Department of Health and Human Services (2002), the United States was already facing a shortage of 111 000 registered nurses in 2000. This number is projected to rise to 275 000 by 2010 and 808 000 by 2020. In Canada, the supply of physicians and nurses is not expected to keep pace with population growth over the next two decades (Health Canada 2004). The American Nurses Association cites obstacles to the recruitment and retention of American nurses as inadequate planning, working conditions, pay and career opportunities (Buchan, Parkin & Sochalski 2003). The shortages of health professionals in high income countries are driving the growing trend of these countries looking abroad to meet their health personnel needs, which is faster and less expensive than nurturing their own workforce (CBC News 2003).

3.2.2 Emigration of health workers

Migration of health workers is a global phenomenon but is primarily unidirectional since most workers migrate from developing countries to the developed world. Most source countries are in Africa, the Caribbean, Southeast Asia and South Asia with their workers moving to such destination countries as Australia, Canada, France, Belgium, the United Kingdom and the United States (Biviano & Makarehchi 2002). A significant number of health workers from developing countries are located in the health sectors of the industrialised countries. Only 360 doctors out of 1 200 doctors trained in Zimbabwe during the 1990s were still practising in Zimbabwe in 2001 (Padarath et al 2003). The Zambian public health sector managed to retain only 50 of the 600 doctors trained between 1978 and 1999 (Bundred & Levitt 2000). The American Medical Association Physicians Masterfile reveals that 5 334 non-federal physicians who trained in African medical schools were licensed to practice medicine in the United States in 2002. The majority of these doctors are from Nigeria (2 158), South Africa (1 943), Ghana (478), Ethiopia (257), Uganda (153) and Kenya (93) (United Nations 2002). Ghana lost about 77 pharmacists to other countries in 2002 (Ghana News Agency 2003). In 2000/2001, about 2 093 nurses from the African countries of South Africa, Zambia, Nigeria, Ghana and Kenya registered in the United Kingdom (Stilwell et al 2003).

Six factors have been proposed as driving these movements- income, job satisfaction, career opportunities, government and management, safety and risks and social and family reasons (Dovlo 2003). However, the shortage of health professionals in industrialised countries is an important factor and key driver in the process of migration. In addition, the liberalisation of trade in services espoused by the World Trade Organisation's General Agreement on Trade in Services (GATS) creates a global context within which the loss of human resources for health (professional and technical skills) from developing countries to developed countries is promoted. According to mode 4 of GATS, natural persons possessing professional and technical skills can leave their countries to temporarily provide their services in other countries (SEATINI &

EQUINET 2004). There is also an inherent bias in this mode as developing countries, firstly, generally have paucity in these skills and therefore deprived of skills on which their health systems are dependent and secondly, generally work in a resource-constrained environment and therefore have limited capacity to offer lucrative packages and favourable opportunities to counter those provided by developed countries. People at the losing end are those whose well-being depends on access to health services and where out-migration aggravates human resource shortages. There is little doubt that well-trained professionals are vital for education, training, research and development, advanced specialised care, secondary care, staff supervision and technical guidance (JLI 2004).

3.2.3 Rural-Urban maldistribution

Worldwide, many rural communities are dependent on fewer health workers due to the concentration of health professionals in urban areas. Despite the oversupply of doctors in some countries, many rural communities face a persistent shortage of doctors (World Bank 1994). According to Hossain and Begun's (1998) survey of the existing Ministry of Health (MoH) workforce in Bangladesh, most of the doctors (35%) and nurses (30%) in health services are concentrated in four metropolitan districts serving about 15% of the population. In South Africa, about 12% of doctors and 19% of nurses are located in rural areas where about 46% of the population live (Statistics South Africa 1996). Besides emigration of health workers from Thailand to the United States of America (USA), Chunharas's (ND) review of Thai experience shows that Thailand is still confronted with the challenge of providing health workers to the rural areas. According to Dovlo (2004), four million of the sixteen million Ghananians in three northern regions are served by sixty four doctors compared to the twelve million people in Southern Ghana which are serviced by one thousand doctors. Indonesia's vast size and difficult topography is a serious challenge to health services delivery and it makes it difficult to place doctors in the remote mountainous locations with poorly

developed infrastructure. According to Chomitz et al's (1998) survey of what doctors want, the problem of placing health workers in rural areas is further complicated by the rapid growth of lucrative private sector employment prospects in the large urban areas. Botswana, Cambodia and Chile are characterised by a shortage of health workers in the public sector especially in rural areas and loss of health professionals to the private sector. About 85% of Cambodia's population reside in rural areas where only 13% of Cambodia's health workforce is based (Egger, Lipson & Adams 2000). Kraus (1993) reported that, although acceptable numbers of nurses had been trained, they were unequally distributed with a bias towards curative care that was urban-based.

Even countries with a relative oversupply such as the Phillipines and Sri Lanka, have a shortage of health workers in rural areas (Egger, Lipson & Adams 2000). Most health professionals prefer to settle in urban areas and access opportunities for professional development, education and other amenities for their families as well as attractive employment opportunities offered by urban areas. In addition, the urban location of most hospitals, 54% in Malawi, 41% in Zambia and 51% in Zimbabwe, where the majority of health workers are concentrated, somehow makes it inevitable that health workers are mostly in urban areas (United Nations 2003).

However, it is in rural areas, especially in developing countries, that the most severe public health problems are found. As a result, there is a mismatch between the geographic distribution of doctors and the relative need for them (World Bank 1994). In most countries, health workers in rural areas have to adapt their duties and work beyond the scope permitted by the legislation or regulations. In Africa, it is a well established practice that nurses do part of a doctor's duties and refer to the doctor concerned any cases they find appropriate or beyond their ability (Dovlo 2004).

The migration of health professionals from rural areas to urban areas is a challenge facing both overproducing and underproducing countries. It is worsened by emigration, the impact of which is immediately felt in less

resourced settings such as the developing countries and rural areas. In addition, the shortage of health workers in rural and other underserved areas is likely to persist as long as the health worker shortage in industrialised countries is not radically addressed. Despite these challenges, health professionals continue to choose and remain working in rural areas. There remains a question as to what motivates them to choose and maintain a career in rural health practice and what innovative initiatives have been implemented in various countries to encourage them to choose and maintain this career.

3.3 HUMAN RESOURCES FOR HEALTH (HRH) STRATEGIES IN DIFFERENT COUNTRIES

National health systems worldwide have designed different policies and strategies to address human resources challenges and support recruitment and retention of health workers in rural areas. These strategies include pre-service training strategies, financial strategies, non-financial strategies and social strategies.

3.3.1 Pre-service training strategies

The observation that medical students of rural origin are more likely to choose a career in rural health practice encouraged training institutions for health professionals in the 1970s to initiate training programmes that selected medical students with a rural background and exposed them to rural setting during undergraduate medical training (Dunbabin & Levitt 2003). This started in the United States of America in the 1970s (Dunbabin & Levitt 2003) and spread slowly to other parts of the world including Australia, Thailand, Canada reaching South Africa in the mid-1990s. The assumption was that selecting medical students with a rural background and exposing them to the rural health care setting during their training is more likely to influence them to choose a career in rural health practice. The arguments supporting this assumption were based on two predictors that: Family physicians are more

likely than those with less general training to go into rural practice and physicians with rural backgrounds are more likely to locate in rural areas than those with urban backgrounds (Verby et al 1991). There is also evidence concerning other health worker categories particularly nurses that rural background and early repeated rural exposure encourage students to consider a rural health career (Smith et al 2001; Hegney et al 2002).

In 1971, the University of Washington School of Medicine set up the WWAMI programme whose aim was to serve rural states of Washington, Wyoming, Alaska, Montana and Idaho. This programme selected medical students from rural areas and trained them in rural settings. A study of this programme for the 1975 to 1981 period reported that a higher proportion (23%) of its graduates practised in non-metropolitan areas compared to 13% of all US physicians (Adkins et al 1987).

Attempts to use targeted selection strategies for medical education in Thailand started in 1974 in one of the central medical schools and students were recruited from rural provinces by mechanisms inclusive of health authorities and training institutions. After graduation, they were sent back to the provinces from which they came. A resolution of the 4th Thailand national medical education conference in 1979 stated that all medical schools would reform their curricula to produce medical graduates suitable to working in district hospitals. These graduates would show four main characteristics: good clinical competence, supportive of primary health care, trainers of paramedical personnel and health volunteers, and good managers (Wibulpolprasert 2001). Subsequent to this resolution, Thailand's medical education has reformed to include a three to six months rotation in district hospitals, to include rural public service as a prerequisite for specialist training, as well as establishing community medicine departments in the institutions of training (Wibulpolprasert & Pengpaibon 2003). This system of rural recruitment and placement was expanded to other medical schools during the 1980s (Wibulpolprasert 2001). In Thailand, rural recruitment, experience with the rural health facilities during training, hometown placement after graduation and limited possibilities for private practice are factors which contribute to

better distribution of graduate nurses, midwives, junior sanitarians and paramedics (Jindawatthana, MilintangKul & Rajataramya 1998). Evidence from the experience of one medical school involved which also sent its students to study in the provincial hospitals during the clinical years reported that two-thirds of graduates continued their rural placement after completion of compulsory public service (Wibulpolprasert 2001).

In Japan, Jichi Medical School developed a decentralised community-based medical training programme that succeeded in supplying doctors to rural areas. In 1995, 42% of its medical graduates were working in rural medical practice (Hsueh, Wilkinson & Bills 2004). Countries have also used legislation and financial incentives to encourage family medicine and underserved area rotations or rural elements in the health professions' training curricula and to increase the pool of students recruited from the underserved areas. In Texas, legislation made it mandatory for all third year medical students to complete a clerkship in family medicine and all primary care residents to be offered a rotation in a rural setting (Henderson and Laws 2000). In 1993 Texas legislated that a health careers fund be created to encourage high school students from underserved areas to consider careers in medicine, osteopathy, nursing and allied health and students who participate receive educational loans that are forgiven by service in their home communities on completion of training (*ibid*).

In Pennsylvania, a state-wide school programme was established in 1991 to expose secondary school students to a variety of health care careers. Designated one of the governor's school of excellence for high school students and with support from the state department of education and hospital association, the programme annually selects about 150 disadvantaged students from rural and other underserved areas across the state to participate in a five week residential programme in the summer between the junior and senior years of high school. Students get an introduction to health care with special emphasis on careers in primary care and underserved communities. Students participating in the programme are attached to

mentors in local hospitals and clinics to sustain students' interest and experience (*ibid*).

3.3.2 Financial strategies

(a) Scholarship/loan programme

The scholarship or loan programme is an old strategy used for recruitment in almost all countries, developing and developed alike. The assumption is that the scholarship will, firstly, contribute to an increased physical presence of health professionals in underserved communities. Secondly, it will provide the health system with recent graduates who have up-to-date knowledge and will work for a longer period in rural and underserved areas. Lastly, the scholarship recipients will play an important role in meeting the health needs of underserved communities. In Thailand, medical students are offered scholarships with a contract stipulating that the recipients will work for the Ministry of Health's provincial hospitals and rural health centres after completion (Wibulpolprasert 2001) while Namibia provides their citizens with bursaries to study in South Africa and other countries for the scarce health professional categories and requires them to return to work in the public sector after graduation (Kraus 1993). Botswana also provides scholarships for its citizens to study medicine and other scarce health disciplines in other countries (Egger, Lipson & Adams 2000). Numerous programmes such as the National Health Service Corps (NHSC) and targeted state health service loan repayment initiatives are offered with the intention to enhance recruitment of health workers to underserved areas in the United States (Henderson & Laws 2000). Although the NHSC is one of the important interventions to correct the maldistribution of health care providers, its corps meets only about 12% of the overall need in underserved areas (Henderson and Laws 2000).

In the United States lawmakers in recent years have relied upon loan repayment initiatives rather than scholarships. Such a strategy is seen as a more immediate solution to provider shortages in rural areas because it targets students who are close to completion of their training (Henderson &

Laws 2000). Evidence for the use of such initiatives is found in Idaho and Nebraska. In hopes of improving its efforts to recruit health professionals to rural communities, the Idaho legislature in 1993 established a health professional loan repayment scheme. The scheme targets primary care physicians, nurse practitioners and physician assistants in their final year of training who are willing to practice primary health care for at least two years in a state-designated health professional shortage area. As part of an initial evaluation of the programme, the state surveyed 16 of the 21 participating providers and found that they intended to be practising in rural Idaho in five years (*ibid*). In Nebraska, the student loan or scholarship programme began in 1979, initially giving medical students attending the state' s two medical schools educational loans annually in exchange for an agreement to practise one year in a health professional shortage area for each year a loan is received. The initiative is viewed as a success as far as placement and retention of primary health care providers in underserved areas of the Nebraska. It is believed that the main reason for the success has been the state's selection of students who are predominantly from rural Nebraska (*ibid*).

In Australia, the government offers one hundred medical rural bonded (MRB) scholarships a year to new medical students prepared to commit at least six years of their careers to rural practice after completion of their undergraduate and postgraduate medical training. The scheme aims to increase the number of doctors practising in rural and remote communities and is part of a long-term strategy to boost and strengthen the nation's rural medical workforce (Australia Department of Health and Ageing, ND). The Australian College of Rural and Remote Medicine offers about 150 John Flynn Scholarships per year to medical students. The scholarship-holders commit to a two-week placement in a rural or remote community each year over 4 consecutive years of their medical training (*ibid*).

Sempowski (2004) evaluated the effectiveness of return of service (ROS) arrangements- programmes that provide financial incentives to physicians in exchange for a rural or underserved area return of service commitment. Literature reviewed was from New Zealand, Canada and USA. This literature

review shows that the ROS arrangements are an effective recruitment tool but do not do well with retention. One prospective cohort study (Pathman et al 1992) on retention showed that physicians who chose voluntarily to go to a rural area are far more likely to stay long-term than those who located there as an ROS commitment. Rabinowitz et al (1999) performed a retrospective analysis to evaluate a multidimensional programme in Pennsylvania that combines selective admission of medical school applicants from rural areas, rural medical education experiences and loans. About 34% of this programme's graduates enter rural practice compared to 11% of state graduates and account for 21% of rural family physicians despite representing only 1% of the total state graduates. Multidimensional programmes appear to be more successful in recruitment and retention of physicians than those relying on financial incentives alone.

(b) Financial allowances

The loss of doctors from the public sector to the growing private sector with consequent shortage of doctors in rural public hospitals of Thailand prompted the government to seek more financial incentives such as hardship allowance, non-private practice allowance and non-official workload related payments to attract doctors to work in the public sector rural health facilities. Coupled with promotion, it became possible for a doctor to earn a salary and benefits equivalent to that of provincial chief medical officer or deputy director-general (Wibulpolprasert & Pengpaibon 2003). In Namibia, the government offers a privation package which includes incentives such as an inconvenience allowance, housing and travel benefits for staff in PHC facilities in addition to improved remuneration in the public sector (Kraus 1993). Chile responded to the shortage of health professionals in the public sector and rural areas by increasing salaries and introducing performance-based incentives while Cambodia, Guinea and Jordan introduced incentives to reward performance and to encourage health personnel to work in isolated areas (Egger, Lipson and Adams 2000).

In 1974, the Indiana government established a loan programme for physicians and nurses which later became a grant programme in 1987 for health facilities in health professional shortage areas wishing to recruit physicians and nurses. The grant is used as a recruitment incentive and must be converted to a physician or a nurse within thirty days of receiving the award. For every year a grant is awarded, the physician or nurse agrees to practice in a health professional shortage designated area. The facility which applies for the grant must provide a matching fee to show support and commitment to retaining the health professional (Indiana Department of Health 1998).

Some countries have established income subsidies for health care providers in rural and underserved areas, in recognition of the financial burden associated with practice start up as well as problems of inadequate income support to sustain a practice in many underserved areas. They have provided start up grants, bonuses and income supplements tied to a certain number of years (Henderson & Laws 2000). Arkansas, for instance, provides grants and loans to rural communities to establish clinics and provides grants for physicians in specified underserved areas. Other states such as Georgia and Alabama provide an alternative financial incentive called income tax credits to encourage doctors to practice in rural communities. Georgia provides a credit of up to $5 000 per year for five years whereas Oregon provides credits up to 10 years for physicians, physician assistants and nurse practitioners (*ibid*).

However, empirical evidence suggests that financial incentives alone do not guarantee retention of health professionals in rural and underserved areas. Educational experiences in rural and underserved areas are crucial to increase the competence and confidence of health professionals in dealing with realities of working in these areas.

3.3.3 Non-financial strategies

(a) Recruitment of foreign health professionals

National health systems in both developing and developed countries have resorted to recruitment of foreign health professionals in order to meet their short-term to medium-term need for health workers. This is a well established phenomenon for physicians but has expanded to include other cadres. Large numbers of foreign personnel work in the health sectors of virtually every country. Foreign health professionals are recruited primarily to work in underserved areas in most countries. In Rwanda in 1985, 60 of 247 doctors and 130 of 337 high ranking nurses were of foreign origin. In the Democratic Republic of Congo, one third of 2 500 physicians were foreign citizens. In Burundi in the late 1980s an estimated 40% of the physicians were from other countries (World Bank 1994). According to Van Rensburg and Van Rensburg (1999), in South Africa, about 29% of foreign doctors were of African origin, 20.7% of Cuban origin and 20.3% of Asian origin and prior to 1994 elections, the homelands were dependent on foreign doctors.

The US, Canada, UK, Australia and New Zealand are relying on recruiting foreign nationals to relieve the health worker shortages in their respective countries. There are 600 South African doctors registered to practice in New Zealand and 10% of Canada's hospital-based physicians are South African graduates while 6% of UK total health workforce is South African (Padarath et al 2003). Data from the American Medical Association Physicians Masterfile reveals that 5 334 non-federal physicians trained in African medical schools were licensed to practice medicine in the US in 2002 (Hagopian et al 2003).

(b) Compulsory public service for health professionals

Compulsory community or public service is primarily a strategy used by developing countries where the majority of health professions' training is funded by the taxpayers. The underlying assumption for the creation of such programmes is that the increased presence of health workers especially

doctors is more likely to improve the health status of rural populations. There is also a general belief that health professionals should compensate people for the free education they receive at the expense of taxpayers (Cavender & Albana 1998). For instance, in South Africa, the implementation of compulsory community service was expected to provide young graduates with an opportunity to experience the reality of serving in underserved areas which is missed during undergraduate training with the hope that they would be motivated to stay and continue working in these areas (Reid & Conco 1999).

There is evidence of the use of community public service in Latin American and African countries. In Latin America, compulsory medical service has been in place since 1936 and is now practised in many countries including Mexico, Cuba, Dominican Republic, Bolivia and Ecuador (Cavender & Albana 1998). Other countries that have legislated that their young graduates do compulsory community service include Thailand, Indonesia and Namibia. Kraus (1993) indicated that, to develop an integrated comprehensive health care system that is supportive of primary health care, there was a need for well-trained and appropriately distributed health personnel and that all Namibian health professional graduates should serve for at least two years in a rural health facility on completion of their basic training. In Thailand, physicians, dentists and pharmacists serve compulsory public service for three years since 1967 (Wibulpolprasert & Pengpaibon 2003).

Compulsory community service has been confronted by numerous challenges which make it difficult to comment on the success of such a programme. In Ecuador, reports from physicians and residents at rural placement sites indicate that some medicos rurales did not show up at their assigned clinics during their period of service (Cavender & Alban 1998). About 59% of medicos rurales reported that no orientation programme was provided prior to their placement whereas 16% stated that they participated in a pre-rural programme but found it unsatisfactory with respect to preparation for their service experience. There was a significant variation in the scope, content and format of the pre-rural programme from province to province. Adaptation to the placement site especially in more remote rural areas, presents several

challenges for the medicos rurales (35%) in terms of attending to basic needs such as housing, transportation and food. Transportation ranked highest amongst the challenges followed by communication, housing, food and access to potable water and electrical power. There is a general lack of basic medical equipment and materials making it difficult to practise medicine. However, 94% of respondents found their year of rural service rewarding both personally and professionally (Cavender and Alban 1998). Such experiences resonate with the South African experience as reported in surveys done by Reid & Conco (1999) and Reid (2002). Despite all the problems, compulsory public service has succeeded in providing and increasing the physical presence of health workers in areas that would otherwise have struggled to recruit them. The unsatisfactory conditions surrounding the implementation of the programme make it difficult to be an effective retention tool.

(c) Alternative health worker utilization strategies

A constant challenge to providing equitable health services is the scarcity and maldistribution of qualified health professionals. In addition, the deepening crisis in human resources for health in developing countries, due in part to the increased migration of health professionals, the death of health workers due to HIV and AIDS, the expansion in services that tackle HIV and AIDS and other morbidities and the effect of countries' social and economic difficulties, emphasise the need to explore alternative health worker utilisation strategies (Dovlo 2004). To address health personnel staffing issues, some national health systems have considered types of cadres who are country- specific, cheaper and likely to remain working in their respective countries. Such strategies involve task delegation or creation of mid-level worker categories:

(i) Use of Mid-level workers

This strategy involves definition of a set of tasks from those tasks which are normally done by the highly skilled health workers such as doctors, pharmacists and nurses and delegate them to a newly created category of health worker called a mid-level health worker. Such delegation is then

formalised by means of a scope of practice which is either limited to basic tasks such as consultation, prescription, basic treatment and performing minor procedures or broader with permission to do certain specialised tasks (Dovlo 2004). The assumption behind the introduction of mid-level health workers is that, firstly, they provide cadres that are country specific and designed to respond to challenges unique to a particular national health system. Secondly, the new cadres may require little training, shorter in-service training or shorter pre-service training compared to the original highly skilled professional cadre. Thirdly, the newly created cadres have qualifications that are acceptable and specific to a particular country making them less able to emigrate. Lastly, the cost of training them is believed to be cheaper.

High and low income countries alike are using "new" health workers (JLI 2004). Bangladesh employs medical assistants who have become the backbone of health services in rural communities (Hossain and Begun 1998). Eritrea and Mozambique trained "new cadres" in surgical, orthopaedic and obstetric skills to take on tasks traditionally reserved for doctors during the times of war and conflict in these countries (Dovlo 2004). Botswana has trained nurse practitioners and parapharmacists (Egger, Lipson & Adams 2000). Kenya selects applicants with a grade 12 certificate and trains them for four years (three years of training and an additional year of internship) to become clinical officers and for a further 18 to 24 months to specialise whereas Malawi provides 3 years of training for a clinical officer with an extra year to specialise. In Tanzania, a clinical officer requires grade 12 and the advanced level is the assistant medical officer (Dovlo 2004). In Thailand, lower level personnel were produced to deliver essential maternal and child care and immunizations and environmental health services in the rural villages (Wibulpolprasert 1999). Thailand trained nurse practitioners from 1973 to 1986, 10% of which are still in practice and used by district hospitals (Wibulpolprasert, & Pengpaibon 2003). The use of physician assistants or nurse practitioners is also practised in the USA, UK and Canada as a permanent feature of health care teams in their respective national health systems (Malik 2004; Hooker & Cawley 1997 and Mittman, Cawley & Fenn ND).

Evidence suggests that these cadres tend to work in rural and underserved areas. In Tanzania and Mozambique, 75% of clinical officers and assistant medical officers serve in rural areas (Dovlo 2004). In 1995, according to Hossain and Begun (1998), 90% of medical assistants in Bangladesh worked in rural areas serving 85.5% of the population compared to 64.9% of doctors and 70.9% of nurses. About 90% of medical assistant posts were filled compared to 73.71% of doctor posts and 37.75% of dentist posts.

(ii) Professional task delegation

Professional task delegation involves delegation of a task normally reserved for the highly skilled health worker such as a doctor or pharmacist to an existing health worker category. This is either formalised through a scope of practice, training and/or law. For instance, South Africa and Zambia have changed their abortion laws and given new tasks to nurses and midwives including tasks normally reserved for doctors (Mtonga & Ndhlovu 2001). Ghana equips rural midwives with life-saving skills for maternity cases (Dovlo 2004). In 1993, Namibia observed that with the public sector characterised by a considerable shortage and need for well trained sub-professional categories of health workers, there were all sorts of "assistants" employed without standardised training, level of expertise, remuneration and career mobility and resolved to implement and expand a midlevel worker programme called "technicians" such as pharmacist assistants, medical laboratory assistants and environmental health assistants (Kraus 1993).

However, there is anecdotal evidence that informal task delegation is already taking place particularly in rural areas where nurses are often expected to perform tasks originally reserved for doctors. Nurses in rural areas in Ghana, for example, delivered breech presentations and performed episiotomies even without additional training and despite restrictions that these tasks be performed by physicians or under physician supervision. In underserved areas, tasks normally carried out by specialists are delegated to general

practitioners and general nurses are used in the operating room without appropriate qualifications (Dovlo 2004).

Despite the advantages of employing alternative health worker utilisation strategies highlighted in this document including bringing skilled care and increasing the presence of health workers in underserved areas, the use of mid-level health workers has met several challenges. The training of the new cadres has faced opposition from established professions as evidenced in Ghana and Zimbabwe. As a consequence, the production of these "new cadres" has either been limited or abandoned. The established health professions have influenced the way training of these cadres was structured. For instance, in 1982, the Ghana Ministry of Health (MoH) decided to abolish the auxiliary/enrolled nursing cadre giving in to pressure from the professional councils (Dovlo 2004). In Malawi, Zambia and Kenya, nurses' lobbies have succeeded in banning the training of "enrolled nurses" despite increased migration and shortage of registered nurses (*ibid*).

(d) Non-financial incentives

To encourage effective deployment of human resources in Ghana, Dovlo (2004) recognises the importance of rural service of 4 or more years but emphasises that it should shorten promotion time and give early opportunity for specialisation and further training. Ghana has a decentralised personnel management system including recruitment and promotion, to encourage managers to better manage personnel matters and use savings made from salary budgets to provide incentives to staff. The de-linking of health personnel management from the civil service in Ghana is expected to improve conditions of service and benefits beyond what was possible under civil service rules (Dovlo 2004). Zambia has also decentralised personnel management systems to autonomous district and hospital boards providing an opportunity for workers to work under new conditions of service (Martineau and Buchan 2000). Chile introduced an enhanced incentive programme to encourage health workers to serve in underserved areas (Egger, Lipson and Adams 2000). Botswana responded to the shortage of health workers by

improving management systems, upgrading health facilities and prioritising continuing education (*ibid*).

The revised staff establishment in Namibia made provision for more promotion posts in primary health care (PHC) and previously neglected areas so that promotions to fairly senior levels can take place at district or regional level. This strengthens the decentralisation of health services and promotes equitable distribution of resources (Kraus 1993). The privation package offered by the Namibian government provides for housing and travel benefits. Government also upgrades staff accommodation at PHC facilities and district hospitals and builds separate flats for rural PHC nurses to get nurses to stay permanently at such facilities (*ibid*). The rural health development policy of Thailand redirected infrastructural resources to rural health facilities thereby improving drug supplies, equipment, housing, transport and telecommunications (Wibulpolprasert & Pengpaibon 2003).

It is well documented that efforts to provide rural health care providers with professional relief are critical to sustaining their presence in many isolated rural communities (Henderson and Laws 2000). In the United States, a few states have encouraged the provision of substitute physicians to provide rural physicians with time for vacation or continuing education. In Texas, legislation called for the development of a relief service programme for rural physicians intended to give them time to participate in continuing education programmes (*ibid*). In Washington, the state set up a temporary health professional substitute pool (including physicians, physician assistants, pharmacists and nurse practitioners) in rural and underserved areas. This programme established in December 1990 provides coverage for a maximum of 90 continuous days and includes payment of salaries, malpractice insurance and expenses (*ibid*).

Most states have matched state funds with federal grants to create Area Health Education Centres (AHECs). AHEC grants support educational programmes in medically underserved communities for students in medicine, nursing and other health professions. These centres are also intended to

decrease professional isolation by supporting tele-informatics and outreach educational programmes for currently practising health professionals in underserved communities (Henderson and Laws 2000). Satellite and fibre optics capabilities enable small rural hospitals to develop on-line links with urban medical centres, facilitate specialty contacts and consultations for isolated physicians and provide continuing education programme for nurses, physicians and assistants (*ibid*).

Nagendran et al (2002) presented during the World Rural Health Conference the Canadian experience of using tele-teaching to provide academic access for health workers and students in rural areas and argue that it provides an opportunity to harness knowledge, connect and communicate to rural sites. In addition, telemedicine provides a forum for discussion of clinical issues specific to rural practice subsequently increasing awareness amongst students and academics about rural health circumstances. McLaughlin (2002) presented in the World Rural Health Conference a success story about the Mansfield District Hospital Education and Training Unit in Australia whose aim is to provide education and training that is based in the hospital and responsive to the practice needs of nurses. Evaluation of this programme showed a 10% increase in study days and the number of participating health workers.

3.3.4 Social strategies

Various forms of social strategies are in place in different countries worldwide and are geared towards consolidating individual and team support as well as family and community support for recruitment and retention efforts. In Queensland, the Allied Health Mentor Programme piloted from 1997 to 1998 offered mentoring to all allied health professionals with an emphasis on recent graduates and new staff at Queensland Health and isolated practitioners in rural and remote areas. The evaluation of this programme established that the programme had increased access to professional support and resources for rural allied health professionals, increased allied health professionals' confidence and competence in carrying out their roles, increased job

satisfaction and consequently contributed to the retention of regional, rural and remote allied health staff (Cassey and McKavanagh 2002).

Recognising that retention of rural physicians is a complex multifaceted puzzle and that the contentment of spouses is a key piece of the whole, the Alberta Rural Physician Action Plan (RPAP) supported the establishment of the Rural Physician Spousal Network in 1999. The Spousal Network's mission is "To promote the retention of rural physicians in Alberta through spousal networking, communication and programme that foster personal growth and satisfaction with rural living." The programmes of the Spousal Network include a range of activities to meet the diverse needs of spouses: local get-togetherness, telephone network, e-mail discussion list, events at existing conferences, spouses-only retreats, newcomer orientation, employment assistance, helping local organisations make spouses feel welcome and ensuring support for spouses with children (Taylor 2002).

Rural health professionals generally organise themselves into societies or associations to provide individual and professional support as well as championing the cause of rural health. The Rural Doctor Society in Thailand, Rural Physician Action Plan in Canada and Rural Doctors Association in Southern Africa and other professional formations bear testimony to this. In Thailand, the Rural Doctor Society provides management training, develops management handbooks and support projects such as rural doctor journals or newsletters, recognition of performance and rural visits by senior doctors or coaches (Wibulpolprasert & Pengpaibon 2003). Students studying health sciences have organised themselves into rural health clubs within their institutions of training to raise awareness among fellow students about rural health issues, to expose students to the rural health care setting through rural placement activities and to advocate for community-based education and inclusion of rural health rotations in the training curricula. Such clubs are well established in Australia (Grieve and Clark 2002) and have emerged in South Africa in the last ten years through the Rural Support Network (Chitha 2005c).

In the United States, many of the states have taken a more coordinated approach to health professional recruitment. Recruitment efforts in these states have matured and become more effective in conjunction with state economic development authorities, health professional training programmes, community organisations and other resources. Some states have effectively used their offices of rural health to conduct on site workshops to educate community leaders about recruitment and retention skills and resources. A few states educate rural communities to use the state's economic assistance capabilities to help them prepare practice opportunities and recruitment strategies (Henderson and Laws 2000).

3.4 SUMMARY

Table 2 summarises various HRH initiatives used in different countries to promote recruitment and retention of health professionals in rural and underserved areas by level of determinant. Various incentives and regulations have had mixed success. Some of these approaches include providing educational scholarships in return for taking on rural or underserved area posts after graduation, assuring access to equipment and supplies, providing communications to maintain contact with peers and supervisors, offering opportunities to upgrade competencies, granting future access to specialised training and accelerating promotion and career development paths (JLI 2004). In most countries, the interventions may be appropriate but their effectiveness limited by the piecemeal and fragmented manner in which they are implemented. It is however important to note that recruitment and retention of health workers in rural communities is not just a health challenge but a socioeconomic challenge requiring appropriately integrated socioeconomic strategies.

Table 2: Summary of international HRH initiatives to promote recruitment and retention in rural health facilities by level of determinants

Level of determinant	Choosing rural health practice	Staying in rural health practice
Individual health worker	• Pre-service training strategies (selecting applicants of rural background, rural training exposure, mandatory inclusion of rural rotations in curriculum) • Scholarship/loan obligations	• compulsory public service prerequisite for postgraduate specialisation • Scholarship/loan obligations
Rural health organisation	• Financial incentives (hardship/inconvenience allowance, non-private allowance, non-official workload related pay, housing & travel benefits, income subsidies, rants), • Recruitment of foreign health professionals, • Compulsory public service • Introduction of new cadres	• Improving remuneration, allowances • Professional relief service programme • Upgrading health service delivery infrastructure • Improving management systems and supplies • Opportunities (continuing education & promotions)
Rural community	• Empowering community leaders to assist with recruitment through leadership training workshops, • Professional associations delivering on social responsibility to assist	• professional association support • Spousal networks and support groups

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

This chapter describes the methodology used in this study in detail. It includes a restatement of the study aim and objectives, research design, population and sampling, instruments of data collection, data collection procedure, data analysis and ethical considerations.

4.2 Restatement of Study aim and objectives

The aim of this study was to explore factors motivating health workers to choose and maintain a career in rural health practice in South Africa. The objectives of the study were:

- To perform a critical analysis of the human resources for health (HRH) policies and strategies in South Africa.
- To determine factors that influence health workers to choose to work in rural health practice.
- To establish what factors motivate health workers to stay in rural health practice.
- To establish what factors encourage health workers to leave rural health practice.
- To suggest strategies that could be used to recruit and retain health workers in rural health practice.

4.3 Study Design

The study is a descriptive cross-sectional survey. A survey is a method of collecting information from a sample of the population of interest usually through personal interviews or questionnaires or both. The unit of analysis in a survey is normally the individual. The advantage of a survey is that it is conducted in a natural setting (Bowling 2002). A survey that is designed to measure a certain phenomenon in the population of interest is called a

descriptive survey. A descriptive survey provides insight and information about patterns, attitudes and characteristics of individuals in a population of interest (*ibid*). A descriptive survey of a defined cross-section of the population at one point in time is called a cross-sectional survey (*ibid*). The aim of a cross-sectional survey is to describe individuals in the population at a particular point in time in terms of their personal attributes and their history of exposure to suspected causal agents (Farmer, Miller & Lawrenson 1996). Cross-sectional surveys involve questioning study participants about previous and present behaviour, attitudes and events. They can survey large numbers of people quickly and save time and resources (Bowling 2002). The disadvantage of cross-sectional surveys is the potential for selectivity in recall. In addition, they can only determine associations but no cause-effect relationships (*ibid*).

The study employs both a quantitative approach as well as a qualitative approach. Quantitative methods deal with measurements and relationships between attributes. They involve the collection and analysis of highly structured data. Quantitative techniques are appropriate in situations where there is pre-existing knowledge which will allow for the use of standardised data collection methods (Bowling 2002). Qualitative research techniques are methods of naturalistic enquiry, whose aim is to study people in their social settings. They describe in words the qualities of social phenomenon through observation, interviews or analysis of historical records (*ibid*). Qualitative techniques are essential to supplement quantitative techniques to check the accuracy, content, validity and relevance of the quantitative data (*ibid*).

This study is designed to identify demographic factors, individual-level factors, rural health organisation-level factors and rural community-level factors that impact on health workers' decision to choose and maintain a career in rural health practice. It explores reasons why health workers choose to work in rural health practice, why they continue working in rural health practice and what factors encourage them to leave rural practice. It invites health worker participants to complete a structured questionnaire after which they could elaborate or express themselves. It also invites health managers to respond to

exploratory open-ended questions. Structured questionnaires involve the use of fixed questions which are presented to respondents in the same way, with no variation in question wording and with mainly pre-coded response choices. Questions can involve ticking or circling one or more appropriate responses. The strength of structured questionnaires is the ability to collect unambiguous and easy to count answers, leading to quantitative data for analysis (Bowling 2002).

An interview guide targeted at key informants at national, provincial and district levels was designed with open-ended questions covering health personnel staffing, human resources challenges facing the health system in the province, strategies used to deal with these challenges and suggestion for areas of improvement. This guide allows the key informants to express themselves in terms of staff shortages, which factors are involved and how the staffing situation could improve. These key informants were chosen because of their positions and involvement in issues relating to staffing in rural health services. Document review and critical analysis of existing policies or strategies was also undertaken. This review covered human resources challenges, human resources challenges in rural health services, strategies or policies designed to deal with these challenges and the impact of each strategy in rural health care. Each policy or strategy was critically appraised identifying its aim, strengths, weaknesses, threats and opportunities.

4.4 Population and sampling

The population under study consisted of all health workers involved in public sector clinical service delivery in three rural health districts of the Eastern Cape, that is Amathole district, Chris Hani district and OR Tambo district. Two of the rural health districts (Chris Hani and OR Tambo) are designated rural nodes according to the South African government's Integrated Sustainable Rural Development Strategy (ISRDS) and the third health district (Amathole) has an urban centre with rural areas radiating from it. These districts were chosen as sites for the study because their population is largely rural, OR Tambo (91.1%), Amathole (61.0%) and Chris Hani (61.0%) and are home to

about 64% of the provincial population (Eastern Cape Department of Health 2005b). The rural health districts in this province have struggled to recruit and retain health workers in their health facilities (Eastern Cape Department of Health 2005a).

Stratified random sampling was used to group the facilities into two strata and random sampling used to select facilities and health workers to participate in the study. Stratified random sampling is a method of increasing the precision of the sample. The population is divided into layers called strata and random sampling is used to select from each stratum. Stratified random sampling is a method normally used to guard against obtaining a sample which does not represent properly certain groups of the population (Bowling 2002). Geographical location of rural health facilities from the urban centre (City of East London) was used to group these facilities into two strata. Stratum 1 included those rural health facilities located within about 150 kilometres from the urban centre and stratum 2 included those facilities situated more than 150 kilometres from the urban centre. Within each stratum, random sampling was used to choose health facilities and health workers.

There are 25 rural hospitals and 265 rural clinics located in the three rural health districts. In the three selected districts, the majority of health workers are hospital-based. A target sample of 33% of the rural hospitals located in the chosen districts was randomly selected for the study which amounted to 8 hospitals. To improve representativity of the sample, the researcher also included health workers based in the clinics. So, one clinic referring to the selected hospital was randomly chosen for inclusion in the study. This amounted to 8 clinics included in the sample. This means 4 hospitals and 4 clinics per stratum. The total number of health workers working in the sampled facilities is 1438 of which 336 (23.4%) health workers were sampled for the study. The number of health workers on duty in the public sector clinical service delivery eight-hour week-day shift was estimated to be 40 by the Nursing services manager and Chief Medical Officer at the pilot site. Therefore, all health workers on duty at the time of the study were included in the sample. The sample comprises 8 hospitals, 8 clinics and 336 health

workers. However, no approval was given to survey clinics in the Amathole health district and only hospitals which fell under the control of provincial authorities were surveyed, resulting in only 4 facilities in stratum 1 being included in the sample. As a consequence, more clinics were surveyed in Chris Hani and OR Tambo health districts, in addition to the 4 hospitals sampled in these districts, giving a total of 13 facilities in stratum 2. A total of 17 facilities were surveyed returning 179 completed questionnaires.
Given the study's focus on health workers in remote rural areas, it was not seen as problematic that there was a greater representation of facilities in stratum 2.

Purposive sampling was used to select key informants for interviews. District, provincial and national managers were targeted because of their involvement in matters pertaining to human resources, rural health services and recruitment and retention. Two district managers interviewed with the third one not giving consent, two provincial managers and two national managers were interviewed. Purposive sampling is a non-random method of sampling which aims to select a group of people or settings with a particular characteristic. It is also used in order to pilot questionnaires or generate hypotheses for further study. Study participants are selected because they have knowledge that is valuable to the research process (Bowling 2002).

Policy documents, reports and available research reports produced or published between 1993 and 2005 were reviewed and critically appraised for their input or contribution to improving the human resource staffing in rural health services, their strengths, weaknesses, threats and opportunities. There were 42 documents included in this exercise.

4.5 Instruments of data collection

A self-administered structured questionnaire targeted at clinical personnel was designed by the researcher. Its design consisted of three (3) parts: facility data (aiming to identify the type and level of the facility), personal questions (aiming to collect demographic data, work experience, professional training

data), practice-related questions (aiming to collect data on management practices, working conditions and questions on rural community influences (lifestyle, social, cultural and economic influences) and questions related to strategies for recruitment and retention (see Appendix C). All questionnaires were written in English which is the main medium of communication in the research setting. Respondents were allowed to express themselves in terms of writing their experiences and making suggestions after completing the questionnaire. In addition, an interview guide targeted at key informants at district, provincial and national health levels, because of their positions and involvement in rural health worker issues, was designed. It covered questions related to health personnel staffing, in particular challenges and strategies for recruitment and retention of health workers in rural areas, and suggestions for improvement (see Appendix D). Both the questionnaire and interview guide were peer-reviewed and appropriate changes made prior to commencement of the data collection. The questionnaire was also piloted in a different facility within one of the rural health districts included in the study. All health workers involved in public sector clinical service delivery who were on duty at the time of the pilot were included. This number was estimated to be 40. About 22 completed questionnaires were returned, analysed and appropriate changes made.

4.6 Data Collection Procedure

All data included in the study were collected by the researcher in person. Questionnaires were distributed to participants and prior to filling of the questionnaire, a brief session explaining the purpose of the study, issues of participation, confidentiality and anonymity, clarity of key questions and getting individual health worker consent was conducted by the researcher. It was explained that the questionnaire did not require personal identification other than the name of the district and type of facility to protect the identity of the participants. The study and procedures were also explained using the participant consent form attached to each questionnaire (see Appendix B). Participants were asked to choose factors that motivated them to choose to pursue or stay in a career in rural health practice or tempted them to leave

rural health practice. They were offered a list of factors drawn from the literature from which to choose applicable factors. They were also invited to rank the factors according to the degree of importance in their decision-making. Participants completed and returned their questionnaires anonymously to the researcher. Out of the 336 health workers sampled, 179 questionnaires were completed and returned, thus making a response rate of 53.3%.

Prior arrangements were made with each manager to explain the aim and objectives of the study, to get consent to participate and arrange for the interviews. Telephonic interviews were conducted with one rural health district manager, two provincial health managers and two national health managers. One face-to-face interview was conducted with another rural health district manager. Each interview lasted for about thirty to forty minutes. Detailed notes were taken from each interview.

4.7 Internal validity and reliability

An instrument is assigned validity after it has been satisfactorily tested repeatedly in the populations for which it was designed. This type of validity is known as internal validity (Bowling 2002). Reliability is a measure of the consistency with which a question or a test will produce the same result on the same subject under similar conditions on successive occasions (Farmer, Miller & Lawrenson 1996). To ensure internal validity, three methods of data collection were used. These are the self-administered questionnaire, optional self-reported circumstances and experiences and open-ended exploratory key informant interviews. To improve reliability, both the questionnaire and interview guide were peer-reviewed and appropriate changes were made. No changes were suggested regarding the interview guide. Regarding the questionnaire, suggestions included limiting the study to professional and sub-professional categories, additional factors to the list of factors as well as refining the potential recruitment and retention strategies. Subsequent to the peer review, the questionnaire was piloted in a health facility in one of the rural health districts that was included in the study. No major changes were

made after the pilot was completed. During data collection, prior to completion of the questionnaire or beginning of the interview, the researcher gave a brief explanation on the important areas of the data collection process and the study in general including the purpose of the study, getting consent, confidentiality, anonymity, clarity of questions, how to fill in the questionnaire or how the interview process would progress.

The structure of the questionnaire limited respondents to the questions asked with allowance to give additional comments if deemed necessary. The interview guide complements the questionnaire by asking questions beyond the scope of the questionnaire, allowing the key informants to share their views, experiences and which strategies could improve or deal with challenges identified.

4.8 Data analysis

Quantitative data collected from the questionnaires was entered into Excel and STATA statistical software used for cleaning and analysis. Qualitative data collected from key informant interviews and self-reported expressions in questionnaires were analysed for themes and sub-themes and summarised in a spreadsheet outlining the current staffing situation, HRH challenges, HRH strategies and suggestions for improvement (see Appendix E). STATA was used to do frequencies, 95% confidence intervals (CI) and chi square analysis. A p-value of < 0.05 was considered statistically significant. The findings were organised according to choosing rural health practice, staying in rural health practice, leaving rural health practice, by subgroups and by level of influence and then presented in tables, graphs and narratives.

4.9 Ethical considerations

The study was granted ethical approval by the Research Ethics Committee of the University of Cape Town's Faculty of Health Sciences. Participation in the study was voluntary and confidentiality and anonymity were guaranteed. No personal identification was required besides the name of the health district

and the type of the facility. Participants were assured of their right to refuse to participate and to withdraw their participation without any adverse consequences. They were also assured that research material would be used for the purposes of the study after which it would be destroyed. Following ethical approval, consent to conduct research was requested and granted by two district health authorities and provincial health authorities (see Appendix A). During data collection, informed consent was requested from the individual study participants after which the questionnaire was filled.

CHAPTER FIVE: CRITICAL ANALYSIS OF THE SOUTH AFRICAN HUMAN RESOURCES FOR HEALTH (HRH) POLICIES AND STRATEGIES BASED ON DOCUMENT REVIEWS AND INTERVIEWS

5.1 INTRODUCTION

Subsequent to the first democratic elections in 1994, the South African National Department of Health (NDoH) inherited fragmented, inequitable and inefficient health personnel establishments from the apartheid health administration, which were subjected to different laws and conditions of service. The NDoH embarked on a mission to amalgamate the different health personnel establishments into one unified establishment and transform it into a human resource management system that is based on equity, diversity, transparency and participatory decision-making as well as a system that is responsive to the needs of employees and the population it serves (Department of Health 1997).

In addition to the aforementioned transformation agenda, South Africa's new National Health System (NHS) is faced with longstanding human resource challenges that are training- related or service-related. The service-related challenges include the maldistribution of available health professionals along the private and public sector axis, rural and urban divide and tertiary and primary levels of care, the migration of health professionals to other countries, a demotivated health workforce, the challenges of institutional capacity and the HIV and AIDS epidemic. Training- related challenges include the unrepresentative nature of training institutions, inequitable access to health profession's training and inappropriate health profession's training curricula.

The NDoH responded to these challenges through an enabling policy framework that is informed by the White Paper on the Transformation of the Public Service of 1995, the White Paper on Human Resource Management of 1997, the White Paper on Transformation of the Health System in South Africa of 1997, the Medical, Dental and Supplementary Health Service Profession's Amendment Act of 1997, the Skills Development Act of 1998 and

the National Health Act of 2004. The White Paper on the Transformation of the Health System in South Africa of 1997 formally adopts the Primary Health Care Approach (PHCA), endorses the restructuring of the national health system based on the District Health System (DHS) and encourages the use of incentives and service requirements to redeploy health workers to rural and underserved areas whereas the Medical, Dental and Supplementary Health Service Profession's Amendment Act of 1997 makes it mandatory for medical graduates to perform a remunerated community service in the public sector and underserved areas. The Skills Development Act of 1998 provides an institutional framework to devise and implement national, sectoral and workplace strategies to develop and improve the skills of the health workforce. The National Health Act of 2004 creates an enabling policy framework to ensure provision, distribution, development, management and appropriate utilisation of human resources within the national health system and empowers the Minister to prescribe strategies for the recruitment and retention of health care personnel within the national health system.

This chapter reviews some of the human resource challenges facing the South African national health system as well as strategies and policies put in place to promote recruitment, retention and redistribution of health professionals in the public health sector.

5.2 HUMAN RESOURCE CHALLENGES FACING THE SOUTH AFRICAN HEALTH SYSTEM

Some of the most critical challenges facing the South African national health system include:

5.2.1 Rural/Urban imbalance

South African health professionals are concentrated in urban areas. Both the private and public health sectors are concentrated in urban areas. Rural-urban inequity in the distribution of health personnel derive from the concentration of such personnel within the higher levels of the health care system (Padarath et

al 2003) and private sector facilities (Van Rensburg & Van Rensburg 1999) which are mostly urban-based. There are numerous reasons why doctors choose to remain in urban areas, including higher incomes, greater opportunities for career advancement, access to services and schools and more comfortable living and working environments. Besides, most medical schools are located in urban areas and graduates tend to practise close to where they studied and established social networks during their period of study (Reid & Conco 1999). In addition, an initial move to urban areas within the public sector provides more opportunities for engaging in private sector work since the private sector is also urban-based.

In 1980, the doctor to population ratio was 1: 1 237 in urban areas and 1: 5 396 in rural areas. The ratio in the then "homelands", which are predominantly rural, was 1: 13 000 and in some instances the ratio was more than 1: 30 000 (Pick 1995). In 1998, Gauteng, an urban province with highly developed health service delivery infrastructure and health professional training infrastructure, had a disproportionate share of the country's HRH than its population size of 18.1% in all professional categories. For instance, about half of all psychologists and 43.6% of all dentists lived in Gauteng. The provinces with the lowest proportions of professionals in most categories were the predominantly rural Provinces of the Eastern Cape, the North-West and Limpopo with less developed health service delivery infrastructure and training infrastructure (see Table.3 showing medical schools by geographic location). Only 1.2%, 2.1% and 2.7% of psychologists, physiotherapists and medical practitioners respectively resided in the Limpopo Province compared to the population of Limpopo Province of about 12% (Van Rensburg & Van Rensburg 1999).

Table 3: Medical schools in South Africa by province and geographical location

Name of medical school	Province	Location
Nelson Mandela School of Medicine	KwaZulu-Natal	Urban
University of Stellenbosch	Western Cape	Urban
University of Cape Town	Western Cape	Urban
University of Witwatersrand	Gauteng	Urban
University of Free State	Free State	Urban
University of Pretoria	Gauteng	Urban
University of Transkei	Eastern Cape	Rural
Medical University of Southern Africa	Gauteng	Urban

Source: Chitha 2005a

Furthermore, within each province, the distribution of health workers and infrastructure is uneven particularly between urban centres, peri-urban areas and rural areas. For example, in the Western Cape health workers are concentrated in the Cape Metropolitan area in line with the health service delivery infrastructure and training infrastructure (Chitha 2005b). In the urban province of Gauteng, Jubilee Hospital which is located in a peri-urban setting, is struggling to recruit and retain health workers (Rural Support Network Report-back 2004). Similarly, the Eastern Cape, a predominantly rural province with less developed health service delivery infrastructure and fewer training institutions struggles to recruit and retain health workers. The vacancy rates in some of its facilities are high with some having more than 60% of their medical officer posts unfilled. The shortage is however worse in rural facilities (Eastern Cape Department of Health 2005a).

In the provinces that are predominantly rural, the population is dependent on the public sector and continue to be confronted with the reality of having the lowest number of health professionals. Table 4 shows that health workers, with the exception of nurses in some provinces, are concentrated in urban provinces.

Table 4: Public sector personnel per 100 000 population not on medical aid by province, 1998/99

Province	Total specialists (excl.psychiatrists) per 100 000	Total medical officers per 100 000	Total professional nurses per 100 000	Total psychologists and psychiatrists per 100 000	Total dental staff(dentists and others) per 100 000	Total pharmacy staff (pharmacists and others) per 100 000	Total environmental health officers per 100 000	Total health professionals per 100 000
Eastern Cape	4	17	119	0	1	2	3	349
Free State	4	30	136	0	2	3	2	364
Gauteng	27	45	170	2	6	7	0	524
KwaZulu-Natal	6	24	120	1	1	3	1	390
Mpumalanga	2	16	81		1	3	2	261
NorthWest	2	15	92	0	1	3	1	304
Northern Cape	1	17	97	0	2	2	1	275
Limpopo	2	12	102	0	1	2	3	297
Western Cape	32	51	135	2	4	8	0	544
Total	9	25	121	1	2	4	2	380

Source: Doherty 2002

In 2003, the distribution of health professionals confirms the rural/urban imbalance. For example, the North-West had 11.5, the Eastern Cape 12.7 and Limpopo 14.3 medical practitioners per 100 000 public sector dependent population compared to the Western Cape (31.9) and Gauteng (25.4). The Eastern Cape had 0.99 dentists per 100 000 public sector dependent population compared to the Western Cape which had a figure of 3.35 and Gauteng, a figure of 2.79. The Western Cape had 6.4 pharmacists for every 100 000 public sector dependent population while the Eastern Cape, Limpopo and the North-West had 2.2, 2.2 and 2.1 respectively (Padarath, Ntuli & Berthiaume 2004). The rural/urban imbalance is a chronic challenge and is made worse by the continuing loss of health workers to the private sector and other countries.

5.2.2 Public/private imbalance

In South Africa, the greatest imbalance in health personnel distribution is between the private and public health sectors. The private health sector employs more health professionals with the exception of nurses than the public health sector to serve less than 20% of the population (Goudge et al 2001). By 1989/90, 62% of general practitioners, 66% of specialist doctors, 93% of dentists and 89% of pharmacists compared to 21% of nurses were practising in the private sector (Rispel & Behr 1992). By 1999, it was estimated that 73% of general practitioners were working in the private sector (Goudge et al 2001). Table 5 shows that in 2001, only 33% of registered General Practitioners, 45% of registered specialists, 12% of registered pharmacists and 15% of registered dentists were working in the public health sector.

Table 5: Professionals working in the public sector (national and provincial departments of health) in absolute terms and as a proportion of all registered professionals, 2001

Category	Absolute numbers	Percentage of registered personnel
Doctors (all)	11332	37
General practitioners	7545	33
Specialists	3787	45
Dentists	662	15
Dental therapists	118	29
Nurses (all)	90013	52
Professional nurses	41617	43
Enrolled nurses	20438	64
Enrolled nursing auxiliaries	27958	62
Pharmacists	1278	12
Occupational therapists	422	17
Physiotherapists	478	11
Speech and hearing therapists	121	9
Radiographers	2088	33
Psychologists (including counsellors)	260	5
Medical physicists/scientists	68	15

Source: Doherty 2002

The private health sector continues to attract resources including human resources at the expense of the public health sector. Health professionals migrate to the private health sector in search of higher incomes, better working conditions and comfortable work environments.

5.2.3 Emigration of health professionals

The extent to which health professionals are leaving South Africa is not well documented because of the difficulty in monitoring migration patterns. However, it is known that South Africa has been losing and continues to lose health workers. Table 6 shows that the number of professional nurses applying for registration overseas has been increasing since 1995. Table 7 shows that the South African health system has been losing health workers to other countries.

Table 6: Number of registered nurses applying for overseas registration, 1991-2000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1991	35	49	58	50	55	45	36	40	35	44	29	23	499
1992	51	38	45	41	66	50	53	32	27	47	105	23	578
1993	40	42	71	45	53	48	64	51	61	44	47	29	595
1994	73	60	77	28	62	65	29	37	32	30	32	22	547
1995	22	48	57	33	43	40	45	65	40	37	47	34	511
1996	34	53	39	86	109	90	83	125	93	135	68	42	957
1997	136	73	127	102	195	108	129	139	96	130	96	28	1359
1998	96	122	105	117	146	167	111	112	199	225	156	190	1746
1999	197	234	267	272	490	284	243	393	362	298	349	283	3672
2000	149	131	200	169	304								953
													11417

Source: Brannigan (2000)

Table 7: Migration of health workers for the period 1996 to 1998

	Immigrants	Emigrants	Net Gain/Loss	Immigrants	Emigrants	Net Gain/Loss	Immigrants	Emigrants	Net Gain/Loss
Grand Total	5407	9708	-4301	4103	8946	-4843	4371	9031	-4660
Total-Economically Active	1995	5163	-3168	1548	4907	-3359	1198	5105	-3185
Total-Not Economically Active	3412	4545	-1133	2555	4039	-1484	3173	3926	-753
Medical, Dental & Related Health Services Occupations	139	384	-245	71	336	-265	54	407	-353
Medical Practitioner, Physician	64	92	-28	36	60	-24	3	86	-83
Medical Specialist	6	11	-5	4	22	-18	25	19	6
Medical Professions	3	12	-9	2	6	-4	8	18	-10
Dental Professions	4	33	-29	2	50	-48		13	-13
Veterinary Sciences Professions	3	4	-1	3	8	-5		12	-12
Pharmaceutical professions	9	23	-14	1	9	-8	1	42	-41
Supplementary medical professions	17	52	-35	7	54	-47	2	55	-53
Nursing Professions	30	124	-94	10	101	-91	10	133	-123
Technicians: Medical & related sciences	1	9	-8	2	7	-5	2		2
Health Service Professions	2	24	-22	4	19	-15	3	29	-26
Personal & related services occupations	25	35	-10	9	38	-29	2	50	-48
Medical & Personal Occupations as % of Total Economically Active	8	8		5	8		5	9	

Source: Statistics South Africa (1997 & 1998)

At the same time, it is possible that South Africa has not been actively pursuing international recruitment to attract back South African born health professionals abroad or foreign health workers to compensate for the losses due to international migration. A recent study on trends on migration of health professionals conducted by the Organisation for Economic Cooperation and Development (OECD) presented the following statistics of "South African-born workers practising a medical profession in certain OECD countries in 2001" (see Table 8).

Table 8: South African-born workers practising a medical profession in certain OECD countries, 2001

	Practitioners	Nurses/midwives	Other health professionals	Total	Proportion (%)
Australia	1,114	1,085	1,297	3,496	14.94
Canada	1,345	330	685	2,360	10.08
New Zealand	555	423	618	1596	6.82
United Kingdom	3,625	2,923	2,451	8,999	38.45
United States	2,282	2,083	2,591	6,956	29.72
Total	8,921	6,844	7,642	23,407	100

Source: OECD 2003

Table 8 shows that the principal beneficiaries and destinations of the South African health worker emigration are the United Kingdom (39%), the United States (30%), Australia (15%), Canada (10%) and New Zealand (7%). Professional nurses constitute a large proportion (29%) of the emigrants consistent with the observation made in Table 7 whereby South Africa experienced losses during 1995 to 1998 period. Since the nursing profession is the backbone of the health system, the statistics show that emigration is a threat to the sustainability of the health system in South Africa if not dealt with appropriately and timeously. The popularity of the United Kingdom is consistent with the findings of a study on migration of skilled health personnel in South Africa done by Doherty (2002) where 52% considered the United Kingdom (UK) as a destination. South Africans mention the declining quality of life since the demise of apartheid, general dissatisfaction with the cost of

living, taxation levels, government's affirmative action policy and standard of public services as primary reasons for their decision to emigrate. About 96% quoted high crime rates as the reason for emigrating (Bhorat, Meyer and Mlatsheni 2002). Health professionals also consider emigration in search of higher incomes, better working conditions and opportunities for career advancement. They also cite poor management practices, heavy workload and difficult working conditions as factors encouraging them to leave (Doherty 2002).

5.2.4 Tertiary/primary care imbalance

The concentration of health personnel in higher levels of care is a longstanding problem confronting the national health system and derives from the dominant biomedical approach in the institutions of health care delivery and training of health professionals. The biomedical approach emphasises curative hospital- based care that is primarily provided by doctors. In 1992/93, a low proportion of health workers worked at primary care level. About 10% of general practitioners, 3.7% of specialists, 17% of nurses and 10.5% of pharmacists worked in primary health care facilities compared to 22.6%, 19.3%, 16.2% and 22.7% respectively in tertiary hospitals. In 1998/99, 76% of staff worked in hospitals and the staff working in PHC almost doubled to 13% from 7.2% in 1997/98 (see Table 9).

Table 9: Proportion of total staff working in PHC services, 1997/98 and 1998/99 (excluding the Free State)

PROVINCE	1997/98	1998/99
Eastern Cape	6.6	8.8
Gauteng	6.7	13.7
KwaZulu Natal	5.6	10.9
Mpumalanga	17.7	18.7
North West	15.8	18.5
Northern Cape	14.1	17.7
Northern Province	5.9	19.1
Western Cape	1.3	8.5
AVERAGE	7.2	12.8

Source: Doherty (2002)

The concentration of health workers at higher levels of care is supported by a well developed hospital infrastructure and training infrastructure. Table 10 shows that in 1998, 80 out of 434 hospitals were central and regional hospitals accounting for 46 222 out of 119 310 beds against a background of less developed PHC infrastructure.

Table 10: Number of hospitals and beds in the public sector by province (1998)

PROVINCE	CENTRAL		REGIONAL & TERTIARY		DISTRICT & AIDED		SPECIALISED		TOTAL	
	Hospitals	Beds	Hospitals	Beds	Hospitals	Beds	Hospitals	Beds	Hospitals	Beds
Eastern Cape			9	4862	65	9465	20	5254	94	19581
Free State	1	504	6	2151	24	2248	5	2107	36	7010
Gauteng	4	6905	14	7376	6	820	20	10296	44	25397
KwaZulu Natal	2	2252	10	8881	38	9039	16	8804	66	28976
Mpumalanga			4	1688	20	2549	4	781	28	5018
Northern Cape			2	681	29	925	1	287	32	1893
Limpopo			6	2389	32	6185	5	2108	46	10682
North West			6	2883	16	3577	1	1152	23	7612
Western Cape	3	3008	10	2642	33	1924	19	5567	65	13141
TOTAL	10	12669	70	33553	263	36732	91	36356	434	119310

Source: National Department of Health Website (http://www.health.gov.za)

Moreover, central hospitals are linked to health professional training institutions and so become the first area of care to which future health workers are exposed. In comparison, regional hospitals that are not linked to established or well-resourced training institutions struggle to recruit and retain health workers and are characterised by high vacancy rates. For instance, Cecilia Makiwane Hospital, a regional hospital not attached to any training institution and Umtata General Hospital, a regional hospital linked to a poorly resourced training institution, are located in the predominantly rural province of the Eastern Cape and have about 46% and 59% medical officer vacancy rates respectively (Eastern Cape Department of Health 2005a).

5.2.5 Summary

The maldistribution of health professionals creates a shortage of health workers within the NHS and also subjects the public health sector especially rural health services to a "revolving shortage trap" whereby health professionals come and go leaving the remaining few with no choice but to adopt and adapt to the "new" circumstances or leave their public sector and rural health practice. As a consequence, underserved area or rural health practice is characterised by increased workload, limited supervision, professional isolation, dependence on foreign skills and the closure or absence of health services. The uneven distribution of health workers occurs along a rural-urban axis, public-private axis and tertiary-primary care axis but seems to be underpinned by an inequitable distribution in resources, health service delivery infrastructure and training infrastructure. This "infrastructural gap" manifests itself in inability to recruit and retain health workers in those areas that are under-resourced. This gap needs appropriate human resource-related infrastructural strategies to reduce it and HRH strategies to recruit and retain health professionals, if equitable distribution of health professionals and quality health care for all the citizens is to be a reality.

5.3 HRH STRATEGIES IN SOUTH AFRICA

The South African national health system responded to the abovementioned challenges at different levels; by creating a clear policy framework and by devising financial, non-financial and social strategies to promote recruitment, retention and redistribution of health workers in the public sector particularly to rural areas.

5.3.1 Non-financial strategies

(a) Community service for health professionals

The White Paper on the Transformation of the Health System of 1997 provides for a mandatory community service for all health professionals before entering independent practice. This type of community service was introduced for the first time in 1997 and the first group of medical graduates was posted in July 1998. The founding aim of community service was to ensure improved provision of health services to all citizens of the country and provide young health professionals with an opportunity to experience the reality of the South African health system and develop skills and attitudes that are not necessarily provided by the curriculum (Reid & Conco 1999). Although this is the Department of Health's main objective, the Department also hoped that the policy could assist in addressing other issues such as the emigration of qualified doctors to work in other countries, the shortage of public sector doctors working in rural hospitals and the shortcomings of medical training not preparing young doctors for working in rural areas of South Africa (*ibid*).

The first group of community service doctors (26) was placed in urban hospitals and had access to adequate supervision and training opportunities. As a consequence, they emerged with a positive attitude towards community service (Reid & Conco 1999). The attitudes and morale of the later groups of community service doctors placed in rural hospitals was generally positive,

largely as a result of feeling that they provided care to needy patients, even though they felt that their supervision and support was generally poor. The learning that they described was largely that of developing self-confidence and independent decision-making rather than clinical skills (*ibid*). In 1999, the second group of 1088 doctors was posted to public sector institutions all over the country but only 25% were allocated to hospitals designated as rural. In addition, the mostly rural provinces were left till the last round to fill their posts and did not fill all their available posts for community service (Reid 2002). Subsequently, community service was extended to dentists and pharmacists. In 2003, it was extended to seven other health professional groups including physiotherapists, occupational therapists, speech therapists, clinical psychologists, dieticians, radiographers and environmental health practitioners (*ibid*).

Contrary to the first cohort, surveys done on the subsequent groups provide both positive and worrying patterns. Though poor supervision, skills mismatch, dissatisfaction with conditions of service, linguistic barriers, professional isolation, deficiencies in management, lack of equipment and poor supplies were highlighted, most described their experiences as positive (Reid 2002). An Eastern Cape Department of Health (ECDOH) provincial official describes some challenges facing community service,
"Junior personnel need supervision and we are struggling with the supervision required by statutory bodies."

There was some attitude shift in some health workers who undertook community service. Some health workers would be persuaded to stay in the public sector if salaries were improved whereas others would consider a career in rural health practice. However, no success has been observed as far as reducing emigration, delaying migration to private practice or staying longer in public sector. Amongst doctors doing community service, the number of those intending to work overseas increased from 34% (1999) to 38% (2001), while those intending to remain in the public sector decreased from 42% (1999) to 38% (2001). Of those intending to remain in the public sector, 20% would consider a career in rural health practice. Amongst dentists, the number

increased from 38% (2000) to 45% (2001) of those intending to join private practice, decreased from 24% (2000) to 10% (2001) of those planning to remain in public facilities, increased from 35% (2000) to 42% (2001) of those intending to go overseas and only 6% would consider a career in rural health practice. About 71% of pharmacists would be persuaded to remain in the public sector if salaries were higher (Reid 2002).

Some benefits of the community service programme were immediately felt within the health system. These include *inter alia* reasonable staffing levels, medical visits to outlying clinics, faster turnover of patients in the wards, reduced workload and stress levels and opportunity for skills development (Reid & Conco 1999). Another ECDOH official confirms the benefits of community service,

"It is a good programme because it provides professionals where people never went before....."

However, the decreasing proportion of health professionals intending to remain in the public health sector as compared to those intending to leave for overseas or private sector demonstrates that community service is a good strategy for reducing staff shortages on a short-term basis but has fallen short of retaining health workers in the public sector and in rural areas.

However, this conclusion is based on limited evidence that focuses on one side of the equation in the community service programme, the practitioner's behaviour. The role of government in implementation of the community service programme is still unclear or uninvestigated. Who has the primary responsibility to ensure successful implementation? The critical question is whether government sees its role as posting community service health professionals only or is doing more than posting to maximise the recruitment and retention potential of the programme. The ECDOH provincial official asserts that,

"We make sure that all bursars must do community service with the province and should include urban and rural options when deciding on their placement."

However, the programme lacks a champion to ensure popular support and acceptance amongst important stakeholders especially training institutions and future health professionals as well as resources to support its implementation at facility level. It lacks a strategic planner to integrate it with other strategies that are already in place such as bursary schemes, skills development strategy and the hospital revitalisation programme and ensure that factors that show a potential to maximise its recruitment and retention potential are taken into account. It lacks a manager to ensure smooth implementation from application and allocation through orientation to everyday duties of community service health workers. There is a need to evaluate current health professional training strategies to map out challenges and possible curriculum changes to prepare health professional graduates for the demands of community service.

(b) Registration of foreign qualified health professionals

Prior to the 1994 elections, the homelands were dependent on foreign doctors (Van Rensburg & Van Rensburg 1999). The influx of foreign doctors had grown by the early 1990s particularly from Sub-Saharan Africa (Van Rensburg & Van Rensburg 1999) draining these countries of their already scarce human resources. In light of such developments, South Africa had to take a conscious decision about the recruitment of foreign health professionals and therefore spelt out its position in the White Paper on Transformation of the South Africa Health System of 1997. The registration of foreign qualified health professionals for practice within the South African national health system is guided by the National Department of Health's policy on recruitment of foreign health professionals of 2002, which emanates from the abovementioned White Paper. The principles of this policy are dependent on:

- The ability of South Africa to meet the human resource needs of the health sector in the short-term, medium-term and long-term.

- Creation of job opportunities for South African citizens and permanent residents as well as pursuing and encouraging their ongoing training and development.
- Impact of the recruitment on the human resource needs of developing countries.
- A Commonwealth Code of Practice on the International Recruitment of Health Workers to which South Africa is a signatory.
- Government-to-government agreements between South Africa and any other country on the recruitment of health professionals.

It is clearly stated in the policy that to avoid depleting the health professional workforce of developing countries, recruitment of individual applicants from developing countries will not be supported and applications for fixed-term employment from foreign health professionals who are citizens of developed countries will be considered subject to the applicants meeting the defined requirements of the relevant registering authority. Moreover, the recruitment of foreign qualified health professionals should be directed at servicing the underserved areas of South Africa and they will only be registered to work in the public health sector.

The National Department of Health has therefore tackled the shortage of skilled health professionals in underserved areas of South Africa by employing foreign qualified health professionals from Cuba, Iran and the United Kingdom within the ambit of this policy primarily through government-to- government agreements. However, there are already doctors of foreign origin in practice in South Africa, 29% of African, 20.7% of Cuban and 20.3% of Asian origin (Van Rensburg & Van Rensburg 1999). There are about 240 Cuban doctors working in the rural Provinces of South Africa (Republic of South Africa 2004). By September 2004, the NDoH was finalising a bilateral arrangement with Iran to allow Iranian doctors to work in rural health facilities of Limpopo, Mpumalanga and the North-West Provinces (Khumalo 2004).

At this stage, the national health system is dependent on importing doctors from other countries in order to service its rural areas. Almost half of some provinces' public sector doctors are foreigners (42.3% in Mpumalanga, 43.1% in Limpopo Province, 44.8% in the Northern Cape and 54.1% in the North West) whereas they constituted only 9.0% of the Western Cape's public sector doctors (Van Rensburg & Van Rensburg 1999). There is empirical evidence that the importation of skills is however a short-term strategy to alleviate shortage and falls short of retaining health professionals in rural areas. Foreign doctors come to rural areas, apply for permanent residence and subsequently move to urban areas. For example, the highest proportion of foreign doctors with permanent residence was recorded in the Western Cape (43%) and Gauteng (54%) (Van Rensburg & Van Rensburg 1999).

Two issues crop up in the context of this recruitment strategy. There are questions around the objective of recruitment of foreign health professionals as well as the guiding principles of the recruitment policy. The principles guiding this policy do not adequately inequity in the distribution of health workers. Principle 1 mentions "the ability of South Africa to meet the human resource needs of the health sector in the short-term, medium-term and long-term. It is unrealistic to imagine that the South African health sector will be able to meet its human resource needs in the short-term to medium-term. Only time will tell if such a goal is realistic in the long-term. Firstly, the lack of a human resource plan to guide production, management and utilisation of health professionals in the health sector makes this an impossible task. Secondly, the health service delivery and training infrastructural gap that exists between the overserviced and underserviced areas makes it difficult to recruit and retain health workers in underserved areas. Thirdly, the burden of disease, especially infectious diseases and chronic diseases of lifestyle, is projected to increase and demand more human resources in terms of quality and quantity. Lastly, South Africa is part of the global village and therefore impacted upon by changes in other countries. The need for health professionals in industrialised countries is projected to increase partly due to poor planning and aging populations. With such projected demand, South

Africa is likely to find it difficult to recruit and retain its health workers within its health sector.

Principle 2 mentions "Creation of job opportunities for South African citizens and permanent residents as well as pursuing and encouraging their ongoing training and development." This principle does not assist in recruitment and is irrelevant in a sector characterised by chronically high vacancy rates particularly in underserved areas. In the context of such vacancies, there are job opportunities for both South Africans and non-South Africans in the health sector. Principle 3 emphasises that foreign recruitment depends on the impact of the recruitment on the human resource needs of developing countries. This principle creates a good image of a South Africa that cares and does not poach from other developing countries. Health professionals declined by South Africa do not necessarily return to the developing countries but are more likely to end up in industrialised countries. It does not protect the South African health sector and health sectors of developing countries but delivers a scarce resource to developed countries on a silver platter.

Principle 4 refers to the Commonwealth Code of Practice on the International Recruitment of Health Workers to which South Africa is a signatory. The question in this regard is to what extent this code protects the South African health sector. Principle 5 highlights government-to-government agreements as a key mechanism for recruitment of foreign health professionals. Government-to-government agreements are devoid of a philosophical framework and have seen mainly Cuban health professionals entering South African borders. However, this principle does not necessarily impose exclusive use of government-to-government agreements. What actually happens in practice is a matter for further research. The policy needs to be evaluated, how it has been implemented and if there has been reliance on government-to-government or individual agreements, and if the former, how effective has it been? The critical question about this is whether more health professionals have been registered and retained since the policy has been enforced.

The fact that foreign health professionals are only registered to work in the public sector and their recruitment is directed at servicing the underserviced areas of South Africa is misleading and mischievous. Who does this policy protect? It probably protects health authorities from the underserved communities for failing to deploy South African health professionals who have received their training at the expense of the taxpayer. It does not protect public sector patients but probably encourages South African health professionals to consider private practice, urban practice and emigration.

(c) Introduction of new cadres and task delegation

Recognising the challenge of shortage of health professionals in key areas of the health sector as well as the uneven distribution of the available health personnel, the National Department of Health resolved to implement and expand a midlevel worker programme for a range of health professions in 2004. This decision emanates from the Pick et al (1999) report which called for an expanded midlevel worker programme as a prerequisite for the successful implementation of PHC. This report called for an institutionalised expanded role for enrolled nurses and enrolled nursing assistants and the design of new midlevel workers for other professional categories. Pick et al (1999) argue that in the past, highly skilled professionals such as PHC nurses, medical practitioners and pharmacists provided the highest level of service and also assumed the primary responsibility for the delivery of health services at lower levels. The report recommends that some of those tasks traditionally done by highly skilled professionals be reassigned with training and supervision to workers at a different professional level. However, the Pick report is silent on the programme for medical midlevel workers, consistent with the moratorium on training of such workers put in place by the White Paper on the Transformation of the Health System of 1997. More recently, the Minister pronounced on the need to introduce a Medical Assistants Programme in March 2004. The introduction of this programme will repeal the moratorium on training of medical assistants. According to the Minister of Health, this programme will seek to address challenges facing the health care system in terms of the uneven distribution of doctors between private and

public health sectors, rural and urban areas as well as loss due to emigration. However, no concrete resolutions have been taken about the implementation of such a programme. The key issues under consideration include the scope of practice, curriculum, career pathing, regulations and deployment of the trained medical assistants. The introduction of physiotherapy and occupational therapy assistants as well as midlevel workers in nutrition has been under discussion for many years but is not finalised yet (Department of Health 2005).

The midlevel worker programme is, however, not new in South Africa. It has been in place in different forms often referred to as "assistants" for some time (Pick et al 1999). For instance, pharmacist assistants have been trained in a number of provinces in South Africa to provide pharmaceutical services in underserved areas. Nursing assistants have always been permanent members of the PHC team and their role has gone beyond the specified scope of practice in critically understaffed areas. Clinical nurse practitioners have been in existence though not properly utilised for some time. In addition, task delegation is common practice. General practitioners are used to performing tasks normally restricted to specialists while professional nurses perform tasks normally done by medical practitioners. With the shortage of highly skilled health workers worsening, it is becoming common practice to delegate almost all tasks reserved for a professional nurse to sub-professional nursing categories with or without additional training. Though experiences with these cadres are not well documented, it does appear that midlevel workers have become the key personnel in health service delivery in the public sector particularly in rural areas.

Although mid-level workers are in place for certain disciplines and definitely on the cards for the others, there is considerable controversy about the proposed medical assistants programme. The key issue seems to be the role of nurse practitioners who are, to some extent, an equivalent cadre to what is envisaged for medical assistants. Health authorities should not be prejudiced by such concerns. The key issue may be medical professionals and nursing professionals who are well established resisting change, fearing the unknown

or unwilling to create space for new professional categories. These two constitute an important resource for the initiation, implementation and sustainability of the medical assistants programme. International evidence points to their resistance as the key obstacle to the rolling out of mid-level worker programmes in other countries.

The expansion of the midlevel worker programme, in particular the medical assistants programme, needs to be negotiated and implemented with caution. Their training is likely to be faced with difficult challenges. Amongst the challenges, in the South African context, are the professional monopolies of skills, racial monopolies of skills and shortage of supervisory skills. Their scopes of practice need to be contextualised, located within the PHC team and reconciled with scopes of other workers. The entry and exit points in their training need to be clarified to ensure a rich career and prevention of frustrations regarding career pathways. It is important that the health system does not produce "mini-doctors" or "mini-specialists" whose training might not expose them to the reality of working in South Africa especially the underserved areas. It is not advisable to train these cadres outside their likely environment of work for too long or if that is inevitable a strong rotation in rural health setting should be a central part of the training. More important before introducing new mid-level workers and expanding existing programmes, it is crucial that an assessment of the existing programmes is done to identify positive and negative experiences, strengths and weaknesses, opportunities and threats so that the new programmes are informed by relevant contextual factors. The prevailing task delegation strategies are not sanctioned by the existing scopes of practice and investigating the strengths and weaknesses, opportunities and threats of such strategies is crucial to ensure that they are within scopes of practice and scopes are reviewed and reconciled with those of mid-level workers.

(d) Increasing opportunities for skills development in rural areas

Limited or poor access to skills development opportunities and poor workplace support has been mentioned amongst the factors encouraging health workers

to migrate to urban areas. To enhance the quality of work-life for health and other workers, the South African parliament passed the Skills Development Act of 1998 and provided for opportunities for skills development for health workers in underserved areas as well. Subsequent to this legislative framework, the Health and Welfare Sector Training Authority (HWSETA) was established with the intention to promote education, training and development irrespective of geographic location within the health and welfare sectors (Department of Labour 2000). The core business of the HWSETA is to provide skills development opportunities within the health sector (Department of Labour 2001).

Due to the capacity constraints (human resources, financial resources, information and governance), the HWSETA has not yet achieved its full potential including providing opportunities for skills development, providing scarce skills and assisting in retaining health workers in rural areas. For the 2000/2001 year, the HWSETA decided strategically to focus on the skills development of those below the National Qualifications Framework (NQF) level five (5) covering foundation levels including workers with limited or no formal education (Department of Labour 2001). However, the HWSETA continues to engage in the process of locating itself so that it becomes a key and influential player in the skills development process and recruitment and retention of health workers in the health sector. The 2003/2004 HWSETA report summarises this challenge as follows:

"*While the HWSETA has given focus in the past to primary skills development programme at foundation levels, the challenges for the HWSETA are to embrace and implement more comprehensive strategies that include a balanced approach in addressing broader based skills development needs of its sector. The focus will need to include human resources development interventions for example widening the spectrum of learnerships offered, promoting internships, mentorship and contributing to bursaries that promote retention strategies while at the same time sustaining the sector through provision of a skilled workforce.*"

For instance, the Department of Health in the Western Cape works in partnership with HWSETA to provide learnerships and other skills development interventions for its employees. This training is addressed through the annual Departmental Workplace Skills Plan (WSP) which is informed by inputs from the Regional and Institutional Workplace Skills Plans and therefore reflects the prioritisation of skills needs throughout the Department. Enrolled nursing assistants, enrolled nurses and pharmacist assistants participate in these learnerships. This has been identified as another way of "growing own timber" recruitment approach. The Department of Health also works with the Department of Education through the Adult Basic Education and Training programme to ensure appropriate development of human resources to support health care delivery (Western Cape Department of Health 2005).

A ECDOH district official explains how skills development works at district level,

"*The plan works very well in our district....we have a budget.....we have a committee ensuring that all categories benefit from these opportunities....These programmes are covering everybody....We have actually trained our general assistants on planning, first aid, HIV & AIDS in the workplace etc. In each and every category we have established their needs.*"

An ECDOH official discusses how the province uses skills development funds,

"*Skills development focuses on ABET and computer literacy. Students have also been recruited and sent to technikons to do facilities and equipment management.*"

The key challenge though is the concentration of well-developed health service delivery infrastructure and the institutions of training in urban areas away from the rural areas. For example, in the Western Cape health service delivery and training infrastructure is concentrated in the Cape Metropolitan area and therefore away from the underserviced communities of the Western Cape (Chitha 2005b). This exists against the background of weak infrastructure to support sustainable skills development for rural health facilities. This implies that, firstly, health workers may have to take advantage

of any opportunities but with limited supervision, support and mentoring. Secondly, they have to travel to urban areas in order to access training opportunities. Lastly, potential health professionals are recruited locally for urban based training detaching them from conditions that may have influenced them to choose a career in rural health practice (Chitha 2005a). The lack of appropriate health service delivery and training infrastructure is an important obstacle if the potential of skills development to maximise recruitment and retention in these areas is to be enhanced. Another ECDOH district official explains their skills development for doctors,

"*For instance for the doctors we are exposing them to the training e.g. in Port Elizabeth to capacitate them and they also attend some winter courses at University of the Western Cape.*"

This is a serious issue if equitable access to training opportunities is to be achieved and if sustainable strategies in terms of recruitment and retention are to be a reality. A district health official agrees,

"*Last year we had a meeting with the doctors, one item they highlighted is the need to have some training within the district....we then identified a doctor to coordinate in-service training within the district to cover everybody.*"

There is also a need to evaluate how various provinces have tapped on these opportunities and how the benefits of skills development benefit the different professional categories in order to ensure targeted and integrated skills development.

(e) Improving the health service delivery infrastructure

Health workers leaving the public health sector mention several factors that encourage them to migrate. Included amongst these factors are poor working conditions, poor management systems, a lack of equipment and supplies and poor supervision. In addition, those working in rural areas mention problems with staff accommodation ranging from a very poor state to unavailability. A district health official discusses problems with staff accommodation,

"As much as our government is working very hard towards upgrading our facilities and coming with a programme of revitalisation but we are not yet there especially with nurses' homes and doctors' quarters."

The unavailability of accommodation is a deterrent for many health workers who are willing to work in rural areas. Another district health official describes frustrations with staff accommodation,

"We did appoint a dentist.....they could not stay they say the accommodation is not habitable."

The Department of Health's responses include the Hospital Revitalisation Programme (HRP) whose purpose is to improve the hospital infrastructure, health technology, management systems and quality in hospitals and the Clinic Upgrading and Building Programme (CUBP) whose aim is to construct properly designed clinics accessible to communities and improve the building and design of existing clinics. A number of these facilities are located in rural areas. These programmes have facilitated some improvements in management, governance, availability of appropriate technology and physical infrastructure. However, accommodation for health workers is not a central feature in the Hospital Revitalisation Programme but is sometimes included in rural areas (Personal communication- NDOH Official). Moreover, capacity constraints including technical expertise and budgets have delayed the progress and pace in implementing these programmes (Department of Health 2004).

However, the impact of the provision of health service delivery infrastructure (hospitals, clinics, management systems and appropriate technology and equipment) is rather limited without the right number and mix of health workers in the right place at the right time to maintain it and deliver the actual services, and appropriate roads, transport and communication infrastructure to access them. So, the key issue is training, development, deployment and motivation of health workers to deliver health services in underserved areas (Chitha 2005a). The task is clearly defined in the Western Cape Department of Health strategic plan, Health Care 2010 plan: Train, retrain and retain staff in health facilities with increased emphasis on primary health care clinics,

district level services and staff at community level. This task defines two areas that require attention for health service delivery infrastructure to have an impact, the training infrastructure and recruitment and retention plan. This therefore sets the challenge for a training infrastructure that is appropriate, relevant, context-specific and assisting to recruitment and retention of health workers in the public sector and underserved areas (Chitha 2005a).

5.3.2 Financial strategies

(a) Bursary schemes

The White Paper on Transformation of the Health System provides for bursary schemes to be used to recruit health workers in particular from underserved areas. It further provides for retention of bursaries offered under the old dispensation. As a consequence, most provincial departments of health inherited bursary schemes from the former homeland governments and self-governing states. In addition, some provinces especially those that are predominantly rural send some of their bursars to other countries particularly Cuba. The assumption underlying the provision of these bursaries is that the recipients will return to work in rural and underserved areas in the provinces. The conditions for receiving such bursaries stipulate payment by service within the respective provinces. The bursary recipients are recruited locally or provincially and provided with funds to further their studies in health profession's training. After completion of the studies, they are expected to return to the respective provinces as qualified health professionals and resume servicing their contracts.

It is too early to evaluate the overseas-based training bursary schemes including the Cuban programme. Many health professionals have benefited from the bursary schemes but very few health workers have fully serviced their contracts. There is anecdotal evidence that most of the bursary recipients do honour the initial part of the contract but are later lost to the

provinces to work in urban areas. This does suggest that the bursary schemes recruit health workers but fall short in terms of keeping them to even complete the required contract period. In spite of the failure of the bursary recipients to fully service their contracts, the provincial departments of health continue to offer such bursaries.

The key question in this regard is why the recipients of bursaries do not service their contracts fully. There are three parties involved and all contribute to the problem. In the first place, bursary recipients enter into agreements with the provincial health authorities at a young age, early in their training and desperate for financial assistance. They have not fully developed in the social sense in terms of relationships and networks and location of these networks, have not fully appreciated the environment in which they are likely to work and are mostly forced by expensive health profession's training to take the financial assistance on offer. Moreover, students enter into these contracts on the basis that they will be professionally prepared to work in the areas designated by the contracts. The second partner is the training institution that offers to train a student who has commitments and expectations that they would be better prepared through training to service their bursary contracts. The third partner is the government that offers a financial incentive hoping to be paid back by service. All three parties especially the government and the bursary-holder take risks. Bursary recipients accept the risk and are often willing to service contracts provided they have been properly prepared and the contracts are properly enforced. A district health official argues,

"*Somehow two parties are to blame. It's us the department, we are not monitoring and the people that we identified are betraying us and not loyal.*"

The district official further describes how they select local students, *"These are our people, our own people, they know that we do not have that and that and agreed they would come back to the same environment."*

The district official wonders, *What makes people to leave because we give person money, the person has been here for years living in the same conditions. We recommend him or her based on his or her record and endurance, there he goes he never comes back."*

So the first issue with current bursaries is that they select students and give them money to study in an institution that is away from the likely place of work, in most cases in urban areas, without any organised systematic way of keeping contact with and regular exposure to the area from which they come. The second issue is the failure to enforce contracts and take advantage of the opportunity to retain the recruits presented by the bursary schemes. The question then arises as to whether it is enough for government to pay and wait for the day when studies are finished. To answer the dilemma associated with this type of recruitment, a comprehensive evaluation of various bursary schemes, their implementation and impact should be undertaken. In addition, the contribution of these bursary schemes to recruitment and retention within the public health sector as well as redistribution of health professionals needs further investigation. It is clear that bursary schemes in the current form lack a philosophical framework and a strategic direction and are not properly monitored.

(b) Rural and scarce skills allowances

In 1994, a rural recruitment allowance was instituted in South Africa but given only to medical doctors and dentists. It was perceived to be ineffective as an incentive for retention of professional staff and a new rural allowance was implemented in July 2003 (Reid 2004). With the acknowledgement by the White Paper on Transformation of the Health System in South Africa in 1997 that the distribution of health personnel would be an incentive-driven process, it was taken for granted that the Government of National Unity would be aggressive in the use of incentives and implement financial incentives sooner. It took almost ten years before an agreement was reached to provide financial incentives by means of the "scarce skills" and "health workers in rural areas" allowances. On the 28th of January 2004, the National Department of Health introduced rural and scarce skills allowances through the Public Health and Welfare Sector Bargaining Chamber Agreements 1 and 2 of 2004. The scarce skills allowance aims to attract and retain key categories of health professionals on a fulltime basis in the public health sector. It is a non-pensionable allowance payable to employees falling within the Public Health

and Welfare Sector Bargaining Chamber as a fixed percentage linked to the annual salary notch and applicable to designated health professional categories working in clinical service delivery in the public health sector. The scarce skills allowance is broken down as illustrated in Table 11.

Table.11: Scarce skills allowance per professional category

Professional category	Percentage
Medical and dental specialist, dentist, pharmacist, pharmacologist	15%
Dental technician, psychologists, dietician and nutritionist, Occupational therapist, Physiotherapist, Radiographer, Speech Therapist	10%
Professional nurses with specialties in Operating theatre, critical care and oncology	10%

Source: Public Health & Welfare Sector Bargaining Chamber 2004

The rural allowance aims to attract and retain health professionals in rural areas of South Africa. It is a non-pensionable allowance payable to health professionals working in public sector clinical service delivery within rural areas that are designated through either Integrated Sustainable Rural Development Strategy (ISDRS) nodes or Public Service Coordinating Bargaining Council (PSCBC) as a fixed percentage linked to the annual salary notch. It is broken down as illustrated in Table 12.

Table.12: Rural allowance per professional category by designated area

Professional category	ISDRS Nodes	PSCBC
Dental specialist, dentist, medical doctor, medical specialist	22%	18%
Dental technician, dietician & nutritionist, occupational therapist, pharmacologist, pharmacist, physiotherapist, psychologist, radiographer, speech therapist	17%	12%
Professional nurses excluding student nurses	12%	8%

Source: Public Health & Welfare Sector Bargaining Chamber 2004

The Agreement was reached in January 2004 and payment of allowances was backdated to July 2003. A sum of R500 million was set aside for 2004, a

further R750 million has been allocated for 2005 and the budget will increase to R1 billion by 2006 (Khumalo 2004). It is difficult to assess the impact of the scarce skills and rural allowances on the recruitment and retention of health personnel in the public sector and rural areas because it is too early and recruitment and retention are not only influenced by financial incentives (Reid 2004). However, Reid (2004) in his survey of health workers assessing the effectiveness of rural allowance in 2004 reported that about one-third of the respondents were influenced by the introduction of these allowances to change their career plans. Experienced respondents regarded the rural allowance and financial factors as more important than career development opportunities whereas young respondents reported career development opportunities as more important than financial factors.

The key issues with granting allowances are at least three-fold. Firstly, which geographic areas to include in the grant? Probably it is more influenced by financial constraints than any other factors. Secondly, who should get it? This depends on what the authorities want to achieve and where the priorities are. Lastly, how to grant the allowance? Should it be at a certain amount or percentage allocated according to differing criteria? This again largely depends on available financial resources. However, granting allowances should be balanced with non-financial incentives.

There are some key issues with the use of scarce skills and rural allowances. Firstly, with professional nurses, the scarce skills allowance is granted to identified specialties but not to professional nurses who have gained experience and are still active in the specialties concerned. Secondly, the scarce skills allowance does not recognise and reward the key role primary health care nurses play in the delivery of the primary health care package. A provincial health official agrees that in their situational analysis, the scarce skills allowance has been questioned,

"Primary health care nurses are key to the delivery of services but their role is not recognised and rewarded."

This has the potential to cause difficulties to those managers who do not have nurses with the required qualifications, discontent and unhappiness amongst

professional staff especially where fewer nurses have the requisite qualifications and ultimately result in intrafacility migration. Thirdly, in practice, the rural allowance is not graded according to the inhospitability of the work environment. For instance, two facilities within one rural node operating under different working conditions qualify for the same amount of rural allowance. This has the potential to thwart attempts to post health workers to remote areas and can encourage "interfacility migration". A medical doctor located in one of the facilities outside Umtata questions the logic,

"If I get the same allowance with a doctor in Nelson Mandela Academic, why should I suffer here with no support and unable to do my studies. It is logical that at least I join them."

5.3.3 Social strategies

(a) Campaign on ethical recruitment

In addition to the abovementioned strategies, South Africa, guided by its conscience, has embarked on a campaign to ensure that the industrialised countries such as the United Kingdom (UK) practise ethical recruitment in its dealings with South African health workers with the British government consequently agreeing to tighten the screws on the recruitment of South African health professionals. This has led to the UK reviewing and changing its Code of Practice for the International Recruitment of healthcare professionals in December 2004. The UK Code of Practice is now underpinned by the following principles:

- Any international recruitment of healthcare professionals should not prejudice the healthcare systems of developing countries.
- The Code of Practice prevents active recruitment of healthcare professionals from developing countries unless there is a government- to-government agreement to support recruitment activities.
- The Code of Practice applies to the recruitment through agencies of temporary/locum healthcare professionals as well as permanent staff.

- The scope of the Code of Practice has been widened to enable all healthcare organisations including the independent sector to sign up to the principles contained within the Code of Practice
- The United Kingdom's National Health Service (NHS) should only use recruitment agencies that comply with the Code of Practice for both domestic and international recruitment.

It is, however, too early to assess the effectiveness and impact of this Code of Practice on migration of South African health professionals.

(b) Rural Health Support Organisations

Student associations and professional associations in the area of rural health mobilise, organise and support rural health initiatives within the national health system. An organisation of health sciences students called the Rural Support Network (RSN) was launched in 1996 at the University of Cape Town with the aim to create a model for recruitment and retention of health workers in rural health districts (Rural Support Network 1996). This organisation recruits, prepares and posts undergraduate health sciences students from health sciences faculties in South Africa to rural health facilities for the purpose of exposure and experience. Participants on the rural placement are required to share their experiences with other students through a platform called report-back sessions (Rural Support Network 1998). Besides, these students engage in awareness-raising about careers in health sciences and recruitment of students from rural communities to be able to gain access to health sciences training (Rural Support Network 1998). However, financial and academic constraints have some limiting effect on the growth and success of the Rural Support Network activities. In spite of these constraints, an evaluation of participation in the RSN activities at the University of Cape Town reported that participation has remained stable over the years RSN has been in existence (Chitha 2005c). The Rural Doctors Association of Southern Africa (RUDASA) provides a platform for doctors involved in rural health to exchange information and ideas and serve as a lobby for improved conditions of work in rural health facilities and for appropriate training of doctors. In addition, RUDASA has recently initiated a recruitment programme for health workers to

work in rural hospitals in an attempt to improve staffing in rural health facilities (RUDASA 2005). Table 13 provides a summary of HRH strategies in South Africa.

Table 13: Summary of Human Resources for Health Strategies in South Africa

Strategy	Aim	Strength	Weakness	Opportunity	Threats
Community service	To ensure improved provision of health services to all citizens of South Africa. To provide young health professionals with an opportunity to experience the reality of the health system in South Africa	Eight years of existence, has infrastructure, Increased physical presence of health workers in underserved areas, Improved staffing	Inadequate preparation for community service, little or no orientation, lack of mentoring, poor supervision, professional isolation, poor management practices	Positive attitude, feeling good for providing care for the needy, a reasonable proportion would consider public sector and rural practice	Poor health service delivery & training infrastructure, poor roads, transport & communications, migration
Foreign health professionals	To recruit foreign qualified health professionals to work in underserved areas within the public sector	Many years of existence Has organisational infrastructure, increased physical presence of health workers in underserved areas, improved staffing	Current policy shows poor vision, poor supervision, professional, cultural & social isolation, poor management practices	Positive attitude, feeling good for providing care for the needy.	Not allowed by current scopes of practice, poor health service delivery & training infrastructure, poor roads, transport & communications, migration
Task delegation	To allow other professional categories to take on tasks normally reserved for highly skilled health workers	Many years of existence, increased physical presence of health workers in underserved areas, improved utilisation of health workers	Poor supervision, lack of training, lack of professional support, lack of career advancement	Positive attitude, willingness to make team function well	Not allowed by current scopes of practice, poor health service delivery & training infrastructure, poor roads, transport & communications, poor supervision

Skills development	To promote training, education and development of skills within the health sector	Infrastructure, funds and human resources in place	HWSETA adopted a narrow strategic focus	Still at its infancy-can be influenced to assist in recruitment and retention of health workers	Urban-based training infrastructure, public sector employers not paying contributions
Health service delivery infrastructure programmes (Hospital revitalisation & clinic upgrading and building)	To improve delivery infrastructure, technology, management systems and quality in health services	Plans and infrastructure in place	Staff accommodation not a strong feature of hospital revitalisation	Opportunity for intersectoral collaboration and public-private partnerships in staff housing development	Lack of expertise, Budget constraints
Bursary schemes	To pay for health professional training with intention to deploy health workers in the public health sector and underserved areas	Many years of existence, infrastructure in place, high cost of training makes it appealing	Poorly targeted recruitment, exposure to future area of work not enforced, service requirements to completed	Students in the moulding phase & open to new ideas, present opportunity for bursary funders to enforce exposure to rural areas	Urban-based training infrastructure, budget constraints, lack of monitoring systems
Rural & scarce skills allowances	To attract and retain health professionals in the public sector and rural areas	Funded, Accepted practice	Scarce skill allowance too narrow for professional nurses & does not recognise experience and PHC, Rural allowance not graded according to inhospitability in practice	incentivise experienced professionals still active in scarce categories, opportunity to incentivise PHC nurse practice	Budget constraints, Unhappiness about exclusive nature of scarce skills allowance & granting of rural allowance

Campaign on ethical recruitment	To ensure that industrialised countries practise ethical recruitment in their dealings with South African health workers	Political will, Supported by the Commonwealth Code of Practice on the ethical recruitment of health workers, has cooperation of the British government	Dependent on cooperation and compliance of foreign governments	Encourage health workers from developed countries to work in South Africa	Limited number of governments complying with ethical recruitment
Rural Health Organisations (Rural Support Network and Rural Doctors Association of Southern Africa)	To mobilise, organise and support rural health initiatives in support for improved staffing in rural health facilities	Commitment & vision, organisational infrastructure, popular amongst participants	Not fulltime involvement, relying on part-time participants	Initiate relationships to provide rural exposure, ally in curriculum reform and rural health advocacy	Budget and academic constraints

Source: Chitha 2005a

5.4 SUMMARY

There are many HRH challenges (planning, development, management, maldistribution and emigration) facing the South African national health system. A number of financial and non-financial strategies have been put in place. Some strategies appear to be having some impact while in other cases it is too early to tell. It is not very clear whether the strategies will achieve the long-term goal of equitable distribution of appropriately qualified health workers within the national health system. It does appear, though, that the manner in which these strategies are integrated and supported with appropriate resources and the extent to which the South African health sector invests in redistributing infrastructure to rural areas is likely to play a key role if sustainable impact is to be achieved in the long-term.

CHAPTER SIX: PRESENTATION OF THE STUDY FINDINGS

6.1 Demographic data

Out of 336 health workers sampled, 179 completed questionnaires were returned making a response rate of 53.3%. The majority of the study participants were female, married, born in rural areas, based in hospital and belonged to the professional nursing category. Table 14 shows demographic profile of the respondents in this study. There are more participants surveyed in stratum 2 than stratum 1 owing to the failure of district authorities to cooperate and consequent exclusion of clinics in stratum 1.

About 90% of the study participants received their training in South Africa and about 7% of the participants had training of foreign origin. The majority (76.9%) of those with foreign training were medical doctors. About 22% of the participants had been in the current area for less than 5 years of which the predominant age group was that of 20-29 years. This may be explained by the deployment of young graduate health professionals to rural areas through the community service programme for health professionals. The dominance of medical doctors amongst the participants with foreign training may be partly explained by an existing policy on recruitment of foreign doctors in South Africa.

Table 14: Demographic profile of study participants

Number of respondents		179	Percentage
Average age		42	
Gender			
	Male	30	16.76
	Female	146	81.56
	No responses	3	1.68
Marital status			
	Married	101	56.42
	Unmarried	75	41.9
	No responses	3	1.68
Place of birth			
	Rural	131	73.18
	Urban	23	12.85
	Other	6	3.35
	No responses	19	10.61
Primary school education			
	Rural	120	67.04
	Urban	23	12.85
	Other	6	3.35
	No responses	30	16.76
Professional category			
	Professional nurse	81	45.25
	Medical doctors	18	10.06
	Pharmacists	10	5.59
	Dieticians	1	0.56
	Occupational therapy	2	1.12
	Physiotherapy	6	3.35
	Radiography	8	4.47
	Other	49	27.37
	No responses	4	2.23
Facility level			
	Clinic	23	12.85
	Hospital	134	74.86
	CHC	14	7.82
	No responses	8	4.47
Stratum			
	1(<150 km from City)	63	35.2
	2(>150 km from City)	98	54.75
	No responses	18	10.06
Health district			
	OR Tambo	43	24.02
	Chris Hani	54	30.17
	Amathole	63	35.2
	No responses	19	10.61

6.2 Analysis of factors

Table 15 shows factors reported as "very important" in motivating health workers to choose a career in rural health practice. Overall, the majority of participants reported that having lived in a rural area for more than 5 years, desire to gain work experience, family obligations, prior interest in underserved area practice, performing community service, the desire to live in a rural area and family friendly environment were very important motivating factors in their decision to choose to work in rural health practice.

Table 15: Factors identified by participants as "Very important" in their decision to choose rural health practice

	Very important		
	No	%	CI
Lived in a rural area > 5 years	81	45.25	37.8-52.8
To gain work experience	79	44.13	36.7-51.7
Family obligations	70	39.11	31.9-46.7
Prior interest in underserved area practice	60	33.52	26.7-40.9
Performing community service	58	32.96	26.1-40.4
Desire to live in a rural area	58	32.4	25.6-39.8
Family friendly environment	58	32.4	25.6-39.8
Had friends living in a rural area	56	31.28	24.6-38.6
Prior interest in PHC/generalist practice	53	29.61	23.0-36.9
Desire to raise family in a rural area	51	28.49	22.0-35.7
Explore working in a rural area	48	26.82	20.5-33.9
Rural training > 3/12 duration	46	25.7	19.5-32.7
Scope & diversity of work	45	25.14	19-32
Rural allowance	43	24.02	18-31
Love rural lifestyle	43	24.02	18-31
Training institution based in rural area	42	23.46	17.5-30.4
Community respect for health professionals	39	21.79	18-29
Training institution promoted rural practice	38	21.23	15.5-28
Clinical autonomy	35	19.55	14.0-26.1
Scholarship obligations	23	12.85	8.32-18.6
Mentor promoted rural practice	22	12.29	7.8-18.0
Partner employed in the area	22	12.29	7.8-18.0
Good infrastructure	22	12.29	7.9-18.0
Lived in a rural area <5 years	15	8.38	4.8-13.4
Subsidised accommodation	14	7.82	4.3-12.8
Business interests in the area	11	6.15	3.1-18.0
Rural training < 3/12 duration	2	1.12	0.1-3.98

Table 16 shows factors that were reportedly very important in motivating participants to stay in rural health practice. Overall, study participants reported relationship with colleagues, relationship with immediate supervisor, like being part of a team, desire to gain work experience, flexible work hours and community recognition for work and community respect for health professionals as very important.

Table 16: Factors reported by study participants as "very important" in motivating health workers to stay in rural health practice

	No	%	CI
Relationship with colleagues	91	50.84	43.2-58.3
Relationship with immediate supervisor	76	42.46	35.1-50.0
Like being part of a team	76	42.46	35.1-50.1
To gain work experience	74	41.34	34.0-48.9
Flexible work hours	62	34.64	28-42
Community recognition for work	60	33.52	26.7-40.9
Community respect for health professionals	54	30.17	23.5-37.5
Rural allowance	49	27.37	21-35
Love rural lifestyle	48	26.82	20.5-33.9
Opportunity to perform clinical procedures	45	25.14	19-32
Good workplace support	45	25.14	19-32
Sense of belonging to the community	45	25.14	19-32
Peer recognition for my work	44	24.58	18.5-31.6
Desire to raise family in a rural area	43	24.02	18-31
Family friendly environment	42	23.46	17.5-30.4
Have friends living in the area	41	22.91	16.9-30
Management recognition for work	40	22.35	16.5-29.2
Scope & diversity of work	35	19.55	14.0-26.1
Autonomy in clinical practice	34	18.99	13.5-25.5
Partner would not move	16	8.94	5.2-14.1
Subsidised accommodation	11	6.15	3.1-10.7
Scholarship obligations	8	4.47	1.9-8.6
Business interests in the area	5	2.79	0.9-6.4
Subsidised transport	2	1.12	0.1-4

Shown below are factors cited as very important in tempting health workers to leave a career in rural health practice. The majority of the participants cited poor infrastructure, desire to work close to family, limited opportunities for promotion, not safe in the area and no support for postgraduate education as very important factors tempting them to leave rural health practice. (see Table 17). A district health official concedes,

"Our district is rural, does not retain people, we are very much good at recruiting the personnel and they do respond positively but they only come here to taste and after the taste they leave because of the rural nature of the district." A district manager discusses how poor district infrastructure affects the ability of the district to retain health professionals,

"Retaining health workers in this district is difficult because its topography is unfriendly and facilities are difficult to access. It is possible for personnel actually to walk longer distances especially in rainy weather from the point where transport runs to the facility." A provincial health official concedes,

"We have a problem of security especially at the clinics."

A medical practitioner describes how working hours tempt him to leave,

"I have been alone in this hospital as a medical officer for a long period of time and was on call every single night, now we are 2 doctors and each one is on duty 15 days a month and yet we are not paid extra overtime."

Table 17: Factors reported as very important in tempting health workers to leave rural health practice

	No	%	CI
Poor infrastructure	75	41.9	34.6-49.5
To work close to my family	68	37.99	30.8-45.5
Limited opportunities for promotion	60	33.52	26.7-40.9
Not safe in the area	58	32.4	25.6-39.8
No support for postgraduate education	52	29.05	22.5-36.3
Limited opportunities for professional development	47	26.26	20-30
Desire to raise family in an urban setting	47	26.26	20-30
No educational facilities for my children	40	22.35	16.5-29.2
Poor management practices	40	22.35	16.5-29.2
Poor professional supervision, support and mentoring	36	20.11	14.5-26.7
No employment opportunities for my partner	34	18.99	13.5-25.5
Work long and inflexible work hours	34	18.99	13.5-25.5
Isolation	31	17.32	12.1-23.7
Poor workplace support	31	17.32	12.1-23.1
No opportunity to perform clinical procedures	30	16.76	11.6-23.1
Losing clinical skills	29	16.2	11.1-22.4
Do not like rural lifestyle	26	14.53	9.7-20.6
No community recognition for my work	23	12.85	8.3-18.7
Marital difficulties	20	11.17	7-16.7
No management recognition for my work	19	10.61	6.5-16.1
No peer recognition for my work	16	8.94	5.2-14.1
No clinical autonomy	13	7.26	3.9-12.1
Bad relationship with colleagues	10	5.59	2.7-10.0
Changing professional direction	8	4.47	1.9-8.6
Served scholarship obligations	8	4.47	1.9-8.6

6.3 Analysis of factors by subgroups

6.3.1 Gender

Table 19 shows "very important" factors motivating health workers to choose, stay in or leave rural health practice by gender. Overall, the majority of female respondents reported having lived in a rural area more than 5 years, desire to gain work experience, family obligations, prior interest in underserved area practice and performing community service as very important factors that motivated them to choose rural health practice as a career. A large proportion of male respondents reported having lived in a rural area more than 5 years,

desire to gain work experience and prior interest in underserved area practice as very important factors in their decision to choose to work in rural health practice. Also shown in this table are factors motivating health workers to stay in rural health practice by gender. Overall, the majority of female respondents reported relationship with colleagues, relationship with immediate supervisor, desire to gain work experience and like being part of a team as very important factors motivating them to continue in rural health practice. The majority of male participants cited relationship with colleagues, relationship with immediate supervisor, community respect for health professionals and community recognition for work to be very important motivating factors for them to stay in rural heath practice. A large proportion of male respondents (23.33%) and female respondents (28.08%) cited the rural allowance. More than half of the female respondents cited relationship with colleagues compared to one third of male respondents.

Table 18 also shows very important factors tempting health workers to leave rural health practice. Overall, the majority of female respondents cited poor infrastructure, desire to work close to my family, not safe in the area and limited opportunities for promotion as very important factors tempting them to leave rural health practice. One respondent describes why she was tempted to leave,

"I am a resident of East London and my family is there. I am tempted to leave the rural area because of shortage of staff. I am unable to get the off-duty I requested at times. I have to split my off and come back because there will be one midwife in the ward then I would be promised to take the other days later."

Most of the male participants reported poor infrastructure, no support for postgraduate education and limited opportunities for promotion as very important. A larger proportion of female respondents reported not safe in the area (34.93%) and limited opportunities for promotion (34.25%) than male respondents.

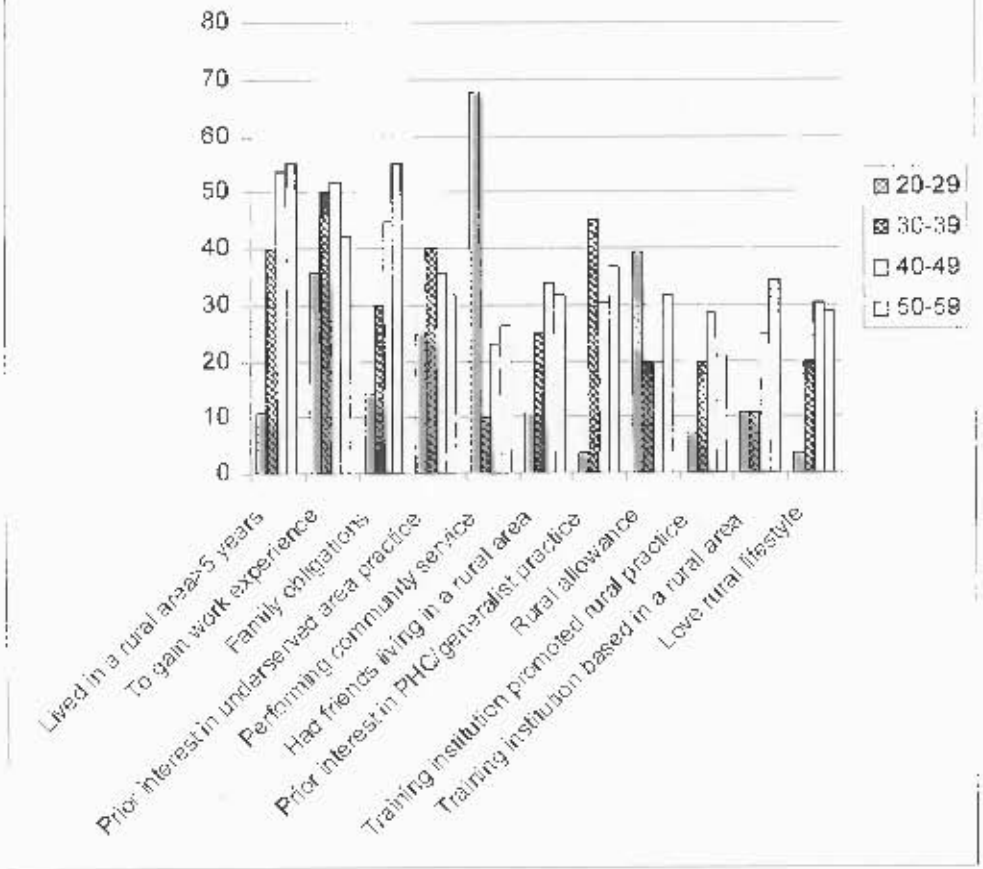
Table 18: Factors motivating participants to choose, stay in or leave rural health practice by gender

Choice Factors	% citing each factor out of total male participants	% citing factor out of total female participants
Lived in rural area > 5 years	43.33	45.89
To gain work experience	36.67	46.57
Family obligations	13.33	44.52
Prior interest in underserved area practice	36.67	32.19
Performing community service	23.33	34.93
Had friends living in a rural area	26.67	31.51
Prior interest in PHC/generalist practice	16.67	31.51
Rural allowance	26.67	23.29
Training institution promoted rural practice	13.33	22.6
Stay Factors		
Relationship with colleagues	33.33	54.79
Relationship with immediate supervisor	33.33	45.52
Like being part of a team	30	45.21
To gain work experience	23.33	45.52
Flexible work hours	26.67	36.3
Community recognition for work	33.33	34.25
Community respect for health professionals	36.67	29.45
Rural allowance	23.33	28.08
Love rural lifestyle	16.67	28.77
Opportunity to perform clinical procedures	20	26.71
Leave Factors		
Poor infrastructure	43.33	40.41
To work close to my family	20	41.78
Limited opportunities for promotion	26.67	34.25
Not safe in the area	16.67	34.93
No support for postgraduate education	43.33	26.03
Limited opportunities for professional development	20	27.4
Desire to raise a family in an urban setting	20	27.4
No educational facilities for my children	13.33	23.97
Poor management practices	20	21.92
Poor professional supervision, support & mentoring	23.33	18.49

6.3.2 Age group

For analytical purposes, the respondents were divided into two broad age groups, 20-39 age group and 40-59 age group. The age groups were further subdivided into 20-29, 30-39, 40-49 and 50-59. Figure 1 shows "very important" factors motivating health workers to choose a career in rural health practice by age group.

Figure.1. Choice factors by agegroup (% citing factor as very important)



Amongst the participants in the 20-29 age group, the majority cited performing community service (p= 0.001), rural allowance, desire to gain work experience and prior interest in underserved area practice as very important factors that motivated them to choose a career in rural health practice. Performing community service in this age group probably relates to the mandatory requirement for health professional graduates to do one year of community service in the public sector whereas a rural allowance is a departmental allowance given to those involved in clinical service delivery in areas designated as rural. A district health official boasts about the role of community service in recruitment,

"*We are no longer losing a lot of community service practitioners because there was a circular from provincial office saying we can readily appoint people, scarce skills at entry level. There are those community service doctors who came in and now are medical officers. We even managed to enter them at level 10.*"

In the 30-39 year age group, overall, desire to gain work experience, prior interest in primary care or generalist practice, prior interest in underserved area practice and having lived in rural areas more than 5 years (p=0.015) were reported to be very important. The majority of the participants in the 40-49 age group cited having lived in rural areas more than 5 years, desire to gain work experience, family obligations (p=0.018), prior interest in primary care or generalist practice and prior interest in underserved area practice. About 20% of participants in this age group reported rural allowance and 23% performing community service as very important factors in their choice of rural health practice location. A provincial health official explains how government uses rural allowance to encourage professionals to choose rural areas,

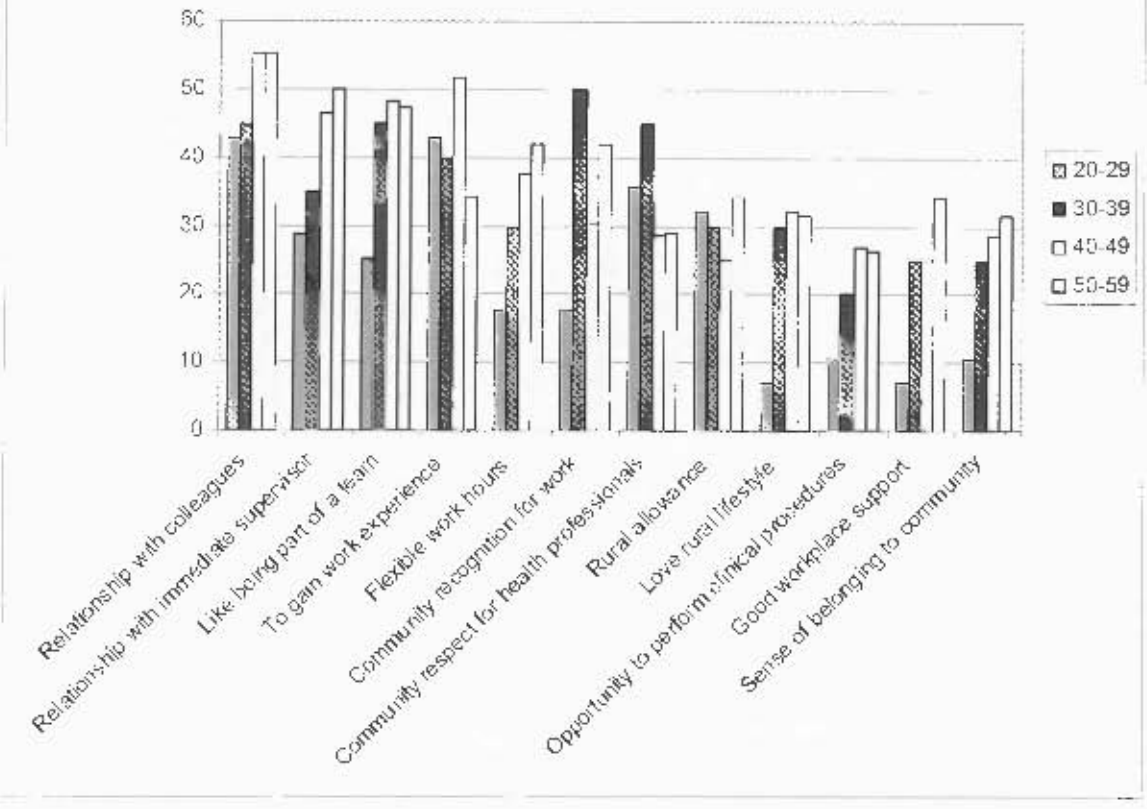
"We give health professionals who opt for practice in rural health facilities a rural allowance and hope that it will encourage them to stay."

This age group is not the primary focus of the mandatory community service and citing performing community service as a factor probably demonstrates their willingness to serve rural communities.

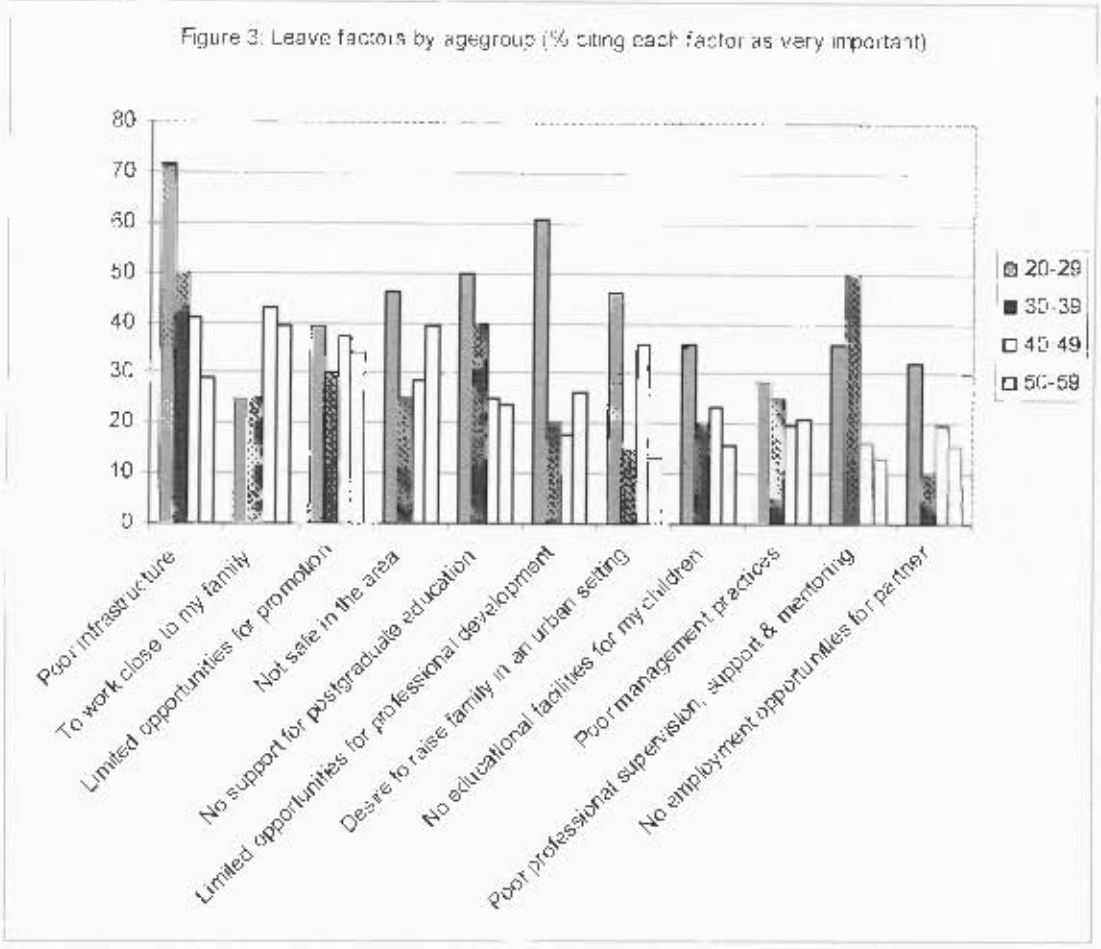
In the 50-59 year age group, the majority reported having lived in rural areas more than 5 years, family obligations, desire to gain work experience, prior interest in primary care or generalist practice, prior interest in underserved area practice and rural allowance.

Figure 2 shows factors cited as very important motivating factors for health workers to stay in rural health practice by age group. In the 20-29 age group, overall, relationship with colleagues, desire to gain work experience, community respect for health professionals and rural allowance were cited as very important factors motivating the participants to stay in rural health practice. Only 7.1% of participants in this age group cited good workplace support as a very important factor in this regard. In the 30-39 age group, the majority of respondents cited community recognition for work, community respect for health professionals, like being part of a team and relationship with colleagues as very important factors motivating them to continue with rural health practice. Amongst participants in the 40-49 age group, relationship with colleagues, relationship with immediate supervisor, like being part of a team and to gain work experience were reported to be very important by the majority of the participants. The rural allowance was cited prominently in both 20-29 and 50-59 age groups.

Figure 2: Stay factors by agegroup (% citing each factor as very important)



Overall, the majority of respondents in the 40-59 age group cited desire to work close to my family, limited opportunities for promotion, not safe in the area, desire to raise family in an urban setting (p=0.010), no educational facilities for my children, no employment opportunities for partner, poor management practices and poor infrastructure as very important factors tempting them to leave (see Figure 3). In the 20-39 age group, the majority of respondents reported poor professional supervision, support and mentoring (p=0.028), limited opportunities for professional development (p=0.002), no support for postgraduate education and poor infrastructure as very tempting factors. About 71.4% of participants in the 20-29 age group cited poor infrastructure compared to about 30% in the 50-59 age group. To work close to my family was reported to be very important amongst the participants over the age of 40.



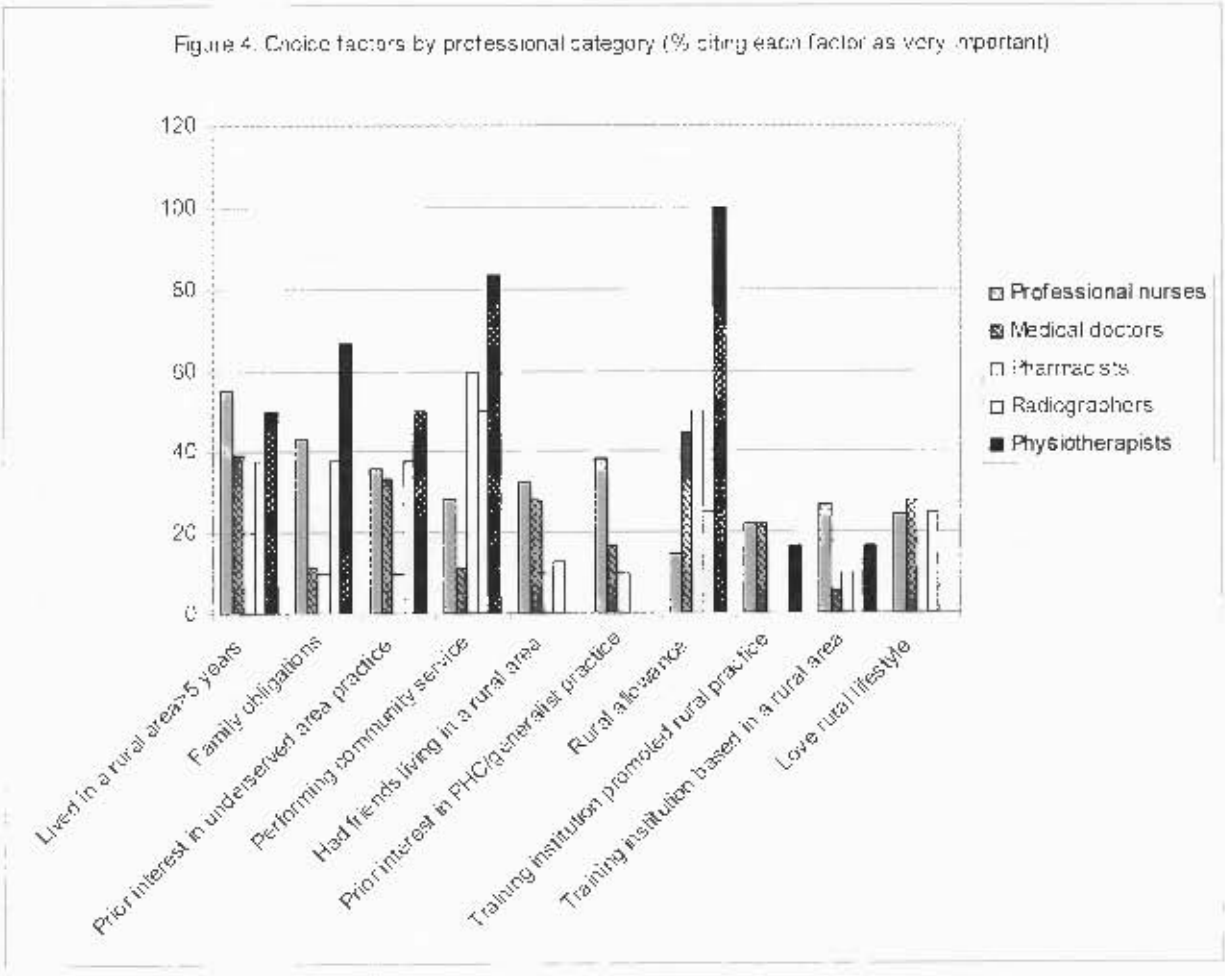
6.3.3 Professional category

Figure 4 shows very important factors motivating health workers to choose rural health practice by professional category. Overall, among the participating professional nurses, having lived in a rural area for more than 5 years, family obligations (p=0.024), prior interest in primary care or generalist practice, prior interest in underserved area practice and had friends in a rural area were reported as very important factors motivating their choice of rural health practice location. Only 14.8% of professional nurses cited rural allowance as a very important factor. However, a large proportion of physiotherapists, pharmacists and doctors cited rural allowance. A district health official hopes that the combination of scarce skills and rural allowance will encourage some workers to continue,

"Government also provides scarce skills, in addition to rural allowance, for some professional categories making them earn more, hopefully that will make working here attractive enough."

Amongst medical doctors, rural allowance, having lived in a rural area for more than 5 years and prior interest in underserved area practice were cited as very important factors in their choice for rural health practice. Only 5.6% of medical doctors cited training based in a rural area compared to pharmacists (10%), professional nurses (27.16%) and physiotherapists (16.7%). This is not surprising since the majority of medical schools are located in urban areas compared to a predominantly decentralised nurse training programme. Amongst pharmacists, radiographers and physiotherapists, performing community service (p=0.02) and rural allowance were cited as very important in the choice of rural health practice location.

Figure 4. Choice factors by professional category (% citing each factor as very important)



Among professional nurses, relationship with colleagues, being part of a team, community recognition for work, relationship with immediate supervisor, desire to gain work experience, flexible work hours and sense of belonging to the community were reportedly very important factors that motivated them to continue with a career in rural health practice. The majority of the medical doctors cited rural allowance, relationship with immediate supervisor, relationship with colleagues, being part of a team, desire to gain work experience, community recognition for work and community respect for health professionals as very important in their decision to stay in rural health practice. Relationship with colleagues, rural allowance, being part of a team, desire to gain work experience and community respect for health professionals were reportedly very important factors amongst pharmacists. Rural allowance, relationship with colleagues, relationship with immediate supervisor and opportunity to perform clinical procedures were cited amongst radiographers whereas the majority of physiotherapists cited relationship with colleagues, relationship with immediate supervisor, like being part of a team, desire to gain work experience, community recognition for work and community respect for health professionals. Workplace issues are important in all professional categories but rural allowance is cited by the majority of radiographers, pharmacists and physiotherapists (see Figure 5).

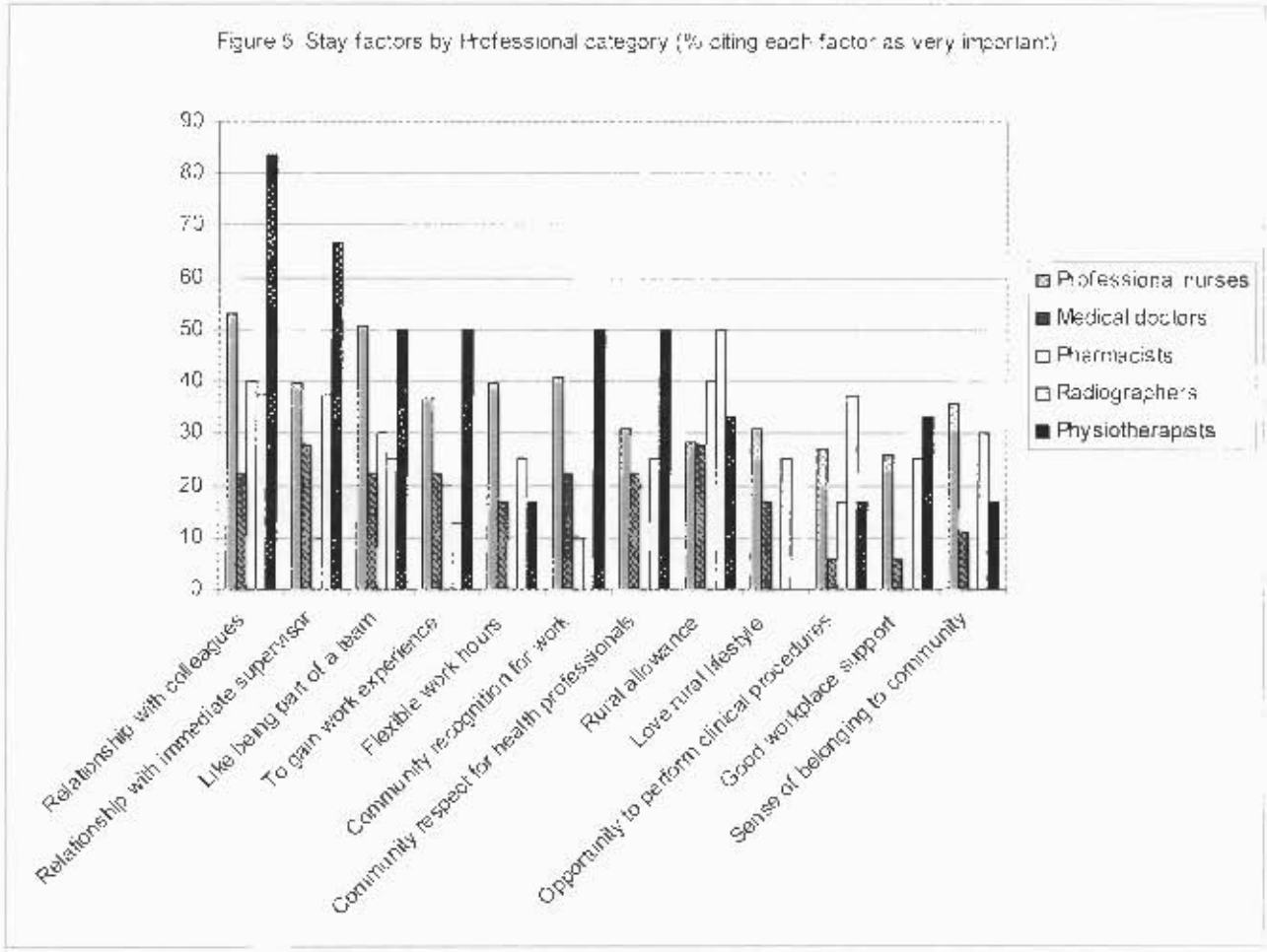
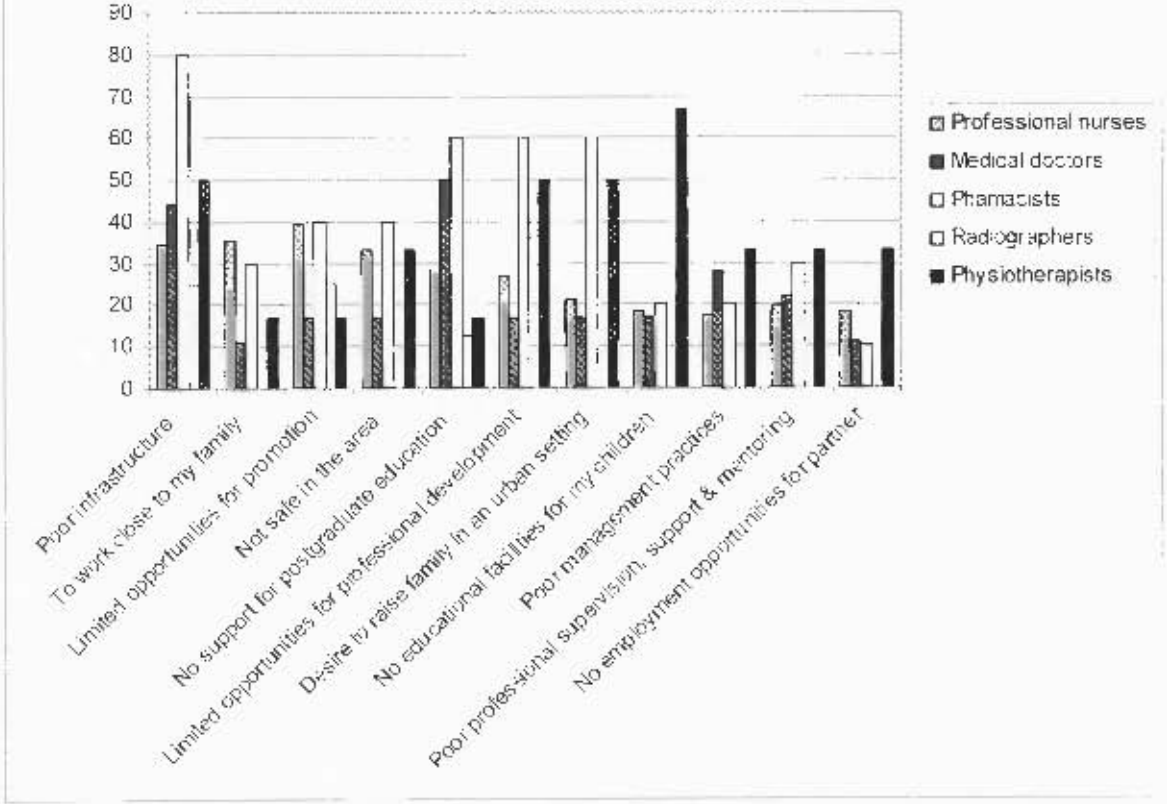


Figure 6 shows very important factors tempting health workers to leave rural health practice by professional category. Overall, limited opportunities for promotion, to work close to family (p=0.001), poor infrastructure and not safe in the area were cited by majority of professional nurses. Medical doctors cited no support for postgraduate education, poor infrastructure, poor management practices and poor professional supervision, support and mentoring. Pharmacists cited poor infrastructure, no support for postgraduate education, limited opportunities for professional development (0.034) and desire to raise family in an urban setting. Poor infrastructure, limited opportunities for professional development and desire to raise family in an urban setting were cited by the majority of physiotherapists. Limited opportunities for promotion were reportedly more prominent amongst professional nurses and pharmacists whereas poor infrastructure was cited as

very tempting factor amongst pharmacists, physiotherapists and medical doctors. A doctor explains his frustrations with infrastructure and difficulties to continue his postgraduate studies, *"I am actually doing a masters degree online (internet). But I can hardly rely on the telephone line. I therefore spend I weekend out of 2 outside the hospital just to submit assignment and study online. This situation cost me fees for hotel or B & B accommodation for a weekend not to count meals and internet fees! I cannot therefore keep the pace of my university and have thus decided to suspend my participation to the program."*

Figure 6: Leave factors by professional category



One professional nurse describes her dissatisfaction with promotion,

".....allocated in maternity since 1996 doing all the duties of a midwife registered nurse since 2002 but remained in the same level (6) to date because promotions have been stopped."

A community service medical officer expresses his frustration at the lack of professional support,

"In my area there are no senior medical officers it is frustrating for young doctors." A district health official explains that they do whatever they can to deal with infrastructure related challenges and describes alternative courses of action in providing hospital accommodation,

"For the doctors, there are those hospitals which have good accommodation but there are those which have bad accommodation.....where we have to make sure we retain them we provide accommodation.....In some cases, there are no B & B's or no place to rent. They had to vacate some space at nurses' home and put up some partition."

6.3.4 Facility level

Figure 7 shows "very important" factors motivating health workers to choose rural health practice by facility level. Overall, at clinic level, the majority of participants cited prior interest in primary care or generalist practice (p=0.001), family obligations, having lived in a rural area for more than 5 years, had friends living in a rural area and desire to gain work experience. At CHC level, participants cited prior interest in underserved area practice, prior interest in primary care or generalist practice, lived in a rural area for more than 5 years, desire to gain work experience, had friends living in a rural area and family obligations. At hospital level, the majority of respondents reported lived in a rural area more than 5 years, desire to gain work experience, family obligations and performing community service. A district manager explains how they use community service practitioners,

"*Somehow one would say community service practitioners are supposed to be providing their services at the clinics and community health centres, that is not happening because much demand is in the hospital services. They are absorbed by the hospitals, 90% of their services are taken by the hospitals and only sometimes they have to go to the clinics."*

Only 8.7% of clinic level participants cited rural allowance compared to 21.4% of participants at CHC and 26.1% at hospital level.

Figure 7: Choice factors according to facility level (% citing each factor as very important)

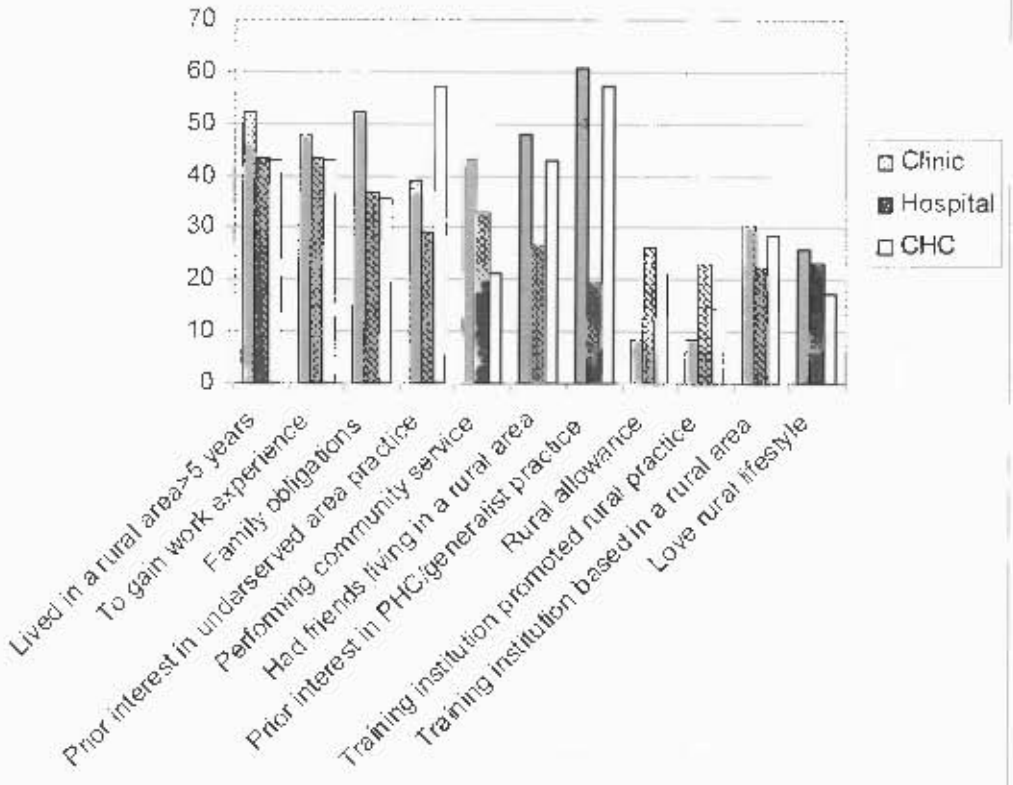


Figure 8 shows "very important" factors motivating participants to stay in rural health practice by facility level. Among clinic level participants, relationship with colleagues, relationship with immediate supervisor, rural allowance, like being part of a team, flexible work hours, community recognition for work and love rural lifestyle were reported to be very important. At hospital level, the majority of participants reported relationship with colleagues, desire to gain work experience, like being part of a team and relationship with immediate supervisor. At CHC level, participants cited love rural lifestyle, like being part of a team, relationship with colleagues, desire to gain work experience and sense of belonging to the community. The rural allowance was a very prominent factor at clinic level (56.52%) compared to hospital level (23.1%) and CHC (21.4%).

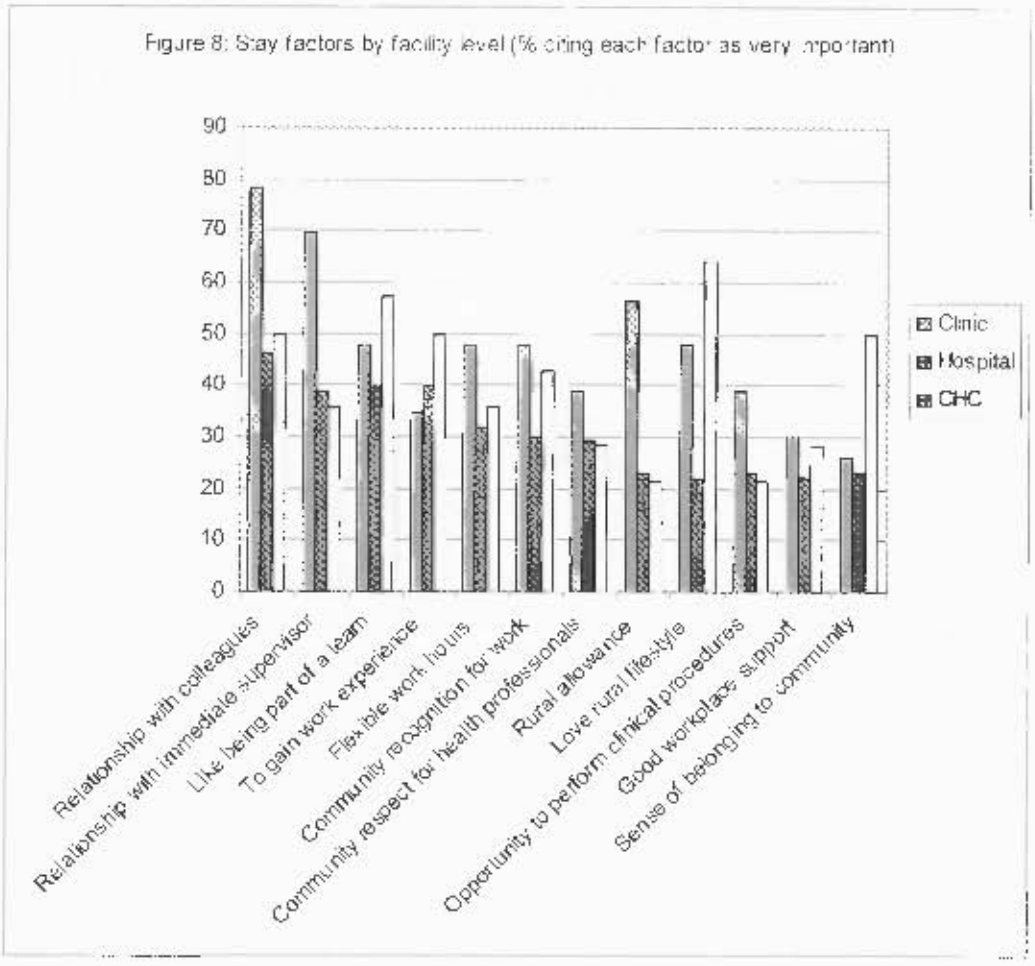
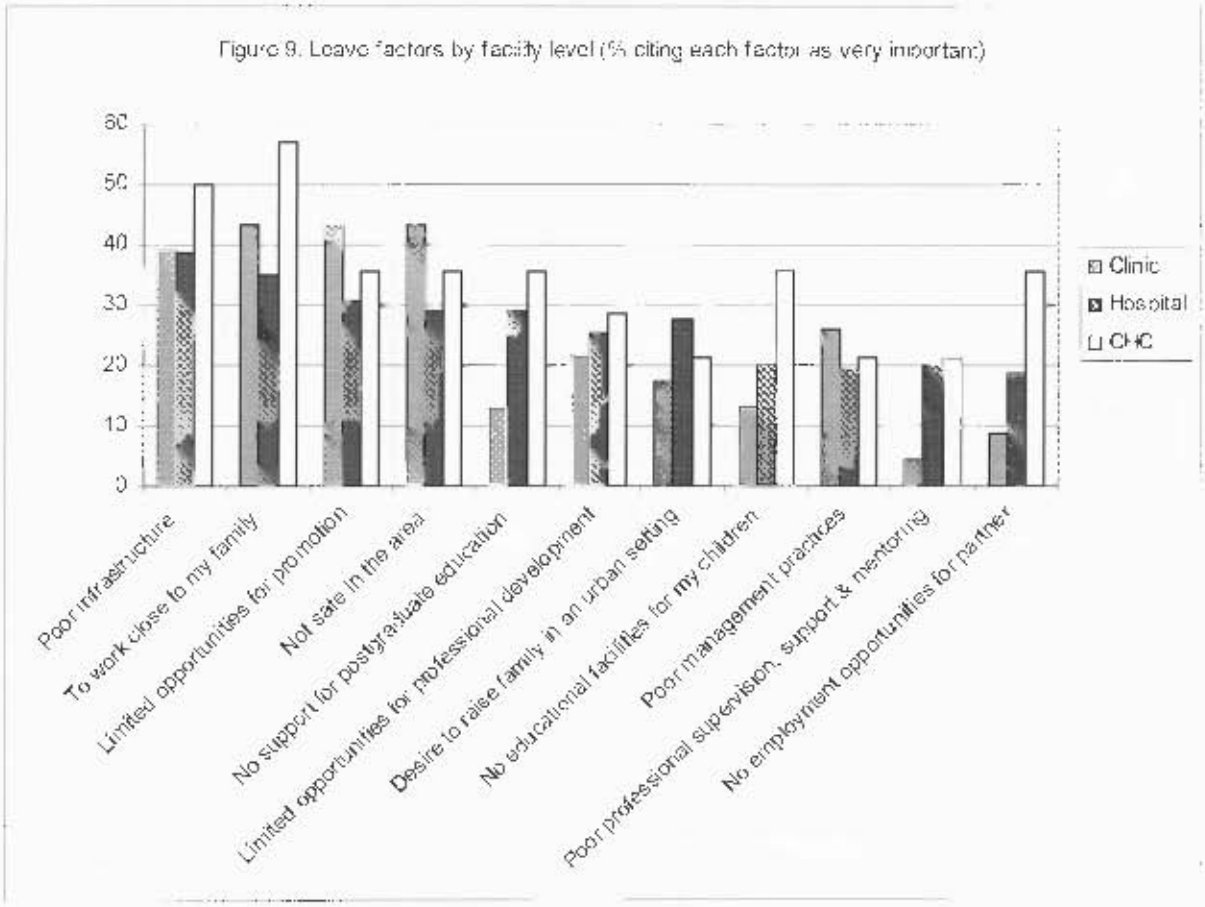


Figure 9 shows "very important" factors tempting health workers to leave rural health practice by facility level. At clinic level, the majority of participants cited to work close to my family, limited opportunities for promotion, not safe in the area and poor infrastructure. At hospital level, study participants reported poor infrastructure. to work close to my family. limited opportunities for promotion, not safe in the area and no support for postgraduate education. CHC level participants cited to work close to my family, poor infrastructure, limited opportunities for promotion, not safe in the area, no support for postgraduate education and no educational facilities for children. About 50% of CHC level participants cited poor infrastructure compared to 38.8% of hospital and 39.1% of clinic level participants. There were more CHC level participants citing to work close to my family (about 60%) and more clinic level participants citing not safe in the area (43.5%). A district health manager concedes there are challenges of safety of health workers.

"Our problem again is about security. One of the challenges. For example, in one of the clinics enough nursing accommodation is provided but nurses are not staying there because of the security problem."



6.3.5 District

Table 19 shows "very important" factors motivating health workers to choose, stay in or leave rural health practice by district. Overall, the majority of participants in OR Tambo district cited desire to gain work experience, performing community service, had friends living in a rural area and prior interest in primary care or generalist practice (p=0.04) as very important in their choice of practice location. In Amathole district, participants reported family obligations, having lived in a rural area more than 5 years and desire to gain work experience. In Chris Hani district, desire to gain work experience,

lived in a rural area more than 5 years, performing community service and prior interest in underserved area practice were reportedly very important factors motivating participants to choose rural health practice. There were more participants citing family obligations in Amathole when compared to OR Tambo or Chris Hani districts. There were more participants citing desire to gain work experience in OR Tambo and Chris Hani while more participants cited performing community service in OR Tambo.

Also shown in this table are "very important" factors motivating health workers to continue in rural health practice. Overall in OR Tambo, participants cited relationship with colleagues, relationship with immediate supervisor (p=0.018), desire to gain work experience, flexible work hours (p=0.047), community recognition for work (p=0.019), rural allowance (p=0.003) and like being part of a team as very important factors motivating them to stay in rural health practice. In Amathole district, the relationship with colleagues, like being part of a team and desire to gain work experience were cited as very important factors. About 14% cited rural allowance as a very important factor in Amathole compared to 48.8% in OR Tambo and 24.1% in Chris Hani. Relationship with colleagues and relationship with immediate supervisor were reported to be very important amongst participants in Chris Hani. In OR Tambo, poor infrastructure, limited opportunities for promotion, not safe in the area (p=0.001) and limited opportunities for professional development (p=0.036) were reportedly very important factors tempting participants to leave rural health practice.

A district health official admits,

"Lack of security in our facilities is one of the challenges. We have a plan to bring in private security companies. We are delayed by the tendering process."

The majority of participants in Amathole cited to work close to my family, poor infrastructure, not safe in the area and no support for postgraduate education as very important factors. In Chris Hani, the majority cited to work close to my family, no support for postgraduate education and desire to raise family in an urban setting (see Table 19). There were more participants citing poor

infrastructure in OR Tambo than in Amathole or Chris Hani districts. An NDoH official describes problems with infrastructure,

"*In some areas there is just no infrastructure so people go to work or to the facilities by foot. In other areas it is limited or poor or needs to be upgraded. This is a major problem for emergency medical services, delivery of supplies etc.*"

There were more participants citing limited opportunities for promotion or professional development in OR Tambo than in Amathole or Chris Hani districts.

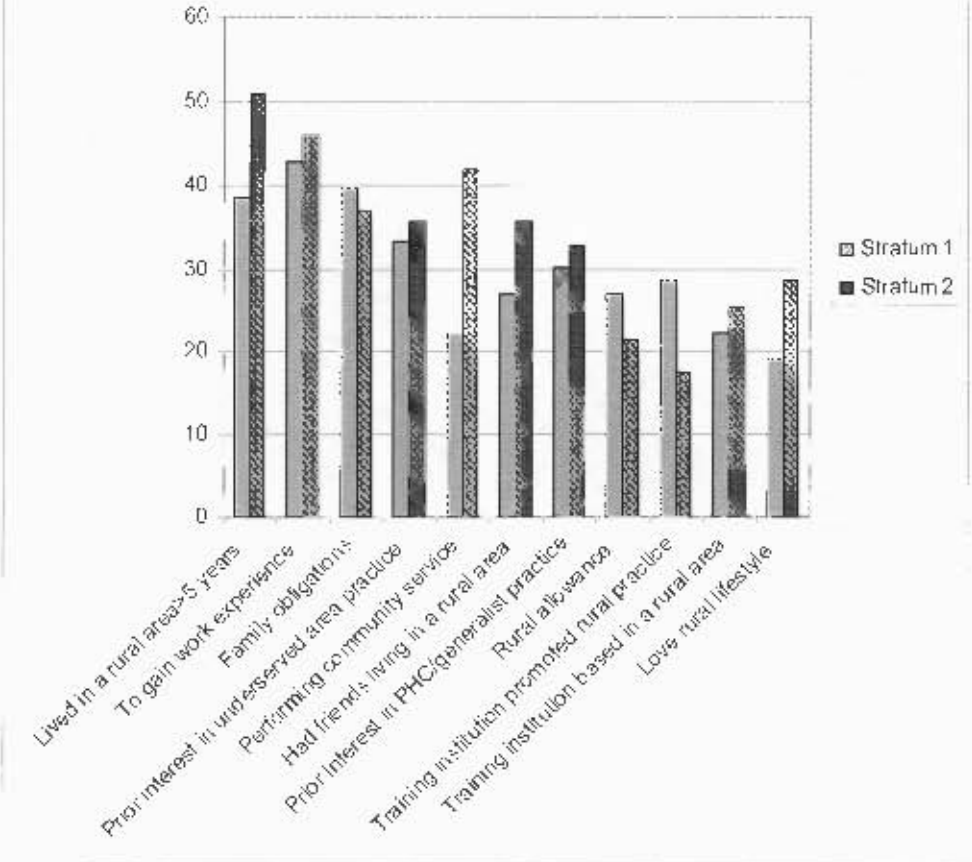
Table 19: Factors motivating participants to choose, stay in or leave rural health practice by district

Choice Factors	% citing each factor out of total OR Tambo district participants	% citing each factor out of total Amathole district participants	% citing each factor out of total Chris Hani district participants	p-value
Lived in a rural area>5 years	27.71	44.44	44.44	0.465
To gain work experience	58.14	41.27	55.55	0.348
Family obligations	37.21	47.62	29.63	0.318
Prior interest in underserved area practice	37.21	34.92	33.33	0.313
Performing community service	44.19	25.4	35.19	0.349
Had friends living in a rural area	46.51	25.4	27.78	0.133
Prior interest in PHC/generalist practice	44.19	26.98	24.07	0.044
Rural allowance	23.26	30.16	22.22	0.297
Training institution promoted rural practice	18.6	25.4	20.37	0.657
Stay factors				
Relationship with colleagues	67.44	44.44	44.44	0.194
Relationship with immediate supervisor	62.79	31.75	42.59	0.018
Like being part of a team	48.84	46.03	37.04	0.434
To gain work experience	51.16	38.1	33.33	0.621
Flexible work hours	55.81	31.75	20.37	0.047
Community recognition for work	51.16	34.92	20.37	0.019
Community respect for health professionals	37.21	25.4	31.48	0.789
Rural allowance	48.84	14.29	24.07	0.003
Love rural lifestyle	39.53	22.22	22.22	0.233
Leave factors				
Poor infrastructure	53.49	44.44	33.33	0.329
To work close to my family	30.23	47.62	31.48	0.227
Limited opportunities for promotion	44.19	21.67	24.07	0.15
Not safe in the area	44.19	42.86	11.11	0.001
No support for postgraduate education	23.26	34.92	29.63	0.661
Limited opportunities for professional development	39.53	28.57	18.52	0.036
Desire to raise family in an urban setting	27.91	26.98	25.93	0.164
No educational facilities for my children	23.26	23.81	18.52	0.202
Poor management	18.6	31.75	14.81	0.174

6.3.6 Stratum

For sampling purposes, the districts were stratified into two strata based on distance from the City of East London, stratum 1 (less than 150 kilometres from the City) and stratum 2 (more than 150 kilometres from the City). Figure 10 shows "very important" factors motivating health workers to choose rural health practice by stratum. Overall, the majority of the participants in stratum 1 cited desire to gain work experience, family obligations, lived in a rural area more than 5 years and prior interest in underserved area practice. In stratum 2, the majority of the participants reported having lived in a rural area more than 5 years, desire to gain work experience, performing community service prior interest in underserved area practice and family obligations as very important factors in their choice of rural health practice. Performing community service (p=0.025) was cited by more participants in stratum 2 than stratum 1.

Figure 10 Choice factors by Stratum (% citing each factor as very important)



Among participants in stratum 1, relationship with colleagues, like being part of a team, community recognition for work, flexible work hours and relationship with immediate supervisor were reported to be very important factors motivating health workers to stay in rural health practice (see Figure 11). Only 14.3% of participants in stratum 1 cited rural allowance compared to 35.7% in stratum 2. Overall, the relationship with colleagues, relationship with immediate supervisor, like being part of a team and to gain work experience were reported by the majority of participants to be very important.

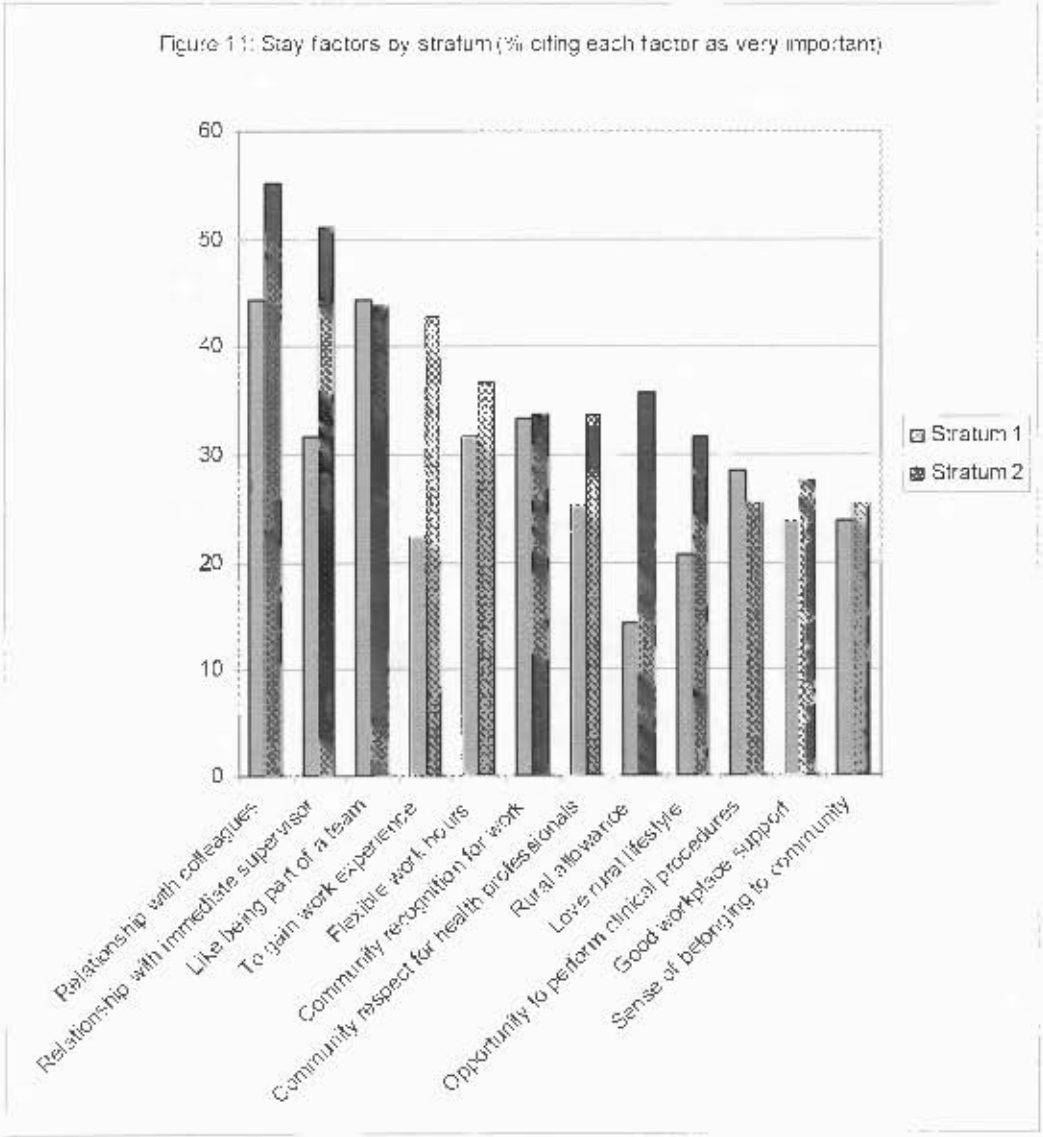
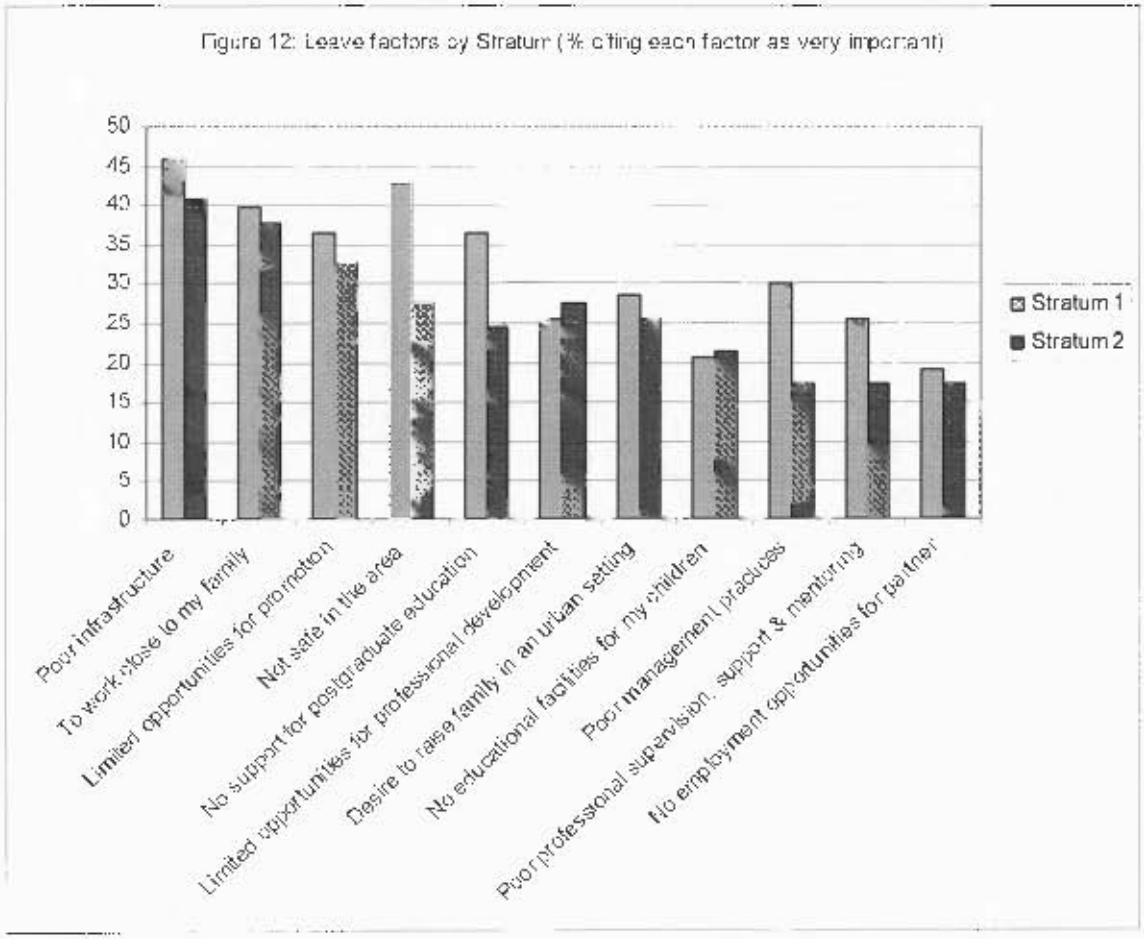


Figure 12 shows "very important" factors tempting health workers to leave rural health practice by stratum. Overall, in stratum 1, the majority of participants reported poor infrastructure, not safe in the area (p=0.025), to work close to my family, limited opportunities for promotion and no support for postgraduate education. In stratum 2, the majority cited poor infrastructure, to work close to my family, limited opportunities for promotion and not safe in the area as very important factors tempting them to leave.



6.3.7 Place of birth

Table 20 shows "very important" factors motivating health workers to choose or stay in rural health practice by place of birth. Amongst the participants who were born in rural areas, prior interest in underserved area practice, prior interest in primary care or generalist practice, family obligations, desire to gain

work experience and having lived in a rural area more than 5 years and training institution based in a rural area were reportedly very important in their choice of practice location. Whereas, rural allowance, performing community service and desire to gain work experience were cited as very important factors amongst participants of urban birthplace.

Table 21 also shows that relationship with colleagues, flexible work hours (p=0.024), relationship with immediate supervisor (p=0.012), desire to gain work experience and like being part of a team were reportedly very important factors for participants of rural birthplace to continue rural health practice. However, community respect for health professionals (p=0.02), relationship with colleagues (p=0.034), like being part of a team, rural allowance and a community recognition for work were cited as very important for participants of urban birthplace to stay in rural health practice.

Table 20: Factors motivating participants to choose or stay in rural health practice by place of birth

Choice factors	% citing each factor out of total participants born in rural area	% citing each factor out of total participants born in an urban area	p-value
Lived in a rural area>5 years	54.2	8.7	<0.001
To gain work experience	50.38	43.48	0.005
Family obligations	47.33	8.7	0.007
Prior interest in underserved area practice	37.4	17.39	0.005
Performing community service	33.59	43.48	0.078
Had friends living in a rural area	37.4	8.7	0.001
Prior interest in PHC/generalist practice	36.64	8.7	0.006
Rural allowance	23.66	34.78	0.106
Training institution based in a rural area	29.77	0	0.008
Love rural lifestyle	27.48	0	0.03
Stay factors			
Relationship with colleagues	56.49	43.48	0.034
Relationship with immediate supervisor	50.38	17.39	0.012
Like being part of a team	44.27	43.48	0.601
To gain work experience	48.09	26.09	0.185
Flexible work hours	41.22	26.09	0.024
Community recognition for work	35.11	39.13	0.619
Community respect for health professionals	29.77	47.83	0.022
Rural allowance	30.53	21.74	0.071
Love rural lifestyle	32.06	4.35	0.037
Good workplace support	29.01	13.04	0.414
Sense of belonging to community	25.19	21.74	0.488

6.3.8 Marital status

Table 21 shows "very important" factors motivating health workers to choose, stay in or leave rural health practice by marital status. Overall, the majority of married participants were reportedly motivated to choose rural health practice by having lived in a rural area more than 5 years, desire to gain work experience, family obligations and prior interest in underserved area practice compared to unmarried participants who reported performing community service, desire to gain work experience and having lived in a rural area more than 5 years. Relationship with colleagues, relationship with immediate supervisor, being part of a team and desire to gain work experience were cited as very important factors motivating both married and unmarried participants to stay in rural health practice. Poor infrastructure, to work close to my family, limited opportunities for promotion and not safe in the area were reportedly very important tempting factors amongst both married and unmarried participants.

Table 21: Factors motivating respondents to choose, stay in or leave rural health practice by marital status

	% citing each factor out of total number of married participants	% citing each factor out of total number of unmarried participants
Choice factors		
Lived in a rural area>5 years	50.5	38.67
To gain work experience	46.53	41.33
Family obligations	46.53	28
Prior interest in underserved area practice	39.6	24
Performing community service	28.71	37.33
Had friends living in a rural area	35.64	24
Prior interest in PHC/generalist practice	36.63	20
Rural allowance	22.77	25.33
Training institution promoted rural practice	25.74	14.67
Training institution based in a rural area	25.74	20
Stay factors		
Relationship with colleagues	55.45	45.33
Relationship with immediate supervisor	47.52	36
Like being part of a team	46.53	37.33
To gain work experience	44.55	36
Flexible work hours	36.64	32
Community recognition for work	38.61	28
Community respect for health professionals	28.71	32
Rural allowance	29.7	24
Love rural lifestyle	31.68	18.67
Leave factors		
Poor infrastructure	33.66	52
To work close to my family	37.62	38.67
Limited opportunities for promotion	36.64	30.67
Not safe in the area	29.7	36
No support for postgraduate education	27.72	32
Limited opportunities for professional development	20.79	33.33
Desire to raise family in an urban setting	25.74	28
No educational facilities for my children	20.79	24
Poor management practices	17.82	28

6.4 Analysis by level of determinants

Table 22 shows factors motivating health workers to choose to work, to stay in or to leave rural health practice by level of determinants.

6.4.1 Choosing rural health practice

At individual level, rural background (previous exposure to rural way of life- born in a rural area, attended rural primary school or previously lived in a rural area), rural training exposure and personal desires or goals (to gain work experience, prior interest in underserved area practice, prior interest in primary care or generalist practice, to explore working in a rural area and performing community service) were cited as very important factors motivating study participants to choose a rural health career. At organisational level, the majority of respondents cited the attractiveness of rural health practice (providing opportunities to meet service obligations such as scholarship obligations and community service or take advantage of existing opportunities such as the rich scope and diversity of work, rural allowance, autonomy in clinical decision-making and subsidised accommodation) as very important factors in their choice of rural health practice location. The attractiveness of the rural context (providing opportunity to live in close proximity to family and friends- family obligations, had friends living in the area, had a partner employed in the area, good infrastructure and business interests in the area) and the attractiveness of the rural way of life (providing opportunity to experience or relive rural lifestyle- love rural lifestyle, family friendly environment and community respect for health professionals) were reported as very important community-level factors influencing the participants to choose to pursue a career in rural health practice.

6.4.2 Staying in rural health practice

Overall, at individual level, personal desires and goals (love for rural lifestyle, to gain work experience and desire to raise family in a rural area) were cited

as very important factors motivating participants to continue in rural health practice. At organisational level, the majority of respondents cited workplace relationship issues (relationship with colleagues, relationship with immediate supervisor), matters of professional and job satisfaction (like being part of a team, flexible work hours, opportunity to perform clinical procedures, scope and diversity of work and autonomy in clinical practice), workplace issues (issues enhancing the quality of worklife- good workplace support, peer recognition for work and management recognition for work) and attractiveness of rural health practice (offers opportunity to meet service obligations or earn more- rural allowance, subsidised accommodation, subsidised transport and serve scholarship obligations). Fascination with the rural lifestyle (community recognition for work, community respect for health professionals, sense of belonging to the community and a family friendly environment) and stick factors (having friends living in the area, partner would not move and having business interests in the area) were reported as very important community level factors motivating participants to stay in rural health practice.

6.4.3 Leaving rural health practice

Overall, personal values, experiences, interests and goals (to work close to my family, desire to raise family in an urban setting, do not like rural lifestyle, marital difficulties and changing professional direction) and having served scholarship obligations were cited as very important individual-level factors tempting participants to leave rural health practice. At organisational level, matters of poor professional and job satisfaction (limited opportunities for promotion, limited opportunities for professional development, poor professional supervision, support and mentoring, work long and inflexible hours, no opportunity to perform clinical procedures, losing clinical skills, no clinical autonomy and bad relationship with colleagues) and workplace issues (no support for postgraduate education, poor management practices, isolation, poor workplace support, no management recognition for work and no peer recognition for work) were cited by participants as very important factors tempting them to leave rural health practice. At community level,

difficulties relating to the rural context (poor infrastructure, not safe in the area, no educational facilities for my children and no employment opportunities for my partner) were reported as very important factors tempting participants to leave rural health practice. An ECDOH official discusses the difficulty to recruit and retain specialists,

"There are no appropriate schooling facilities in the vicinity. For example, we recruited an ophthalmologist to work at Lusikisiki who wanted to visit the place before taking the job. On arrival there he came back with a question- where are my children going to attend school- and declined the post." Another ECDOH admits the extent of management problems,

"People do not stay because management practices are not up to scratch- appointments not processed in time, people not paid in time."

Table 22: Summary of factors ranked as "very important" according to the level of determinants

Level	Choosing rural health practice	Staying in rural health practice	Leaving rural health practice
Individual determinants	• Lived in a rural area> 5 years • To gain work experience • Prior interest in underserved area practice • Prior interest in primary care or generalist practice • Performing community service • Desire to live in a rural area • Desire to raise family in a rural area • Love rural lifestyle • Family obligations, had friends living in a rural area, partner employed in the area • Explore working in a rural area	• To gain work experience • Love rural lifestyle • Desire raise family in a rural area • Have friends living in the area • Partner would not move	• To work close to family • Desire to raise family in an urban setting • Do not like rural lifestyle • Marital difficulties • Changing professional direction • Have served scholarship obligations
Rural health organisational determinants	• Performing community service • Rural allowance • Scholarship obligations • Scope & diversity of work • Clinical autonomy	• Relationship with colleagues • Relationship with immediate supervisor • Rural allowance • Being part of a team • Flexible work hours • Good workplace support • Peer recognition for work • Management recognition for work • Autonomy in clinical practice	• Limited opportunities for promotion • Limited opportunities for professional development • Poor professional supervision, support & mentoring • Work long & inflexible hours • No support for postgraduate education • Poor management practices • Poor workplace support
Rural community determinants	• Family friendly environment • Community respect for health professionals • Training institution promoting rural practice • Training institution based in a rural area • Good infrastructure	• Community recognition for work • Community respect for health professionals • Sense of belonging to the community • Family friendly environment	• Poor infrastructure • Not safe in the area • No educational facilities for children • No employment opportunities for partner

One respondent discusses how isolated he was,
"I am not married, have no family here, the TV is only black and white. I can only play DVD's and listen to SA FM in the area, I was promised satellite dish by management but it's many months now." Another provincial health alleges, "*The loss of health workers has been blamed on poor remuneration and management. People are kept same level for longer period especially professionals.*"

6.5 Summary

Performing community service (p=0.001), having lived in a rural area more than 5 years (p=0.015) and family obligations (p=0.018) have been shown to significantly influence the decision of health workers to choose a career in rural health practice in the 20-29, 30-39 and 40-49 age groups, respectively. Love for rural lifestyle (p=0.033) has been found to be a significant factor motivating health workers in the 40-49 age group to stay in rural health practice. Factors found to be significantly tempting health workers to leave rural health practice in the 20-39 age group are poor professional supervision, support and mentoring (p=0.028) and limited opportunities for professional development (p=0.002). Desire to raise family in an urban setting has been shown to be a significant factor tempting health workers to leave rural health practice in the 40-59 age group (p=0.010).

Among professional nurses, family obligations (p=0.024) have been shown to be a significant factor motivating them to choose to work in rural health practice whereas performing community service (p=0.02) is a significant factor among pharmacists, radiographers and physiotherapists. Among both physiotherapists and professional nurses, desire to gain work experience (p=0.002) has been found to influence their decision to stay in rural health practice significantly while community recognition for work (p=0.011) is significant among professional nurses. Significant factors tempting professional nurses to leave are desire to work close to family (p=0.001) and

limited opportunities for professional development (p=0.034) among pharmacists.

Performing community service (p=0.025) and rural allowance (p=0.036) have been found to be significant factors motivating health workers to choose rural health practice whereas love for rural lifestyle (p=0.038) has been shown to significantly influence the decision to stay in stratum 2. Not safe in the area has been shown to be a significant factor tempting health workers to leave rural health practice in stratum 1. Among participants of rural birthplace, overall, factors that significantly influence their decision to choose rural health practice are having lived in a rural area more than 5 years (p<0.001), to gain work experience (p=0.005), prior interest in underserved area practice (p=0.005), family obligations (p=0.007) and prior interest in primary care or generalist practice (p=0.006) whereas desire to gain work experience was a significant factor in the decision of urban birthplace participants to choose rural health practice (p=0.005). Among participants born in rural areas, relationship with colleagues (p=0.034), relationship with immediate supervisor (p=0.012), love rural lifestyle (p=0.037), community respect for health professionals (p=0.022) and flexible work hours (p=0.024) have been found to significantly influence their decision to stay in rural health practice whereas community respect for health professionals (p=0.02) and relationship with colleagues (p=0.034) significantly motivate urban birthplace participants to continue with rural health practice.

Individual level factors such as personal experiences, interests and background are shown to be influential in the decision to choose rural health practice location. Community service and rural allowance are shown to particularly influence young graduate health professionals, scarce health professional categories (physiotherapists, pharmacists, radiographers and doctors) and urban-born professionals to choose a career in rural health practice. Organisational and community level factors are shown, in addition to personal goals, to play an influential role in the decision to stay in rural health practice. Workplace relationships, respect and recognition are important

factors in the decision to continue in rural health practice. Rural allowance is shown to influence clinic level workers, scarce health professional categories and urban-born workers to stay in rural health practice. Poor infrastructure, limited opportunities and a lack of safety, in addition to the individual level factors, encourage health workers to leave rural health practice.

6.6 Analysis of potential recruitment and retention strategies

Participants were also presented with four options of potential recruitment and retention strategies and invited to rank their components. Option 4 was identified as the most appropriate recruitment and retention strategy by the majority (62.01%) of the study participants. Table 23 shows components of potential recruitment and retention strategies identified as very important by study participants.

Improve management systems and physical infrastructure, provide accommodation and transport, improve access to professional development and provide opportunities for promotion were reported as the four most important components by study participants. A district health manager explains,

"*There is a need to create a conducive environment that can retain people, improve the infrastructure and restructure the remuneration of people in rural areas.*" A provincial health official discusses a holistic and interdepartmental approach to deal with existing challenges in rural health practice,

"The provincial growth and development strategy presents an opportunity to engage in transversal relationships with other departments and also for infrastructure and accommodation problems in rural areas." A respondent suggests,

"Provide enough facilities, equipment and build relevant schools, shops etc."

Another respondent makes a plea, *"Please give nurses means of transport for home visits for health workers as most of them are staying away from their health service stations and are not well."*

Another district health official makes a suggestion about remuneration,

"As much as rural allowance is given for us, we should improve remuneration or consider adding another layer of pay in rural areas."

Included amongst the very important components were: expand rural allowance (55.87%), increase salary and current benefits (54.75%) and expand scarce skills allowance coverage (49.72%). Another respondent explains her frustrations at poor pay,

"I would be pleased if nurses salary could be considered for me to pay my account, school fees, support my family as there are no jobs for our members. Safe working hours e.g. working 7-7 is strenuous and exhausting. Work overload result to stress as a result people retire and die within 5 years of retirement." The district health official further relates endeavours in the province,

"There is a time when our MEC suggested we consider additional rural allowance or rural allowance be paid according to distance from town."

A national health official shares suggestions on how NDoH plans to address the challenges,

".....public sector salaries be improved." A provincial health official agrees with national health official,

"*There is a need to review levels of posts particularly in rural setting. For instance we may need to consider increasing the salary notch for rural areas.*"

Less than 2% of study participants identified promotion opportunities as not important, keep salary and current benefits same and keep scarce skills same as very important components of potential recruitment and retention strategies.

Table 23: Components of potential recruitment and retention strategies reported as "very important"

	No	%	CI
Improve management systems & physical infrastructure	110	61.45	53.9-68.6
Provide accommodation and transport	110	61.45	53.9-68.6
Improve access to professional development	109	60.89	53.3-68.1
Provide opportunities for promotion	103	57.54	49.9-64.9
Expand rural allowance coverage	100	55.87	48.2-63.3
Increase salary & current benefits	98	54.75	47.1-62.2
Expand scarce skills allowance coverage	89	49.72	42.2-57.3
Keep salary, current benefits, scarce skills & rural allowance same	14	7.82	4.3-12.8
Add spousal support allowance, children's education allowance & telephone allowance	8	4.47	1.9-8.6
Increase rural allowance	7	3.91	1.6-7.9
Keep scarce skills and rural allowance	4	2.23	0.6-5.6
Promotion opportunities not important	3	1.68	0.3-4.82
Keep salary & current benefits same	3	1.68	0.3-4.82
Keep scarce skills allowance same	2	1.12	0.1-4

CHAPTER SEVEN: DISCUSSION OF THE STUDY FINDINGS

This study is the first of its kind in South Africa. Its findings augment work done by other researchers such as de Vries and Reid (2003). The results of this study reinforce international studies and highlight some South African specific phenomenon.

7.1 Choosing rural health practice

It is clear that factors reported by the participating health workers to account for their choice of rural health practice location are related to the individual health worker or personal characteristics (values, experiences, expectations, interest, desires, needs and goals), the rural health organisational attributes (structures, processes, resources and opportunities) and the rural community characteristics (infrastructure, social and cultural networks and economic opportunities). However, individual level factors are shown to be particularly important in the choice of rural health practice location. The following factors emerge as the very important factors motivating health workers to choose a career in rural health practice.

Rural background: Many studies have reported that rural background is an important predictor for rural health practice (Talley 1990, Rolfe et al 1990, Kamien 1998, Rabinowitz et al 1999, Smith et al 2001, Brooks et al 2002, Hegney et al 2002, de Vries and Reid 2003). The findings of this study reinforce these studies in that previous exposure to rural way of life-born in a rural area, attended a rural primary school and having lived in a rural area-was identified to be a very important factor in the health workers' choice of a rural health career.

Rural training exposure: It has been reported that a systematic exposure to the rural setting during training is more likely to encourage health science

students to choose a career in rural health practice (Talley 1990). Recent medical graduates are likely to practise close to where they trained (*ibid*).This study reports that training institutions located in a rural area, training institutions with a rural health mission and a rural training exposure of more than three months duration are influential factors in the decision of health professionals to choose a career in rural health practice.

Prior interest in underserved area practice or Primary care or generalist practice: Many studies have reported that interest in underserved area practice and generalist practice prior to entering health profession's training are important predictors for rural health practice (Xu et al 1997, Rabinowitz et al 1999, Minarick and Allen 2003). The findings of this study reinforce these studies and report that prior interest in underserved area practice and primary care or generalist practice are very important in the decision of health workers to choose a rural health career.

Family and friends: Many studies have reported that close proximity to family and friends is a very influential factor in the health worker's choice of practice location (Hegney et al 2002, Minarick and Allen 2003). This study reports that family obligations and having friends living in a rural area are very important factors in the participants' choice of rural health practice location.

Serving obligations: This study reports performing community service as a very important and influential factor in the participants' choice of a rural health practice location. This is particularly reported amongst the age groups of 20-29 and 40-59, participants of urban birth place, the pharmacists, radiographers and physiotherapists. This observation is partly explained by the implementation of the National Department of Health's community service programme which makes it mandatory for young health professional graduates including pharmacists, radiographers and physiotherapists to do one year of community service in the public health sector prior to registration for independent practice. The importance of performing community service amongst participants of urban birth place points to the implementation of

community service, which encourages health workers especially those from urban areas who would otherwise not consider rural health practice, to serve in rural and other underserved areas. Its importance amongst the 40-59 year age group is unlikely to be related to the community service programme but a demonstration of the willingness of health workers to serve their communities.

Rural allowance and scholarship obligations: Many studies have reported financial obligations as motivating factors for health workers to choose rural health practice (Xu et al 1997, Smith et al 2001, Minarick and Allen 2003). This study's findings show that scholarship obligations are amongst the very important factors influencing health workers to choose to work in rural health practice. The rural allowance is also shown to be a very important motivating factor for the participants to choose to pursue a rural health career. It is a prominent factor amongst the participants that were born in urban areas, age groups of 20-29 and 50-59, medical doctors, pharmacists, radiographers and physiotherapists. The importance of the rural allowance amongst these groups is partly explained by the National Department of Health's targeted incentive system whereby health workers involved in public sector health service delivery in areas designated as rural receive a rural allowance. The ability of the rural allowance to influence these categories is consistent with the departmental policy objective to influence these workers to work in the understaffed rural health facilities.

To gain work experience: Linked to the previous exposure to rural health practice and consistent with the personal goal to gain work experience, rural health practice is seen as attractive since it provides opportunities to experience the scope and diversity of its work, autonomy in clinical practice and experience the rural way of life. The desire to gain work experience has been reported by the majority of respondents as a very important factor that motivated them to choose a career in rural health practice. It is particularly prominent amongst the participants of urban birth place and 40-59 year age group.

7.2 Staying in rural health practice

For health workers to stay in rural health practice, it is apparent that several factors interact at individual level, rural health organisational level and rural community level. It is clear that an alignment between personal interests, expectations, needs and goals and the needs and goals of the rural health organisation encourages health workers to continue with rural health practice. Furthermore, positive rural community experiences reinforce this personal-organisational goal alignment and encourage health workers to stay in rural health practice. The following factors emerge as important factors motivating health workers to continue in rural health practice.

Professional and relationship related factors: Many studies have reported that issues relating to professional satisfaction and job satisfaction are important in the decision of health workers to stay in rural health practice (Kamien 1998, Matsumoto, Okoyama and Kajii 2004). This study has found that health workers chose to continue with rural health practice due to the good relationship they had with their colleagues and supervisors, they like being part of a team and were satisfied with the type of practice. The type of practice provides an opportunity to fulfil a personal desire or goal to gain work experience. Workplace support, peer recognition and management recognition were also found to be influential factors encouraging health workers to stay in a rural health career.

Rural allowance: This study reports rural allowance amongst the very important factors motivating respondents to stay in a career in rural health practice. Its importance is reported prominently amongst the 20-29 year age group, participants located more than 150 kilometres away from the City, clinic level participants and scarce health professional categories (medical doctors, pharmacists and radiographers). This is consistent with the NDoH policy objective for which the rural allowance is granted, that is to retain scarce skills in the understaffed rural health facilities within the public health sector.

Community level factors: Previous studies have reported that positive experiences of rural lifestyle and subsequent love and appreciation of the rural way of life motivate health workers to continue rural health practice (Hegney et al 2002). The findings of this study report community respect for health professionals, community recognition for work, a sense of belonging to the community and a family friendly environment to be influential factors in the decision of health workers to stay in rural health practice. Having friends, family or partner and business interests in the vicinity of the practice encourage health workers to stay in rural health practice.

7.3 Leaving rural health practice

It is clear that temptations to leave rural health practice derive partly from malalignment between personal needs and goals on one side and the goals and practices or processes of the rural health organisation on the other. Health workers are constantly on the look out for opportunities to fulfil their expectations, needs, interests and goals both within and outside the organisation and the rural health organisation and community should provide an environment conducive to meeting and fulfilling them if their stay in rural health practice is to be enhanced. The social, cultural and economic context in which the health workers and the practice are located is shown to influence both the health worker and the practice. If the health worker's needs cannot be met through the organisation and immediate vicinity, health workers are tempted to look somewhere else mostly in urban areas. The following factors are shown to tempt health workers to leave rural health practice:

Poor infrastructure: Several factors pertaining to the poor infrastructure in rural communities were reported as important "push" factors. A generally poor or underdeveloped infrastructure including roads, transport, telecommunications and housing, the lack of educational facilities, the lack of employment opportunities and isolation create a disincentivising environment for health workers to pursue their personal and organisational goals and tempt them to leave rural areas for areas where better infrastructure and opportunities are in

place. The prominence given to poor infrastructure, limited opportunities for professional development, no support for postgraduate education and poor professional supervision, support and mentoring reinforces Chitha' s (2005a) articulation that the lack of infrastructure, particularly health service delivery infrastructure and training infrastructure, in rural areas and the concentration of such infrastructure in urban areas is an underlying factor to health workers leaving rural areas for urban areas.

Poor professional and job satisfaction: Many studies have reported that factors such as poor professional satisfaction, poor job satisfaction, poor workplace support and poor management practices serve as a disincentive for a career in rural health practice (Kamien 1998, Hegney et al 2002, Struber 2004). This study reports that limited opportunities for promotion, poor management practices, poor professional supervision, support and mentoring, working long and inflexible hours and no peer and management recognition for work are important factors tempting participants to leave rural health practice.

Lack of opportunities: The study reports lack of opportunities for personal growth, professional development, performing clinical procedures, promotion, employment and education. These opportunities are essential for individual and family development, organisational development, societal and broader economic development and poor or no access to such opportunities makes it difficult for health workers to meet their personal goals, family needs and rural health organisational goals.

Lack of safety: This study reports that lack of safety and security in rural areas is a very important factor tempting health workers to leave rural health practice. Fear for safety has also been reported in previous studies where South African health workers cited it as one of the reasons for leaving the country (Doherty 2002).

7.4 Summary

Several factors have been shown to be significant in the decision of health workers to choose, stay in or leave rural health practice and have implications for the current and future policy strategies (see Table 24). The critical review of current HRH policies and strategies has shown that some policies are starting to have an impact while it is still too early to tell about others. In spite of good policy intentions, it is clear that existing policy strategies are confronted with implementation challenges. The existing strategies have been shown not to complement each other to maximise recruitment and retention in rural health practice. This study shows that community service and the rural allowance are significant recruitment tools and have provided remote areas with health workers. The desire to gain work experience among health workers of urban birthplace is likely to be met through the community service programme. The potential of community service to encourage health workers to continue with rural health practice is still unclear and a matter for further investigation. However, it is clear from the analysis of existing policies that the implementation of community service is negatively influenced by organisational deficiencies such as poor management systems, poor supervision, limited resources and poor planning as well as inadequate preparation during undergraduate training. Similarly, the failure of bursary-holders to comply or complete their service obligations demonstrate organisational deficiencies and failure to ensure that bursary contracts are monitored and fully serviced.

The rural allowance also shows policy intention to incentivise a career in rural health practice and this study shows rural allowance to influence health workers to choose and stay in rural health practice. This is encouraging but according to the policy review there are still challenges in terms of its implementation. The concerns expressed in this study of health workers working in a "better rural" facility health workers getting the same rural allowance as health workers in the most remote "worst rural" facility may

promote interfacility migration within one rural health district. The current allocation mechanism is crude and needs further research and refinement.

The policy review further highlights deficiencies in skills development in the health sector especially in rural areas. Skills development appears to be a good recruitment and retention tool for midlevel workers and lower level categories but falls short in the recruitment of highly skilled health professionals for rural health practice. Similarly, limited opportunities for professional development have been shown to be a significant disincentive for rural health practice and this poses a challenge for skills development process to assist and encourage health workers to choose and maintain a career in rural health practice. However, organisational deficiencies and urban-based health service delivery and training infrastructure are limiting its potential in this regard.

Table 24: Summary of factors shown to be significant to choose, stay or leave rural health practice

To choose rural health practice
• Performing community service • Having lived in a rural area more than 5 years • Family obligations • Rural allowance • To gain work experience • Prior interest in underserved area practice • Prior interest in primary care or generalist practice
To stay in rural health practice
• Love rural lifestyle • To gain work experience • Community recognition for work • Relationship with colleagues • Relationship with supervisor • Community respect for health professionals • Flexible work hours
To leave rural health practice
• Poor professional supervision, support & mentoring • Limited opportunities for professional development • Desire to raise family in urban setting • To work close to family • Not safe in the area • Poor infrastructure

The personal factors, organisational factors and community factors shown in this study to be significant for a career in rural health practice serve as pointers to areas that need attention in the current strategies and future policy initiatives.

While some of the recent policy initiatives area beginning to bear fruit, their effective implementation needs to be supported by other activities such as investment in health service delivery and infrastructure in other sectors and committed development of management capacity.

7.5 LIMITATIONS

The survey's list of factors from which to choose does not include all the factors applicable to the questions. Some factors are applicable to both what motivates health workers to choose and what motivates them to stay in rural health practice. The study assesses factors motivating health workers from the perspective of a health worker involved in rural health practice at the time. This is more appropriate to determine why health workers choose and continue in rural health practice. Factors motivating health workers to leave could be better answered by surveying those health workers who had worked in rural health practice and had decided to leave.

The study is limited to those health workers who were involved in public sector clinical service delivery in the facilities participating in the study at the time of the study. It excluded health workers in private practice, on night duty and those not involved in clinical service delivery. The exclusion of staff on night duty might have excluded significant minority viewpoints. Participation of health workers was further limited by difficulties in completing questionnaires while expected to perform professional duties at the same time. There could be some form of systemic bias related to the low response rate. Some health workers might have chosen not to fill in the questionnaire because of fear of victimisation or they did not bother or have decided to leave anyway. The

structured nature of the questionnaire might have excluded some factors. For example, the questionnaire did not provide the option 'other' to allow for any other factors not covered in the list. In the South African context, performing community service is obligatory for some professional categories and failure of the questionnaire to discriminate between obligatory and voluntary community service is a limitation to the study. In addition, question 4 on potential recruitment and retention strategies assumed that health workers understood the four options given and the elements thereof. These options might have been difficult to understand and so impact negatively on the choices made. During data collection, clinics in stratum 1 were not surveyed due to lack of cooperation from district authorities. This resulted in fewer facilities surveyed in stratum 1 and more facilities surveyed in stratum 2. Purposive sampling targeted certain managers and might have excluded views of other managers involved with human resources matters in rural health services. In addition, note-taking during the interview process might have led to omission of what might have been found less important or selection of what might have been found more important. The researcher is the only person involved in data collection. This might introduce some bias particularly during the brief introductory sessions on the questionnaire and how to fill it.

Because of these limitations, generalisation to the rural health professionals and overall health workforce in the Eastern Cape and South Africa is not possible. A bigger study is recommended to confirm the findings of this study.

CHAPTER EIGHT: CONCLUSION AND RECOMMENDATIONS

This study shows that rural background and its related factors are key determinants for choice of a career in rural health practice while personal interests, workplace relationships and worklife enhancing practices are central to a decision to continue in rural health practice. Furthermore, participants confirm that the lack of infrastructure denies health workers opportunities to develop as individuals, families, health workers and communities thereby encouraging them to leave to areas with better infrastructure and opportunities.

This study highlights key areas of consideration for designing recruitment and retention strategies for health professionals in rural health practice. The first area of consideration is the type of health worker who is likely to choose rural health practice. Rural health practice seems attractive to a certain type of health worker: those with a rural background, rural training exposure, prior interest in underserved area practice, prior interest in PHC or generalist practice, family obligations and service obligations. This is an important area for consideration by health professional training institutions when selecting students for training, by bursary-funders when selecting bursary-recipients and by health authorities when recruiting health workers for rural health practice.

The second area of consideration is the attractiveness of rural health practice. Health workers are attracted to rural health practice because of the opportunities it offers. There are opportunities to experience the diverse scope of work, clinical autonomy, perform clinical procedures and provide care for needy patients. Furthermore, rural health practice presents an opportunity to gain work experience, to experience rural lifestyle and earn more. These opportunities could form an important part of rural health practice marketing strategies. They could be used in raising awareness about the benefits of

training health sciences students in a rural setting or doing community service in rural areas.

A recruitment strategy for rural health practice should include the following key pillars:

- Admission to health profession's training that selects applicants on the basis of rural background and prior interest in underserved area or generalist practice.
- Curriculum reforms that will promote exposure to the rural health setting during training.
- Financing reforms that will incentivise rural health practice. There is a need to investigate an objective facility-based rurality index that would include geographical distance from town, infrastructure, working conditions, quality of support and supervision, available facilities and opportunities and vacancy and turnover rates.
- Policy reforms that make rural health exposure a prerequisite for registration and postgraduate specialisation
- Recruitment procedures that recognise individual health worker as a person as well as a member of a family and community.

The third area of consideration is the creation of a retention-enhancing environment within rural health practice. Poor management practices, support and supervision have had a negative impact in the workplace and compromises the implementation of different policies and strategies put in place by the government. Managing workplace relationships, team-building, improvement in management systems, support and supervision and improving access to opportunities are important. In the short-term, the HWSETA should create an environment that is conducive to development and retention of skills in rural health practice. This could take the form of financing of mentoring for community service and bursary-holders, providing rural health exposure mini-scholarships for bursary-holders and volunteer students to bridge the gap left by the curriculum and financing an in-house coaching programme for rural health managers and supervisors. In the medium term, skills development

may have to invest in retention of managers, supervisors and scarce skills as well as technological interventions to leapfrog the existing infrastructural gap. In the long-term, decentralisation of health service delivery and training infrastructure may support a sustainable skills development process in rural health practice.

The study also highlights the role rural communities could play to promote recruitment and retention by showing appreciation and respect and fostering a welcoming environment.

A multi-faceted retention strategy taking the following factors into consideration is recommended:

- Improving health service delivery infrastructure and management systems
- Improving access to opportunities such as promotion, skills development and postgraduate education
- Professional support, supervision and mentoring
- Financing reforms that incentivise staying in rural health practice. Targeted incentives such as provision of staff accommodation and transport, allowances for spouses or children's education, promotion, income tax breaks etc. are particularly important.
- Community initiatives such as awards or certificates of appreciation etc.

Participants in the study have also recommended the following as important elements of a recruitment and retention strategy for rural health practice:

- Increasing salary and current benefits,
- Expanding rural allowance to include managers,
- Grading the rural allowance based on inhospitability of the work environment or distance from town,
- Expanding the scarce skills allowance to include categories such as primary health care nurses.
- Improvement in management systems and physical infrastructure,

- Providing accommodation and transport,
- Improving access to professional development and
- Providing opportunities for promotion

The fourth area of consideration is the creation of an environment where health workers are able to perform their duties without fear for their personal safety. Review and monitoring of security risks and available security infrastructure to ensure that proactive steps are taken to improve the situation is recommended.

The fifth area of consideration is the creation of a retention-enhancing environment around rural health practice. Providing roads, transport and telecommunications infrastructure and redistributing health service delivery infrastructure and training infrastructure to rural areas are likely to create an environment that fosters recruitment and retention in rural health practice. Participants confirmed the need for improvement in general infrastructure such as roads, transport, telecommunications, water supplies, electricity, schools, shops and recreational facilities. Table 25 shows summary of the recommendations according to time and sector.

Table 25: Summary of recommendation by time and sector

Period	Health Sector	Non-health sector
Short-term	• Admission policies to health professions' training should take rural background and interest in underserved area practice and primary care into account • Support rural exposure initiatives • Institute mentoring and coaching initiatives for students, young graduates and rural health managers • Improve management systems • Improve skills development opportunities • Provide staff accommodation and transport • Enforce outstanding service requirements by bursary holders • Community leadership awareness or training	Audit existing security infrastructure and take proactive steps to improve safety and security of health workers
Medium-term	• Curriculum reform • Establish regional health education centres and teleteaching facilities • Develop a recruitment and retention plan for rural health practice • Monitor and review rural allowance with a view to develop a facility based objective rurality index	• Improve infrastructure • Public-private or public-public partnerships for areas such as staff housing, recreational facilities
Long-term	• Human resource plan underpinned by policy and financing reforms supportive of rural health practice and redistribution of training infrastructure • Coordinated rural health development strategy to maximise recruitment and retention of current and future policies and strategies	• Rural economic development strategy

A multi-faceted recruitment and retention strategy incorporating the abovementioned recommendations, integrating existing strategies and supported by the redistribution of infrastructure to rural areas is likely to encourage health workers to stay in rural health practice.

APPENDICES

Appendix A: Letter to seek permission to conduct study

Dear Sir/Madam

RE: Request to interview staff

I would like you to grant me permission to interview nurses and doctors employed at your facility for my research. The aim of my study is to explore factors that motivate health workers to choose to work and remain working in rural areas. The shortage of health professionals in rural areas is a worldwide problem and the South African National Health System is no exception. The public sector health services in rural areas are dependent on fewer health personnel and this has serious implications for availability, accessibility and quality of health care and the efficiency with which such care is provided. I decided to conduct this study as a research towards my Masters degree and to contribute to debates around developing appropriate recruitment and retention strategies for health workers to work in underserved rural communities. The objectives of the study are:

- To determine factors that influence health workers to choose to work in rural areas;
- To establish factors that motivate health workers to remain working in rural areas;
- To establish what encourages health workers to quit rural health practice.
- To suggest potential strategies that could be used to strengthen recruitment and retention of health professionals in rural areas.

Your permission to conduct this study in your facility will be highly appreciated.

Yours sincerely

_____

Dr. Wezile Chitha

Appendix B: Participant consent form

Dear Participant

My name is Dr. Wezile Chitha. I am a researcher from the Health Economics Unit at the University of Cape Town. I am doing research on factors motivating health workers to choose to work and remain working in rural areas. The shortage of health professionals in rural areas is a worldwide problem and the South African National Health System is no exception. The public sector health services in rural areas are dependent on fewer health personnel and this has serious implications for availability, accessibility and quality of health care and the efficiency with which such care is provided. Consequently, I decided to conduct this study as a research towards my Masters degree and to contribute to debates around developing appropriate recruitment and retention strategies for health workers to work in underserved rural communities. Your participation would provide important and useful information for solving the human resource challenges facing the health system.

If you are willing, I would like to ask you some questions about yourself and your practice in this setting. However, your participation is completely voluntary and confidentiality and anonymity are guaranteed. It is within your rights to refuse to participate and to withdraw your participation at any time without having to give explanation. There are no adverse consequences if you refuse or decide to withdraw.

I have understood the purpose of this research and agree to participate.

_____

Signature

Appendix C: QUESTIONNAIRE FOR HEALTH WORKERS

QUESTIONAIRE FOR HEALTH WORKERS

Name of a health district_____

1. Facility data (Please tick as appropriate).

Type of facility		
	Hospital	
	Community health centre	
	Clinic	
Operating hours		
	8 hours	
	12 hours	
	24 hours	

2. Personal data of a respondent (Please tick or write as appropriate).

I am a male	
I am a female	
I am married	
I am not married	
I am...years old	
I was born in.. (district)	
I did my primary school in..(district)	
I have (number)..children not finished with grade 12 yet	
I obtained my professional training from...outside South Africa	
I worked at (district)..before taking the current job	
I have been living in this area for...(years)	
I am a professional nurse	
I am a medical doctor	
I am a dentist	
I am a pharmacist	
I am a dietician	
I am a speech therapist	
I am a physiotherapist	
I am a radiographer	
I am...(specify health worker category if not stated above)	

3. Career-related questions

3.1 I chose to work in this area because (Please tick as many as applicable to you and rank them according to how they are important to you. 1=important 2= more important 3= very important

For example: I love pizza because

	1	2	3
It is meety			
I is nutritious			
It is divided into slices			

		1	2	3
I have lived in a rural area for less than 5 years				
I have lived in a rural area for more than 5 years				
I have a scholarship obligation to work in a rural area				
I have family obligations in this area				
I have been interested in underserved area practice before entering professional training				
I have been interested in PHC/generalist practice before entering professional training				
I spent less than 3 months of my training in a rural area				
I spent more than 3 months of my training in a rural area				
I am performing community service				
I had a desire to live in a rural area				
I had a desire to raise a family in a rural area				
I had friends living in a rural area				
I wanted to explore working in a rural area				
I wanted to gain work experience				
My mentor promoted working in a rural area				
My training institution promoted rural health practice				
My training institution was based in a rural area				
There were financial incentives e.g. rural allowance				
I love rural lifestyle				
There was a subsidised accommodation				
I love the scope and diversity of the work				
There is autonomy in clinical decision-making				
This is a family friendly environment				
There is community respect for health professionals				
I had business interests in the area				
My partner got employed in this area				
There is a good infrastructure (schools, shops, roads, transport, telephones, housing)				

3.2 I decided to continue working in this area because (Please tick as many as applicable and rank them according to how they are important to you. 1=important 2= more important 3=very important)

		1	2	3
I have scholarship obligations to work in a rural area				
I have family obligations in this area				
I want to raise my family in a rural area				
I have friends living in this area				
I want to gain work experience				
I am getting rural allowance				
I love rural lifestyle				
I am getting subsidised accommodation				
I am getting subsidised transport				
I love scope and diversity of the work in rural health practice				
I get the opportunity to perform a range of clinical procedures				
There is autonomy in clinical practice				
I am able to maintain my clinical skills				
I like being part of a team				
I work flexible working hours				
I have a good relationship with my immediate supervisor				
There is management recognition for my work				
There is peer recognition for my work				
There is community recognition for my work				
I have a good relationship with colleagues				
There is a good workplace support network				
There is a sense of belonging to this community				
This is a family friendly environment				
There is community respect for health professionals				
I have business interests in this area				
My partner would not move				

3.3 I am tempted to leave rural health practice because (Please tick as many as applicable and rank them according to how they are important to you. 1= important 2= more important 3= very important)

		1	2	3
I have finished serving my scholarship obligations				
I have to work close to my family				
I want to raise my family in an urban setting				
I am isolated in this area				
I do not like rural lifestyle				
I do not get the opportunity to perform clinical procedures				
I am losing my clinical skills				
I am changing professional direction				
I work long and inflexible hours				
There is no autonomy in clinical decision-making				
My relationship with other health professionals is not good				
There is poor workplace support				
There is no peer recognition for my work				
There is no management recognition for my work				
There is no community recognition for my work				
There are limited opportunities for promotion				
The opportunities for professional development are limited				
There is no support for postgraduate education				
There is poor professional supervision, support and mentoring				
There are no educational facilities for my children				
There are no employment opportunities for my partner				
It is not safe in this area				
Management practices are poor				
I am experiencing marital difficulties				
There is a poor infrastructure (shops, road, transport, telephones, schools, health facilities)				

4. Potential recruitment and retention strategies

4.1 The following combination of financial and non-financial incentives could be used to recruit and retain health workers in rural health practice. (Please choose one option only and rank the incentive listed according to how they are important to you. 1 = important 2= more important 3 = very important).

Options		1	2	3
Option 1				
Keep salary, current benefits and scarce skills+rural allowances same				
Provide accommodation and transport				
Improve management systems and physical infrastructure				
Provide opportunities for promotion				
Improve access to professional development opportunities				
Option 2				
Keep salary and current benefits same				
Increase rural allowance				
Keep scarce skills allowance same				
Provide accommodation and transport				
Improve management systems and physical infrastructure				
Improve access to professional development				
Promotion opportunities not important				
Option 3				
Keep salary, current benefits same				
Keep scarce skills and rural allowance same				
Add spousal support allowance, children' education allowance and telephone allowance				
Provide accommodation and transport				
Improve management systems and physical infrastructure				
Improve access to professional development opportunities				
Promotion opportunities not important				
Option 4				
Increase salary and current benefits				
Expand rural allowance				
Expand scarce skills allowance coverage				
Provide opportunities for promotion				
Provide accommodation and transport				
Improve management systems and physical infrastructure				
Improve access to professional development opportunities				

APPENDIX D: Interview schedule for health managers

A: Human Resources Allocation practice

1. What are your priorities for human resources allocation in the health sector at the moment?

2. How are health sector human resources currently allocated between facilities? (Key criteria? Formula)

3. What are the strengths and weaknesses of the current procedure of human resources allocation?

4. What is the role of provinces and districts in human resources allocation?

B: Relationship with Provinces and Districts

1. Do you use district and provincial plans to inform your human resources budget? How?

C: Understanding human resources

1. What is the current situation for human resources in the health sector? (Urban/rural axis, province-province split, public-private split)

2. Retaining health professionals in rural areas is a challenge. Why is it difficult?

3. What strategies are in place to address this challenge? (Financial vs. non-financial incentives). Are they working?

4. What obstacles are there on the way of government to addressing this challenge? How is the government dealing with them?

5. How could recruitment and retention of health personnel in rural areas be improved?

APPENDIX E: QUALITATIVE DATA SPREADSHEET

Staffing situation	55% filled clinical posts, 65% filled corporate posts	50% professional posts filled. Vacancies more on the eastern side than western side of the district	Shortage of professionals across the board, Vacancy rates range from 30% in urban areas to 60% in rural areas. 70% of posts filled in the Health complexes	Out of 44 000 posts 30 500 posts filled and 14 000 vacant, Vacancies vary between urban & rural facilities with rural facilities accounting for more	Have paper posts because no accurate data, Limited pool due to migration (rural/urban & overseas)	Oversupply & undersupply even within a district, Inappropriate skills mix, specialists are scarce worse in rural set up, huge number of unfilled posts
HRH Challenges	District is rural and cannot retain, poor infrastructure, difficult topography, inhabitable staff accommodation, lack of security	District is very rural, problems of infrastructure, limited accommodation, high costs of travel, budgetary constraints, staff turnover esp. doctors/white people, labour issues esp. in eastern side	Problem with both recruiting (mainly rural, packages in public sector not attractive)and retaining (working conditions are poor),poor management practices staff accommodation is a problem, no appropriate schooling facilities, lack of recreational facilities.	Loss of workers-Migration within and outside province, poor remuneration and poor management, infrastructure problems, staff accommodation & equipment are poor, transport, roads and telephones are poor, no staff transport, budget constraints	Both public and private sectors are shortstaffed. Situation worse in rural areas.	infrastructure is problem for staff & patients, EMS & supplies, limited staff accommodation, professionals simply do not apply, limited funding

HRH Strategies	Hospital revitalisation, skills development for all categories, provide staff accommodation incl.renting B & B's, vacating nurses's home space, community service, scarce skills and rural allowance, bursaries, flexible staff transport arrangements	Currently doing infrastructure assessment in order to meet people halfway, Have funds for renovation, scarce skills & rural allowance helping, skills development, district health management & leadership program	Joint prioritisation with districts for filling of critical posts, rural allowance, community service skills development, bursaries, Eastern Cape Bursars have to do community service in the province, grant for continuing education, in-service training and outreach	Government has rural & scarce skills allowance, Staff accommodation in some areas, still discussing HRH plan whose pillars are induction, mentoring, revitalisation, public/private partnerships and interdepartmental collaboration	Scarce skills and rural allowance, community service-improving but a lot of resistance, there are issues of supervision & accommodation. We plan to expand midlevel workers "assistants"-research suggests scope blurring with experience, problem of career pathing etc	In the process of institutionalising staffing model software based on utilisation rates to assist to get funds, rural allowance (debate is about areas with similar conditions but unable to recruit), community service working but graduates not absorbed in the system, recruit foreign workers, staff accommodation is ethical question since it is employee's responsibility to look for accommodation, hospital revitalisation and clinic upgrading leaves doing ok but leaves gaps

Suggestions	Improve access to in-service training, improve remuneration & add a layer of pay, pay rural allowance according to distance from town, improve infrastructure	Sharing of resources, employ sessional professionals, improve infrastructure	Improve supervision, provincial growth & development strategy presents opportunity for infrastructure and accommodation.	Increase salary notch for rural areas, improve general infrastructure, implement grading of rural allowance, expand scarce skills to PHC.	Increase production of nurses, increase salaries in the public sector	Good support system for community service, infrastructure needs upgrading

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