# The Role of Communities in the Recruitment and Retention Process of Medical Doctors for Rural South Africa.

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## Keywords


- Rural Doctor Recruitment
- Rural Doctor Retention
- ‘Active’ Community Participation
- ‘Passive’ Community Participation
- Utilitarian Perspective
- Community Empowerment and Development Perspective
- Theory of Indenture
- Theory of Experiential Place Integration
- Theory of Affinity
- Principle of Balancing Model
- Hybrid Recruitment and Retention Incentive-mix

# Abstract


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The purpose of this research study is to explore the variables that contribute to improving the process of recruiting and retaining rural doctors within the South African context. The aim is to explore rural doctors' perceptions of the role which the rural community can and ought to play in respect of the latter process. A basic recognition is that the emphasis on the Mainstream Approach (which elevates health workforce planning and management as well as market-related interventions and solutions) cannot exclusively achieve the desired result of effective and efficient recruitment and retention of rural doctors. The 'active' role which communities can and ought to play in the recruitment/ retention process, is an overlooked and neglected aspect within the South African research and healthcare service-delivery context.

Even though the notion of collaborative management and governance of human resources within the health sector is generally mandated from a policy and legislative perspective, the practical manifestation and implementation thereof remain limited or at best piece-meal. An alternative governance model with reference to the human-resources-in-health system outlines the Partnership Approach advocating the need for the establishment of practical working relationships, amongst an identified range of multiple-stakeholders. This study examines the notions of 'passive' vis-à-vis 'active' community participation equated to the *Utilitarian* and *Community Empowerment/ Development* Perspectives continuum. The study introduces the 'Principle of Balancing Model' as well as the notion of a 'hybrid perspective' as key underpinnings of an efficacious rural-doctor recruitment and retention process.

The Theories of Indenture, Experiential Place Integration, Affinity and Gender are applied in order to provide substance to the feasibility of a collaborative management and governance approach. The research adopts a quantitative approach which is reflected in the use of a structured questionnaire; administered to rural doctors who attended the 12$^{th}$ Rural Doctors Association (RUDASA) Conference. The data analysis draw on Univariate, Bivariate (Chi Square), Factor Analysis (Cronbach alpha), ANOVA as well as Correlation Analyses (Pearson/ Spearman). Promoting triangulation, the qualitative analyses draw on insights from the qualitative component of the questionnaire as well as from a comprehensive interview.

# Declaration

**I declare that 'The Role of Communities in the Recruitment and Retention Process of Medical Doctors for Rural 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.**

**Signed :** 

Thurston Walter Marinus
1 September 2013

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# CHAPTER 1

# BACKGROUND AND ORIENTATION

## 1.1 Introduction

The purpose of this research study is to identify the variables that could contribute to improving the process of recruiting and retaining rural doctors within the South African context. More specifically the aim is to explore doctors' perceptions of the role which rural communities can and ought to play, in respect of the recruitment and retention process of rural doctors. A key study premise is that the role of rural communities within this process, is often an overlooked and neglected aspect within the South African context. In order to demonstrate the latter point, Chapter 1 clarifies the Mainstream Approach of Government (and by implication the specific role of the Department of Health) and introduces the complementary Collaborative Approach which is embedded within the Health System Partnership Model.

### 1.1.1 The Mainstream Approach

The Mainstream Approach as characterised by Schwarz (2005) entails the state primarily engaging with focus areas such as health workforce planning and management as well as market-related aspects (which include the examining of the relevant economic push and pull factors). Taylor (2004) identifies particular focus areas of the Mainstream Approach, namely the emphasis on the clinical and organisational aspects that pertain to the process of recruiting and retaining rural doctors.

A practical manifestation of the core elements of the mainstream focus areas[1] include the:

- Sequential improving of salary packages and remuneration[2] (Lydall and Reid, 2006; National Department of Health, 2007).
- Provisioning of rural- and scarce skills allowances (PHWSBC 2004,RUDASA, 2006; GCIS, 2007).

[1] . See Appendix 1 for a tabular illustration of the Mainstream Approach.

[2] . Hall and Erasmus (2003) cite the work of Pillay (1996) who recognised the importance of financial incentives as a primary means of encouraging doctors to practice in rural areas. Kotzee and Couper (2006) have found similar results in their study, highlighting the improvement of a doctor's salary, as one of the most important factors in retaining a rural doctor. It is argued that the contemporary 'wage-dispute' and related doctor 'mass mobilisation' illustrate the importance of the aforementioned mainstream factor within the ambit of the broader rural doctor recruitment and retention process.

- Improving the working environment, including the improvement of healthcare facilities and in particular the Hospital Revitalisation Programme (Government Communication and Information Services, 2007).
- Engaging with innovative models and solutions with reference to peer support and doctor training as well as the increased recognition of the importance of telehealth and telemedicine (Wilson and McHardy, 2004; Duplantie et al, 2007). A related aspect is the focus on continuing professional development of the rural doctor, including the use of e-learning.
- Improving the working conditions (basic incentive-based approach), providing subsidised housing as well as enhancing access to grants (such as travel grants) and study benefits.

- Facilitating exposure to rural areas within the curriculum of medical students (United Nations, 1999).
- Instituting a national programme for the development of family medicine and district health care which entail the establishing of family medicine departments and 'district-based learning complexes' (De Maeseneer, 2007:29).

❖ Restructuring of the healthcare system (service delivery reform) and putting in place of a single unified national health system with reference to the national, provincial and local government spheres (United Nations Report, 1999; McCoy, Buch and Palmer, 2000; Lehmann and Makhanya, 2005; GCIS, 2007).

❖ Putting in place of institutional mechanisms by government in order to recruit and retain rural doctors such as the Community Service Programme[3].

❖ Regulating the recruitment of health professionals by the South African government within the global legislative framework, through developing bilateral and multilateral agreements. This includes developing a Code of Ethical Recruitment for Members of the Common Wealth (South African Yearbook 2005/06).

❖ Enhancing the registration process of foreign qualified doctors, which is premised on the review of the registration process as well as the issuing of work permits (Couper et al, 2004; Lydall and Reid, 2006).

[3] . The Health Department has implemented the Community Service Programme in the hope of attracting healthcare staff to under-resourced areas and the compulsory period of community work has been an inevitable part of most doctors' careers in this country since it began in 1998 (IRIN, 2007). The idea behind community service is to expose young doctors to working in a rural setting, in the hope that they will stay after the completion of their period of service and return to the community (United Nations Report, 1999).

Even though there is merit in pursuing the aforementioned Mainstream Approach, Nawaal (2003:1) emphasises that the recruitment and retention of doctors (as well as that of nurses) remain a fundamental challenge. This author highlights the notion of health personnel (and especially doctors) as "endangered species" based on their continued exodus from South Africa. (See Appendix 2 for diagrammatic illustrations, which reflect the high attrition rate of doctors within the South African context). From a practical vantage, Couper et al (2004) highlight that in some of the rural districts, staff shortages of 50% are experienced with approximately 30% of rural clinics being serviced by a doctor at least once a week. A relevant concept which Reid (2007:3) draws attention to, is the "inverse care law" which denotes that the fewest healthcare professionals are found where they are needed most and visa versa.

Mathauer and Imhoff (2006) acknowledge that South Africa is experiencing a crisis with regard to the recruiting and retaining of its healthcare workers. A report of the South African Migration Project (Cape Times, 19 February, 2008) reveals that almost half of the health professionals are likely to leave South Africa in the next five years and that one quarter aim to leave within the next two years. A similar trend has been observed by the Business Day (October 27, 2008) in respect of the statistic which reveals that a total of 3 632 doctors' posts were vacant within the public sector.



A snapshot of the rural context reveals that the inadequate supply and distribution of healthcare personnel, severely impact the health system functioning within these areas. Padarath, Ntuli and Berthiaume (2004) indicate that this *status quo* is reflected in the unmanaged disease burdens and additional costs to households seeking care. Furthermore, the issue of the high attrition rate exacerbates the loss of institutional memory. This loss, especially as a result of large-scale resignations and high turnover within the rural context is manifested in a duplication of work and wastage of resources (Sanders and Lloyd, 2005).

### 1.1.2 Towards a Collaborative Approach with specific reference to the process of rural doctor recruitment and retention

A fundamental realisation is that the successful recruitment and retention of rural doctors is an endeavour that encompasses more than just the agency of the state, or more specifically the Department of Health (De Vries and Marincowitz, 2004). A key premise of the World Health Organisation (2003) is that the mainstream model in which the government directly recruits, trains, hires and deploys health professionals, no longer reflect the reality of most developing countries.

Thus the mainstream interventions and solutions which are often spearheaded by government, cannot single-handedly achieve the desired result. Couper, Hugo, Conradie and Mfenyana (2007) call for the development of relevant strategies that facilitate the involvement of rural communities in the recruitment and retention process of healthcare professionals.

> "Confronted by the problem of recruiting and retaining staff, we immediately look for solutions. We recruit others from overseas, we advocate for better conditions of service, we encourage young matriculants into the profession, we find sponsorship for those who need them and shepherd them through medical school, hoping that one or two of them will return to fill our places when we tired and worn out, and have moved on. But beyond our well-intentioned efforts to stem the tide, there are powerful forces in operation. You see when all you have is a hammer, it is remarkable how many things start to look like nails. There is a need to look at the bigger picture – we cannot keep banging on the recruitment and retention problem with the same instruments and expect a different result" (Reid, 2007:1).

Dambisya (2007:51) maintains that the health worker crisis can be compared to diabetes mellitus. Basically both are systemic diseases, with underlying functional (and often structural) disturbances. Both are envisaged as chronic, developing insidiously so that by the time they are noticeable, the damage can be quite significant. Just as it is possible to treat diabetes mellitus and have the patient functional, the author emphasises that it is possible to fix the human resources in health problem and that the continued well-being of the patient (likened to the health system) will depend on continued improvement and striving towards quality management and governance.



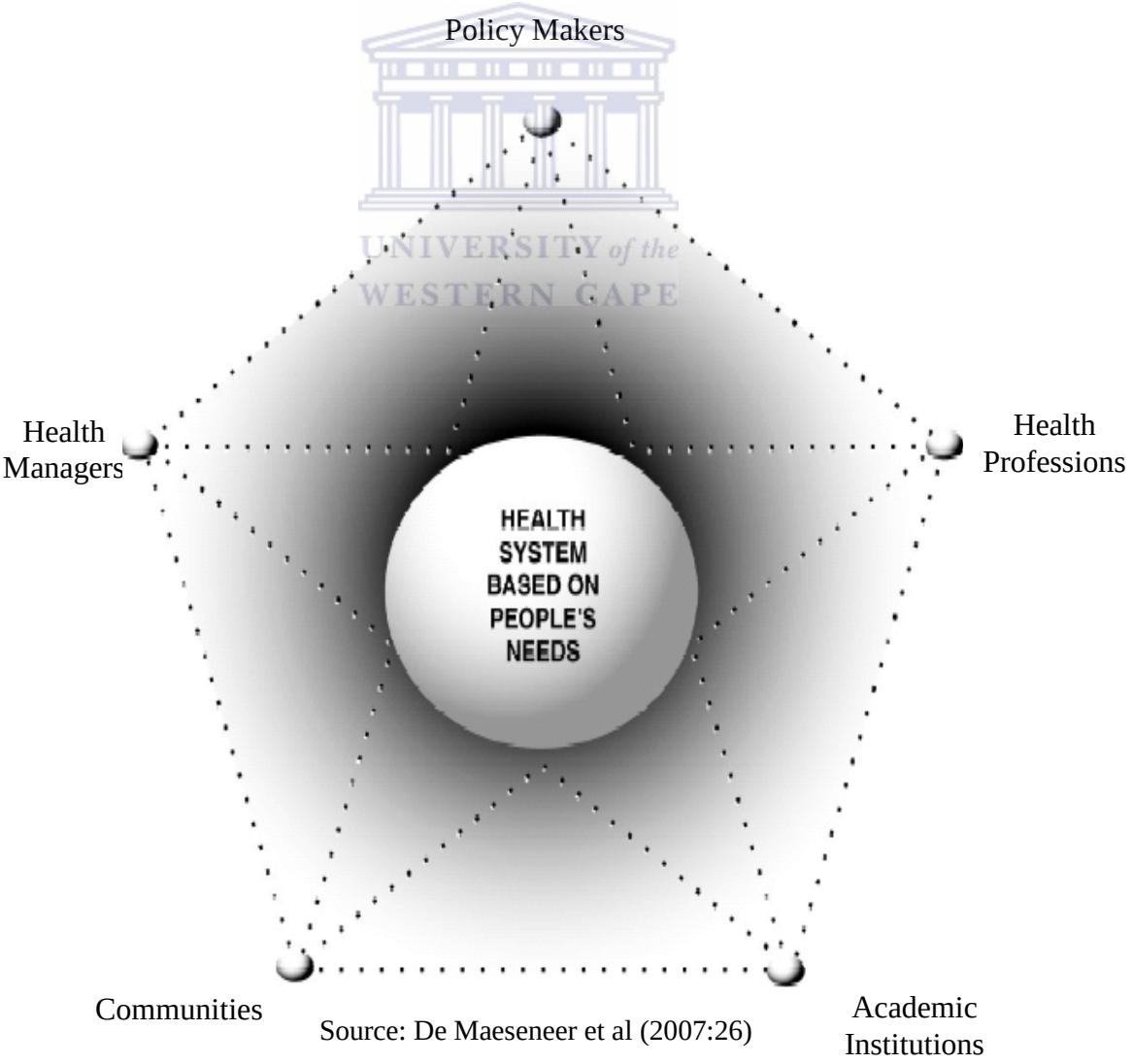
#### *1.1.2.1 Key feature of the Collaborative Approach: Attributing value to community participation in the recruitment and retention process of rural doctors*

Kotzee and Couper (2006) emphasise that the recruitment and retention of rural doctors is multifactorial in nature which demands collaborative and sustained efforts from a wide range of stakeholders. De Measeneer, Willems De Sutter, Van de Geuchte and Billings (2007:26) recognise the value of what they term a 'partnership approach' and the related establishment of practical working relationships amongst the multiple stakeholders. These authors maintain that in order to strive for a sustainable health system based on people's needs, the active contribution of a range of stakeholders or health partners are required. Five principal partners are identified namely:

- Policy-makers,
- Health managers,
- Health professionals,
- Academic institutions,
- Communities.

The following Health Systems Partnership Model, diagrammatically illustrates the aforementioned principal partners:

Figure 1 : The Health System Partnership Model




Source: De Maeseneer et al (2007:26)

The aforementioned Model substantiates the premise of the British Columbia Medical Association (1998) which espouses that efficient health service delivery is enhanced, through the adoption of a multi-stakeholder and integrated approach. Taylor (2004) suggests that in practice, the relevant approaches to rural doctor recruitment and retention are not discrete and that elements of each may co-exist. In other words, it is not essentially an either-or situation. This Model identifies communities as a critical partner and contributor, in order to ensure that the healthcare system and related service delivery is sustainable and optimised. In the bid to ensure that the healthcare system remains responsive to people's needs, De Measeneer et al (2007) recognise that communities play a pivotal role in this regard.

The Model also elevates the significance of the team-based approach. The University of Nebraska Medical Centre (nd) suggests that the challenge of rural doctor recruitment and retention will not be solved by government exclusively and the importance of a team approach is mooted between rural communities, governments and academic centers as well as doctors. Couper et al (2004) conclude that the merits of the teamwork approach are rooted within mutual responsibility and commitment towards the improving of rural-health service delivery.

The centrality of the team-based approach is highlighted within the Healthcare Review (1998) with reference to propensity of the stakeholders, to accommodate and institutionalise a teamwork approach more readily within the rural context. The findings further suggest that teamwork is often encouraged both by the rural culture (with the focus on achieving the job at hand) as well as through putting in place necessary steps and fostering mutually reciprocative relationships (in particular between rural doctors and their communities).

#### *1.1.2.2 The need to shift beyond the 'impasse' in order to realise a Collaborative Approach to rural doctor recruitment and retention*

Healthlink (1996) maintains that even though there has been widespread agreement on the theoretical importance of community participation and involvement, there has been little success in implementing the vision on a broad scale. Despite the concept of community participation being obligatory in all policy documents and project proposals, the challenge is reflected in the notion of Dinat et al (2005:1): "Community participation may have won the war of words, but beyond the rhetoric the success is less evident".

i) Veitch and Grant (2004) draw attention to the fact that the broader health system, may simply not be geared for active community participation and involvement. The authors emphasise that many elements of the supposed outdated paternalistic and medically-dominated ideology and practice-model, still remain prevalent within state-based health systems. Thom (2001) cites the opinion of a senior specialist at the Chris Hani Baragwanath Hospital, who asserts that a Eurocentric medical profession is prevalent within the South African healthcare set-up.

ii) Vaughan (2003) from an operational perspective, suggests that the continued sidelining of community participation is based on the assumption that community participation is associated with limited-delivery or non-delivery of services. Therefore government's stance with the emphasis on service delivery, translates into community participation being marginalised.

iii) Kelly and Van Vlaenderen (1996) highlight that the term participation has come to prominence in the field of health, through the emergence of the primary health care (PHC) movement. The basis of the health system in South Africa is purported to be the Primary Health Care (PHC) approach as defined by the Alma Ata Declaration of 1978. Basically this approach endorses community involvement in all health-related activities that are to be delivered through the District Health System.

Reid et al (2006) emphasise that a very limited or selective Primary Health Care (PHC) system approach is actually being pursued within the South African context. The authors emphasise that the comprehensive PHC as envisioned in the Alma Ata declaration is not actually being practiced, except in a few isolated projects[4].

[4] . What is evident in the PHC movement is that the term has been so loosely applied that its explanatory value has been somewhat compromised. There is a lack of literature dealing with how participatory relationships are formed and sustained between parties who are grossly different in terms of access to skills, resources, education, political power and the sense that their own individual efforts can make a difference (Kelly and Van Vlaenderen, 1996).

## 1.2 Community participation envisaged as a key success factor in the process of rural doctor recruitment and retention

There is consequently a growing emphasis on encouraging community participation, in order to strengthen healthcare service-delivery accountability that is underpinned by joint work/ collaboration, co-operation and partnership development. As stipulated in the Executive Summary of the National Draft Environmental Health Policy (National Department of Health, 2004), the national health system has been undergoing a fundamental transformation process that is aimed at establishing decentralised management, governance, research, enquiry and advocacy that encourages participation by everyone.

Similarly Cuss (2006) acknowledges that in recent years there has been a shift towards new modes of governing with specific reference to the health sector, that are based on shared/ joint co-ordination and collaboration. Rifkin's (1986) notion is of particularly relevance which advocates community participation in the planning, organising as well as in the operation and control of health services and activities. These are aptly accommodated in the stipulations in the Primary Health Care (PHC) Framework which emphasises the shared responsibility of all parties at all levels of the health system, for the delivery of comprehensive PHC (McCoy et al, 2000). The practical areas for integration include: integrated health care planning, management capacity, financial system- and management information system development as well as healthcare facility management.

Khumalo (2007) indicates that a key thread from a legislative vantage, is the principle of inclusivity. The implementation of governance structures that embody a progressive approach to community participation in health service delivery are reflected in the establishment of representative structures, such as clinic committees and hospital boards (National Department of Health, 2004).

A related issue as discussed by USAID (2005) revolves around the concept of accreditation which speaks to the shared development and communication of meaningful organisational standards, resource requirements as well as service delivery standards. South Africa's accreditation programme was institutionalised in the mid 1990s and the Quality Assurance Project Review was conducted in 2004. With particular reference to the accreditation of facilities and services, the emphasis was on promoting and mainstreaming community empowerment and development through community involvement in the facility committee structure.

### 1.2.1 Contextualising the research focus on community participation

The World Health Organisation identifies four pillars on which action for Health-for-All must be based of which the one which constitutes the cornerstone of this study relates to **community participation**. This pillar places emphasis on the active involvement of people and the mobilisation of societal forces for health development (Dinat et al, 2005). The associated three pillars are:

- Political and societal commitment,
- Intersectoral cooperation,
- Systems support.

The broad vision of this research is to explore the notion of 'collaborative human-resource management and governance' for improved health-service delivery. More specifically, it explores rural doctors' perceptions of the role of the community in their recruitment and retention process. Professor Steve Reid's statement is of particular significance in this regard:



> "I believe that we as rural doctors have something incredibly valuable to offer to the medical community at large and that is, a unique perspective on relationships and systems that are manageable within a circumscribed community – which facilitates a health-focused rather than a disease-focused approach to health care" (Reid, 2007:8).

Reiterating the above, the emphasis is on what doctors themselves articulate as the role of communities in the rural doctor recruitment and retention process.

## 1.3 Statement of the problem

As alluded to within the introduction, the 'active' role which communities can play and ought to in the recruitment and retention process of the rural doctor, is an overlooked and neglected aspect within the South African research as well as the healthcare, service-delivery context. Even though the notion of collaborative management and governance of human resources within the health sector is generally mandated from a policy and legislative perspective, the practical manifestation and implementation thereof remain limited or at best piece-meal.

As indicated above, the key study theme revolves around the notion that 'active community participation' (which constitutes an important pillar of effective and efficient healthcare service-delivery emphasised by amongst others the leading health authority, namely the World Health Organisation) remains a neglected area of analysis and focus within the health service delivery context. This fundamental issue is to be explored within this study through engaging with what medical doctors themselves articulate as the 'active' role or participation of communities and their potential 'niche areas' within the recruitment and retention process.

### 1.3.1 Research objectives



The research objectives are as follows:

*Academic Objectives:*

i) To examine the literature pertaining to the participatory and active role of the community in the collaborative management/ governance process of human resources within the health sector, with a particular focus on the process of recruitment and retention of rural medical doctors.

ii) To explore the perceptions of rural doctors with reference to the participatory and active role of the community in respect of key or niche areas within the aforementioned process.

*Strategic Objective:*

iii) To contribute to the development of a Provincial Human Resource Strategy for Healthcare Professionals, which constitutes work in progress at the Provincial Department of Health (Western Cape).

### 1.3.2 Clarifying the key terms 'recruitment' and 'retention'

Within the focus of this study, the notion of *recruitment* refers to the attracting and securing of a rural doctor, bearing in mind the doctor's choice to move to; as well as work in a particular rural location (Macdonald, Bibby and Carol, 2002). The notion of *retention* is considered to be the length of time of the doctor, in either the original rural community or any other subsequent location (Brooks, Walsh, Marden, Lewis and Clawsen, 2002). Macdonald et al (2002) acknowledge that the definition of what exactly constitutes satisfactory retention remains a challenge with the core aspect namely the need for clarity as to how long a doctor is required to remain in rural practice, for retention to be achieved.

The concept of recruitment is distinguished from that of retention. The basis for this distinction is drawn from Couper's (2004) analysis which purports that within the South African context, the focus on rural doctor 'recruitment' seems to be a primary objective whilst the concept of 'retention' is often implicit and secondary.

As a general point of reference, Humphreys (2002) indicates that doctors move to rural areas because of the opportunity to practice procedural and comprehensive care. District hospital doctors are likely to have educational needs covering surgery, emergency and trauma, in-patient as well as out-patient care at primary service level. Daniels et al (2007) emphasise that rural health care, demands diverse and specialised skills and healthcare providers must work with fewer diagnostic and treatment resources than those in urban areas. Hence the wide scope of rural district hospital practice demands updating in a variety of content areas.

Within rural practice an understanding of the rural context and role of other health workers, coupled with the possessing of good public health skills as well as teamwork skills are important success factors (De Villiers and De Villiers, 2006).

## 1.4 Conclusion

A key study premise is that the role of rural communities in the recruitment and retention process of rural medical doctors is an overlooked and neglected aspect, within the South African context. The key variable is a focus on doctors' perceptions of the role which rural communities can and ought to play in the latter process. A basic recognition is that the emphasis on the Mainstream Approach (which elevates health workforce planning and management as well as market-related interventions and solutions from the vantage of the state) cannot exclusively achieve the desired result of effective and efficient recruitment and retention of rural doctors. Hence the model in which the state directly recruits, trains, hires and deploys health professionals, is no longer a sustainable and practical one.

The basic tenet is that the rural-doctor recruitment and retention process, is multi-factorial in nature which demands collaborative and sustained efforts from a wide range of stakeholders. The Partnership Approach which is central to this study, advocates the need for the establishment of practical working relationships amongst the identified multiple-stakeholders. Communities are identified as critical partners and contributors, in order to ensure that the health system and associated service delivery is sustainable and optimised.



It is acknowledged that even though there has been widespread agreement on the theoretical importance of active community participation and involvement within the current discourse (based on principles such inclusivity, shared/ joint work, co-operation, collaborative/ partnership management), limited progress from a practical/ implementation perspective is evident. The latter point is applicable, even though the notion of collaborative management and governance of human resources for health is generally mandated from a policy and legislative perspective.

Chapter 2 further engages with a systematic literature review and analysis of 'community participation' and positions the latter as a key success factor within the ambit of the Partnership/ Collaborative Approach. Chapter 3 outlines the research design and methodology which was employed to engage with the rural doctors' perceptions of community participation with particular emphasis on the rural-doctor recruitment and retention process.

Chapter 4 reflects the application of the various analytical techniques and the resulting interpretation of community participation and Chapter 5 as well as Chapter 6 generally draw together the empirical findings and present commentary regarding the significance thereof.

# CHAPTER 2
# LITERATURE REVIEW

## 2.1 Engaging with the notion of Community Participation

Within the ambit of the Partnership and Collaborative Approach with specific reference to the rural-doctor recruitment and retention process, this Chapter engages with the concept of 'community participation'. This notion is explored from a theoretical perspective; as well as from a practical or applied perspective. The notions of 'passive' in relation to 'active' community participation are explored; with a further unpacking conducted through applying the Theories of Indenture, Experiential Place Integration, Affinity as well as Gender.

## 2.2 Key characteristics of 'community participation' from a theoretical perspective

The Alma Ata Declaration on Primary Health Care (which was formally endorsed in 1978) identifies community participation as a key principle of the Health-for-All outreach. This Declaration advocates and promotes maximum community and individual self-reliance and participation in the planning, organisation, operation and control of primary healthcare; through making full use of local, national and other available resources (Healthlink, 1996). It is based on the principle that optimum health cannot be attained exclusively through improvements in formal health service delivery but through a holistic approach, which addresses the root causes of poor health and empowers communities to actively participate in the improvement of their health.



The World Health Organisation (2003) characterises 'community participation' in terms of the following key aspects:

- The contribution of material or labour, bearing in mind that the community could also assist financially or in kind in the provision of physical facilities,

- The appropriateness and capacity of the organisational structures, often community representation by elected or appointed members (with reference to a Health Council or Committee) in providing input regarding the health service planning process,

- The level of empowerment of communities with regard to managing health-related matters. This aspect in order to enable the community to collectively decide and engage with the health-related action deemed as essential to improve people's health.

  Community involvement is elevated in respect of identifying and prioritising health needs and challenges within the ambit of mutual dialogue/ discussion. The aim is to identify potential solutions and engage with the implementation methodology, including the monitoring and evaluation of outcomes.

Simanowitz (1997) similarly reflects the abovementioned distinction in terms of a dual analysis of community participation, based on the following basic questions:

- Whether community participation is a 'means' to improve efficiency, cost effectiveness or sustainability of healthcare service delivery or,
- Whether community participation is an 'end in itself' with the ultimate goal being the institutionalising of a process in which the community controls its own development.

### 2.2.1 Fundamentals of 'passive community participation' within a Utilitarian Perspective



Dinat et al (2005:2) maintain that the adoption of the *Utilitarian Approach* to community participation is prevalent within the South African health-sector context. This approach basically embraces the use of community resources to offset the costs of providing healthcare services. The authors highlight that the 'Kassay and Oakley' interpretation is the generally accepted model which encapsulates this *modus operandi*. A characteristic entails community contribution of labour and other resources in return for expected benefit. This is manifested in terms of community members voluntarily collaborating or as a result of persuasion or incentive, agreeing to collaborate regarding the operationalising of an externally determined health initiative.

Relevant community agency entail the rendering of a volunteer health service responsible for the DOTS Programme, peer-to-peer HIV/AIDS education, patient-case finding/retrieval, referral of preventative care clients (immunisation etc.) and caring for the elderly as well as facility maintenance (Handbook for Clinic/ Community Health Centre Managers, National Department of Health, 1999). In addition, with the massive scale of the role-out of antiretroviral drugs (ARVs) in South Africa the need to devolve ARV role-out into PHC services is envisaged (Hagemeister, 2008).

Case 1 : The Community Development Worker Programme

Within the climate of reducing public expenditure, a potential compromise is the development of a community-based service delivery model. For example the paraprofessional or community worker/ volunteer model includes community health workers, paravets, barefoot doctors and community-based workers (Sustainable Livelihoods Newsletter, 2003). Within the community-based worker model there are a number of roleplayers, namely:

- A facilitation agent from government or non-government sector,
- The community,
- The community-based worker and
- Other relevant service providers.

Related nuances of the *Utilitarian* orientation are reflected in:

i) Taylor's (2004) notion of the *Contributions Approach* as well as

ii) Taylor, Wilkinson and Cheers' (2005) notion of the *Instrumentalist Approach*.



The common thread which underpins the aforementioned approaches revolves around community engagement by health professionals including policy officers, on their terms. The health-related agenda is the seeking of community sanction of health initiatives which are externally driven and implemented. The role of the community is thus considered a passive one (Healthlink 1996). A key assumption is that the health service is a "neutral thing" that is merely provided to and which ought to be embraced by the community (IRIN, 2007:1).

### 2.2.2 Fundamentals of 'active community participation' and the related notions of empowerment and development

Vaughan (2003) emphasises that the facilitation and enabling of sustainable partnership development between communities, government and potentially the private sector is critical. (A direct link is drawn with reference to the Health System Partnership Model as reflected in Figure 1).

Murray (2004) states that active community participation should be promoted, facilitated and enabled by government in terms of the following key focus areas:

i) Developing mechanisms that enable communities to formally participate in decision-making,

ii) Developing community-led agency through pressure or self-help groups which operate within community development processes. This in order to facilitate and ensure effective community organisation,

iii) Developing enabling support skills.

Reid et al (2006) introduce the building-block Community-Oriented Primary Care (COPC) Model, which has at the core the above-mentioned community empowerment and development principles. The basic approach comprises a number of steps, which include defining and clarifying aspects that relate to the community. This entails the collective identifying and prioritising of health problems, including the planning of interventions and the monitoring of outcomes.

Reiterating the above, Gofin (2009) emphasises that the COPC Model engages with the following core elements:



(1) Defining a specific community of interest,

(2) Assessing the needs and assets of the community,

(3) Designing and implementing interventions based on the community assessment,

(4) Evaluating and refining interventions and

(5) Involving participants from the community in all steps.

The COPC methodology is defined as a systematic process underpinned by the latter elements and principles. These elements serve as a useful starting point to engage with – when implementing the community empowerment and development perspective. The broad application of the elements and principles of the COPC Model is acknowledged within the ambit of the over-arching 'human-resources-for-health' research focus. Furthermore, the active role of the community in the rural-doctor recruitment/ retention process is elevated, recognising these as important foundation and stepping stones.

### 2.2.3 Substantiating the need for active community participation and community empowerment/ development

Various policy and legislation elevate the significance of 'active community participation', empowerment/ development and community-orientation within primary healthcare delivery.

Case 2 : Legitimising 'active community participation', community empowerment/ development and community-orientation within healthcare service delivery

- The stipulation that health service delivery will fully involve local communities, is documented in the broader vision for rural health (Rural Health Strategy for South Africa, 2006-2009).

- The endorsing of community involvement in all health-related activities is endorsed within the Primary Health Care Approach. This constitutes the guiding principle for the transformation of the health system and it forms the key feature of the District Health System (Reid et al, 2006).

- The proviso that community participation ought to be strengthened through the adoption of the Batho Pele Principle in order for the community to take control of their own health care and that of their families (District Health Team Guideline as stipulated within the Policy on Quality in Health Care for South Africa, 2007).

- The facilitation of local-level control of public health services is underpinned by the notions of comprehensiveness, integration, availability and accessibility. These are mandated within the District Health System through the facilitation of horizontal linkages between the healthcare system and related roleplayers, with the emphasis on shared responsibility (McCoy et al, 2000; Lehmann and Makhanya, 2005; Big Media Publishers, 2006).

  Relevant roleplayers include the Department of Health and other government departments, community structures (such as clinic committees and hospital boards) as well as non-governmental service providers. Key areas of focus revolve around the establishing of functional facility-based committees or boards and the associated provisioning of comprehensive training – including governance support outreach.

## 2.3 Key characteristics of 'active community participation' from a praxis and applied vantage

It is acknowledged that 'active community participation' constitutes a key success factor if South Africa is to achieve the following stipulations as drafted within its National Human Resource Plan for Health (2006):

- To promote a positive and supportive work environment for all health workers
- To engender a culture of valuing all health workers,
- To create a healthy and safe work environment for all health workers

From a practical or applied vantage the theories which are dealt with in the ensuing discussion, emphasise the need for 'active community participation' within the ambit of a collaborative management and governance framework. The recognition of the incremental and increasing importance of community participation as a central tenet of the rural-doctor recruitment and retention process, is essentially entrenched.

### 2.3.1 Embracing Social Capital Development as the primary Conceptual Framework: Orientating 'active community participation'



With specific reference to Social Capital Development, a common element across the wide range of definitions available is that 'social capital' can be understood as the 'connectedness' between the community and related roleplayers which enables mutual benefit and collective action. Furthermore, it promotes and facilitates social as well as economic development.

> Social Capital refers to the institutions, relationships and norms that shape the quality and quantity of social interactions within a community. In addition, it focuses attention to networks in a community that are based on trust and shared values (Provincial Government of the Western Cape Draft Policy Document, 2005:6)

Social Capital Development applied within this study, serves as a useful over-arching conceptual framework in order to orientate and cluster the Theories of Indenture, Experiential Place Integration, Affinity and Gender as engaged with as follows:

### *2.3.1.1 The Theory of Indenture*

The Theory of Indenture examines the recruitment and retention of rural doctors for a specific and fixed term, through the development of appropriate incentives. These could include appropriate financial incentives such as loan repayments or bursaries/ scholarships[5] as well as non-financial incentives. (See Nestman 1998; Schoo, Stagnitti, Mercer and Dunbar 2005).

The Canadian Model as showcased within the Health Canada Report (2004) reinforces the recognition to focus on a balanced approach in respect of financial/ economic incentives and professional issues as well as the personal/ lifestyle issues.

- Within the New Zealand context, Tucker's (2003) research highlights that there is a direct correlation between a doctor's decision to undertake rural practice and the crafting of an appropriate combination of incentives.

- Within the South African context, Reid (2002) focuses attention to the importance of the right incentive mix and the importance of getting this balance right, in order to effectively recruit and retain doctors within the rural context.



Flowing from the above, Reid's (2002) finding relates that around 20% of Community Service Doctors would voluntary consider working in a rural or under-served area in the future – given the right incentive structure. The author relates that this constitutes a cohort that could positively contribute towards filling the staffing requirements of rural hospitals and clinics within the South African context. A comprehensive package of incentives is required to attract and retain rural doctors which involves input and commitment from various stakeholders involved in the process (British Columbia Medical Association, 1998). The adoption of a multi-stakeholder and integrated approach could facilitate the development of the required comprehensive package of incentives.

The below-mentioned incentive mix (as revealed in the following Table) indicates the need for a more comprehensive, optimal or inclusive approach within the South African context:

[5] . Tucker (2003) suggests that while the bonded scholarships within the New Zealand context had been fairly successful in increasing the number of graduate doctors who undertake rural placement, it is still considered a controversial scheme. This is primarily due to the relatively young age of the medical students when they enter the scheme, which commits them to 6 years of rural practice at the end of 6-8 years of training.

Table 1 : The range of incentives for healthcare workers used by East and Southern African Countries

| Country | Financial: Salary top-ups and allowances | Working conditions | HR / personnel management systems | Training and career path measures | Health and ART access | Social needs support |
|---|---|---|---|---|---|---|
| Angola | X | X | X | X | | |
| Botswana | X | X | X | X | X | |
| DRC | X | | X | X | | |
| Kenya | X | X | X | X | X | |
| Lesotho | X | X | X | X | | X |
| Madagascar | | | | | | |
| Malawi | X | X | X | X | X | X |
| Mauritius | X | X | X | X | | |
| Mozambique | X | X | X | X | X | X |
| Namibia | X | | X | X | | |
| ***South Africa** | X | X | X | X | X | |
| Swaziland | X | X | X | X | X | X |
| Tanzania | X | | X | X | | X |
| Uganda | X | | X | X | X | |
| Zambia | X | X | X | X | X | X |
| Zimbabwe | X | X | X | X | | X |



(Source : Dambisya 2007)

### *2.3.1.2 The Theory of Experiential Place Integration*

Expanding the notion of 'social needs support' (as introduced within the aforementioned Table), the authors namely Hays, Veitch, Cheers and Crossland (1997:198) highlight the need to address a series of broader 'family-related integration and support issues' that have a direct bearing on the retention of a rural doctor. Padarath, Ntuli and Berthiaume (2004) emphasise the need to respect and recognise the rural doctor as part of a family unit which necessitate the following focus areas:

i) Providing support and putting in place of appropriate incentives for the doctors' spouse[6] and family,

ii) Exploring employment opportunities for the doctors' spouse and

[6]. The Alberta Rural Physician Association (2006) notes that a focus on the recruitment of a rural doctor's spouse, is just as important as a focus on the recruitment of the rural doctor.

iii) Improving accommodation facilities and ensuring that suitable educational institutions are accessible for the doctors' dependents.

The insights drawn from the research of Minarick and Allen (2003) in which the authors surveyed practicing physicians in Nebraska, reiterate the following key rural-doctor recruitment/ retention factors:

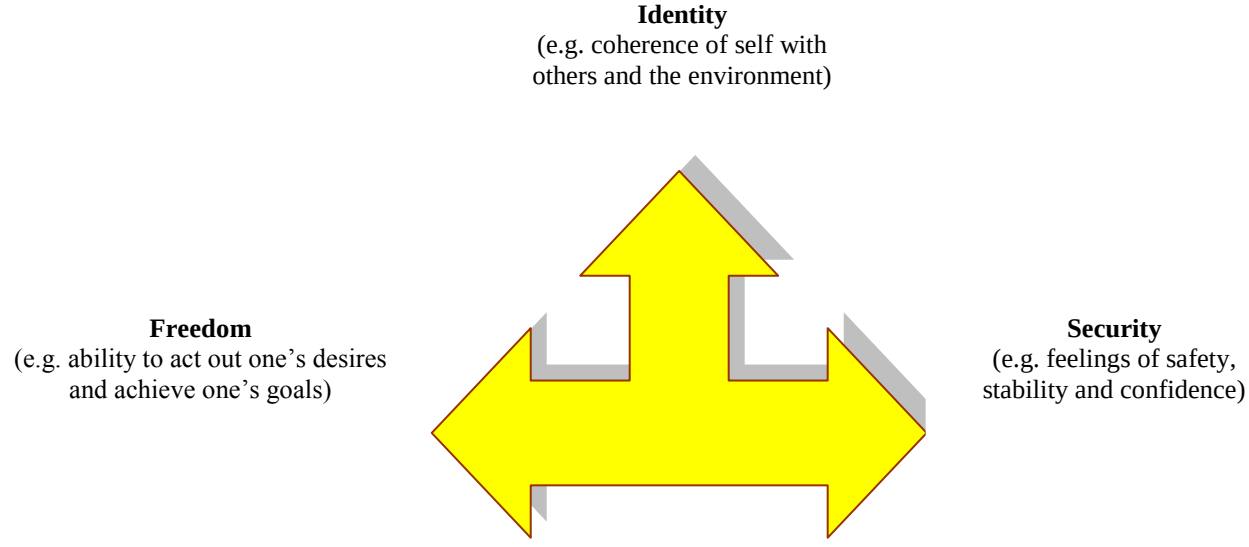
- Community involvement which is based on a strong integrated care system,
- Providing of quality schools,
- Affording practicing physicians adequate personal time.

Kearns, Myers, Adai, Coster and Coster (2006) acknowledge that the theme of socio-cultural integration, is an important one in relation to rural doctor retention. A key theory is Cutchin's (1997) Theory of Experiential Place Integration. This theory recognises the importance of the integration of doctors within rural communities and suggests that when a doctor is well integrated into the community where he/she practices, the doctor is more likely to stay in that community regardless of any negative aspects of the job.



In a later publication, Cutchin (2000) re-emphasises the notion that integration is a kind of progress that builds bonds with place and that in turn encourages rural doctor retention. More practically, the integration of a rural doctor within the community is characterised by the following key focus areas:

Figure 2 : Key Focus Areas of Cutchin's Theory of Experiential Place Integration




Source : Cutchin 2000

### *2.3.1.3 The Theory of Affinity*

The Health Professions Resource Centre (2006) emphasises that communities that have been successful in human resource governance within the health sector often adopt a 'grow your own' strategy which involves 'cultivating' residents of the community to provide healthcare for that particular community. To accomplish this, rural communities engage with and sustain effective programmes to recruit young people to the healthcare careers pipeline (National Rural Health Association, 2006). It is recognised that rural communities often need additional support and assistance to move interested and capable young people into and through the health-careers pipeline.

The Friends of Mosvold Scholarship Scheme demonstrates one best-practice, South African Model in respect of effective community participation within the human-resources-for-health context. This community agency is driven within the sub-district context, through selecting local students according to their projected human resource needs. Community agency entails assisting them during their training in return for a commitment of working in the sub-district after qualification for a collectively-agreed period. (See Appendix 3 for a more detailed discussion).

Case 3 : Acknowledging the significance of the Theory of Affinity

De Vries and Reid's (2003) findings in their article entitled "Do South African rural origin medical students return to rural practice" confirm that rural origin graduates are more likely to choose rural general practice, which accommodate the needs of the rural community better[7]. More specifically, rural origin medical students are three times more likely to choose a career in rural practice than their urban counterparts (De Vries, 2005).

Couper (2004) within the South African context indicates that a third of graduates from rural origin, return to rural practice, compared to between 5% - 13% of urban graduates which enter rural practice.

Minarick and Allen (2003) assert that students with a rural background and an interest in rural primary care are most likely to return to rural local communities to practice.

McDonald, Bibby and Carroll (2002) state that the rural background of general practitioners and/or their spouses prove to be the most frequently reported predictor of entering rural practice.

[7] . See Muula's (2007) application of the affinity concept within the African context, with the focus on Malawi and the application thereof. In Norway it is likened to the "hypothesis of the homecoming salmon" (De Vries and Reid, 2003:1).

The Theory of Affinity is manifested within the proposed development of South Africa's mid-level medical worker and medical assistant programme (Couper et al, 2004). Citing the Minister of Health, the authors conclude that the intention of the programme is not merely to draw medical assistants from the existing health care worker cadre, but more so to allow community involvement in identifying those people who (after training) will plough back into their communities. It is envisaged that these medical and pharmacist assistants will assist in relieving pressure on doctors and pharmacists and contribute towards improving healthcare delivery (South African Yearbook, 2005/06).

***2.3.1.4 Gender Theory***

The World Health Organisation (2003) emphasises that workforce policies and planning must not only consider doctors' lifestyle-related issues (as alluded to above), since the addressing of gender-related issues in the bid to promote and the facilitate equity is of equal importance. Such a focus promotes a healthcare environment that responds to and meets the particular needs of women.

Richards et al (2005) draw attention to the increasing *feminisation* of the rural medical workforce and highlight the need to take seriously socio-cultural integration, embedded within a focus on community-support and social-networking. Within the South African context, De Vries and Marincowitz (2004) relate that the increasing representation of female doctors is recognised as a major factor for alternative workforce planning and management within the rural context. By virtue of the shortage of rural doctors and the identified need, the opportunity and scope for women in rural practice has increased. Hence workforce planners could reasonably anticipate a larger increase in physician full-time equivalents than previously expected, as a result of the increased number of women in practice and their tendency to work fewer hours as well as to be in part-time practice (De Vries, 2005).

Since about 50% of graduates at South African medical schools are female, De Vries and Marincowitz (2004) maintain that a different *modus operandi* will have to be embraced in order to recruit women doctors for rural practice. The latter authors maintain that if the aforementioned trend is to continue, it is likely that more females are to enter into rural practice which has practical implications for the approach to recruitment and retention.

A particular cornerstone as suggested by Schwarz (2005) is that strategies for rural doctor recruitment and retention shift beyond the prevalent male-centred orientation. This conclusion is based on the research which explores how female general practitioners who practice within the rural context, rework or as such 'recreate spaces' in various ways in order to strive for and achieve personal and professional satisfaction (Schwarz, 2006:1).

Case 4 : The increasing feminisation of the rural medical workforce

In 2000, 56% of first year medical students and 45% of the whole student body in South Africa were women and 47,9% of doctors in their post-intern year were female (De Villiers and De Villiers 2002 cited in Wonca 2002).

Of the new students admitted into South African medical schools in 2003, a total of 57% were female. Females in every group except African outnumbered their male counterparts. Even among Africans, representations were almost equally balanced with 49.8% African females and 50.2% African males (Padarath, Ntuli and Berthiaume, 2004).

Demonstrating the latter statement more statistically, the following tabular representation is provided:



Table 2 : Medical student registrations by ethnicity and gender, 2003

| Institution | African | | Coloured | | Indian | | White | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | male | female | male | female | male | female | male | female | |
| Cape Town | 33 | 40 | 8 | 30 | 15 | 22 | 17 | 36 | 201 |
| Free State | 22 | 20 | 2 | 2 | 1 | 1 | 50 | 52 | 150 |
| Medunsa | 86 | 58 | 0 | 0 | 13 | 12 | 2 | 1 | 172 |
| Natal | 78 | 72 | 2 | 8 | 17 | 25 | 2 | 5 | 210 |
| Pretoria | 25 | 46 | 3 | 4 | 7 | 3 | 28 | 66 | 182 |
| Stellenbosch | 12 | 19 | 20 | 42 | 7 | 10 | 43 | 56 | 218 |
| Transkei | 38 | 39 | 1 | 2 | 3 | 8 | 1 | 0 | 92 |
| Witwatersrand | 16 | 14 | 0 | 1 | 13 | 33 | 14 | 31 | 122 |
| Total | 310 | 306 | 36 | 89 | 76 | 124 | 157 | 247 | 1347 |

Source : Padarath et al, 2004

## 2.4 Conclusion

This chapter introduces the basics of passive vis-à-vis active community participation and at the rudimentary level of analysis, a dual distinction is highlighted with community participation envisaged either as a means of gaining health service delivery efficiency from a utilitarian perspective; or from the vantage of an empowerment and developmental perspective.

Within this study, these typologies are not necessarily envisaged as 'mutually exclusive' but more so complementary and on this basis the notion of *continuum* is introduced. The principles of the Community-Oriented Primary Care Model are introduced which embody a leaning more towards the community empowerment and developmental perspective,.

The increasingly importance of 'active community participation' and the relevant niche area contribution is recognised and elevated within the particular ambit of enhancing and improving the rural-doctor recruitment and retention process.

The *overarching conceptual framework* of Social Capital Development with the local context orientation (rural) is embraced within this study in order to orientate and cluster the Theories of Indenture, Experiential Place Integration, Affinity and Gender. A basic element within underpins the notion of social capital development which also threads through the latter theories – is the emphasis on the interdependent interrelationship between the community and related principle health roleplayers as reflected within the Health Systems Partnership Model. Furthermore a key feature involves developing and empowering the rural community and the leveraging from the mutual benefit which is to be derived from such collaborative action.

A *complementary conceptual framework* which is showcased below, in order to facilitate the drawing together and anchoring of the various threads of the chapter deliberations, is Bibby's (2002) Balance of Retention Model. (See Appendix 4 for a diagrammatic illustration). The usefulness and applicability of this reference framework within the context of this Chapter latches onto the following qualification of the core focus areas:

The associated **Professional Dimension** is applied within this study and consequently is equated to the traditional or mainstream perspective which often focuses on the formal aspects of health service delivery such as the clinical/ organisational aspects. These include the work environment, learning environment, workforce governance issues such as conditions of service and associated institutional mechanisms. In respect of the continuum and applying a study-specific lens, the Chapter draws attention to the orientation which essentially focuses on improving efficiency gains/ cost effectiveness of healthcare service delivery within a utilitarian context. Such an orientation is often characterised by pervasive 'passive' community-participation.

The **Family and Personal** as well as the **Community and Resources Dimensions** elevate the significance of community empowerment and development and the envisaged potential contribution within this ambit. Key notions within this study include 'active' community participation and the development of social capital at the local/ grassroots level which could redefine and reposition identity, connectedness, social-networking, collaboration as well as entropy (collective/ shared values).

In other words, various socio-cultural aspects are emphasised within the broad collaborative management and governance discourse and which specifically relate to social needs support, social networking strengthening and socio-cultural integration.

# CHAPTER 3

# RESEARCH DESIGN AND METHODOLOGY

## 3.1 Research Instrument

The research methodology used in this study constitutes an explorative survey which is based on the use of a pre-tested, structured questionnaire. This questionnaire is the chosen research technique, which facilitates the generation of information from the sample of doctors. This methodology facilitates the standardisation of questions in order to better accommodate uniformity and is also conducive for the process of quantitative-data analysis.

Based on literary insights, it is recognised that a myriad of survey questionnaires have been used to explore doctor's perceptions pertaining to a wide range of related issues. However it proved challenging to find a suitable questionnaire which could have been applied with the specific focus on 'rural doctors perceptions of the role of the rural community in their recruitment and retention process'. This necessitated developing a focused questionnaire in order to accommodate this study's specific research agenda. The latter sentiment further alludes to the relevance and significance of this study within the rural South African context.



Participants were requested to rank their response to the specific questions through making use of the 5-point Likert Scale. The ordinal scale entailed ranking the response of participants to issues, based on the following categorisation:

Table 3 : Likert Scale Categories

| | | | | |
|---|---|---|---|---|
| Not important | Somewhat important | Not sure | Important | Very important |

The questionnaire was comprised of closed questions (essentially the quantitative component) which were complemented by an open-response section (qualitative component). With regard to the format, space was allowed for respondents to raise any general comments or issues that may not have been adequately captured within the questionnaire.

With specific reference to the questionnaire design, the following pivotal themes were defined in a concise manner, namely:

i) Recruitment

ii) Retention

Each question measured one idea and generally these were relatively short and easy to read, which contributed to the 'user-friendliness' of the questionnaire. Furthermore, the questionnaire was designed as succinct as possible with a maximum length of seven pages. (See the questionnaire attached as Appendix 7). It entails five sections, with the first section focusing on the participants' demographic details and the subsequent sections engaging with variables that are pertinent to the rural-doctor recruitment and retention process.

### 3.1.1 Validity

Based on the challenge as alluded to above (with reference to the finding/ tracing of a questionnaire which could be plausibly applied in order to explore doctors perceptions of the role of the community in the process of rural doctor recruitment and retention), the appropriate *modus operandi* involved the development of a focused questionnaire:



- The formulation of questions was strongly guided/ influenced by literature insights and conceptual frameworks. The questionnaire content was guided by relevant questions posed by influential researchers in the field as extracted from their relevant questionnaires. In addition the insights provided by the theories as discussed in the previous Chapter proved particularly insightful.

- The collation of questions was underpinned by an extensive literature review in the bid to identify the study-focus issues and related variables. (Appendix 1 provides a succinct idea of the kind of analysis used to engage with literary themes).

  The work of well-known South African medical practitioners and researchers have guided and influenced the identification of research-related variables, amongst others Professors Steve Reid (2002, 2006[8], 2007), Ian Couper and Hoffie Conradie (2004, 2007) as well as Dr Elma de Vries (2005).

[8] . The 2006 article is entitled "The community involvement of nursing and medical practitioners in Kwazulu-Natal".

It is acknowledged that the researcher had personally interacted with the latter professionals, as they were participants and presenters of papers at the 12th RuDASA Conference (September, 2008). They had assured the researcher face to face, that they had completed and returned their questionnaires.

The promoter, namely Professor Rubin Pillay (who is a practicing medical doctor and researcher and the current Head of the Health Management Department at the Alex G. McKenna School of Business, Economics and Government at Saint Vincent College, Pennsylvania) assisted in the development and refinement of the questionnaire.

With reference to basic face validity, in order to accommodate or 'make amends' for any omissions in the questionnaire, space was provided for a personalised/ qualitative response from participants in respect of pertinent issues that may not have been covered in the questionnaire. This response constitutes the qualitative dimension of the questionnaire.

### 3.1.2 Pilot survey

The questionnaire was piloted in an attempt to assess the related face-, content- and construct validity. The following people were e-mailed the questionnaire, with the intended purpose of the questionnaire clearly articulated. Participants were requested to engage with the questionnaire and provide relevant critical and constructive feedback.

Table 4 : Piloting of the Questionnaire

| Name of Respondent | Portfolio |
|---|---|
| Western Cape Provincial Department of Health : Head Office | |
| Dr Beth Engelbrecht | Deputy Director General : Regional and Tertiary Hospitals |
| Dr Joey Cupido | Deputy Director General : District Health Services |
| Western Cape Provincial Department of Health : Rural Districts | |
| Dr Renette Crous | Director : Eden District |
| Dr Frans Krige | Director : Overberg District |
| Dr Earle Du Plooy | Medical Superintendent : Beaufort West Hospital |
| Dr Louis Jenkins | Head of the Trauma Unit : George Hospital |
| Additional Participants | |
| Bernadette Arries | Chief Director : Human Resource Management<br>Western Cape Provincial Department of Health |
| Madelaine Bouwer | Deputy Director : Human Resource Management<br>Western Cape Provincial Department of Health |
| Nathan Wilson | Researcher : Ukwanda Centre for Rural Health, Stellenbosch University |

Based on feedback from the aforementioned participants, appropriate amendments were made to the structured questionnaire. Permission was requested by aforementioned pilot participants to mention their names. (Note that the study's Strategic Objective aims to contribute to the development of a Human Resource Strategy for Healthcare Professionals for the Department of Health). The association with Ukwanda Centre for Rural Health is alluded to within the acknowledgements.



### 3.2 The Sample

The structured questionnaire was administered to doctors attending the 12th National Rural Health Conference. This Conference, hosted by the Rural Doctors Association of South Africa (RuDASA[9]) was held in Beaufort West during September 2008. Prior to the Conference, permission was requested from the conveners to administer the questionnaire to doctors in attendance. The research endeavour was introduced and clarified at the initial (introductory and welcome) plenary session. A colourful box was placed at the rear entrance of the venue, which allowed survey respondents to drop therein their completed questionnaires. This methodology allowed conference participants (doctors) to complete the questionnaire in a voluntary manner, without any disruption to their goal which was primarily focused on gaining insights/ learnings from the Conference.

[9] . The vision of RuDASA is for all rural people in Southern Africa to have access to quality health care. Its mission is focused on the adequate staffing of rural health services by appropriately skilled medical staff and to be a voice for the rural doctor regarding training and working conditions (RuDASA website).

The study sample (n=52) constitutes qualified doctors from all over South Africa, including limited international representation.

The theme of the RuDASA Conference entitled "The Rural Health Team" showcased a range of conference papers that engaged with relevant themes and which complemented the key issues addressed within this study:

- Recruiting doctors for rural hospitals (African Health Placement/ AHP),
- Evaluating comprehensive community clerkship,
- Spouse survival of a rural doctor,
- PHC and Alma Ata 30 years on,
- The Rural PHC Team as well as Palliative Care (the team focus),
- Home-Based Care.



**3.3 Data Analysis**

Within this study:

i) The Univariate Analysis technique is used, with the explicit focus on doctors' perceptions of the role of the community in the rural doctor recruitment and retention process.

ii) The Factor Analysis technique is used, which generated a Framework for Analysis. Cronbach's alpha is applied to ascertain the reliability of subscales/ items in respect of the variables.

iii) The Bivariate Analysis is used and more specifically the Chi-squared Test is applied in order to provide insights relating to the 'significance of association' between variables.

iv) The Analysis of Variance (ANOVA) Test is employed to assess the statistical significance between the variables. Spearman's Rank- and Pearson's Rank Correlation are applied, in order to gain insights with regard to the correlation between variables.

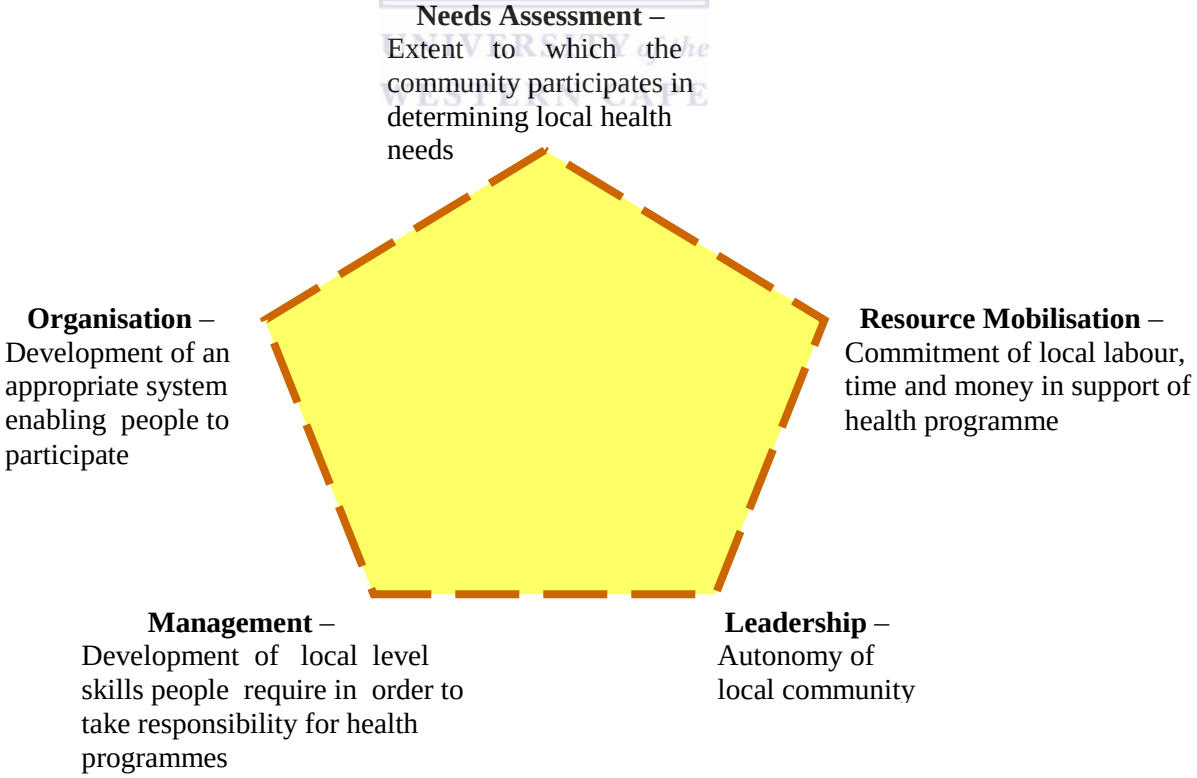
v) The analysis of the qualitative response by questionnaire participants (to the open-ended section of the questionnaire) is engaged with, in the bid to triangulate the data sources and analytical techniques.

vi) The interview conducted with Professor Steve Reid at the RuDASA Conference is fully transcribed and related insights are meticulously analysed. (See Appendix 10). It is acknowledged that the literature work of Professor Steve Reid was instrumental in providing a sound Body of Knowledge and Reference Framework for this study.

### 3.4 Limitation of the Study : Key assumption

Drawing on literature insights, there is general consensus that appropriate leadership/ management, effective organisational structuring that relate to human resource capacity as well as efficient resource mobilisation are crucial factors for active community participation in the rural-doctor recruitment and retention process:

Figure 3: Pivotal elements of community participation in health




Source : Eyre and Gauld, 2003

It is acknowledged that these factors are not necessarily engaged with in detail within this study as the primary emphasis relates to the gaining of insights from rural doctors regarding their perceptions of the role of the community within the rural doctor recruitment and retention process.

In keeping with the latter sentiment, the hypothesis of Simon Bidwell (2001) is kept in mind which advocates that before the specific ways in which communities can be involved in the provision of their healthcare services are engaged with, the following key questions (amongst others) warrant particular analysis:

Case 5 : Entry-point questions for an engagement of community participation within the provision of healthcare services

- Who or what is the community?
- Do community groups and community representatives really represent the people they purport to represent? Do the processes used for consulting communities, allow for genuine input from the population or merely preserve existing power structures?
- Is the "community" in itself an unproblematic concept?



### 3.5 Ethics Commitment

The researcher conducted himself in a manner that was in accordance with the Codes of Conduct of the University of the Western Cape (UWC). Furthermore, the researcher valued and respected the rights of research participants (doctors) and the ethical standards as prescribed by the UWC Committee on Ethics in Research were meticulously applied. With regard to the latter commitment, the related confidentiality and integrity clauses were particularly upheld.

# CHAPTER 4

# ANALYSIS OF DATA

## SECTION 4A: BIOGRAPHICAL ORIENTATION

### 4.1 The Response

Out of a total of 86 questionnaires that were administered, 52 had been returned by doctors at the RuDASA Conference. This translates into a response rate of 60,45%.

### 4.2 Univariate Analysis

4.2.1 Respondents' characteristics

#### *4.2.1.1 Professional qualification of respondents*

The respondents consist of doctors that are categorised in the Table 5 below. As reflected, the majority of the doctors are Medical Officers (48.1%) and Specialists (40.4%).



Table 5 : Qualification of the doctor

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Medical Officer | 25 | 48.1 | 48.1 |
| | Specialist | 21 | 40.4 | 88.5 |
| | Registrar | 5 | 9.6 | 98.1 |
| | (blank) | 1 | 1.9 | 100.0 |
| | Total | 52 | 100.0 | |

Information pertaining to the doctors' qualification relates that 86.5% received their qualification at a South African institution.

| Table 6 : Qualification received | | | | |
|---|---|---|---|---|
| | | Frequency | Percent | Cumulative Percent |
| Valid | SA institution | 45 | 86.5 | 86.5 |
| | Overseas | 7 | 13.5 | 100.0 |
| | Total | 52 | 100.0 | |

### *4.2.1.2 Biographical detail of respondents*

The male and female composition as well as the age categorisation are reflected in the following statistics. More than a third of the sample are males.

| Table 7 : Gender composition | | | | |
|---|---|---|---|---|
| | | Frequency | Percent | Cumulative Percent |
| Valid | Male | 37 | 71.2 | 71.2 |
| | Female | 15 | 28.8 | 100.0 |
| | Total | 52 | 100.0 | |



The age cohort is primarily within the category 30 – 50 years with a decline in the number from 51 years and older.

| Table 8 : Age | | | | |
|---|---|---|---|---|
| | | Frequency | Percent | Cumulative Percent |
| Valid | Less than 30 years | 4 | 7.7 | 7.7 |
| | 30 - 40 years | 20 | 38.5 | 46.2 |
| | 41 - 50 years | 15 | 28.8 | 75.0 |
| | 51 - 60 years | 9 | 17.3 | 92.3 |
| | 61 years and above | 4 | 7.7 | 100.0 |
| | Total | 52 | 100.0 | |

Insights pertaining to the sample's ethnicity, reflect that the majority of doctors interviewed are categorised as White (73.1%). It is noted that one participant categorised himself/ herself as 'Human', whilst another categorised himself/ herself as 'Khoi'. These two categories were not initially catered for in the questionnaire, which reveals that the participants themselves had extended the ethnicity categorisation.

Table 9 : Ethnicity

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | African | 8 | 15.4 | 15.4 |
| | Indian | 3 | 5.8 | 21.2 |
| | White | 38 | 73.1 | 94.2 |
| | Khoi | 1 | 1.9 | 96.2 |
| | Human | 1 | 1.9 | 98.1 |
| | (blank) | 1 | 1.9 | 100.0 |
| | Total | 52 | 100.0 | |

A total of 76.9 percent of the doctors are married, whilst 21.2 percent are single and 1.9 percent describes their relationship as a civil partnership.



Table 10 : Marital status

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Married | 40 | 76.9 | 76.9 |
| | Single | 11 | 21.2 | 98.1 |
| | Civil Partnership | 1 | 1.9 | 100.0 |
| | Total | 52 | 100.0 | |

Details pertaining to the doctors' spouses and in particular their background, educational qualification as well as the employment status are reflected in the Tables below.

A total of 42.3 percent of the doctors indicate that their spouses have a rural background, whilst 36.5 percent indicate that their spouses have an urban background.

Table 11 : Indication of the background of spouse

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Rural | 22 | 42.3 | 42.3 |
| | Urban | 19 | 36.5 | 78.8 |
| | (blank) | 11 | 21.2 | 100.0 |
| | Total | 52 | 100.0 | |

The education qualification of the doctors' spouse, reflect 46 percent having a non-medical related educational qualification, whilst 34 percent indicate that their spouse have a medical qualification.

Furthermore, a total of 55.8 percent reveal that their spouses are employed, whilst 25 percent indicate that their spouses are unemployed.



Table 12 : Indication of the educational qualification of spouse

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Medical | 18 | 34.6 | 34.6 |
| | Non-Medical | 24 | 46.2 | 80.8 |
| | (blank) | 10 | 19.2 | 100.0 |
| | Total | 52 | 100.0 | |

Table 13 : Indication of the employment status of spouse

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Employed | 29 | 55.8 | 55.8 |
| | Unemployed | 13 | 25.0 | 80.8 |
| | (blank) | 10 | 19.2 | 100.0 |
| | Total | 52 | 100.0 | |

With particular reference to the dependents of the doctors, it is revealed that 75 percent of the doctors have dependents. The range within the age categories is identified below:

Table 14 : Dependents

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Yes | 39 | 75.0 | 75.0 |
| | No | 11 | 21.2 | 96.2 |
| | (blank) | 2 | 3.8 | 100.0 |
| | Total | 52 | 100.0 | |

Table 15 : Dependents' Age Classification

| | | Number of dependents per age category | | | | | Total number of dependents |
|---|---|---|---|---|---|---|---|
| Age in years | | 1 - 5 | 6 – 10 | 11 - 15 | 16 - 20 | 20 and above | |
| N | Valid | 17 | 15 | 15 | 11 | 14 | 72 |



### *4.2.1.3 Employment/ practice-related statistics of respondents*

The sectors of employment of doctors as reflected in the sample show that the majority of the doctors are employed within the public sector, namely 86.5 percent.

A total of 7.7 percent indicate that they are engaged with private practice and 3.8 percent indicate that they are employed in the non-governmental sector.

Table 16 : Primary sector of employment at present

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Public | 45 | 86.5 | 86.5 |
| | Private | 4 | 7.7 | 94.2 |
| | PP | 1 | 1.9 | 96.2 |
| | NGO | 1 | 1.9 | 98.1 |
| | (blank) | 1 | 1.9 | 100.0 |
| | Total | 52 | 100.0 | |

An indication of the length of time in practice of the doctors, is reflected in the following statistics. The majority of the doctors have between 1 to 5 years practice experience (32.7%) followed by 11 to 15 years (21.2 %) and 6 to 10 years (17.3 %). Doctors having above 20 years practice experience, constitute a total of 11.5 percent of the sample.

Table 17 : Length of time in practice (in years)

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Less than one year | 3 | 5.8 | 5.8 |
| | 1 – 5 years | 17 | 32.7 | 38.5 |
| | 6 - 10 years | 9 | 17.3 | 55.8 |
| | 11- 15 years | 11 | 21.2 | 76.9 |
| | 16- 20 years | 5 | 9.6 | 86.5 |
| | Above 20 years | 6 | 11.5 | 98.1 |
| | (blank) | 1 | 1.9 | 100.0 |
| | Total | 52 | 100.0 | |

With specific reference to doctors that are engaged in rural practice, the following details are reflected. The tables below confirm that 57.7 percent of the doctors are engaged in rural practice vis-à-vis the 40.4 percent engaged in urban practice.



Table 18 : Initial practice location after full registration

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Rural | 30 | 57.7 | 57.7 |
| | Urban | 21 | 40.4 | 98.1 |
| | (blank) | 1 | 1.9 | 100.0 |
| | Total | 52 | 100.0 | |

Corroborating the above statistic, a total of 57.7 percent highlight that their workplans within the next 5 years would most likely be to remain in rural practice.

Table 19 : Your work plans within the next 5 years most likely to be: Remain in rural practice

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid | Yes | 30 | 57.7 | 57.7 |
| | (blank) | 22 | 42.3 | 100.0 |
| | Total | 52 | 100.0 | |

# SECTION 4B: QUANTITATIVE ANALYSIS

## 4.3 Factor Analysis

The reliability of the variables are determined through the use of the Cronbach's alpha. The variables which are considered and deemed as reliable are those that collectively represent a combined Cronbach alpha factor-score greater than 0,87.

Based on insights and guidance from the literature review and the relevant theoretical framework, the variables identified through the use of the Factor Analysis are categorised in Table 20 below.

It is significant to note that the categorisation or more so the Factors, basically reflect the predominant themes which are evident from the cluster of variables (Items). The Cronbach's alpha for the factors are reflected below and a detailed version thereof is portrayed in Appendix 5.

Table 20 : Cronbach's alpha for the factors

| No of subscales/ Items | Cronbach's Alpha for recruitment | Factors (Themes) | Cronbach's Alpha for retention | No of subscales/ Items |
|---|---|---|---|---|
| 9 | 0.871778 | Mainstream | 0.954222 | 9 |
| 13 | 0.874077 | Community Development and Sustainability | 0.940538 | 13 |
| 11 | 0.880 | Community Institutional Governance | 0.944 | 11 |
| 7 | 0.873286 | Community Cohesiveness | 0.923857 | 7 |
| 11 | 0.876909 | Experiential Place Integration | 0.964455 | 11 |
| 12 | 0.87125 | Affinity | 0.93775 | 12 |



### 4.3.1 Results

The number of variables which make up the Subscales/ Items (as reflected in Appendix 5) are consistent for both recruitment and retention, however the ranking of the variables differ as a consequence of the emphasis thereon. Hence, differing emphasis by respondents give rise to the related ranking of the variables which manifest the Factor/Theme. It is acknowledged that the variables are not mutually exclusive, which imply that one or two variables may straddle certain categories.

As reflected in Table 20 above, the Factor Analysis results identify the following Factors (or more specifically the Themes) which constitute the study's **Framework for Analysis**:

i) Mainstream
ii) Community Development and Sustainability
iii) Community Institutional Governance
iv) Community Cohesiveness
v) Experiential Place Integration
vi) Affinity

### 4.3.2 Minimum sample size and degree of overdetermination of the factor (variables per factor)

With reference to the 'minimum sample size' in factor analysis, Zhao (2009:1) highlights that there are two basic recommendations. One school of thought relates that the absolute *number of cases* (*N*) is important, while the other relates the importance of the *subject-to-ratio*/ STV (*p*).

Drawing on the research of Arrindell and Van der Ende (1985), Zhao (2009) indicates that $N = 50$ is identified as the absolute minimum to yield a basic and recognisable factor pattern. In the research of the latter authors, two large empirical data sets numbering 1 104 and 960 cases respectively have been examined to ascertain the minimum sample size which can produce a stable factor structure.

In their discussion of 'Factor Analysis', Osborne and Costello (2004:1) cite the findings of Comrey and Lee (1992) who stipulate the following categorisation for sample sizes:

- 50 as very poor, 100 as poor, 200 as fair, 300 as good, 500 as very good and 1 000 as excellent.

A further aspect which Zhao (2009) examines is based on the work of MacCallum, Widamman Zhang and Hong (1999) as well as that of Fabrigar, Wegener, MacCullum and Strahan (1999) in relation to the following concept, namely the 'degree of overdetermination of the factor'. This refers specifically to the number of factors that are divided by the number of variables. Zhao (2009) indicates that a factor having fewer than three items is generally weak and unstable.

The use of Factor Analysis applied to small samples, are evident in the following studies:

- Humes, Burk, Coughlin, Busey and Strauser (2007) apply this analytical technique to a small sample (n = 39 : 13 young adults, 10 elderly adults and 16 elderly hearing-impaired adults). Factor Analysis is used to examine age-related differences in auditory speech recognition and visual text recognition performance.

- Hunkin, Stone, Isaac Holdstock, Butterfield, Wallis and Mayes (2000) apply Factor Analysis to a sample of 50 patients in which they ascertain the factor structure of three standardised memory tests. Factor analysis is used as a statistical method in the conduct of three standardised tests of memory in this clinical population.

- Zhao (2009) engaged with the analysis of the minimum sample size in factor analysis in order to assess whether Factor Analysis could be applied to a sample of 47 data cases (students) in order to ascertain the reasons why university students withdraw from their online courses. The author concludes that the general rule of thumb with regard to 'absolute minimum sample size' is not necessarily a valid and useful principle. The author concludes that basic attributes when engaging with a small sample are the following:



  i) The existence of high communalities as well as;

  ii) A low model-error

  The author highlights that these are more important (than mere sample size) in the successful application of the Factor Analysis technique.

The application of Factor Analysis in this study (n = 52) is legitimised in terms of the above discussion. Furthermore, the accepted degree of overdetermination of the Factor (the Subscales/ Items are greater than 3 as manifested in Appendix 5) is upheld within this study.

## 4.4 Bivariate Analysis

### 4.4.1 Chi-square

Chi-square analysis is performed on all the categorical variables, in keeping with the objective 'to establish any significant associations between the latter'. The results in Table 21 indicate the significant associations in this regard. (Note that the detailed Chi-square results are portrayed in Appendix 6).

Table 21 : Significant Chi-square results

| Key Factors/ Themes | Cross-tabulation variables | Value | Df | Asymp.Sig (2 tailed) |
|---|---|---|---|---|
| Mainstream | Primary sector of employment at present * Length of time in rural practice (in years) | 38.703 | 24 | .029 |
| Experiential Place Integration and Affinity | Age group * Length of time in rural practice (in years) | 66.176 | 24 | .000 |
| | Educational qualification of spouse * Employment status of spouse | 47.832 | 4 | .000 |
| | Your work plans within the next 5 years most likely to be: Remain in rural practice * Place in which internship was conducted | 11.759 | 2 | .003 |
| | Background (Place * If yes: Please indicate background of spouse | 11.528 | 4 | .021 |
| | Qualification received * Length of time in rural practice (in years) | 14.768 | 6 | .022 |
| | Number of dependents in age 11 - 15 years-old * Length of time in rural practice (in years) | 12.273 | 6 | .056 |
| | Place of which internship was conducted * Initial practice location after full registration | 9.129 | 4 | .058 |
| | Gender * Length of time in rural practice (in years) | 11.877 | 6 | .065 |
| | Your work plans within the next 5 years most likely to be: Remain in rural practice * Length of time in rural practice (in years) | 11.093 | 6 | .086 |

#### *4.4.1.1 Interpreting the Chi-square results*

i) At the **primary level of analysis** with reference to the variable *'length of time in rural practice'*, the following pertinent associations are manifested:

- *Age group* and *length of time in rural practice* in years reflect a significant association of 0.000. The association indicates that the age group 30-40 years reflect the largest number of participants (n=20), which collectively constitute the highest percentage in terms of the cumulative age group/ length of time in rural practice of 38.5%. A steady decrease is manifested in the age group 41-50 years, which reflect the second largest number of participants (n=15) and the associated cumulative 'age group/ length of time in rural practice' of 28.8%. Within the age group 51-60 years the number of participants represent nine in total (n=9), which reflect the associated cumulative age group/ length of time in rural practice of 9%.

- *Primary sector of employment* as reflected in this study (in particular the public sector as 45 participants out of a total of 52 indicate that they are employed primarily within this sector) and the *length of time in rural practice*, reflect an association of 0.029. The cumulative 'primary sector of employment/ length of time in rural practice' is consistent at the level of 86.5%.

- *Gender* and *the length of time in rural practice* reflect an association of 0.065. At the basic level the total of 37 male participants (indicating the highest cumulative percentage within length of time in rural practice of 71.2%) in relation to the total of 15 female participants (indicating the cumulative length of time in rural practice at 28.8%) is representative of the current workforce bias – in terms of a greater proportion of male than female doctors in rural practice. Chapter 2 (from the vantage of limited gender theory) alludes to and envisages the potential shifting of this tendency over the long-term in terms of the 'increasing feminisation of the rural doctor workforce' phenomena.

ii) At the **secondary level of analysis** with reference to the variable *'length of time in rural practice'*, further associations are manifested:

- The doctor's *length of time in rural practice* and the doctor's *qualification received* reflect an association of 0.022. This Chi-square result suggests that the doctor who received his/ her qualification in South Africa would most likely practice for a longer time in rural practice, than a doctor who received his/her education overseas.

- An association of 0.056 is revealed between a doctor's *length of time in rural practice* and the *number of dependents* and in particular to the category for dependents, namely 11 – 15 years. Based on the Chi-square analysis exclusively, this association proves to be **quite perplexing** which necessitates an interpretation of this association, in combination with a further analytical technique (in particular the ANOVA which is discussed below).

- The plausible association of 0.086 is manifested between the doctor's *length of time in rural practice* and his/ her *plans within the next five years to most likely remain in rural practice*. The finding suggests the association between effective and efficient rural doctor retention and in particular the accompanying/ underpinning system as well as processes, in relation to the likelihood/ impetus for the doctor to remain in rural practice.



iii) The Chi-square analysis further reveals the following associations:

- The *educational qualification of a doctor's spouse* is significantly associated with the *employment status of the doctor's spouse* at the level significance level of 0.000. By implication, the level of qualification of the doctor's spouse relates directly to the employment status of the latter within the rural context.

- The association between the *doctor's background* (more specifically the rural background of the doctor) and the *background of the doctor's spouse* (more specifically the rural background of the spouse) reflect an association of 0.021. This significant finding suggests that the doctor's rural background and the rural background of the doctor's spouse – is a significant factor that could potentially contribute to efficient and effective process of rural doctor recruitment and retention. (The linkage is drawn with the affinity discussion as engaged with in Chapter 2).

iv) In addition, the following important Chi-square associations are revealed:

- The *place in which the doctor's internship is conducted*, is strongly associated with the *doctor's workplans within the next 5 year most likely to be remain in rural practice* (0.003).

- Similarly, the *place in which the doctor's internship is conducted*, is associated with the *initial practice location after full registration* (0.058).

Evident within the aforementioned associations, the conclusion is that the place of internship is instrumental and influential in the doctor's selection of rural practice and also generally within the recruitment and retention process of the rural doctor.

### 4.4.2 Pearson's Correlation

In keeping with the latter Chi-square results, the application of Pearson's Correlation yields similar results. Reiterating the pivotal nature of the 'place in which the doctor conducts his/her internship', the following Pearson Correlation result generates the following correlations:



i) The correlation is strong (0.000) between the *place in which a doctor's internship is conducted* and the *doctor's work plans most likely to be within the next 5 years – remain in rural practice.*

Table 22 : Pearson's Correlation : Place in which internship was conducted/
Your work plans within the next 5 years most likely to be: Remain in rural practice

| | | Place in which internship was conducted | Your work plans within the next 5 years most likely to be: Remain in rural practice |
|---|---|---|---|
| Place in which internship was conducted | Pearson Correlation | 1.000 | .475** |
| | Sig. (2-tailed) | | **.000** |
| | N | 52.000 | 52 |
| Your work plans within the next 5 years most likely to be: Remain in rural practice | Pearson Correlation | .475** | 1.000 |
| | Sig. (2-tailed) | **.000** | |
| | N | 52 | 52.000 |

**. Correlation is significant at the 0.01 level (2-tailed).

ii) The correlation is significant (0.042) between the *place in which a doctor's community service is conducted* and the *doctor's work plans most likely to be within the next 5 years – remain in rural practice*.

Table 23 : Pearson's Correlation : Place in which community service was conducted/ Your work plans within the next 5 years most likely to be: Remain in rural practice

| | | Place in which community service was conducted | Your work plans within the next 5 years most likely to be: Remain in rural practice |
|---|---|---|---|
| Place in which community service was conducted | Pearson Correlation | 1.000 | .283* |
| | Sig. (2-tailed) | | **.042** |
| | N | 52.000 | 52 |
| Your work plans within the next 5 years most likely to be: Remain in rural practice | Pearson Correlation | .283* | 1.000 |
| | Sig. (2-tailed) | **.042** | |
| | N | 52 | 52.000 |

*. Correlation is significant at the 0.05 level (2-tailed).

What the aforementioned Pearson's Correlations reveal are the importance of the place in which the doctor conducts his/ her internship as well as community service, thereby highlighting the pivotal nature of these in relation to the rural doctor recruitment and retention process.

### 4.4.3 Analysis of Variance (ANOVA)

#### *4.4.3.1 Applying of Factorial ANOVA within the study*



In the application of the Analysis of Variance (ANOVA), all the dependent variables/ factors as reflected in Section A of the study questionnaire (biographical details) are tested against all the independent variables as identified in Sections B and D of the questionnaire. (See the questionnaire illustrated in Appendix 7).

The ANOVA results are divided into two components which reflect the statistical significance in terms of the basic analytical categories:

i) Recruitment-related variables,

ii) Retention-related variables.

The level of significance for the observed results that are elucidated in Tables 24 and 25 below, fall within the specific value-range of 0.000 to 0.055. (See Appendix 8 for the detailed ANOVA statistical tables).

Table 24 : Significant ANOVA Associations: Recruitment

| Factors/ Themes for Recruitment | Dependent biographical variable | Independent variable | Sig. value |
|---|---|---|---|
| Mainstream | Background of spouse | Exposure to rural practice during undergraduate training | 0.005 |
| | Gender | Exposure to rural practice during undergraduate training | 0.042 |
| | Gender | Exposure to rural practice as a result of community service | 0.009 |
| | Place in which community service was conducted | Exposure to rural practice as a result of community service | 0.025 |
| | | | |
| | Place in which internship was conducted | Peer support | 0.003 |
| | Population Group | Peer Support | 0.034 |
| | Length of time in rural practice | Allied healthcare services | 0.031 |
| | Educational Qualification of Spouse | Locum support | 0.046 |
| | | | |
| | Initial practice after full registration | Lay healthcare provision within the community | 0.012 |
| | Place in which internship was conducted | Lay healthcare provision within the community | 0.044 |
| | | | |
| | Initial practice after full registration | Developing appropriate financial incentive / reward system for rural doctors | 0.038 |
| | | | |
| | Background of spouse | Spouse employment | 0.046 |
| | Employment status of spouse | Spouse employment | 0.048 |
| | | | |
| | Initial practice after full registration | Subsidised accommodation/ housing | 0.050 |
| Affinity | Initial practice after full registration | Identifying of local youth talent as potential healthcare professional at community level | 0.046 |
| | Qualification received | Provision of community resources to support local youth learners / students financially | 0.042 |
| | | | |
| | Educational Qualification of spouse | Exposure to rural practice during undergraduate training | 0.004 |
| | Marital Status | Exposure to rural practice during undergraduate training | 0.005 |
| | Employment status of spouse | Exposure to rural practice during undergraduate training | 0.012 |
| | | | |
| | Your work plans in next 5 years – most likely to remain in rural practice | Exposure to rural practice as a result of internship | 0.002 |
| | Next 5 years: Remain in rural practice | Exposure to rural practice as a result of internship | 0.022 |
| | Place in which internship was conducted | Exposure to rural practice as a result of internship | 0.026 |
| | Place in which community service was conducted | Exposure to rural practice as a result of internship | 0.028 |
| | | | |
| | Place in which internship was conducted | Family ties within the rural community or close proximity | 0.004 |
| | Initial practice after full registration | Family ties within the rural community or close proximity | 0.009 |
| | Next 5 years: Remain in rural practice | Family ties within the rural community or close proximity | 0.022 |
| Experiential Place Integration | Initial practice after full registration | Issue of support to: The doctor's dependent/s | 0.002 |
| | Initial practice after full registration | Periodic monitoring / assessment of: The wellbeing of the doctor's family | 0.004 |
| | Age Group | Feeling integrated within a community | 0.007 |
| | Educational Qualification of Spouse | Issue of support to: The doctor's spouse | 0.027 |
| Community Cohesiveness | Employment status of spouse | Communities working together within a specific regional context in order to recruit rural doctors | 0.026 |
| | Place in which internship was conducted | The marketing of the community human resources | 0.010 |
| | Initial practice after full registration | The marketing of the community human resources | 0.042 |

*Aforementioned Table 24 Continued (ANOVA Associations: Recruitment)*

| Factors/ Themes for Recruitment | Dependent biographical variable | Independent variable | Sig. value |
|---|---|---|---|
| Community Development and Sustainability | Dependents | Education facilities | 0.001 |
| | Background of Spouse | Education facilities | 0.002 |
| | Employment status of spouse | Education facilities | 0.007 |
| | Educational Qualification of Spouse | Education facilities | 0.008 |
| | Background | Education facilities | 0.029 |
| | Marital Status | Education facilities | 0.037 |
| | Background | Childcare facilities | 0.033 |
| | Educational Qualification of Spouse | Childcare facilities | 0.036 |
| | Dependents | Childcare facilities | 0.049 |
| | | | |
| | Background of Spouse | Recreation / sport amenities | 0.005 |
| | Qualification received | Recreation / sport amenities | 0.009 |
| | Place in which internship was conducted | Recreation / sport amenities | 0.041 |
| | Background of Spouse | Communication infrastructural amenities | 0.012 |
| | Educational Qualification of Spouse | Communication infrastructural amenities | 0.020 |
| | Initial practice after full registration | Communication infrastructural amenities | 0.039 |
| | Background of Spouse | Entertainment amenities | 0.020 |
| | Age Group | Entertainment amenities | 0.053 |
| | Qualification received | Entertainment amenities | 0.053 |
| | | | |
| | Place in which internship was conducted | The issue of crime within the community | 0.004 |
| | Initial practice after full registration | The issue of crime within the community | 0.025 |
| | Place in which internship was conducted | The issue of the safety / security within the community | 0.007 |
| | | | |
| | Population Group | The beauty of the natural environment | 0.009 |
| | Qualification received | The beauty of the natural environment | 0.041 |
| | Educational Qualification of Spouse | The quality of the roads in the area | 0.026 |
| | | | |
| | Population Group | Subsidised accommodation / housing | 0.029 |
| | Background | Subsidised accommodation/ housing | 0.055 |
| | Population Group | Domestic assistance | 0.041 |
| Community Institutional Governance | Initial practice after full registration | Defining of local health service needs at community level | 0.004 |
| | Employment status of spouse | Defining of local health service needs at community level | 0.032 |
| | Qualification | The existence of local community health structure | 0.021 |
| | Next 5 years: Remain in rural practice | The existence of good leadership within the community | 0.044 |
| | Dependents | Ability of the community to organise around health issues | 0.050 |
| | Gender | Local non-profit organisations | 0.052 |
| | Population Group | Local non-profit organisations | 0.053 |

Table 25 : Significant ANOVA Associations: Retention

| Factors/ Themes for Recruitment | Dependent biographical variable | Independent variable | Sig. value |
|---|---|---|---|
| Mainstream | Population Group | The availability of: Subsidised accommodation / housing | 0.007 |
| | Place in which community service was conducted | Exposure to rural practice as a result of community service | 0.010 |
| | Gender | Spouse employment | 0.055 |
| Affinity | Place in which internship was conducted | Exposure to rural practice as a result of internship | 0.009 |
| | Educational qualification of spouse | Exposure to rural practice during undergraduate training | 0,009 |
| | Marital Status | Exposure to rural practice during undergraduate training | 0.024 |
| | Background of spouse | Exposure to rural practice during undergraduate training | 0.033 |
| Experiential Place Integration | Dependents (16-20) | Being valued within a community | 0.001 |
| | Initial practice after full registration | Being valued within a community | 0.031 |
| | Qualification | Being valued within a community | 0.036 |
| | Primary sector of employment | Being valued within a community | 0.039 |
| | Initial practice after full registration | Issue of support to: The doctor's dependent/s | 0.043 |
| | Work Plan – remain in rural practice | Issue of support to: The doctor's dependent/s | 0.047 |
| | Gender | Periodic monitoring / assessment of: The wellbeing of the doctor | 0.054 |
| | Dependents (11-15) | Appropriate matching and placing of a rural doctor | 0.055 |
| | Qualification received | Feeling prepared for rural practice | 0.050 |
| Community Cohesiveness | Dependents (16-20) | The marketing of community human resources | 0.003 |
| | Place in which internship was conducted | The marketing of community human resources | 0.006 |
| | Dependents (11-15) | The marketing of community human resources | 0.022 |
| | Dependents | The marketing of community natural environmental resources | 0.053 |
| | Employment status of spouse | Communities working together within a specific regional context in order to retain rural doctors | 0.049 |
| | Work Plan – remain in rural practice | Building partnerships with various roleplayers involved with rural doctor retention | 0.050 |
| Community Development and Sustainability | Employment status of spouse | The availability of: Educational facilities | 0.002 |
| | Educational qualification of spouse | The availability of: Educational facilities | 0.042 |
| | Dependents (0-10) | The availability of: Communication infrastructural amenities | 0,005 |
| | Background of spouse | The availability of: Communication infrastructural amenities | 0.018 |
| | Age Group | The availability of: Communication infrastructural amenities | 0.046 |
| | Age Group | The availability of: Entertainment amenities | 0.024 |
| | Dependents (11-15) | The availability of: Entertainment amenities | 0.054 |
| | Background of spouse | The availability of: Recreation / sport amenities | 0.037 |
| | Educational qualification of spouse | The availability of: Recreation / sport amenities | 0.038 |
| | Marital Status | The availability of: Recreation / sport amenities | 0.053 |
| | Length of time in rural practice | The availability of: Religious amenities | 0.042 |
| | Background of spouse | The issue of safety / security within the community | 0.027 |
| | Place in which internship was conducted | The beauty of the natural environment | 0.041 |
| Community Institutional Governance | Gender | Local non-profit organisations | 0.006 |
| | Qualification received | Local business sector | 0.027 |
| | Place in which community service was conducted | The municipality | 0.029 |
| | Gender | Local community-based organisations | 0.033 |
| | Work Plan – remain in rural practice | A health-related community representative structure | 0.038 |
| | Place in which community service was conducted | A health-related community representative structure | 0.053 |

### *4.4.3.2 Interpreting the ANOVA results : A focus on Recruitment*

- Mainstream Factor/ Theme

The first cluster of variables that are significant in respect of rural-doctor recruitment, revolves around the initial exposure of the doctor during undergraduate training as well as Community Service. Based on the research results, this mainstream aspect is identified as a particularly significant factor.

At a more practical level, the importance of clarity and transparency with reference to peer support, allied healthcare services as well as locum support are elevated. In conjunction with the latter, the importance of the element of lay healthcare provision within the community is highlighted.

With regard to the aspect of the incentive structure for rural practice, the specific focus issues entail the developing of an appropriate financial incentive/ reward system for rural doctors, spouse employment as well as subsidised accommodation/ housing.

- Affinity

The Affinity Theme essentially follows a triangular analogy, which highlights the following:

- At the apex, the variables relating to the 'identifying of local youth talent as potential healthcare professional at community level' as well as the 'provision of community resources to support local youth learners/ students financially'.
- At the base, the following elements are elucidated namely

  i) exposure to rural practice during undergraduate training and
  ii) exposure to rural practice as a result of internship.

An important element that appears to underpin and bolster the aforementioned Affinity area of focus, is that of 'family ties within the rural community or close proximity'.

- Experiential Place Integration

From a recruitment vantage, the findings suggest that clarity is required around the issue of support provided to the doctor (with specific reference to the doctor's dependents as well as spouse), the issue of periodic monitoring/ assessment of the doctor's family as well as the issue of community/ doctor integration.

- Community Institutional Governance as well as Community Cohesiveness

The theme of community institutional governance is of particular relevance. Findings relate the need to define local health-service needs at the community level and the associated need for the community to organise around health issues. The need for the existence of a local community health structure and good leadership within the community – is explicitly articulated. The importance of the defined role and involvement of the local non-profit organisation is specifically highlighted. Furthermore, the community working together or collaboration within the specific regional context resources is indicated as an important issue; as well as the collective marketing of the community human resources.

- Community Development and Sustainability

The Community Development and Sustainability Theme entrenches its importance through identifying the significance of educational as well as childcare facilities, recreation/ sport-, communication infrastructure- and entertainment amenities.



Further quality of life variables highlight the significance of the issues of crime within the community as well as that of safety and security, the beauty of the natural environment and the quality of roads in the area. In addition, attention is drawn to the importance of subsidised housing as well as that of domestic assistance.

### *4.4.3.3 Interpreting the ANOVA results : A focus on Retention*

- Mainstream Factor/ Theme

From a mainstream perspective, the significant elements that influence the rural doctor retention process are as follows:

- The availability of subsidised housing,
- Exposure to rural practice as a result of community service
- Spouse employment

- Affinity

In terms of the apex and base variables concept (as introduced within the recruitment above discussion), the retention focus pivots around the base variables, namely:

  - Exposure to rural practice as a result of internship and
  - Exposure to rural practice during undergraduate training.

- Experiential Place Integration

In terms of a retention focus, the primary issue relates to the doctor being valued within a community. Furthermore the support to the doctor's dependents is a pertinent issue as well as the periodic monitoring/ assessment of the wellbeing of the doctor. Critical supporting issues include:

  - The appropriate matching and placing of a rural doctor and
  - The doctor feeling prepared for rural practice.

- Community Institutional Governance as well as Community Cohesiveness



For retention, the importance of the defined role and involvement of the following multiple roleplayers are key, which reinforces the notion of a multi-stakeholder approach:

  - Local non-profit organisations as well as local community-based organisations (CBOs)
  - The health-related community representative structure
  - The municipality
  - The local business sector

In addition, the community working together within the specific regional context resources as well as the building of partnerships with various roleplayers (involved with rural doctor recruitment and retention) are identified. Furthermore, the collective marketing of the community human resources and the importance of community natural environmental resources are identified as pertinent issues.

- Community Development and Sustainability

The theme of Community Development and Sustainability demonstrates the importance of educational, communication infrastructure-, entertainment-, recreation/ sport amenities. An additional key aspect for retention, revolves around the importance of religious amenities. The issues of safety and security and the beauty of the natural environment also feature as important focus areas.

#### *4.4.3.4 Interfacing ANOVA / Chi-square results (doctor's length of time in rural practice/ dependents 11-15)*

As indicated in the discussion above section 4.4.1.1 (Interpreting the Chi-square results), the latter result indicates an association of 0.056 between a doctor's *length of time in rural practice* and the *number of dependents* with particular reference to the category, namely dependents 11-15 years.



Orientating the aforementioned Chi-square finding alongside the ANOVA result from a recruitment perspective, for this dependent category (11-15 years age-group category) – the significant association is revealed in respect of the **availability of educational facilities** (0.021).

From a retention perspective, the significant association is revealed for this dependent category (11-15 years age-group category, ANOVA) in respect of the **availability of entertainment amenities** (0.054). The results suggest a triadic relationship between:

i) Doctor's *length of time in rural practice* and the *number of dependents* (in particular the dependent category 11-15 years)

ii) The availability of educational facilities as well as

iii) The availability of entertainment amenities.

### 4.4.4 Spearman's Rank Correlation (significance value > 0.6)

The Spearman Rank Correlation analysis generates the following significant correlations. (See Annexure 9).

Table 26 : Applying Spearman's Rank Correlation to Recruitment

| Factors/ Themes | Ques -tion | Ordinal variables | Ques -tion | Ordinal variables | Rho |
|---|---|---|---|---|---|
| **Mainstream** | B.10 | Exposure to rural practice as a result of internship | B.11 | Exposure to rural practice as a result of community service | 0,724 |
| | B.9 | Exposure to rural practice during undergraduate training | B.11 | Exposure to rural practice as a result of community service | 0,602 |
| **Affinity** | B.32 | Identifying of local youth talent as potential healthcare professional at community level | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,721 |
| | | | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,619 |
| | | | B.34 | The community forging of relations with medical training institutions | 0,657 |
| | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | B.34 | The community forging of relations with medical training institutions | 0,775 |
| **Experiential Place Integration** | B.24 | Feeling integrated within a community | B.25 | Doctor's family feeling integrated within the community | 0,709 |
| | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,866 |
| | | | B.27.3 | Issue of support to the doctor's dependents | 0,700 |
| **Community Cohesiveness** | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | 0,635 |
| **Community Development and Sustainability** | B.5 | The issue of safety/ security within the community | B.6 | The issue of crime within the community | 0,820 |
| | B.3 | The quality of the roads in the area | B.4 | The quality of the water in the area | 0,785 |
| | B.1.3 | Educational facilities | B.1.2 | Childcare facilities | 0.758 |

Table 27 : Applying Spearman's Rank Correlation to Retention

| Factors/ Themes | Ques -tion | Ordinal variables | Ques -tion | Ordinal variables | Rho |
|---|---|---|---|---|---|
| **Mainstream** | D.18 | Exposure to rural practice during undergraduate training | D.20 | Exposure to rural practice as a result of community service | 0,712 |
| | | | D.19 | Exposure to rural practice as a result of internship | 0,703 |
| | D.19 | Exposure to rural practice as a result of internship | D.20 | Exposure to rural practice as a result of community service | 0,889 |
| **Affinity** | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | D.9 | Identifying of local youth talent as potential healthcare professional at community level | 0,833 |
| | | | D.8 | Communities working together within a specific regional context in order to retain rural doctors | 0,652 |
| | D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.16 | The community forging of relations with medical training institutions | 0,652 |
| **Experiential Place Integration** | D.23 | Feeling integrated within a community | D.22 | Acceptance within a community | 0,889 |
| | | | D.21 | Feeling welcome within a community | 0,834 |
| | D.24.1 | Issue of support to the doctor | D.24.2 | Support to doctor's spouse | 0,621 |
| | D.26.1 | Periodic monitoring/ assessment of the wellbeing of doctor | D.26.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,945 |
| **Community Development and Sustainability** | D.32 | The issue of safety/ security within the community | D.33 | The issue of crime within the community | 0,757 |
| | D.34 | The quality of the roads in the area | D.35 | The quality of the water in the area | 0,771 |
| | D.29.2 | Childcare facilities | D.29.1 | Domestic assistance | 0,636 |
| | D.24.4 | Recreation/ sport amenities | D.29.5 | Entertainment amenities | 0,601 |
| **Community Institutional Governance** | D.5 | The existence of good leadership within the community | D.4 | The existence of a local community health structure | 0,652 |
| | D.1 | Ability of the community to organise around health issues (work collectively) | D.2 | Defining of local health service needs at community level | 0,744 |
| | | | D.4 | The existence of a local community health structure | 0.637 |



The Spearman Rank Correlation analysis corroborates the findings thus far, indicating a general consistency with regard to the significant or influential variables, which impact the process of rural doctor recruitment and retention.

- Mainstream variables

The mainstream variables such as the doctor's exposure to the rural areas, including rural practice as a result of internship, undergraduate training and community service are endorsed as critical success factors for both recruitment and retention.

- Affinity

The aspect of affinity is reinforced which is embedded in active community action as reflected within the following correlations:

- Identifying of local youth talent as potential healthcare professional at community level
- Providing of community resources to support local youth learners / students financially
- The community forging a relationship with medical training institutions.
- Communities working within a specific regional context in order to recruit/ retain rural doctors



- Experiential Place Integration

The aspect of experiential place integration entails community agency/ action, generally for rural doctor recruitment as well retention in relation to the following key variables:

- Accepting the doctor within the community as well as making the doctor feel welcome
- Integrating the rural doctor within the community
- Integrating the doctor's family within the community
- Supporting the doctor as well as the doctor's dependents and spouse
- Periodic monitoring/ assessment of the wellbeing of the doctor and the doctor's family

- Community Development and Sustainability

The issues of safety/ security in conjunction with the level of crime, impact both the recruitment and retention of a rural doctor. Related aspects revolve around the quality of the roads and water in the area and in particular the existence of childcare- and educational facilities. The prevailing 'quality of life aspects' relate to the availability of recreation/ sport facilities and entertainment amenities, including the issue of domestic assistance.

- Community Institutional Governance as well as Community Cohesiveness

The notion of the existence of good leadership in particular related to rural doctor retention is specifically elevated. This in conjunction with the continuous pursuit of excellence in community institutional governance emphasises pertinent aspects such as good leadership, effective community structure as well as organisation; especially in respect of health issues and the defining of local health service needs. (The linkage is drawn to Figure 3 as reflected in Chapter 3).

The Spearman Rank Correlation results support the underpinning principle of the study which recognises the need for collaborative/ joint work and partnership building within and between communities, in particular at a local and regional level with relevant stakeholders, for example with medical training institutions. These are identified as the building blocks of an efficacious and sustainable rural doctor recruitment and retention process, with the specific emphasis on relationship building.

### 4.4.5 Eliciting results from gender-related orientation

In lieu of the limited gender-based theory which has been discussed in Chapter 2, the following results are elicited:

Table 28 : Gender-related results (Chi-Square)

| Chi-Square Cross-tabulation variable | Value | Df | Asymp.Sig (2 tailed) |
|---|---|---|---|
| Gender * Length of time in rural practice (in years) | 11.877 | 6 | .065 |

Table 29 : Gender-related results (ANOVA)

| Factors/ Themes for Recruitment | Dependent biographical variable | Independent variable | Sig. value |
|---|---|---|---|
| Mainstream | Gender | Exposure to rural practice as a result of community service | 0.009 |
| Mainstream | Gender | Exposure to rural practice during undergraduate training | 0.042 |
| Community Institutional Governance | Gender | Local non-profit organisations | 0.052 |

| Factors/ Themes for Retention | Dependent biographical variable | Independent variable | Sig. value |
|---|---|---|---|
| Community Institutional Governance | Gender | Local non-profit organisations | 0.006 |
| Community Institutional Governance | Gender | Local community-based organisations | 0.033 |
| Experiential Place Integration | Gender | Periodic monitoring / assessment of: The wellbeing of the doctor | 0.054 |
| Mainstream | Gender | Spouse employment | 0.055 |



As alluded to in section 4.4.1.1 the Chi-square result indicates an association between gender and length of time in rural practice. This potentially reflects the *status-quo* gender ratio with reference to rural practice.

With reference to the ANOVA results, the significance of exposure to rural practice as a result of community service and undergraduate training are manifested. Evident from a gender orientation, is the emphasis on the multi-stakeholder approach. Specific emphasis is placed on the role of local level non-profit organisations as well as community-based organisations which are deemed as pivotal contributors in order to ensure an efficacious rural-doctor recruitment and retention process. In addition, the significance of the periodic monitoring/assessment of the wellbeing of the doctor is emphasised and importantly the critical element of spouse employment.

# SECTION 4C: QUALITATIVE ANALYSIS

## 4.5 Open – ended questionnaire response analysis

### 4.5.1 Insights cited from the qualitative response by questionnaire participants

By way of introduction the following participant viewpoints are expressed in respect of the rural doctor recruitment and retention process:

i) "It is recognised that if recruitment and retention are not looked at holistically, it may not necessarily be an efficient and effective process" (Questionnaire participant).

ii) One participant advocates a particular stance as reflected in the following articulation: "Stop the abuse of foreign doctors to staff an insufficient system that does not lend itself conducive to South African staff based on the barometer, namely the level of doctor out-migration" (Questionnaire participant).

iii) The need is identified for the recruiting hospital / health institution to have a larger role to play in choosing doctors (staff) - in conjunction with the community. It is articulated that collectively, these stakeholders should have authority to screen and not appoint candidates that do not 'fit' well in relation to the local culture and language; as well as health facility requirements and attributes. There is a "need for assessing attitude, personality and qualities of the rural doctor aside from the medical skills during selection and interview" (Questionnaire participant).

iv) An additional comment is made around the need for the introduction of a compulsory two-year community service post. The participant relates the following: "After the completion of the two-year period, the doctor ought to attain full registration after which he/she may be eligible for postgraduate studies".

The following Tables 30 and 31 orientate the qualitative component as manifested in the questionnaire response within the Factor/ Theme Analytical Framework:

Table 30: Qualitative issues: A focus on rural doctor recruitment

| Factors/Themes | Issues |
|---|---|
| Mainstream | Sound reward system for rural doctor required. |
| | Need a 5-year plan to keep doctor; Important to consider the total team, such as support in administration, nursing, allied health and pharmacy.<br>A very important issue is a good team coupled with sound moral. |
| | RHI persuaded me to come with their enthusiasm and the medical opportunities offered - to see third-world medicine in a supported first-world overarching framework |
| | Opportunities for further studies within 5 years of rural practice; flexible working conditions |
| | Found advertising regarding posts very poor. Only few local papers. Advertisement not satisfactory.<br>What is needed is good advertisements, not an advert in some weekend newspaper. We don't even see them<br>Needs to be in magazines, which are read overseas as well, and in different provinces. Try to attract doctors by good working hours, mentioning positives of region etc. |
| Affinity | I feel that rural doctors must be spiritually and mentally strong and must want to serve the community not just collect a salary. |
| | Rural practice should inspire commitment in association with rural hospital/ community. The opportunity for altruism is a key aspect |
| | My church was probably the biggest reason why I came to work in my current community – it is a calling. |
| Experiential Place Integration | Comprehensive orientation of a rural doctor is required. |
| | Relationship-building to occur within a conducive learning environment. Better links and interaction with the community would greatly enrich the experience and attraction of rural service. |
| | The support of a rural doctor at all levels (emotionally, spiritually, physically etc) is crucial, to avoid burnout and a feeling of "I cannot continue " This is important both at recruitment and retention level. |
| | People like us who are in our middle age – if our family and children's needs are taken care of, we would continue in rural service |
| | Social workers should provide a network-support for the rural doctor. |
| Community Institutional Governance | Community registration is an important aspect as doctors need to be cared for in a holistic manner.<br>There is a need for assessing attitude, personality and qualities of the rural doctor aside from the medical skills during selection and interview. |

Table 31 : Qualitative issues : A focus on rural doctor retention

| Factors/ Themes | Issues |
|---|---|
| Mainstream | Salary increment structure as well as career path advancement opportunities |
| | Sustainable on-call rotation is of primary importance |
| | In dealing with international doctors, there is a need to exempt them from difficult initiation procedures. |
| | The influence of the hospital management team in creating an environment that is conducive to the rural doctor remaining in rural practice – should not be underestimated |
| | Support from hospital management is a critical issue. |
| | Government to specifically sponsor rural development programmes. Most of doctors are unable to serve in the rural areas because their spouses will not have the opportunity to develop professionally. |
| | Create opportunities for growth for the rural doctor i.e. opportunity to specialise in area of interest after some years. |
| | For me the important reason why I left rural practice was spouse employment. |
| Affinity | Help our doctors to develop a personal vision/ goal/ purpose for themselves. |
| | Finding the power to love and support of God. |
| | Doctors need to feel that they are contributing positively to the community, which they are serving. |
| Experiential Place Integration | Community support is important.<br>Most rural doctors don't come from the community they serve. |
| | The doctors need to be taught the culture and the beliefs of the community that they work in so to improve their relations with the communities. |
| Community Development and Sustainability | The basic issues change immediately once a doctor's children need to go to school and in the rural context there is often a lack of schools.<br>The future in this country for my children is the question that decides whether a doctor stays in SA or goes overseas |
| | Good infrastructure as well human resources support to actually be able to work as required. In other words, adequate facilities and related support. |
| | The quality of housing should rate as very important |
| Community Institutional Governance | Good governance on the part of policy makers. Need for a good strategist within the department or independent body for strategic management |



- Mainstream

In engaging with some key threads as articulated in the qualitative response, pertinent mainstream issues relate generally to the importance of an integrated and holistic vision and plan to address rural doctor recruitment and retention over the long-term. More specifically, the importance of an effective/ efficient advertising and marketing campaign as a key success factor is advocated.

An underpinning principle is that of collaboration, particularly within a team-oriented context. The sound reward system and related salary-increment structure is identified as a critical success factor.

Further pertinent mainstream issues include work satisfaction-related issues such as hospital management team support, sustainable on-call rotation, work-process issues such as streamlining recruitment/ retention procedures and processes; including the appeal of rural practice practice. (Cf Chapter 1, Section 1.3.3 which highlight brief points regarding the appeal of rural practice).

The aspect of continuing professional development of the doctor features prominently, which is encompassed within the following focus areas:

i) Creating opportunities for growth and further study (including specialisation)

ii) Accommodating the doctor in relation to flexible working conditions

iii) Professional development of the doctor's spouse (identified as a rural-doctor retention factor)

In relation to the latter focus area, spouse employment is similarly identified as a critical rural-doctor retention factor. The notion of government as a sponsor and catalyst in this regard is noted and more broadly in the sphere of rural development with the emphasis squarely placed on the rural programme development.



- Affinity

The qualitative input introduces the pivotal concepts such as "altruism, rural practice as a calling" (in essence a focus on the spiritual/ mental aspect), the importance of "self" as well as the doctor's level of self - actualisation:

- Doctor's personal vision as well as goal/ purpose,
- Doctor's spirituality and mental space,
- Doctor's need to feel that they are contributing positively to the community which they are serving.

- Experiential Place Integration

The identified need regarding 'comprehensive orientation' of a rural doctor provides a logical entry point for this discussion. As an outflow of the latter, aspects such as relationship-building orientated within a conducive learning environment are mentioned:

- "Better links and interaction with the community, greatly enrich the experience and attraction of rural practice" (Questionnaire participant).

- "Doctors need to be orientated/ taught the culture and the beliefs of the community that they work in so as to improve their relations with the communities. Often, rural doctors do not come from the community they serve" (Questionnaire participant).

Underpinning the above discussion are the key aspects of doctor and his/ her family support, which should ideally be offered by the community:

- "The community support of a rural doctor at all levels (emotionally, spiritually, physically etc) is crucial to avoid burnout and a feeling of 'I cannot continue'. This is important both at recruitment and retention level". The suggestion of "social workers providing a network-support for the rural doctor" is also raised (Questionnaire participant).

- "If our family and children's needs are taken care of, we would continue in rural service" (Questionnaire participant).

A basic deduction is that the level of the doctor's 'immersion' within the community could be substantially influenced by the aforementioned factors and considerations.

- Community Development and Sustainability

Of relevance within this section as well, is the emphasis on the role of government as a sponsor of rural development. Key aspects entail the putting in place of good physical infrastructure (facilities/ amenities and in particular with reference to education/ schooling) as well as related human resources. The quality of housing is also identified as a particularly important recruitment-related factor.

- Community Institutional Governance

The study introduces the concept of 'community registration' as a building block of a holistic, integrated and collaborative recruitment process for rural doctors. Attention is drawn to a guiding principle that involves assessing the attitude, personality and qualities of the rural doctor, aside from the medical skills during the selection and interview process.

In addition, the importance of good governance and efficacious strategic management are identified as key success factors at the various community and governmental spheres or more specifically at local government, provincial and national levels.

### 4.6 Interview : Professor Steve Reid[10]

The interview corroborates the broad study premise which recognises the importance of active community involvement in health and in particular in the recruitment and retention process of rural medical doctors. The under-researched status of this focus area is acknowledged. The traditional or utilitarian model of community participation (as discussed in Chapter 2 of this study) is ratified, which entail the rural communities primarily participating and engaging at the one end of healthcare service-provision continuum. More specifically, this relates to the use of community resources to offset the costs of providing healthcare services.



An important area for follow-up research which does not necessarily constitute the study's primary focus, revolves around engaging with community participation from a social as well as class-based analysis and by implication, highlighting the need to explore issues such as power, equity etc.

The interview elevates the role of the health practitioner in the community and the implications of community participation in this regard. Community participation from the perspective of the health practitioner is recognised as a significant factor, which promotes and encourages health professionals to stay in the community and feel part thereof. This immersion, contributes to engendering and enhancing community/ doctor accountability. The engendering of the broad concept of affinity is affirmed through the training of medical students and the related community involvement of rural students, in particular provincial bursars. This social responsibility is promoted and encouraged through the training-related *modus operandi* of the Medical School (University of Kwazulu-Natal).

[10] . See Appendix 10 for the interview transcription.

An active involvement of communities in the recruitment and retention process of doctors is endorsed within the interview and the Mosvold Scheme is acknowledged as merely one best practice approach. (See Appendix 3). The active role of the community is addressed by the interviewee premised on the identified need to welcome, orient, assimilate and accept a returning rural doctor. These niche areas are acknowledged as important building blocks in order to engender and sustain active community participation over the long-term.

What is interesting in the interview is the conceptualisation of 'rural practice' from a perspective of pride/ nationhood, which is identified as a pertinent motivating factor. The opinion around the relevance of *Ubuntu* and the potential relation to rural practice is engaged with, which translates into the following realisation. Social and cultural issues directly influence and shape the individual's conceptualisation and viewpoint with regard to what constitutes rural practice and the accompanying action/ activity.

The notion of the niche areas for community participation in the rural doctor recruitment and retention process is recognised and endorsed. A pivotal point revolves around the way forward and repositioning or shifting, which entails redefining community development and empowerment from a health-related perspective in lieu of:



i) The overarching *medical model* which constitutes a particular challenge and

ii) The need to redefine the meaning of family medicine.

**4.7 Conclusion**

Within Section A of this Chapter, the biographic details are provided in respect of the study sample (namely doctors). The analysis reveals a bias in relation to the male/ female ratio, ethnicity categorisation as well as in relation to the marital status- (married vs single), dependent- (with 75 percent of the sample having dependents) and primary-sector employment categorisation (with 86.5 percent employed within the public sector).

Substantiating the focus of this study, the sample reveals a rural bias in terms of practice location and the plans to remain in rural practice (with a figure of 58 percent of the sample engaged with rural practice). The sample reflects representavity within the age cohort (ranges from 30-61 and above) as well as in respect of the length of time in practice (ranges from less than 1 year to above 20 years).

The close alignment and synergy of the theoretical/ praxis discussion (as outlined within Chapter 2) as well as the empirical findings as revealed within Section B (quantitative analysis) and Section C (qualitative analysis) of this Chapter; are illustrated as follows:

Table 32: Alignment/ synergy of the literature theories, perspectives and frameworks vis-à-vis the empirical factors/ themes

**The Health System Partnership Model**

| Literature Theories, Perspectives and Frameworks (as reflected within Chapter 2) | | | Empirical Factors/ Themes | |
|---|---|---|---|---|
| Overaching Conceptual Framework: ***Building Social Capital*** | Complementary Conceptual Framework: ***Balance of Retention Model*** | Utilitarian Perspective | Mainstream | ***Univariate- as well as Factor Analysis*** ***Bivariate Analysis*** (Chi-square, Pearson's Correlation, ANOVA, Spearman's Correlation) ***Qualitative Analysis and Interview*** |
| | | Theory of Indenture | | |
| | | Empowerment and Development Perspective | Community Development and Sustainability | |
| | | | Community Institutional Governance | |
| | | | Community Cohesiveness | |
| | | Theory of Affinity | Affinity | |
| | | Theory of Experiential Place Integration | Experiential Place Integration | |
| | | Gender Theory | Gender-related Orientation | |

**Building Blocks toward a Collaborative Management and Governance Framework**

The Factor Analysis Factors (or Themes) provide the basic framework for analysis within which the Bivariate Analysis (Chi-square, ANOVA, Spearman's Rank Correlation) and the Qualitative Analysis are orientated. The empirical factors or themes provide substance to the analytical framework provided by the literature review process. The triangulation process is strengthened and complemented by the qualitative research data. Drawing on the aforementioned data presentation, the particular significance thereof is expanded on within the following Chapter.

# CHAPTER 5
# DISCUSSION OF RESULTS

## 5.1 The Respondent Sample

Even though the analysis reflects a response rate of 60.45 percent, it must be kept in mind that the sample is relatively small (n = 52). Importantly, it falls within Zhao's (2009) categorisation as the absolute minimum to yield basic recognisable factor patterns, which particularly apply to the use of Factor Analysis as a statistical method.

The male/female ratio is approximately 70:30 – which potentially reflects the existing *status quo* ratio of doctors that are currently practicing within the rural context. Based on this proportion, the drawing of generalisations from the sample are reasonably credible. In addition, attention is drawn to the following ratios namely:

- The 60:40 of the respondents indicate that they have work plans within the next 5 years to remain in rural practice coupled with,



- The 60:40 ratio of respondents indicate that their initial practice location was in a rural area after full registration.

It is advocated that these ratios:

a) Legitimise the strong articulation of the rural-doctor voice and provide more credibility with reference to doctors' perceptions of the niche role that communities can and ought to play in the recruitment and retention process of rural doctors.

b) Through elevating the rural-doctors' voice, Reid's (2007) appeal for rural doctors' sentiments and opinions to be valued is given overt expression. Hence, this study provides a platform for rural doctors to articulate their 'unique perspective' of the niche role of the community in the rural-doctor recruitment and retention process.

This study's sample based on an analysis of the '*doctor's length of time in practice in years*', manifests a useful mix of practice experience and relevant insights which facilitates the drawing of meaningful deductions/ inferences and thereby enhances credibility:

- The category, namely *number of years in practice as a doctor* ranging from *11 – 15 years* manifests substantial practice experience, which represents 21.2 percent of the sample.

- The category, namely *number of years in practice as a doctor* ranging from *1 – 5 years* represents 32.7 percent of the sample.

- The category, namely *number of years in practice of 20 years and above* represents 11.55 percent of the sample.

It is evident from the sample analysis that 80 percent of the respondents are married and that 75 percent have dependents (a total number of 72 dependents). Based on the latter statistics, it is maintained that the drawing of useful and meaningful conclusions within this study are legitimised in respect of spouse-related as well as dependent-related issues which have a bearing on recruiting and retaining the rural doctor.



**5.2 The Core Theme advocated within this study**

5.2.1 The Principle of Balancing

At a conceptual level the 'Principle of Balancing' is outlined as a conceptual underpinning of the study within which the rural-doctor recruitment and retention process is orientated. This is practically demonstrated in the following Table 33.

The term *continuum* is used in order to highlight the principle of complementarity with the emphasis on getting the 'right mix' as well as to shift away from an 'either-or' point of reference and orientation, or more specifically a mutually exclusive orientation:

Table 33 : The Principle of Balancing Model

| ‘Principle of Balancing Continuum’ | |
|---|---|
| **Mainstream**/ Traditional Model (government directs, recruits, trains, hires and deploys human-resources-for-health) and the emphasis on mainstream interventions and solutions. (See also Appendix 1) | **Partnership** Model based on principles of collaborative/ joint management/ governance, integration, teamwork - attention drawn to the notion of multifactorial nature. (See also Figure 1) |
| The **Community Utilitarian** or Mainstream orientation – which is premised on ‘passive’ community participation (often characterised as an efficiency gain/cost effectiveness measure, in order to offset the costs of providing health care services). This is often underpinned by the mere seeking of community sanction of externally-driven health interventions and initiatives. | The **Community Empowerment/ Development** orientation – which is premised on ‘active’ community participation and greater grassroots control over identified niche areas within the rural doctor recruitment and retention process. This includes sustainable partnership development as well as collaborative and joint work. |
| **Mainstream Focus** areas and approach (eg clinical, organisational, planning). | **Socio-Cultural Focus** areas and approach (eg social needs support, social integration, affinity). |



It is argued that the embracing of the Principle of Balancing Model could allow for better leveraging of the related positives and merits of the aforementioned perspectives, in order to improve rural health-resource governance. More specifically within the context of this study, the potential enhancement of the rural doctor recruitment and retention process is mooted. (Cf also Appendix 4).

#### *5.2.1.1 Bolstering the accomplishment of a ‘blunt instrument’*

The importance of the Mainstream Approach to rural doctor recruitment and retention is not underplayed and the value thereof is acknowledged as well as recognised within this study. However, an exclusive focus on the latter approach without due consideration of the socio-cultural orientation, is conceptualised as a ‘*blunt instrument*’. (This notion is practically demonstrated in Table 1).

Hence in the bid to ‘*sharpen*’ or optimise the process of rural doctor recruitment and retention, the contribution and value-add of the Socio-Cultural Orientation is elevated and emphasised – which as a point of entry promotes, enables and facilitate ‘active’ rural community participation within the aforementioned process.

This sentiment is underpinned and supported by the principles of amongst others the Alma Ata Declaration (Healthlink 1996), the World Health Organisation's Health-for-All Perspective (2003), the Primary Health Care Model (McCoy, Buch and Palmer 2000) as well as the Community-Oriented Primary Care Model (Reid et al, 2006).

### 5.2.2 Balancing and tailoring of an appropriate recruitment and retention mix

The Factor Analysis as represented by the Cronbach alpha results suggest that the appropriate Subscale/ Item variables represent a 'mix' that is weighted and ranked by participants which (as reflected in Table 20 and Appendix 5) differ for recruitment vis-à-vis retention. It is envisaged that further negotiation and refinement is necessary. This would require collaborative/ consensus weighting and ranking to achieve the required level of maturity, which would form the basis of roleplayer engagement and dialogue as well as the basis for making the related trade-offs.

This process forms the basis in order to promote, facilitate and value a collaborative and multi-stakeholder approach towards recruiting and retaining rural doctors; as well as value the niche strengths of the roleplayers. A collaborative and multi-stakeholder approach, in conjunction with the Health System Partnership Model accommodate 'niche contributions and associated roles and responsibilities' of the multiple roleplayers which ought to be collectively negotiated and owned.

It is proposed that such a balance could potentially influence and inform the decision of the rural doctor to choose rural practice as well as remain in rural practice or alternatively the decision to leave rural practice.

The advantage of improving the rural-doctor recruitment and retention process is ratified in the Chi Square finding which relates that the doctor's *length of time in rural practice* is positively associated with his/ her *plans within the next five years to most likely remain in rural practice*. Hence the more improved the rural-doctor recruitment and retention process and more particularly the roleplayer responsibility and niche area 'mix' – the longer the doctor is likely to remain in the rural area.

The Pearson Correlation findings indicate the correlation between the doctor's *internship and community practice* experience and the *doctor's workplans within the next five years most likely to remain in rural practice*. In keeping with the latter sentiment, the better the roleplayer responsibility

and niche area 'mix' in this regard (with specific emphasis on the enhancing of the internship/ community practice experience) – the longer the doctor is likely to remain in the rural area.

i) The aforementioned balancing and tailoring of the appropriate 'mix' is not envisaged as a once off. However it is conceptualised as a process which requires periodic reviewing, revisiting and re-negotiating by the various roleplayers. A key feature is the ability to adapt to the changing environment circumstances, conditions, challenges/constraints, incentive requirements, power differential shifts etc.

ii) A common denominator is the need to find common ground for joint/ collaborative action (consensus) as well as to reconcile difference and diversity. Niche areas need to be identified in pursuit of a more efficacious 'rural doctor recruitment and retention process'.

Meaningful collaborative governance and management of human-resources-for-health is characterised by 'active' community participation in terms of the initial building-block, which incorporates the basic fundamentals as embodied in the Rifkin's CHOICE[11] Model. Complementing these fundamentals; the Community-Oriented Primary Care Model outline basic principles in conjunction with the Primary Health Care Model.



The key challenge is how the notion of active community participation fits within an overwhelming medical-model orientation? The challenge entails shifting beyond the 'Eurocentric Medical Profession' as cited by Thom (2001) towards more Okumu's (2002) 'African Renaissance Model' that is underpinned by a balance between community development responsibility and health service provisioning[12].

Reiterating the latter sentiment, Professor Steve Reid within the interview states that the challenge revolves around the way forward and repositioning of 'active community participation' within rural human-resource governance beyond:

[11] . Rifkin's **CHOICE** Model places emphasis on the following focus areas: **C**apacity-building, **H**uman rights, **O**rganisation sustainability, **I**nstitutional accountability, **C**ontribution and an **E**nabling environment.

[12] . It is noted that the latter models are not specifically engaged with and defined within this study, however the reference to the latter relates more from a conceptual vantage.

i) The overarching medical model

ii) The current definition of family medicine.

#### *5.2.2.1 Active community participation embedded within Experiential Place Integration*

The Bivariate analysis findings generally reveal that a particular niche area for community participation revolves around the community's active role in respect of the *experiential place integration* perspective. Drawing on insights from the ANOVA analysis, a potential niche area in respect of the community participation (in terms of **recruitment** of a rural doctor) is revealed:

- Integrating the doctor within the community (in keeping with concepts such as that of immersion, bonding).
- Community support to the doctor's dependents as well as spouse.
- Monitoring and assessment of the wellbeing of the doctor's family.

In lieu of the sentiments expressed above, the qualitative analysis as discussed in Section 4C highlights the doctors' need for support at all levels (emotionally, spiritually, physically) which when fulfilled, will to a degree negate the feeling of: "I cannot continue". A basic underpinning is an active community participation (and support) role in terms of the latter, embedded within the identified need for a "network of support" (which ranges from a community level to that of the professional level and in particular social workers). The common thread revolves around the notion of a holistic approach in order to comprehensively support the rural doctor.

Drawing on insights from the qualitative analysis, a respondent expressed the sentiment that a "negotiated understanding and defining of doctors needs" by roleplayers/ stakeholders is required as well as stock-taking from a holistic vantage. The notion of support from a spiritual perspective is of particular significance in this regard.

A general finding (elicited from the qualitative and quantitative analysis) is that support provided to the doctor's spouse is a key success factor and in particular the issue of employment of the doctor's spouse. As a result, the doctor's qualitative response related the following: "For me the important reason why I left rural practice was spouse employment".

The ANOVA findings further reveal that the notion of valuing the doctor within the community is a fundamental **retention**-related aspect. It is suggested that this niche area provides the space for the community to level the playing field, from the perspective that the community can value the rural doctor – irrespective of gender. With reference to the study of Schwarz (2005) as alluded to within Chapter 2, the valuing of the rural doctor by the community can allow that 'space to maneuver' for female doctors practicing with the rural context in particular to achieve personal and professional satisfaction. This could serve as a fundamental stepping stone in the bid to:

i) Shift beyond the *status quo* and prevalent male-centred orientation

ii) Embrace alternative governance and management of human resources for health approaches which bear in mind the increasing feminisation of the rural medical workforce, which takes seriously the need to engage with socio-cultural integration within the ambit of community support and social networking.

Flowing from the above, Spearman's Rank Correlation findings suggest the significance of integrating the doctor within a community and cementing a positive feeling and perception on the part of the doctor in this regard. This in conjunction with the doctor's family feeling integrated within the community. A particular niche area relates to community action in respect of the periodic monitoring/ assessment of the wellbeing of doctor and the doctor's family, underpinned by related support to the doctor's dependents. As reflected in the doctor's response within the qualitative analysis: "If our family and children's needs are taken care of, we would continue in rural practice".

The correlation results further reveal the significance of the rural doctor's acceptance within a community and feeling welcome within a community. A specific concept elicited from the qualitative response is that of 'community registration'. At the basic level of analysis, this response advocates the need for doctors to be enlightened of the particularities of the community that they work in (including culture and beliefs) so as to improve their relations with the communities. Attention is drawn to the call for the screening and appointment of doctors to be done collectively (with the prerogative not to appoint a candidate who does not fit well in respect of the local culture, language and related requirements). The need for an "assessment of attitude, personality and qualities" of the rural doctor in conjunction with an assessment of medical competency ought to be elicited during the selection and interview process[13].

[13] . McDonald (2002) states that better physician-community matching and greater community integration predicted higher retention of doctors. The conclusion is that the better the 'fit' between physicians and their communities, the longer the retention time.

#### *5.2.2.2 Active community participation embedded within Affinity*

Empirical results elicited from particularly the Chi-square and Spearman analyses suggest that the *place in which the doctor conducted his/ her internship and/ or community service* are closely associated to the affinity-related variables:

i) Identifying of local youth talent as potential healthcare professional at community level,

ii) The provision of community resources to support local youth learners/ students financially,

iii) Communities working together within a regional context in this regard and

iv) The community forging relations with medical training institutions.

The aforementioned affinity-related variables clearly provide substance to the notion of "growing your own" and the relevance of active community participation in this regard, becoming increasingly pivotal in the future.



Pearson's Correlation results reveal the significant correlation between the *place in which a doctor conducted his or her internship / community service and that of the longevity* in respect of rural practice (*work plans within the next 5 years most likely to be: remain in rural practice*) at the 0.000 and 0.042 significance levels respectively. It is maintained that in order to enhance an intern's experience of rural practice, the **'**forming phase' (orientated within the undergraduate training-, internship- as well as community service experience) is of critical importance. In order to 'make the first impression of the rural context and practice a lasting one', the active role of the rural community in this regard and the overall contribution is identified as a key success factor.

An interesting Chi-square finding revolves around the relationship between the doctor's background (or more specifically the rural background of the doctor) and the background of the doctor spouse (or more specifically the rural background of the spouse) reflected at the 0.021 significance level.

The findings suggest that if a relationship develops between a rural doctor or protégé and the potential partner has a rural background – the window of opportunity exists for the community to nurture and support such a relationship as this could potentially, positively influence the doctor's decision to embrace rural practice[14].

#### *5.2.2.3 Interfacing Experiential Place Integration and Affinity: Introducing the notion of a 'hybrid perspective'*

Based on the insights gained from Professor Reid's interview, the interfacing (overlapping or straddling) of the 'affinity-related' as well as the 'experiential place integration-related' perspectives, is identified as an important study premise and consequently the notion of a *hybrid perspective* is introduced:

> "If communities are involved from the beginning during the selection of students to receive a bursary then there is a buy-in at community level. And then when they return, having gone away to the city and qualified and received the degree - there needs to be some process of welcoming and orientating back into the community. An active process I believe of welcoming, orientating and assimilating and getting that health practitioner excepted by the community.
>
> So I've longed felt that that people coming back to their community should be effectively welcomed by the mayor or the district manager, local politicians, the church or some group of people to say: 'Here is our home coming boy/girl' and that is what needs to happen. 'He/ she is one of us, he/she had gone away and got this training. He/she is coming back and we want to welcome him/her and make him/ her feel comfortable. We want to provide accommodation for him/her or schools for his/her kids or whatever it is that we as a community can play in that regard'. However this role, to a large degree is not happening.



[14] . Corroborating this finding from a literature basis, it is noted that the rural background of the general practitioner and/ or their spouse are the most frequently reported predictors of entering rural practice (McDonald et al, 2002) as discussed in Section 2.3.1.3 and in Case 3.

In a discussion which highlight factors that are important in the recruitment and retention process of rural doctors, Brooks et al (2002) draw attention the importance and relevance of the role of nature (or more specifically the doctor's place of upbringing) as well as the role of nurture (or more specifically the role of medical schools).

> So people come back, they do their community service here and nobody contacts them and says: 'Hey, thanks for coming back' and no-one says: 'Oh you have come back'. 'You are so and so's son/ daughter, we know so and so who is part of our community. Now you one of us and we looking forward to you serving us as physiotherapist or a dentist or a pharmacist or a doctor or what ever – but welcome home'.
>
> Somebody needs to say that! I feel very strongly somebody needs to say that and that contact is often not being made. Its not just a once off. Its not just a welcome and orientation - its an ongoing set of relationships".

Flowing from the above, a further recognition based on the respondent's qualitative inputs is that broad social constructs such as "altruism, a doctor's sense of belonging as well as that of nationhood" need to be engaged with and analysed within the ambit of a *hybrid perspective*.

#### *5.2.2.4 Interfacing Affinity, Experiential Place Integration and Mainstream: Identifying the intrinsic 'hybrid perspective' challenge*



The interface between the factors/ themes, namely Affinity and Experiential Place Integration as well as the Mainstream are drawn attention to within this study. As a result the need for further analysis and follow-up research is identified.

- Variables such as exposure to undergraduate training, community service and internship are categorised under Mainstream as well as Affinity, depending to a large degree on the dependent variable.

- Variables such as 'lay and allied healthcare' provision within the community (including peer and locum support) as well as 'spouse employment', 'subsidised housing' and 'developing an appropriate financial incentive/ reward system for rural doctors' are categorised under Mainstream.

However, these variables manifest an 'overlapping, cross-cutting and transversal' nature. Within the context of the above-mentioned Principle of Balancing Model and the related discourse regarding the balancing and tailoring of an appropriate recruitment and retention mix, emphasise the

importance of collective negotiation, ownership and clarification of the various roleplayers' roles and contribution as well as positioning/ repositioning and boundary clarification is advocated (embedded within a collaborative and multi-stakeholder approach).

Similarly the need for periodic reviewing, revisiting and re-negotiating of the latter by the various roleplayers (in order to adapt to a changing environment) is identified. The following sentiments draw attention to the complexity of the aforementioned engagement/ process and the inherent niche identification, role clarification and boundary clarification challenge:

- Professor Reid articulates in the interview, the need to get to grip with the issue of class/ power relations when engaging with collaborative relations and partnership development. Drawing on interview insights, it is concluded that to engage with meaningful collaboration and partnership amongst relevant roleplayers, the issue of class and by implication the issue of power relations need to be explored and engaged with.

  Hence engaging with active community participation is encompassed within Professor Reid's notion of getting to grip with power/ class relations (which has not necessarily been engaged with in this study, but which has been identified as an important follow-up research issue).



- This research vacuum and the related need for follow-up within the South African context, is corroborated by Kelly and Van Vlaenderen (1996) who assert that there is a lack of literature that deals with how participatory relationships are formed and sustained between related roleplayers (who are grossly different in terms of access to skills, resources, education, political power and the sense that their own individual efforts can make a difference).

#### *5.2.2.5 Community Development and Sustainability*

Quality of life aspects such as those which relate to crime within the community as well as that of safety and security, the quality of roads/ water in the area as well as the beauty of the natural environment are elevated within this study. A related aspect includes the role of the community as a custodian of the locality's natural wealth. Additional issues include the importance of subsidised housing (including the quality thereof) as well as that of domestic assistance. Similarly the importance of educational as well as childcare facilities, recreation/ sport as well as communication infrastructure and entertainment amenities are indicated. Further key aspects relate to the putting in place of good physical infrastructure and facilitating human resource development at the local level.

The role of government as a principle sponsor of rural development (within the ambit of healthcare delivery) is elevated and isolated as a fundamental building block in order to promote, facilitate and enable meaningful community development and sustainability. Hence within the context of this study, the notion of 'active' community participation is directly associated and embedded within the community empowerment/ development and sustainability paradigm.

Bearing the above in mind the statement by Professor Reid as reflected in the interview, provides the fundamental context as well as the related challenge:

> "I think that health and development is a theme that is missing from the literature, most of which come from North America and Europe because there, health is not a developmental issue. It offers a service that has basically nothing to do with development/ empowerment and in particular to rural health. When we say rural development and rural health in SA – we immediately assume that it has a component of development and that it is part of the issue of broader development" (Interview with Professor Steve Reid).



As alluded to earlier, the key challenge is how the notion of active community participation fits within an overwhelming medical-model orientation? (Cf also the Statement of the Problem as identified in Section 1.3). The challenge entails shifting beyond the 'Eurocentric Medical Profession' towards a more focused implementation of the Community-Oriented Primary Care Model (underpinned by Rifkin's CHOICE Model).

An additional aspect relating to community development and sustainability is encapsulated within Farmer et al's (2003) discussion of 'role of the healthcare professional in social structure'. These authors state that this role is an emerging one and as a result of doctors' situation and status in the community, they are essentially 'necessitated and obliged' to engage with be associated with local-level formal and informal social/ organisational networks.

This issue is similarly raised in the interview with Professor Steve Reid, through the referencing of the work of Nickson (1991). In a nutshell, this literature work engages with the role that a doctor ought to play in the community in which he/ she practices, drawing attention to the doctor's professional duty to get involved in issues that have a direct impact on the health of the community.

The qualitative response as manifested by a participant in this study elevates the role of the health care professional within the community: "Doctors need to feel that they are contributing positively to the community which they are serving".

The point of synergy which this study advocates around the doctor's professional duty (in respect of community development and sustainability as well as the potential role in community social structuring is articulated as follows. The rural doctor's role in relation to his/her participation in the community (and in particular regarding community empowerment, development and sustainability), is envisaged as an outflow of an efficacious recruitment and retention process which is considered as the primary factor that influences and shapes the doctor's disposition regarding his/her 'social responsibility. It is argued within the study that the doctor's level of community involvement, immersion or bonding, is fundamentally influenced and directed by an efficacious recruitment and retention process which constitutes an initial platform for doctor/ community engagement and interaction[15].



An interesting dimension within the community empowerment, development and sustainability debate is demonstrated in Mbanjwa and Magano's (2008) practical experience as medical students associated with the KwaZulu-Natal Medical School's Rural Health Programme. These student-doctors confirmed in their presentation at the 12th RuDASA Conference (2008) that the University's second and third year students have to participate in health programmes within their community during holidays and provide report backs for evaluation purposes. They acknowledge that the programme introduces students to rural health and encourages the practice that they assist or plough back within the rural health area (where it is understood that there is a shortage or lack of medical facilities, personal and support to rural health). Based on their practical experience and 'immersion' in their community, these student-doctors introduce the concept of '**rural love**' which formed the basis of their presentation at the 12th RuDASA Conference (2008):

> "The exposure to such university-institutionalised programmes, offers one experience and knowledge about rural medicine in particular and rural health in general. One learns to **love and volunteer** within the rural health context" (Mbanjwa and Magano, 2008).

[15] . The study of Schwarz (2006) explicitly demonstrates how rural women practitioners embrace getting involved with the community as one means of recreating spaces within rural general practice. This in essence entails women acting as agents of change at the organisational and practitioner levels.

The linkage is made with Cutchin's Theory of Experiential Place Integration and the active participation of the community, highlighting its applicability to the student-doctor's internship and community service experience and the fostering of the bonding with place which influences and shapes the student-doctor's disposition regarding his/her 'social responsibility'.

| Case 6 : Encouraging and molding the healthcare professional to embrace an active role in social structure |
| --- |
| From a practical vantage, the Physicians for Human Rights (2006) draw attention to the practice of acclimatising medical students to the rural work conditions and context, with the hope that they will be more willing to locate in these areas. The latter authors relate that during medical students time in the field, they are encouraged to interact closely with the local community through conducting community-based activities (for example conducting health education). The relationship between the community and doctor is enhanced and reservations to learn from the community are banished. |

#### *5.2.2.6 Community Institutional Governance*



The Spearman correlation analysis and ANOVA results reveal the importance of effective institutional governance, emphasising the need for good leadership at the local and regional level, effective community structuring, organising and partnership development. As far as the broader consensus with regard to recruiting and retaining human-resources-for-health, the importance of collaboration at the regional level regional context resources and the building of partnerships are indicated as pivotal issues, including the conducting of collective marketing. The need to define local health-service needs at the community/ regional level and the required community agency is clearly articulated. The importance of the defined role and involvement of the local non-profit organisation and the local authority is emphasised, thereby reinforcing the central tenet of the multi-stakeholder approach.

- The scope of the study does not involve an indepth analysis of the aforementioned institutional aspects; which have been identified follow-up areas for research. (Note that the primary objective is to elicit rural doctors' perceptions of the role of the community in their recruitment and retention process).

The concept of 'community registration' is of particular significance which is envisaged as a building block of a holistic, integrated and collaborative recruitment process for rural doctors. Attention is drawn to a guiding principle that involves assessing the attitude, personality and qualities of the rural doctor, aside from the medical skills during the selection and interview process. The significance of good institutional and human resource governance constitutes one of the pillars of this study – and the successful strengthening thereof is identified as a key success factor:

i) It facilitates/ enables the national health-system transformation process which is aimed at establishing decentralised management, governance, research, enquiry and advocacy which is premised on encouraging participation by 'everyone'.

ii) It facilitates the shift towards new modes of health human-resource governing with specific reference to the health sector that is based on shared/joint co-ordination and collaboration. This is underpinned by the principle of inclusivity as well as fundamentals such as synergy, buy-in/ ownership, negotiation, trade-off as well as positioning/ repositioning. (Substantiating Schwarz 2005 notion of re-creating spaces within the rural context).

iii) It contributes towards practicalising the Primary Health Care (PHC) approach, which recognises sound institutional governance (inclusive governance) as a specific cornerstone.

iv) It facilitates improved healthcare service-delivery accountability which is premised on joint work through synergy, collaboration, co-operation and partnership development. Also applicable is the related process of health service-delivery accreditation.

The results generally reinforce the call of the World Health Organisation (2002) for government action to enable active community participation and the associated community empowerment/ development objectives:

- Grassroots community-level capacity building and development,
- Support of community-related networks, including infrastructures relating to communities and professionals as well as,
- Meaningful organisational and institutional development at the grassroots/ local level

## 5.3 Conclusion

The 'Principle of Balancing' constitutes a basic principle which underpins the Health System Partnership Model. The embracing of such a perspective could potentially better accommodate the relevant range of recruitment and retention approaches; and so-doing ensure optimal leverage from the associated positives and merits.

In order to optimise the process of rural doctor recruitment and retention the contribution of not only the Mainstream Approach is valued but in conjunction, the contribution or value-add of the Collaborative/ Partnership Approach is recognised and valued. An underpinning feature is the rural community's active participation within the aforementioned process.

The empirical findings reveal the need for an optimum 'mix' which is refined through stakeholder dialogue, definition and consensus, negotiation as well as trade-off. The notions of valuing 'niche strengths' and associated 'niche contributions' are introduced within the study, premised on collective ownership and negotiation. Importantly, this process is not conceptualised as a once–off but one which ought to be refined, sustained and strengthened through periodic reviewing/ revisiting, re-negotiating, reconciling as well as through the defining/ clarifying of roles.



A key success factor revolves around identifying common ground which forms the basis for joint/ partnership action by the principal partners with the collective aim of:

- Institutionalising meaningful collaborative governance and management,
- Identifying relevant 'window of opportunities' which present itself within the ambit of an efficacious rural doctor recruitment and retention process,
- Identifying and addressing challenges, gaps and shortcomings within the latter process.

# CHAPTER 6
# CONCLUSION

## 6.1 Rediscovering the Stone[16]

A key thread within this study is the collation of information within the ambit of striving towards putting in place a collaborative management and governance framework for the recruitment and retention of health human-resources for health. Common ground for collaborative and joint action is explored drawing on insights from a range of applicable approaches – with the focus on identifying potential niche areas for active community participation (bearing in mind the pertinent research and knowledge gaps as indicated in Section 5.2.2.4).

As stipulated by Professor Steve Reid in the interview, healthcare delivery cannot remain void of the community development or the empowerment context which characterises healthcare service delivery within the South African and African context. Hence health service delivery is particularly meaningful when conceptualised within the broader developmental context pertaining to communities.



A key underpinning of this study is that the rural doctor recruitment and retention process cannot embrace a *business as usual*[17] approach.

- As demonstrated in the Health System Partnership Model, the role of the community needs to be taken seriously and valued based on the 'niche and negotiated' strengths which the various roleplayers bring to the 'round table'.

  It is thus advocated that community participation as the fundamental challenge at hand, can no longer remain an overlooked or neglected area of research as well as healthcare service delivery.

[16] . This notion is taken from the interview that was conducted with Professor Steve Reid.

[17] . The concept of *"business unusual"* is applied within this study. This concept is taken from the Address by former President, Thabo Mbeki on the State of the Nation to Joint Sitting of Parliament on the 8th of February 2008.

- A key aspect revolves around strategic investment of limited resources (in particular financial resources) that would ensure the greatest impact in striving towards meaningful multi-stakeholder collaboration and partnership, integration and synergy as well as consensus negotiation and trade-off.

- If government embraces a similar *modus operandi*, it would essentially entail turning on its head, the thinking with regard to community investment. In other words, this would essentially accommodate a more balanced approach which would necessitate the shift in focus from an essentially *'medical-model'* orientation, towards a *'community-orientation-in-primary-care'* in conjunction with a revitalised *'family medicine'* orientation.

- Empirical findings reveal that rural doctors themselves acknowledge, recognise and value the role of communities in their recruitment and retention process. Community participation is not envisaged as merely an add-on, but as an integral part in improving the efficacy of the latter process.

- Corroborating the Alma-Ata Declaration on Primary Health Care the study's findings endorse the principle, that optimum healthcare cannot only be achieved through innovation in formal health service delivery without the conscious commitment to facilitate active community participation, empowerment/ development and sustainability.



- The contemporary health-resource dynamic, namely the feminisation of the rural workforce, demands a business unusual approach if the outreach/intervention initiatives are to be optimised. This would entail a shift from the prevalent male-centered orientation with regard to rural practice.

  As reflected in the ANOVA results for gender (Table 29) the issues of exposure of female doctors during community service as well as undergraduate training are isolated as pivotal recruitment and retention success factors. This in conjunction with the involvement of non-profit as well as community-based organisations. The importance of periodic monitoring and evaluation of the doctor and his/her family as well as spouse employment aspects are of particular significance which require focused attention.

It is appropriate to reiterate Dambisya's (2007) analogy which argues that the *health worker crisis* can be compared to *diabetes mellitus*. In essence the author maintains that both are systemic diseases, with underlying functional (and often structural) disturbances. Both are envisaged as chronic, developing insidiously so that by the time they are noticeable, the damage can be quite significant. Just as it is possible to treat diabetes mellitus and have the patient functional, Dambisya emphasises that it is possible to fix the human-resources-in-health problem and that the continued well-being of the patient (health system) will depend on continued improvement and striving towards collaborative management and governance of human-resources for health.

Within the context of this study, the aforementioned optimism is shared in relation to 'fixing' the healthcare-workforce in respect of the rural doctor recruitment and retention challenge. It is espoused that a systemic and underlying functional disturbance revolves around the lack of active community participation in the recruitment and retention process, including the neglect of the required promoting, facilitating and empowering/ enabling thereof.

The well-being of the health system and in particular the rural doctor recruitment and retention process, will depend on the conscious improvement and striving towards; as well as the enabling and facilitating of meaningful collaborative management and governance relationships amongst the identified range of roleplayers and stakeholders.

Echoing the words of Professor Steve Reid (2007:8) "We cannot keep banging on at the recruitment and retention challenge/problem with the same instruments and expect a different result!"

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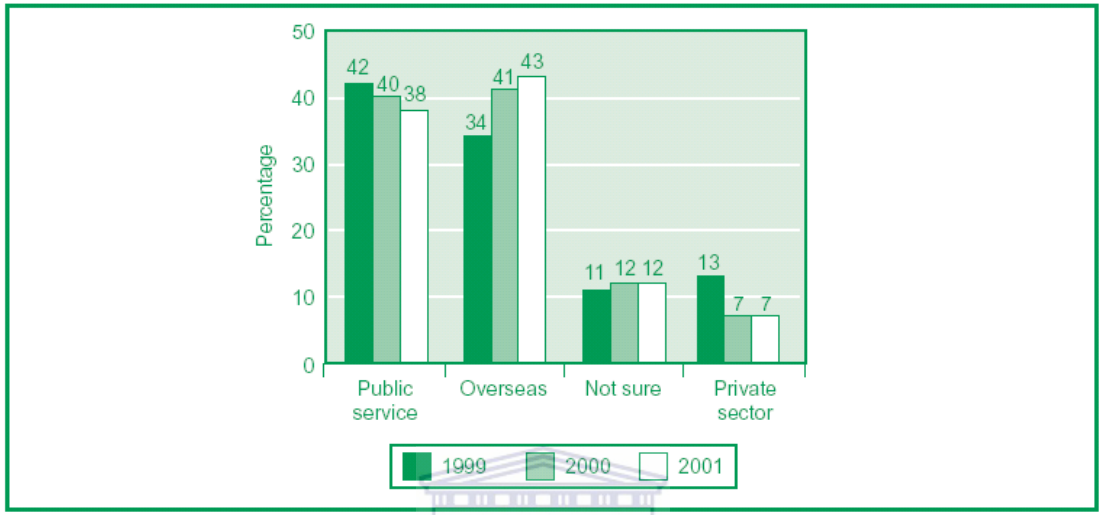
# Appendix 1 : Range of mainstream interventions by government to recruit and retain rural doctors



| Factor | General Authors | SA Initiatives | SA Author/s |
|---|---|---|---|
| Low remuneration / compensation (especially for after hours work and no. of calls)<br><br>New funding formulas and remuneration schemes (eg capitation and salary incentives)<br>Including 'alternative and innovative' funding and payment systems<br><br>Differential payments according to degree of 'rurality/ remoteness' | McDonald et al, 2002<br><br>Pope et al, 1998<br><br>Health Canada, 2004<br><br>Jones et al, 2004 | Overtime salary package of up to 50%<br>Professional staff will include additional remuneration on the basis of fair and logical criteria according to the hospitability of the area<br>Scarce skills allowance of about 15%<br>Rural allowance of 18-22% depending on location of hospital. Constitutes a non-pensionable recruitment allowance<br>Steady improving salary packages | National Department of Health, 2007<br><br>Health Minister Parliamentary Briefing, 18 February 2005.<br><br>RUDASA, 2006<br>PHWSBC, 2004<br>Government Communication and Information Services, 2007.<br><br>Lydall and Reid, 2006 |
| Funding for travel and other related costs (for example ito of accessing continuing medical education)<br>Use of incentives of educational support and grants (include government refresher or continuing education programmes and other subsidised educational training programmes | Medinet (2002) | Incentives for professional staff will include greater access to study leave and relevant professional development courses and conferences | Rural Health Strategy for South Africa, 2006 |
| Other targeted financial incentives: Support and incentives for rural doctors spouses and families – including admission of their children to schools | Medinet (2002) | | |
| Introduction of the use of telemedicine which could optimise use of available financial and human resources.(May contribute to more effective administration and management of health programmes and resources such as e-health records, infrastructure and information management). Telehealth gives rural practitioners the opportunity to transmit more information to their colleagues to discuss cases. Thereby giving physicians more support and facilitating contact with peers. Peer reinforcement is critical and it requires a system of interoperable, easy to use, with human interface and connectivity. An appropriate information service provides a link from the rural doctor to library services and specialists in academic centres. | Health Canada, 2004<br><br>Duplantie et al, 2007 | National Telemedicine Project Strategy<br><br>e-learning based on learning infrastructure (relate to continuing professional development as well as 'mid-level medical worker' | GCIS 2007<br><br>De Maeseneer et al, 2007 |

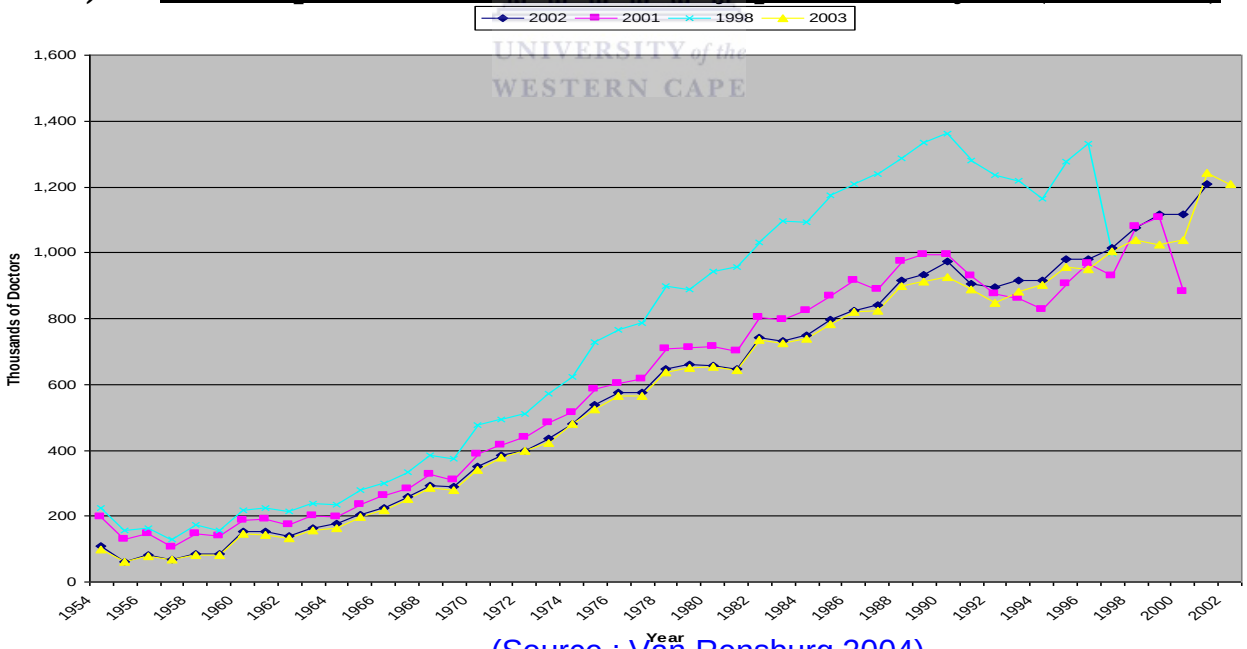
| | | | |
|---|---|---|---|
| Additional aspects | | Introduction of health sector and related service delivery reforms<br>- Includes creating a single unified national health system and strengthening institutional capacity at national, provincial and district levels | GCIS 2007 |
| | | Specific incentives for young professional to return to South Africa.<br><br>The Rural Doctor's Association and the Academy of Family Practice have been developing a recruitment process for doctors both overseas trained and "brain-drainees". To this end the Rural Health Initiative (RHI) have recently launched a recruitment project to help doctors gain at least a year's experience in South Africa | Nawaal, 2003<br><br>Lydall and Reid, 2006 |
| | | The Hospital Revitalisation Programme aims to retain health professionals in the remote underserved areas of South Africa by improving their working environment (including health facilities) | Government Communication and Information Services, 2007. |
| | | Introduction of Community Health Service for doctors and nurses | IRIN, 2007<br>Nawaal, 2003 |
| | | Bilateral/ multilateral agreements – regulation of migration and addressing the 'brain drain'<br>(Code of practice for International Recruitment of Health Workers) | Lehman and Sanders, 2002 |
| Development of rural medical schools | Eley and Baker, 2006 | A national programme for development of family medicine and district health care includes the creation of family medicine departments in districts and the development of 'district based learning complexes'. Aim is to develop these into fully fletched district based health science faculties. | De Maeseneer, 2007 |

## Appendix 2 : i) Practice options of newly qualified doctors (1999-2001)




(Source : Reid, 2002)

## ii) Loss of qualified medical doctors by qualification year (1998-2003)




(Source : Van Rensburg 2004)

## Appendix 3 : Community Participation : A benchmark pertaining to Community of Mosvold (Northern Kwazulu-Natal, South Africa)

The National Rural Health Association (2006) relates that rural communities must mount and sustain effective programmes to recruit young people to the careers pipeline. Rural communities will need additional support and assistance to move interested and capable young people into and through the health careers pipeline. Local communities will need to develop local financial resources to support interested youth from the community in pursuing health professions training and provide adequate information to parents and students about other funding sources. Community participation is a key success factor in the attempt to commit rural doctors to rural areas for a fixed period of time.

In this particular case – doctors are required to practice in Mosvold and surround for a given period based on student investment by the community (Physicians for Human Rights, 2006). Mosvold Hospital, as a result of the inability to attract trained health professionals, developed an innovative scheme to provide scholarships exclusively to students from the local area to study health sciences at the tertiary level. The Friends of Mosvold Scholarship Scheme (FOMSS) was founded on the belief that local students had great potential to become health professionals despite very deprived material circumstances; and were more likely than their urban counterparts to return to practice in the district. (See Kumar, 2007).

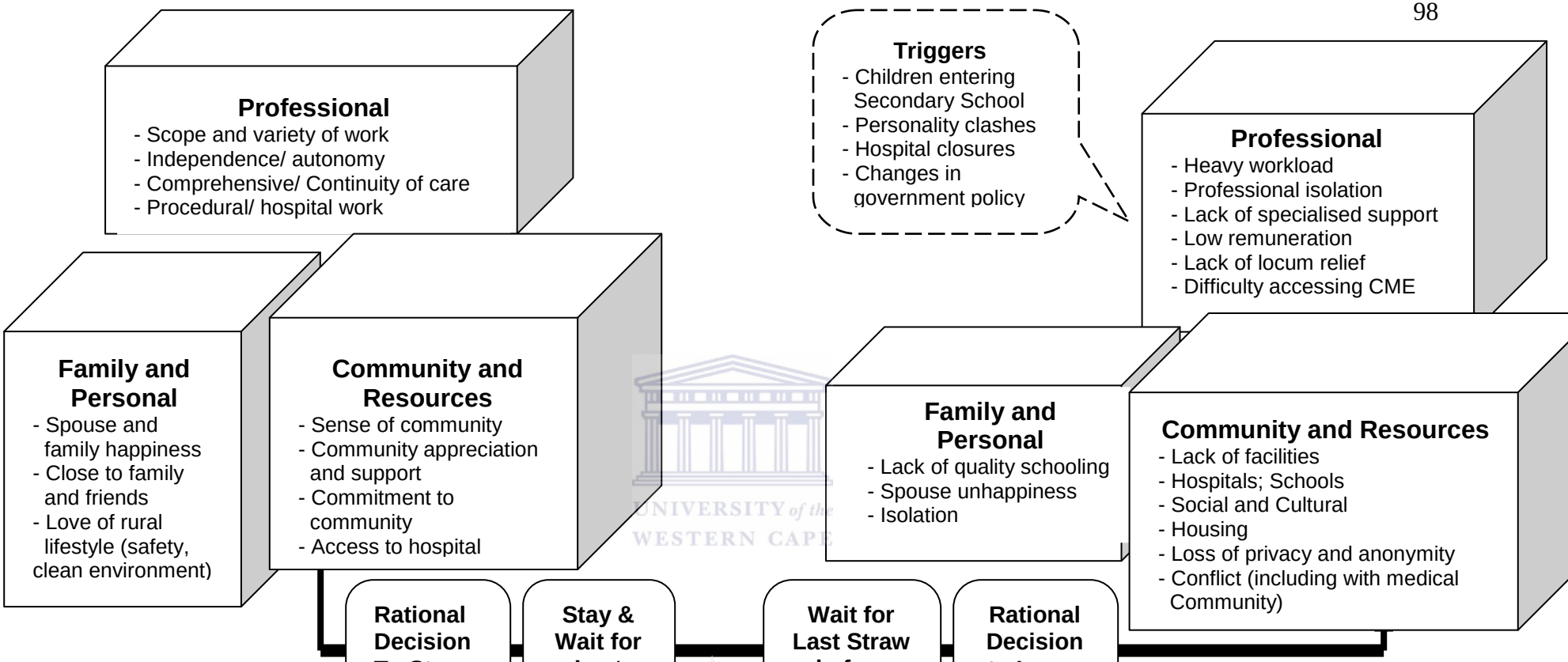


Interested students are invited to apply for the scholarship, contingent upon their completion of two weeks of voluntary work at the hospital and contingent upon their acceptance into a degree programme. Local community members participate in a selection committee that chooses scholarship recipients. Students that have received the scholarship have to report back regularly to their community, work every holiday in the Mosvold Hospital (for which they get paid R250 per week) and commit themselves to work as a trained professional in the hospital for at least one year for every year of bursary support (WONCA, 2002).

Each student signs a year-for-year back contract with the hospital for each year they accept the scholarship. In addition to funding students' books, tuition, accommodation and food, the Mosvold Scheme provides for ongoing mentoring relationships with clinicians and trains students to be HIV/AIDS student peer educators in their local communities. Students are expected to work at Mosvold Hospital or an affiliated clinic for four weeks per year during their vacations, for which they receive a stipend.

The success of the Mosvold initiative has prompted Provincial Departments of Health, to disperse scholarship funding at the district level in order to better link recipient with rural health facilities in their own communities.

## APPENDIX 4: The Balance of Retention Model






| PREDICTORS |
|---|
| Prepared for small town living |
| Well-matched to community |
| Residency rural rotations |
| Well-integrated into Community |
| Highly satisfied with work |
| Attending a rural medical college |
| Participation in selective admissions uni-programme favouring rural background |

| PREDITORS |
|---|
| Sharing on-call with Only 1 doctor |
| Solo practice |
| Professional isolation |
| Low reimbursement |
| |

**Source : Bibby 2002**

## Appendix 5 : Cronbach's alpha

| 1. Affinity | | | |
|---|---|---|---|
| Recruitment subscales | | Retention subscales | Values |
| Exposure to rural practice as a result of community service | .942 | Exposure to rural practice during undergraduate training | .988 |
| Local business sector | .907 | Exposure to rural practice as a result of community service | .983 |
| Developing appropriate financial incentive / reward system for rural doctors | .889 | Provision of community resources to support local youth learners/students financially | .971 |
| Building partnership with various roleplayers involved within rural doctor recruitment | .888 | Identifying of local youth talent as potential healthcare professional at community level | .965 |
| Communities working together within a specific regional context in order to recruit rural doctors | .883 | Exposure to rural practice as a result of internship | .951 |
| Education facilities | .881 | Local business sector | .946 |
| Exposure to rural practice as a result of internship | .878 | Developing appropriate financial incentive / reward system for rural doctors | .940 |
| The community forging of relations with medical training institutions | .876 | Family ties within the rural community or close proximity | .936 |
| Exposure to rural practice during undergraduate training | .842 | Communities working together within a specific regional context in order to retain rural doctors | .924 |
| Provision of community resources to support local youth learners / students financially | .839 | The community forging of relations with medical training institutions | .920 |
| Family ties within the rural community or close proximity | .817 | Building partnerships with various roleplayers involved with rural doctor retention | .899 |
| Identifying of local youth talent as potential healthcare professional at community level | .813 | The availability of: Educational facilities | .830 |
| 12 | 0.87125 | 12 | 0.93775 |

| 2. Experiential Place Integration | | | |
|---|---|---|---|
| Recruitment subscales | | Retention subscales | Values |
| Issue of support to: The doctor's spouse | .920 | Feeling integrated within a community | .991 |
| Periodic monitoring / assessment of: The wellbeing of the doctor's family | .919 | Doctor's family feeling integrated within the community | .988 |
| The drafting of a rural doctor's service agreement | .901 | Issue of support to: The doctor's spouse | .988 |
| Feeling welcome within a community | .897 | Issue of support to: The doctor's dependent/s | .988 |
| Periodic monitoring / assessment of: The wellbeing of the doctor | .892 | Acceptance within a community | .980 |
| Spouse employment | .884 | The drafting of a rural doctor's service agreement | .964 |
| Doctor's family feeling integrated within the community | .870 | Feeling welcome within a community | .959 |
| Issue of support to: The doctor | .855 | Periodic monitoring / assessment of: The wellbeing of the doctor | .952 |
| Issue of support to: The doctor's dependent/s | .854 | Spouse employment | .940 |
| Feeling integrated within a community | .835 | Issue of support to: The doctor | .930 |
| Acceptance within a community | .819 | Periodic monitoring / assessment of: The wellbeing of the doctor's family | .929 |
| 11 | 0.876909 | 11 | 0.964455 |



| 3. Mainstream | | | |
|---|---|---|---|
| Recruitment subscales | | Retention subscales | Values |
| Locum support | .908 | The availability of: Locum support | .979 |
| The drafting of a rural doctor's service agreement | .901 | The availability of: Subsidised accommodation / housing | .976 |
| Allied healthcare services | .895 | The marketing of community human resources | .971 |
| Developing appropriate financial incentive / reward system for rural doctors | .889 | The drafting of a rural doctor's service agreement | .964 |
| Spouse employment | .884 | The availability of: Peer support | .950 |
| Peer support | .870 | The availability of: Allied healthcare services | .941 |
| Subsidised accommodation / housing | .863 | Developing appropriate financial incentive / reward system for rural doctors | .940 |
| Lay healthcare provision within the community | .830 | Spouse employment | .940 |
| The marketing of the community human resources | .806 | The availability of: Lay healthcare provision within the community | .927 |
| 9 | 0.871778 | 9 | 0.954222 |

| 4. Community Cohesiveness | | | |
|---|---|---|---|
| Recruitment subscales | | Retention subscales | Values |
| A health-related community representative structure | .934 | The marketing of community human resources | .971 |
| Ability of the community to organise around health issues | .892 | The level of community diversity | .972 |
| Building partnership with various roleplayers involved within rural doctor recruitment | .888 | Ability of the community to organise around health issue | .928 |
| Communities working together within a specific regional context in order to recruit rural doctors | .883 | Communities working together within a specific regional context in order to retain rural doctors | .924 |
| The level of community diversity | .867 | Building partnerships with various roleplayers involved with rural doctor retention | .899 |
| Defining of local health service needs at community level | .843 | A health-related community representative structure | .892 |
| The marketing of the community human resources | .806 | Defining of local health service needs at community level | .881 |
| 7 | 0.873286 | 7 | 0.923857 |

| 5. Community Development and Sustainability | | | |
|---|---|---|---|
| Recruitment subscales | | Retention subscales | Values |
| The issue of the safety / security within the community | .918 | The quality of the water in the area | .988 |
| Entertainment amenities | .932 | The availability of: Domestic assistance | .987 |
| Recreation / sport amenities | .906 | The availability of: Subsidised accommodation / housing | .976 |
| The quality of the water in the area | .904 | The issue of crime within the community | .965 |
| Domestic assistance | .893 | The beauty of the natural environment | .965 |
| Religious amenities | .884 | The issue of safety / security within the community | .962 |
| Education facilities | .881 | The quality of the roads in the area | .958 |
| Subsidised accommodation / housing | .863 | The availability of: Childcare facilities | .955 |
| The issue of the crime within the community | .862 | The availability of: Recreation / sport amenities | .948 |
| Childcare facilities | .860 | The availability of: Communication infrastructural amenities | .908 |
| The quality of the roads in the area | .846 | The availability of: Entertainment infrastructural amenities | .895 |
| The beauty of the natural environment | .838 | The availability of: Religious amenities | .890 |
| Communication infrastructural amenities | .776 | The availability of: Educational facilities | .830 |
| 13 | 0.874077 | 13 | 0.940538 |

| 6. Community Institutional Governance | | | |
|---|---|---|---|
| Recruitment subscales | | Retention subscales | Values |
| A health-related community representative structure | .934 | The availability of: Traditional healthcare | .987 |
| The municipality | .932 | Local community-based organisations | .970 |
| The existence of good leadership within the community | .923 | The drafting of a rural doctor's service agreement | .964 |
| Local business sector | .907 | Local non-profit organisations | .957 |
| The drafting of a rural doctor's service agreement | .901 | Local business sector | .946 |
| Traditional healthcare | .843 | The municipality | .940 |
| Local community-based organisations | .842 | Developing appropriate financial incentive / reward system for rural doctors | .940 |
| Local non-profit organisations | .841 | The existence of good leadership within the community | .936 |
| Developing appropriate financial incentive / reward system for rural doctors | .889 | Appropriate matching and placing of a rural doctor | .932 |
| The community forging of relations with medical training institutions | .876 | The community forging of relations with medical training institutions | .920 |
| Appropriate matching and placing of a rural doctor | .792 | A health-related community representative structure | .892 |
| 11 | 0.880 | 11 | 0.944 |

# Appendix 6 : Chi-square results



**Your work plans within the next 5 years most likely to be: Remain in rural practice * Place in which internship was conducted Crosstabulation**

| | | | Place of which internship was conducted | | | |
|---|---|---|---|---|---|---|
| | | | Rural | Urban | (blank) | Total |
| Your work plans within the next 5 years most likly to be: Remain in rural practice | Yes | Count | 14 | 16 | 0 | 30 |
| | | Expected Count | 8.7 | 20.8 | .6 | 30.0 |
| | | % within Your work plans within the next 5 years most likly to be: Remain in rural practice | 46.7% | 53.3% | .0% | 100.0% |
| | | % within Place of which internship was conducted | 93.3% | 44.4% | .0% | 57.7% |
| | | % of Total | 26.9% | 30.8% | .0% | 57.7% |
| | (blank) | Count | 1 | 20 | 1 | 22 |
| | | Expected Count | 6.3 | 15.2 | .4 | 22.0 |
| | | % within Your work plans within the next 5 years most likly to be: Remain in rural practice | 4.5% | 90.9% | 4.5% | 100.0% |
| | | % within Place of which internship was conducted | 6.7% | 55.6% | 100.0% | 42.3% |
| | | % of Total | 1.9% | 38.5% | 1.9% | 42.3% |
| | Total | Count | 15 | 36 | 1 | 52 |
| | | Expected Count | 15.0 | 36.0 | 1.0 | 52.0 |
| | | % within Your work plans within the next 5 years most likly to be: Remain in rural practice | 28.8% | 69.2% | 1.9% | 100.0% |
| | | % within Place of which internship was conducted | 100.0% | 100.0% | 100.0% | 100.0% |
| | | % of Total | 28.8% | 69.2% | 1.9% | 100.0% |



**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 11.759[a] | 2 | .003 |
| Likelihood Ratio | 14.043 | 2 | .001 |
| Linear-by-Linear Association | 11.526 | 1 | .001 |
| N of Valid Cases | 52 | | |

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .42.

**Background (Place * If yes: Please indicate background of spouse Crosstabulation**

| | | | If yes: Please indicate background of spouse | | | |
|---|---|---|---|---|---|---|
| | | | Rural | Urban | (blank) | Total |
| Background (Place | Rural | Count | 14 | 4 | 5 | 23 |
| | | Expected Count | 9.7 | 8.4 | 4.9 | 23.0 |
| | | % within Background (Place | 60.9% | 17.4% | 21.7% | 100.0% |
| | | % within If yes: Please indicate background of spouse | 63.6% | 21.1% | 45.5% | 44.2% |
| | | % of Total | 26.9% | 7.7% | 9.6% | 44.2% |
| | Urban | Count | 8 | 15 | 5 | 28 |
| | | Expected Count | 11.8 | 10.2 | 5.9 | 28.0 |
| | | % within Background (Place | 28.6% | 53.6% | 17.9% | 100.0% |
| | | % within If yes: Please indicate background of spouse | 36.4% | 78.9% | 45.5% | 53.8% |
| | | % of Total | 15.4% | 28.8% | 9.6% | 53.8% |
| | (blank) | Count | 0 | 0 | 1 | 1 |
| | | Expected Count | .4 | .4 | .2 | 1.0 |
| | | % within Background (Place | .0% | .0% | 100.0% | 100.0% |
| | | % within If yes: Please indicate background of spouse | .0% | .0% | 9.1% | 1.9% |
| | | % of Total | .0% | .0% | 1.9% | 1.9% |
| | Total | Count | 22 | 19 | 11 | 52 |
| | | Expected Count | 22.0 | 19.0 | 11.0 | 52.0 |
| | | % within Background (Place | 42.3% | 36.5% | 21.2% | 100.0% |
| | | % within If yes: Please indicate background of spouse | 100.0% | 100.0% | 100.0% | 100.0% |
| | | % of Total | 42.3% | 36.5% | 21.2% | 100.0% |



**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 11.528[a] | 4 | .021 |
| Likelihood Ratio | 11.130 | 4 | .025 |
| Linear-by-Linear Association | 3.234 | 1 | .072 |
| N of Valid Cases | 52 | | |

a. 4 cells (44.4%) have expected count less than 5. The minimum expected count is .21.

**Educational qualification of spouse * Employment status of spouse Crosstabulation**

| | | | Employment status of spouse | | | |
|---|---|---|---|---|---|---|
| | | | Employed | Unemployed | (blank) | Total |
| Educational qualification of spouse | Medical | Count | 16 | 2 | 0 | 18 |
| | | Expected Count | 10.0 | 4.5 | 3.5 | 18.0 |
| | | % within Educational qualification of spouse | 88.9% | 11.1% | .0% | 100.0% |
| | | % within Employment status of spouse | 55.2% | 15.4% | .0% | 34.6% |
| | | % of Total | 30.8% | 3.8% | .0% | 34.6% |
| | Non-Medical | Count | 12 | 11 | 1 | 24 |
| | | Expected Count | 13.4 | 6.0 | 4.6 | 24.0 |
| | | % within Educational qualification of spouse | 50.0% | 45.8% | 4.2% | 100.0% |
| | | % within Employment status of spouse | 41.4% | 84.6% | 10.0% | 46.2% |
| | | % of Total | 23.1% | 21.2% | 1.9% | 46.2% |
| | (blank) | Count | 1 | 0 | 9 | 10 |
| | | Expected Count | 5.6 | 2.5 | 1.9 | 10.0 |
| | | % within Educational qualification of spouse | 10.0% | .0% | 90.0% | 100.0% |
| | | % within Employment status of spouse | 3.4% | .0% | 90.0% | 19.2% |
| | | % of Total | 1.9% | .0% | 17.3% | 19.2% |
| | Total | Count | 29 | 13 | 10 | 52 |
| | | Expected Count | 29.0 | 13.0 | 10.0 | 52.0 |
| | | % within Educational qualification of spouse | 55.8% | 25.0% | 19.2% | 100.0% |
| | | % within Employment status of spouse | 100.0% | 100.0% | 100.0% | 100.0% |
| | | % of Total | 55.8% | 25.0% | 19.2% | 100.0% |



**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 47.832[a] | 4 | .000 |
| Likelihood Ratio | 43.671 | 4 | .000 |
| Linear-by-Linear Association | 26.401 | 1 | .000 |
| N of Valid Cases | 52 | | |

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is 1.92.

**Place of which internship was conducted * Initial practice location after full registration Crosstabulation**

| | | | Initial practice location after full registration | | | |
|---|---|---|---|---|---|---|
| | | | Rural | Urban | (blank) | Total |
| Place of which internship was conducted | Rural | Count | 12 | 2 | 1 | 15 |
| | | Expected Count | 8.7 | 6.1 | .3 | 15.0 |
| | | % within Place of which internship was conducted | 80.0% | 13.3% | 6.7% | 100.0% |
| | | % within Initial practice location after full registration | 40.0% | 9.5% | 100.0% | 28.8% |
| | | % of Total | 23.1% | 3.8% | 1.9% | 28.8% |
| | Urban | Count | 18 | 18 | 0 | 36 |
| | | Expected Count | 20.8 | 14.5 | .7 | 36.0 |
| | | % within Place of which internship was conducted | 50.0% | 50.0% | .0% | 100.0% |
| | | % within Initial practice location after full registration | 60.0% | 85.7% | .0% | 69.2% |
| | | % of Total | 34.6% | 34.6% | .0% | 69.2% |
| | (blank) | Count | 0 | 1 | 0 | 1 |
| | | Expected Count | .6 | .4 | .0 | 1.0 |
| | | % within Place of which internship was conducted | .0% | 100.0% | .0% | 100.0% |
| | | % within Initial practice location after full registration | .0% | 4.8% | .0% | 1.9% |
| | | % of Total | .0% | 1.9% | .0% | 1.9% |
| | Total | Count | 30 | 21 | 1 | 52 |
| | | Expected Count | 30.0 | 21.0 | 1.0 | 52.0 |
| | | % within Place of which internship was conducted | 57.7% | 40.4% | 1.9% | 100.0% |
| | | % within Initial practice location after full registration | 100.0% | 100.0% | 100.0% | 100.0% |
| | | % of Total | 57.7% | 40.4% | 1.9% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 9.129[a] | 4 | .058 |
| Likelihood Ratio | 10.250 | 4 | .036 |
| Linear-by-Linear Association | 2.866 | 1 | .090 |
| N of Valid Cases | 52 | | |

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .02.

**Gender * Length of time in rural practice (in years) Crosstabulation**

| | | | Length of time in rural practice (in years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Less than one year | 1 - 5 years | 6 - 10 years | 11- 15 years | 16- 20 years | Above 20 years | (blank) | Total |
| Gender | Male | Count | 2 | 9 | 6 | 11 | 5 | 4 | 0 | 37 |
| | | Expected Count | 2.1 | 12.1 | 6.4 | 7.8 | 3.6 | 4.3 | .7 | 37.0 |
| | | % within Gender | 5.4% | 24.3% | 16.2% | 29.7% | 13.5% | 10.8% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | 66.7% | 52.9% | 66.7% | 100.0% | 100.0% | 66.7% | .0% | 71.2% |
| | | % of Total | 3.8% | 17.3% | 11.5% | 21.2% | 9.6% | 7.7% | .0% | 71.2% |
| | Female | Count | 1 | 8 | 3 | 0 | 0 | 2 | 1 | 15 |
| | | Expected Count | .9 | 4.9 | 2.6 | 3.2 | 1.4 | 1.7 | .3 | 15.0 |
| | | % within Gender | 6.7% | 53.3% | 20.0% | .0% | .0% | 13.3% | 6.7% | 100.0% |
| | | % within Length of time in rural practice (in years) | 33.3% | 47.1% | 33.3% | .0% | .0% | 33.3% | 100.0% | 28.8% |
| | | % of Total | 1.9% | 15.4% | 5.8% | .0% | .0% | 3.8% | 1.9% | 28.8% |
| | Total | Count | 3 | 17 | 9 | 11 | 5 | 6 | 1 | 52 |
| | | Expected Count | 3.0 | 17.0 | 9.0 | 11.0 | 5.0 | 6.0 | 1.0 | 52.0 |
| | | % within Gender | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |
| | | % within Length of time in rural practice (in years) | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | | % of Total | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |



**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 11.877[a] | 6 | .065 |
| Likelihood Ratio | 16.057 | 6 | .013 |
| Linear-by-Linear Association | 1.300 | 1 | .254 |
| N of Valid Cases | 52 | | |

a. 11 cells (78.6%) have expected count less than 5. The minimum expected count is .29.

## Age group * Length of time in rural practice (in years) Crosstabulation

| | | | Length of time in rural practice (in years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Less than one year | 1 - 5 years | 6 - 10 years | 11- 15 years | 16- 20 years | Above 20 years | (blank) | Total |
| Age group | Less than 30 years | Count | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 4 |
| | | Expected Count | .2 | 1.3 | .7 | .8 | .4 | .5 | .1 | 4.0 |
| | | % within Age group | 25.0% | 50.0% | 25.0% | .0% | .0% | .0% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | 33.3% | 11.8% | 11.1% | .0% | .0% | .0% | .0% | 7.7% |
| | | % of Total | 1.9% | 3.8% | 1.9% | .0% | .0% | .0% | .0% | 7.7% |
| | 30 - 40 years | Count | 1 | 10 | 6 | 1 | 1 | 0 | 1 | 20 |
| | | Expected Count | 1.2 | 6.5 | 3.5 | 4.2 | 1.9 | 2.3 | .4 | 20.0 |
| | | % within Age group | 5.0% | 50.0% | 30.0% | 5.0% | 5.0% | .0% | 5.0% | 100.0% |
| | | % within Length of time in rural practice (in years) | 33.3% | 58.8% | 66.7% | 9.1% | 20.0% | .0% | 100.0% | 38.5% |
| | | % of Total | 1.9% | 19.2% | 11.5% | 1.9% | 1.9% | .0% | 1.9% | 38.5% |
| | 41 - 50 years | Count | 0 | 2 | 1 | 9 | 3 | 0 | 0 | 15 |
| | | Expected Count | .9 | 4.9 | 2.6 | 3.2 | 1.4 | 1.7 | .3 | 15.0 |
| | | % within Age group | .0% | 13.3% | 6.7% | 60.0% | 20.0% | .0% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | .0% | 11.8% | 11.1% | 81.8% | 60.0% | .0% | .0% | 28.8% |
| | | % of Total | .0% | 3.8% | 1.9% | 17.3% | 5.8% | .0% | .0% | 28.8% |
| | 51 - 60 years | Count | 1 | 0 | 1 | 0 | 1 | 6 | 0 | 9 |
| | | Expected Count | .5 | 2.9 | 1.6 | 1.9 | .9 | 1.0 | .2 | 9.0 |
| | | % within Age group | 11.1% | .0% | 11.1% | .0% | 11.1% | 66.7% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | 33.3% | .0% | 11.1% | .0% | 20.0% | 100.0% | .0% | 17.3% |
| | | % of Total | 1.9% | .0% | 1.9% | .0% | 1.9% | 11.5% | .0% | 17.3% |
| | 61 years and above | Count | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 4 |
| | | Expected Count | .2 | 1.3 | .7 | .8 | .4 | .5 | .1 | 4.0 |
| | | % within Age group | .0% | 75.0% | .0% | 25.0% | .0% | .0% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | .0% | 17.6% | .0% | 9.1% | .0% | .0% | .0% | 7.7% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | % of Total | .0% | 5.8% | .0% | 1.9% | .0% | .0% | .0% | 7.7% |
| Total | Count | 3 | 17 | 9 | 11 | 5 | 6 | 1 | 52 |
| | Expected Count | 3.0 | 17.0 | 9.0 | 11.0 | 5.0 | 6.0 | 1.0 | 52.0 |
| | % within Age group | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |
| | % within Length of time in rural practice (in years) | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | % of Total | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 66.176[a] | 24 | .000 |
| Likelihood Ratio | 62.640 | 24 | .000 |
| Linear-by-Linear Association | 6.932 | 1 | .008 |
| N of Valid Cases | 52 | | |

a. 34 cells (97.1%) have expected count less than 5. The minimum expected count is .08.

**Number of dependents in age 11 - 15 years-old * Length of time in rural practice (in years) Crosstabulation**

| | | | Length of time in rural practice (in years) | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1 - 5 years | 11- 15 years | 16- 20 years | Above 20 years | Total |
| Number of dependents in age 11 - 15 years-old | 1 | Count | 3 | 4 | 1 | 3 | 11 |
| | | Expected Count | 2.2 | 4.4 | 2.2 | 2.2 | 11.0 |
| | | % within Number of dependents in age 11 - 15 years-old | 27.3% | 36.4% | 9.1% | 27.3% | 100.0% |
| | | % within Length of time in rural practice (in years) | 100.0% | 66.7% | 33.3% | 100.0% | 73.3% |
| | | % of Total | 20.0% | 26.7% | 6.7% | 20.0% | 73.3% |
| | 2 | Count | 0 | 2 | 0 | 0 | 2 |
| | | Expected Count | .4 | .8 | .4 | .4 | 2.0 |
| | | % within Number of dependents in age 11 - 15 years-old | .0% | 100.0% | .0% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | .0% | 33.3% | .0% | .0% | 13.3% |
| | | % of Total | .0% | 13.3% | .0% | .0% | 13.3% |
| | 3 | Count | 0 | 0 | 2 | 0 | 2 |
| | | Expected Count | .4 | .8 | .4 | .4 | 2.0 |
| | | % within Number of dependents in age 11 - 15 years-old | .0% | .0% | 100.0% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | .0% | .0% | 66.7% | .0% | 13.3% |
| | | % of Total | .0% | .0% | 13.3% | .0% | 13.3% |
| | Total | Count | 3 | 6 | 3 | 3 | 15 |
| | | Expected Count | 3.0 | 6.0 | 3.0 | 3.0 | 15.0 |
| | | % within Number of dependents in age 11 - 15 years-old | 20.0% | 40.0% | 20.0% | 20.0% | 100.0% |
| | | % within Length of time in rural practice (in years) | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | | % of Total | 20.0% | 40.0% | 20.0% | 20.0% | 100.0% |



**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 12.273[a] | 6 | .056 |
| Likelihood Ratio | 11.485 | 6 | .074 |
| Linear-by-Linear Association | .547 | 1 | .460 |
| N of Valid Cases | 15 | | |

a. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .40.

**Qualification received * Length of time in rural practice (in years) Crosstabulation**

| | | | Length of time in rural practice (in years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Less than one year | 1 - 5 years | 6 - 10 years | 11- 15 years | 16- 20 years | Above 20 years | (blank) | Total |
| Qualification received | SA institution | Count | 1 | 14 | 9 | 11 | 3 | 6 | 1 | 45 |
| | | Expected Count | 2.6 | 14.7 | 7.8 | 9.5 | 4.3 | 5.2 | .9 | 45.0 |
| | | % within Qualification received | 2.2% | 31.1% | 20.0% | 24.4% | 6.7% | 13.3% | 2.2% | 100.0% |
| | | % within Length of time in rural practice (in years) | 33.3% | 82.4% | 100.0% | 100.0 % | 60.0% | 100.0% | 100.0% | 86.5% |
| | | % of Total | 1.9% | 26.9% | 17.3% | 21.2% | 5.8% | 11.5% | 1.9% | 86.5% |
| | Overseas | Count | 2 | 3 | 0 | 0 | 2 | 0 | 0 | 7 |
| | | Expected Count | .4 | 2.3 | 1.2 | 1.5 | .7 | .8 | .1 | 7.0 |
| | | % within Qualification received | 28.6% | 42.9% | .0% | .0% | 28.6% | .0% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | 66.7% | 17.6% | .0% | .0% | 40.0% | .0% | .0% | 13.5% |
| | | % of Total | 3.8% | 5.8% | .0% | .0% | 3.8% | .0% | .0% | 13.5% |
| | Total | Count | 3 | 17 | 9 | 11 | 5 | 6 | 1 | 52 |
| | | Expected Count | 3.0 | 17.0 | 9.0 | 11.0 | 5.0 | 6.0 | 1.0 | 52.0 |
| | | % within Qualification received | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |
| | | % within Length of time in rural practice (in years) | 100.0% | 100.0% | 100.0% | 100.0 % | 100.0% | 100.0% | 100.0% | 100.0% |
| | | % of Total | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |



**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 14.768[a] | 6 | .022 |
| Likelihood Ratio | 14.694 | 6 | .023 |
| Linear-by-Linear Association | 2.230 | 1 | .135 |
| N of Valid Cases | 52 | | |

a. 10 cells (71.4%) have expected count less than 5. The minimum expected count is .13.

**Primary sector of employment at present * Length of time in rural practice (in years) Crosstabulation**

| | | | Length of time in rural practice (in years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Less than one year | 1 - 5 years | 6 - 10 years | 11- 15 years | 16- 20 years | Above 20 years | (blank) | Total |
| Primary sector of employment at present | Public | Count | 3 | 17 | 8 | 10 | 4 | 3 | 0 | 45 |
| | | Expected Count | 2.6 | 14.7 | 7.8 | 9.5 | 4.3 | 5.2 | .9 | 45.0 |
| | | % within Primary sector of employment at present | 6.7% | 37.8% | 17.8% | 22.2% | 8.9% | 6.7% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | 100.0% | 100.0% | 88.9% | 90.9% | 80.0% | 50.0% | .0% | 86.5% |
| | | % of Total | 5.8% | 32.7% | 15.4% | 19.2% | 7.7% | 5.8% | .0% | 86.5% |
| | Private | Count | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 |
| | | Expected Count | .2 | 1.3 | .7 | .8 | .4 | .5 | .1 | 4.0 |
| | | % within Primary sector of employment at present | .0% | .0% | .0% | .0% | 25.0% | 50.0% | 25.0% | 100.0% |
| | | % within Length of time in rural practice (in years) | .0% | .0% | .0% | .0% | 20.0% | 33.3% | 100.0% | 7.7% |
| | | % of Total | .0% | .0% | .0% | .0% | 1.9% | 3.8% | 1.9% | 7.7% |
| | PP | Count | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| | | Expected Count | .1 | .3 | .2 | .2 | .1 | .1 | .0 | 1.0 |
| | | % within Primary sector of employment at present | .0% | .0% | .0% | 100.0% | .0% | .0% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | .0% | .0% | .0% | 9.1% | .0% | .0% | .0% | 1.9% |
| | | % of Total | .0% | .0% | .0% | 1.9% | .0% | .0% | .0% | 1.9% |
| | NGO | Count | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | | Expected Count | .1 | .3 | .2 | .2 | .1 | .1 | .0 | 1.0 |
| | | % within Primary sector of employment at present | .0% | .0% | .0% | .0% | .0% | 100.0% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | .0% | .0% | .0% | .0% | .0% | 16.7% | .0% | 1.9% |
| | | % of Total | .0% | .0% | .0% | .0% | .0% | 1.9% | .0% | 1.9% |
| | (blank) | Count | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | | Expected Count | .1 | .3 | .2 | .2 | .1 | .1 | .0 | 1.0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | % within Primary sector of employment at present | .0% | .0% | 100.0% | .0% | .0% | .0% | .0% | 100.0% |
| | % within Length of time in rural practice (in years) | .0% | .0% | 11.1% | .0% | .0% | .0% | .0% | 1.9% |
| | % of Total | .0% | .0% | 1.9% | .0% | .0% | .0% | .0% | 1.9% |
| Total | Count | 3 | 17 | 9 | 11 | 5 | 6 | 1 | 52 |
| | Expected Count | 3.0 | 17.0 | 9.0 | 11.0 | 5.0 | 6.0 | 1.0 | 52.0 |
| | % within Primary sector of employment at present | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |
| | % within Length of time in rural practice (in years) | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | % of Total | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 38.703[a] | 24 | .029 |
| Likelihood Ratio | 27.118 | 24 | .299 |
| Linear-by-Linear Association | 4.541 | 1 | .033 |
| N of Valid Cases | 52 | | |

a. 31 cells (88.6%) have expected count less than 5. The minimum expected count is .02.

**Your work plans within the next 5 years most likely to be: Remain in rural practice * Length of time in rural practice (in years) Crosstabulation**

| | | | Length of time in rural practice (in years) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Less than one year | 1 - 5 years | 6 - 10 years | 11- 15 years | 16- 20 years | Above 20 years | (blank) | Total |
| Your work plans within the next 5 years most likely to be: Remain in rural practice | Yes | Count | 0 | 8 | 8 | 6 | 4 | 4 | 0 | 30 |
| | | Expected Count | 1.7 | 9.8 | 5.2 | 6.3 | 2.9 | 3.5 | .6 | 30.0 |
| | | % within Your work plans within the next 5 years most likly to be: Remain in rural practice | .0% | 26.7% | 26.7% | 20.0% | 13.3% | 13.3% | .0% | 100.0% |
| | | % within Length of time in rural practice (in years) | .0% | 47.1% | 88.9% | 54.5% | 80.0% | 66.7% | .0% | 57.7% |
| | | % of Total | .0% | 15.4% | 15.4% | 11.5% | 7.7% | 7.7% | .0% | 57.7% |
| | (blank) | Count | 3 | 9 | 1 | 5 | 1 | 2 | 1 | 22 |
| | | Expected Count | 1.3 | 7.2 | 3.8 | 4.7 | 2.1 | 2.5 | .4 | 22.0 |
| | | % within Your work plans within the next 5 years most likly to be: Remain in rural practice | 13.6% | 40.9% | 4.5% | 22.7% | 4.5% | 9.1% | 4.5% | 100.0% |
| | | % within Length of time in rural practice (in years) | 100.0% | 52.9% | 11.1% | 45.5% | 20.0% | 33.3% | 100.0% | 42.3% |
| | | % of Total | 5.8% | 17.3% | 1.9% | 9.6% | 1.9% | 3.8% | 1.9% | 42.3% |
| | Total | Count | 3 | 17 | 9 | 11 | 5 | 6 | 1 | 52 |
| | | Expected Count | 3.0 | 17.0 | 9.0 | 11.0 | 5.0 | 6.0 | 1.0 | 52.0 |
| | | % within Your work plans within the next 5 years most likly to be: Remain in rural practice | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |
| | | % within Length of time in rural practice (in years) | 100.0% | 100.0 % | 100.0 % | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | | % of Total | 5.8% | 32.7% | 17.3% | 21.2% | 9.6% | 11.5% | 1.9% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 11.093[a] | 6 | .086 |
| Likelihood Ratio | 13.264 | 6 | .039 |
| Linear-by-Linear Association | 1.372 | 1 | .242 |
| N of Valid Cases | 52 | | |

a. 10 cells (71.4%) have expected count less than 5. The minimum expected count is .42.

# Appendix 7 : Survey Questionnaire

UNIVERSITY of the WESTERN CAPE

RURAL DOCTORS' PERCEPTIONS OF THE ROLE OF THE COMMUNITY IN THE RURAL DOCTOR RECRUITMENT AND RETENTION PROCESS

October 2008

**Instructions**

1. Please read all the questions carefully and make sure you know exactly what is required.
2. Answer each question, where relevant, by making a cross in the appropriate block next to the question. Please answer all questions.
3. Please return the questionnaire at your earliest convenience.
4. All results will be aggregated and statistically treated before being incorporated into the research findings. The general research findings will be made available for publication
5. **All information will be treated as strictly confidential**

Answer the following questions by making a tick in the appropriate block:

## SECTION A : BIOGRAPHIC DETAILS

A.1) Name of doctor ***(Complete for purpose of lucky draw only)***

A.2) Gender

| Male | Female |
|---|---|
| | |

A.3) Age

| <30 | 30-40 | 41-50 | 51-60 | >60 |
|---|---|---|---|---|
| | | | | |

A.4) Population group *(For research purposes only)*

| African | Coloured | Indian | White | Other |
|---|---|---|---|---|
| | | | | |

A.5) Background *(Place associated most ito upbringing)*

| Rural | Urban |
|---|---|
| | |

A.6) Marital status

| Married | Single |
|---|---|
| | |

A.6.1) If yes: Please indicate background of spouse *(Place that spouse would most likely associate ito upbringing)*

| Rural | Urban |
|---|---|
| | |

A.6.2) Educational qualification of spouse

| Medical | Non-medical |
|---|---|
| | |

A.6.3) Employment status of spouse

| Employed | Unemployed |
|---|---|
| | |

A.7) Dependents

| No | Yes |
|---|---|
| | |

A.7.1) If yes : Please indicate number of dependents in each age category

| | Dependent | |
|---|---|---|
| | *Age* | **Number** |
| *A.7.1.1* | 1-5 | |
| *A.7.1.2* | 6-10 | |
| *A.7.1.3* | 11-15 | |
| *A.7.1.4* | 16-20 | |

A.8) Qualification

| Medical Officer | Specialist | Registrar |
|---|---|---|
| | | |

A.9) Qualification received

| SA institution | Overseas |
|---|---|
| | |

A.10) Place in which internship was conducted

| Rural | Urban |
|---|---|
| | |

A.11) Place in which Community Service was conducted

| Rural | Urban |
|---|---|
| | |

A.12) Initial practice location after full registration

| Rural | Urban |
|---|---|
| | |

A.13) Primary sector of employment at present

| Public | Private |
|---|---|
| | |

A.14) Length of time in rural practice (in years)

| 1< | 1-5 | 6-10 | 10-15 | 15-20 | >20 |
|---|---|---|---|---|---|
| | | | | | |



A.15) What are your work plans within the next 5 years most likely to be?
*(Please tick one box only. If you choose three [A.14.3], indicate whether you intend to return or not, by selecting the appropriate box)*

| | | | | | |
|---|---|---|---|---|---|
| A.15.1 | Remain in rural practice | | | | |
| A.15.2 | Leave rural practice for urban practice | | | | |
| A.15.3 | Work abroad | A.15.4 | Do you intend to return | Yes | No |
| A.15.5 | Retire | | | | |
| A.15.6 | Other *(Please specify)* ……. | | | | |

## SECTION B : RECRUITMENT OF A RURAL DOCTOR

Definition : Recruitment is defined as the 'attracting and securing of a doctor to work in a rural area'. It is about doctors **choosing to move to and work** in a particular location of which key notions include attraction and choice.

In terms of your own personal experience, how would you rate the importance of the following factors in your decision to opt for rural practice:

| | *RECRUITMENT FACTOR* | Not important | Somewhat important | Not sure | Important | Very important |
|---|---|---|---|---|---|---|
| **B.1** | **The availability of :** | | | | | |
| *B.1.1* | *Domestic assistance* | | | | | |
| *B.1.2* | *Childcare facilities* | | | | | |
| *B.1.3* | *Educational facilities (creche, early childhood development/ECD facility, schools)* | | | | | |
| *B.1.4* | *Recreation/ sport amenities* | | | | | |
| *B.1.5* | *Entertainment amenities* | | | | | |
| *B.1.6* | *Religious amenities* | | | | | |
| *B.1.7* | *Communication infrastructural amenities* | | | | | |
| *B.1.8* | *Subsidised accommodation/ housing* | | | | | |
| *B.1.9* | *Free accommodation/ housing* | | | | | |
| *B.1.10* | *Lay healthcare provision (home-based carers, community health workers) within the community* | | | | | |
| *B.1.11* | *Allied healthcare services (eg nurses)* | | | | | |
| *B.1.12* | *Peer support* | | | | | |
| *B.1.13* | *Locum support* | | | | | |
| *B.1.14* | *Traditional healthcare* | | | | | |
| **B.2** | **The beauty of the natural environment** | | | | | |
| **B.3** | **The quality of the roads in the area** | | | | | |
| **B.4** | **The quality of the water in the area** | | | | | |
| **B.5** | **The issue of safety/ security within the community** | | | | | |
| **B.6** | **The issue of crime within the community** | | | | | |
| **B.7** | **Family ties within the rural community or close proximity** | | | | | |
| **B.8** | **Feeling prepared for rural practice** | | | | | |
| **B.9** | **Exposure to rural practice during undergraduate training** | | | | | |
| **B.10** | **Exposure to rural practice as a result of internship** | | | | | |
| **B.11** | **Exposure to rural practice as a result of community service** | | | | | |
| **B.12** | **Acceptance within a community** | | | | | |

| | *RECRUITMENT FACTOR* | Not important | Somewhat important | Not sure | Important | Very important |
|---|---|---|---|---|---|---|
| **B.13** | **The marketing of community natural environmental resources** | | | | | |
| **B.14** | **The existence of a local community health structure** | | | | | |
| **B.15** | **The existence of good leadership within the community** | | | | | |
| **B.16** | **Being valued within a community** | | | | | |
| **B.17** | **The level of community diversity (eg cultural diversity)** | | | | | |
| **B.18** | **Ability of the community to organise around health issues (work collectively)** | | | | | |
| **B.19** | **Spouse employment** | | | | | |
| **B.20** | **Feeling welcome within a community** | | | | | |
| **B.21** | **Defining of local health service needs at community level** | | | | | |
| **B.22** | **The drafting of a rural doctor's service agreement** | | | | | |
| **B.23** | **Appropriate matching and placing of a rural doctor** | | | | | |
| **B.24** | **Feeling integrated within a community** | | | | | |
| **B.25** | **Doctor's family feeling integrated within the community** | | | | | |
| **B.26** | **The marketing of community human resources (eg mechanics, teachers, councillors, leaders)** | | | | | |
| **B.27** | **Issue of support to :** | | | | | |
| *B.27.1* | *The doctor* | | | | | |
| *B.27.2* | *The doctor's spouse* | | | | | |
| *B.27.3* | *The doctor's dependent/s* | | | | | |
| **B.28** | **Periodic monitoring/ assessment of :** | | | | | |
| *B.28.1* | *The wellbeing of the doctor* | | | | | |
| *B.28.2* | *The wellbeing of the doctor's family* | | | | | |
| **B.29** | **Developing appropriate financial incentive/ reward system for rural doctors** | | | | | |
| **B.30** | **Building partnerships with various roleplayers involved with rural doctor recruitment** | | | | | |
| **B.31** | **Communities working together within a specific regional context in order to recruit rural doctors** | | | | | |
| **B.32** | **Identifying of local youth talent as potential healthcare professional at community level** | | | | | |
| **B.33** | **Provision of community resources to support local youth learners/ students financially (eg bursaries)** | | | | | |
| **B.34** | **The community forging of relations with medical training institutions** | | | | | |
| **B.35** | **Kindly rate the importance of the role of these roleplayers in the recruitment process of a rural doctor:** | | | | | |
| *B.35.1* | *A health-related community representative structure (eg Health Board)* | | | | | |

| | *RECRUITMENT FACTOR* | Not important | Somewhat important | Not sure | Important | Very important |
|---|---|---|---|---|---|---|
| *B.35.2* | *The municipality* | | | | | |
| *B.35.3* | *Local councillors* | | | | | |
| *B.35.4* | *Local community-based organisations (eg community associations, forums, co-operatives, labour organisations)* | | | | | |
| *B.35.5* | *Local non-profit organisations (NPOs) (eg research / human-rights organisations)* | | | | | |
| *B.35.6* | *Local business sector* | | | | | |

## SECTION C

**C.1 Do you have any general comments or issues not captured above, which need to be taken into consideration when addressing the process of the** recruitment **of a rural doctor?**

……

……

## SECTION D : RETENTION OF A RURAL DOCTOR

Definition **:** Retention is concerned with keeping a doctor in a rural community for an 'acceptable' length of time, either in the initial rural community or any other subsequent rural location



In terms of your own personal experience, how would you rate the importance of the following factors in your decision to remain in rural practice:

| | *RETENTION FACTOR* | Not important | Somewhat important | Not sure | Important | Very important |
|---|---|---|---|---|---|---|
| **D.1** | **Ability of the community to organise around health issues (work collectively)** | | | | | |
| **D.2** | **Defining of local health service needs at community level** | | | | | |
| **D.3** | **The level of community diversity (eg cultural diversity)** | | | | | |
| **D.4** | **The existence of a local community health structure** | | | | | |
| **D.5** | **The existence of good leadership within the community** | | | | | |
| **D.6** | **Building partnerships with various roleplayers involved with rural doctor retention** | | | | | |
| **D.7** | **Kindly rate the importance of the role of these roleplayers in the retention process of a rural doctor:** | | | | | |
| *D.7.1* | *A health-related community representative structure (eg Health Board)* | | | | | |
| *D.7.2* | *The municipality* | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *D.7.3* | *Local councillors* | | | | | |
| *D.7.4* | *Local community-based organisations (eg community associations, forums, co-operatives, labour organisations)* | | | | | |
| *D.7.5* | *Local non-profit organisations (NPOs) (eg research / human-rights organisations)* | | | | | |
| *D.7.6* | *Local business sector* | | | | | |
| | *RETENTION FACTOR* | Not important | Somewhat important | Not sure | Important | Very important |
| **D.8** | **Communities working together within a specific regional context in order to retain rural doctors** | | | | | |
| **D.9** | **Identifying of local youth talent as potential healthcare professional at community level** | | | | | |
| **D.10** | **Provision of community resources to support local youth learners/ students financially (eg bursaries)** | | | | | |
| **D.11** | **Family ties within the rural community or close proximity** | | | | | |
| **D.12** | **Appropriate matching and placing of a rural doctor** | | | | | |
| **D.13** | **The marketing of community natural environmental resources** | | | | | |
| **D.14** | **The beauty of the natural environment** | | | | | |
| **D.15** | **The marketing of community human resources (eg mechanics, teachers, councillors, leaders)** | | | | | |
| **D.16** | **The community forging of relations with medical training institutions** | | | | | |
| **D.17** | **Feeling prepared for rural practice** | | | | | |
| **D.18** | **Exposure to rural practice during undergraduate training** | | | | | |
| **D.19** | **Exposure to rural practice as a result of internship** | | | | | |
| **D.20** | **Exposure to rural practice as a result of community service** | | | | | |
| **D.21** | **Feeling welcome within a community** | | | | | |
| **D.22** | **Acceptance within a community** | | | | | |
| **D.23** | **Feeling integrated within a community** | | | | | |
| **D.24** | **Issue of support to :** | | | | | |
| *D.24.1* | *The doctor* | | | | | |
| *D.24.2* | *The doctor's spouse* | | | | | |
| *D.24.3* | *The doctor's dependent/s* | | | | | |
| **D.25** | **Developing appropriate financial incentive/ reward system for rural doctors** | | | | | |
| **D.26** | **Periodic monitoring/ assessment of :** | | | | | |
| *D.26.1* | *The wellbeing of the doctor* | | | | | |
| *D.26.2* | *The wellbeing of the doctor's family* | | | | | |
| **D.27** | **Being valued within a community** | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **D.28** | **The drafting of a rural doctor's service agreement** | | | | | |
| **D.29** | **The availability of :** | | | | | |
| *D.29.1* | *Domestic assistance* | | | | | |
| *D.29.2* | *Childcare facilities* | | | | | |
| *D.29.3* | *Educational facilities (creche, early childhood development/ ECD facility, schools)* | | | | | |
| | *RETENTION FACTOR* | Not important | Somewhat important | Not sure | Important | Very important |
| *D.29.4* | *Recreation/ sport amenities* | | | | | |
| *D.29.5* | *Entertainment amenities* | | | | | |
| *D.29.6* | *Religious amenities* | | | | | |
| *D.29.7* | *Communication infrastructural amenities* | | | | | |
| *D.29.8* | *Subsidised accommodation/ housing* | | | | | |
| *D.29.9* | *Free accommodation/ housing* | | | | | |
| *D.29.10* | *Lay healthcare provision (home-based carers, community health workers) within the community* | | | | | |
| *D.29.11* | *Allied healthcare services (eg nurses)* | | | | | |
| *D.29.12* | *Peer support* | | | | | |
| *D.29.13* | *Locum support* | | | | | |
| *D.29.14* | *Traditional healthcare* | | | | | |
| **D.30** | **Spouse employment** | | | | | |
| **D.31** | **Doctor's family feeling integrated within the community** | | | | | |
| **D.32** | **The issue of safety/ security within the community** | | | | | |
| **D.33** | **The issue of crime within the community** | | | | | |
| **D.34** | **The quality of the roads in the area** | | | | | |
| **D.35** | **The quality of the water in the area** | | | | | |



**SECTION E**

**E.1 Do you have any general comments or issues not captured above, which need to be taken into consideration when addressing the process of the retention of a rural doctor?**

……

……

**Thank you for your time and valuable comments!**

# Appendix 8 : ANOVA STASTICAL RESULTS:

## A. Recruitment

**Gender: ANOVA**

| | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Between Groups | 6.044 | 1 | 6.044 | 4.358 | .042 |
| | Within Groups | 67.956 | 49 | 1.387 | | |
| | Total | 74.000 | 50 | | | |
| | Between Groups | 10.773 | 1 | 10.773 | 7.384 | .009 |
| | Within Groups | 65.652 | 45 | 1.459 | | |
| | Total | 76.426 | 46 | | | |
| | Between Groups | 4.550 | 1 | 4.550 | 3.209 | .079 |
| | Within Groups | 69.489 | 49 | 1.418 | | |
| | Total | 74.039 | 50 | | | |
| Local non-profit organisations | Between Groups | 6.561 | 1 | 6.561 | 3.955 | .052 |
| | Within Groups | 79.619 | 48 | 1.659 | | |
| | Total | 86.180 | 49 | | | |
| Local business sector | Between Groups | 5.357 | 1 | 5.357 | 3.422 | .070 |
| | Within Groups | 75.143 | 48 | 1.565 | | |
| | Total | 80.500 | 49 | | | |



**Descriptives**

| | | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum | Between-Component Variance |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound |
| Exposure to rural practice during undergraduate training | Male | | 36 | 4.22 | .929 | .155 | 3.91 | 4.54 | 2 | 5 | |
| | Female | | 15 | 3.47 | 1.642 | .424 | 2.56 | 4.38 | 1 | 5 | |
| | Total | | 51 | 4.00 | 1.217 | .170 | 3.66 | 4.34 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.178 | .165 | 3.67 | 4.33 | | | |
| | | Random Effects | | | | .395 | -1.02 | 9.02 | | | .220 |
| Exposure to rural practice as a result of community service | Male | | 32 | 4.09 | .963 | .170 | 3.75 | 4.44 | 1 | 5 | |
| | Female | | 15 | 3.07 | 1.624 | .419 | 2.17 | 3.97 | 1 | 5 | |
| | Total | | 47 | 3.77 | 1.289 | .188 | 3.39 | 4.14 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.208 | .176 | 3.41 | 4.12 | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Random Effects | | | | .537 | -3.06 | 10.60 | | | .456 |
| | | Random Effects | | | | .193(a) | .80(a) | 5.71(a) | | | -.084 |
| Provision of community resources to support local youth learners / students financially | Male | | 36 | 4.06 | 1.120 | .187 | 3.68 | 4.43 | 1 | 5 | |
| | Female | | 15 | 3.40 | 1.352 | .349 | 2.65 | 4.15 | 1 | 5 | |
| | Total | | 51 | 3.86 | 1.217 | .170 | 3.52 | 4.20 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.191 | .167 | 3.53 | 4.20 | | | |
| | | Random Effects | | | | .338 | -.43 | 8.16 | | | .148 |
| Local non-profit organisations | Male | | 35 | 3.66 | 1.259 | .213 | 3.22 | 4.09 | 1 | 5 | |
| | Female | | 15 | 2.87 | 1.356 | .350 | 2.12 | 3.62 | 1 | 5 | |
| | Total | | 50 | 3.42 | 1.326 | .188 | 3.04 | 3.80 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.288 | .182 | 3.05 | 3.79 | | | |
| | | Random Effects | | | | .411 | -1.80 | 8.64 | | | .233 |
| Local business sector | Male | | 35 | 3.31 | 1.255 | .212 | 2.88 | 3.75 | 1 | 5 | |
| | Female | | 15 | 2.60 | 1.242 | .321 | 1.91 | 3.29 | 1 | 4 | |
| | Total | | 50 | 3.10 | 1.282 | .181 | 2.74 | 3.46 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.251 | .177 | 2.74 | 3.46 | | | |
| | | Random Effects | | | | .369 | -1.59 | 7.79 | | | .181 |

a Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.



**Age group : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Entertainment amenities | Between Groups | 16.150 | 4 | 4.037 | 2.538 | .053 |
| | Within Groups | 73.183 | 46 | 1.591 | | |
| | Total | 89.333 | 50 | | | |
| Religious amenities | Between Groups | 12.852 | 4 | 3.213 | 2.118 | .094 |
| | Within Groups | 69.775 | 46 | 1.517 | | |
| | Total | 82.627 | 50 | | | |
| The marketing of community natural environmental resources | Between Groups | 11.086 | 4 | 2.772 | 2.104 | .096 |
| | Within Groups | 60.600 | 46 | 1.317 | | |
| | Total | 71.686 | 50 | | | |
| Feeling integrated within a community | Between Groups | 14.753 | 4 | 3.688 | 3.977 | .007 |
| | Within Groups | 42.658 | 46 | .927 | | |
| | Total | 57.412 | 50 | | | |

**Descriptives**

| | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum | Between- Compo-nent Variance |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound |
| Entertainment amenities | Less than 30 years | 4 | 4.50 | .577 | .289 | 3.58 | 5.42 | 4 | 5 | |
| | 30 - 40 years | 20 | 2.70 | 1.261 | .282 | 2.11 | 3.29 | 1 | 4 | |
| | 41 - 50 years | 15 | 2.47 | 1.356 | .350 | 1.72 | 3.22 | 1 | 5 | |
| | 51 - 60 years | 8 | 2.25 | 1.282 | .453 | 1.18 | 3.32 | 1 | 4 | |
| | 61 years and above | 4 | 2.25 | 1.258 | .629 | .25 | 4.25 | 1 | 4 | |
| | Total | 51 | 2.67 | 1.337 | .187 | 2.29 | 3.04 | 1 | 5 | |
| | Model Fixed Effects | | | 1.261 | .177 | 2.31 | 3.02 | | | |
| | Random Effects | | | | .324 | 1.77 | 3.57 | | | .265 |
| Religious amenities | Less than 30 years | 4 | 3.25 | 1.500 | .750 | .86 | 5.64 | 1 | 4 | |
| | 30 - 40 years | 20 | 3.75 | 1.209 | .270 | 3.18 | 4.32 | 1 | 5 | |
| | 41 - 50 years | 15 | 3.20 | 1.373 | .355 | 2.44 | 3.96 | 1 | 5 | |
| | 51 - 60 years | 8 | 3.13 | 1.126 | .398 | 2.18 | 4.07 | 1 | 4 | |
| | 61 years and above | 4 | 5.00 | .000 | .000 | 5.00 | 5.00 | 5 | 5 | |
| | Total | 51 | 3.55 | 1.286 | .180 | 3.19 | 3.91 | 1 | 5 | |
| | Model Fixed Effects | | | 1.232 | .172 | 3.20 | 3.90 | | | |
| | Random Effects | | | | .284 | 2.76 | 4.34 | | | .184 |
| The marketing of community natural environmental resources | Less than 30 years | 4 | 3.50 | 1.000 | .500 | 1.91 | 5.09 | 2 | 4 | |
| | 30 - 40 years | 20 | 2.75 | 1.164 | .260 | 2.21 | 3.29 | 1 | 5 | |
| | 41 - 50 years | 15 | 3.40 | 1.242 | .321 | 2.71 | 4.09 | 1 | 5 | |
| | 51 - 60 years | 8 | 2.75 | 1.165 | .412 | 1.78 | 3.72 | 1 | 4 | |
| | 61 years and above | 4 | 1.75 | .500 | .250 | .95 | 2.55 | 1 | 2 | |
| | Total | 51 | 2.92 | 1.197 | .168 | 2.58 | 3.26 | 1 | 5 | |
| | Model Fixed Effects | | | 1.148 | .161 | 2.60 | 3.25 | | | |
| | Random Effects | | | | .264 | 2.19 | 3.65 | | | .158 |
| Feeling integrated within a community | Less than 30 years | 4 | 3.75 | 1.258 | .629 | 1.75 | 5.75 | 2 | 5 | |
| | 30 - 40 years | 20 | 3.65 | 1.137 | .254 | 3.12 | 4.18 | 1 | 5 | |
| | 41 - 50 years | 15 | 4.47 | .516 | .133 | 4.18 | 4.75 | 4 | 5 | |
| | 51 - 60 years | 8 | 2.88 | 1.126 | .398 | 1.93 | 3.82 | 1 | 4 | |
| | 61 years and above | 4 | 4.25 | .500 | .250 | 3.45 | 5.05 | 4 | 5 | |
| | Total | 51 | 3.82 | 1.072 | .150 | 3.52 | 4.12 | 1 | 5 | |
| | Model Fixed Effects | | | .963 | .135 | 3.55 | 4.09 | | | |
| | Random Effects | | | | .318 | 2.94 | 4.71 | | | .300 |

a Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.

## Population group: ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Domestic assistance | Between Groups | 25.138 | 5 | 5.028 | 2.556 | .041 |
| | Within Groups | 86.542 | 44 | 1.967 | | |
| | Total | 111.680 | 49 | | | |
| Childcare facilities | Between Groups | 24.603 | 5 | 4.921 | 2.064 | .088 |
| | Within Groups | 104.917 | 44 | 2.384 | | |
| | Total | 129.520 | 49 | | | |
| Subsidised accommodation / housing | Between Groups | 21.653 | 5 | 4.331 | 2.768 | .029 |
| | Within Groups | 68.847 | 44 | 1.565 | | |
| | Total | 90.500 | 49 | | | |
| Free accommodation / housing | Between Groups | 37.377 | 5 | 7.475 | 4.071 | .004 |
| | Within Groups | 82.623 | 45 | 1.836 | | |
| | Total | 120.000 | 50 | | | |
| Peer support | Between Groups | 11.847 | 5 | 2.369 | 2.676 | .034 |
| | Within Groups | 39.839 | 45 | .885 | | |
| | Total | 51.686 | 50 | | | |
| The beauty of the natural environment | Between Groups | 19.185 | 5 | 3.837 | 3.492 | .009 |
| | Within Groups | 49.443 | 45 | 1.099 | | |
| | Total | 68.627 | 50 | | | |
| The existance of good leadership within the community | Between Groups | 15.411 | 5 | 3.082 | 2.301 | .060 |
| | Within Groups | 60.275 | 45 | 1.339 | | |
| | Total | 75.686 | 50 | | | |
| Local non-profit organisations | Between Groups | 18.416 | 5 | 3.683 | 2.392 | .053 |
| | Within Groups | 67.764 | 44 | 1.540 | | |
| | Total | 86.180 | 49 | | | |



### Descriptives

| | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Mini-mum | Maxi-mum | Between- Compo-nent Variance |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound |
| Domestic assistance | African | 8 | 4.38 | .518 | .183 | 3.94 | 4.81 | 4 | 5 | |
| | Indian | 3 | 2.67 | 1.155 | .667 | -.20 | 5.54 | 2 | 4 | |
| | White | 36 | 2.67 | 1.531 | .255 | 2.15 | 3.18 | 1 | 5 | |
| | Khoi | 1 | 4.00 | . | . | . | . | 4 | 4 | |
| | Human | 1 | 2.00 | . | . | . | . | 2 | 2 | |
| | (blank) | 1 | 1.00 | . | . | . | . | 1 | 1 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | | 50 | 2.92 | 1.510 | .214 | 2.49 | 3.35 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.402 | .198 | 2.52 | 3.32 | | | |
| | | Random Effects | | | | .642 | 1.27 | 4.57 | | | .678 |
| Childcare facilities | African | | 8 | 4.75 | .463 | .164 | 4.36 | 5.14 | 4 | 5 | |
| | Indian | | 3 | 3.33 | 1.155 | .667 | .46 | 6.20 | 2 | 4 | |
| | White | | 36 | 3.08 | 1.697 | .283 | 2.51 | 3.66 | 1 | 5 | |
| | Khoi | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | Human | | 1 | 2.00 | . | . | . | . | 2 | 2 | |
| | (blank) | | 1 | 2.00 | . | . | . | . | 2 | 2 | |
| | Total | | 50 | 3.36 | 1.626 | .230 | 2.90 | 3.82 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.544 | .218 | 2.92 | 3.80 | | | |
| | | Random Effects | | | | .597 | 1.83 | 4.89 | | | .562 |
| Subsidised accom-modation/ housing | African | | 8 | 4.38 | .518 | .183 | 3.94 | 4.81 | 4 | 5 | |
| | Indian | | 3 | 5.00 | .000 | .000 | 5.00 | 5.00 | 5 | 5 | |
| | White | | 36 | 3.53 | 1.383 | .231 | 3.06 | 4.00 | 1 | 5 | |
| | Khoi | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | Human | | 1 | 1.00 | . | . | . | . | 1 | 1 | |
| | (blank) | | 1 | 2.00 | . | . | . | . | 2 | 2 | |
| | Total | | 50 | 3.70 | 1.359 | .192 | 3.31 | 4.09 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.251 | .177 | 3.34 | 4.06 | | | |
| | | Random Effects | | | | .606 | 2.14 | 5.26 | | | .613 |
| Free accommodation / housing | African | | 8 | 4.13 | .991 | .350 | 3.30 | 4.95 | 2 | 5 | |
| | Indian | | 3 | 4.67 | .577 | .333 | 3.23 | 6.10 | 4 | 5 | |
| | White | | 37 | 2.57 | 1.444 | .237 | 2.09 | 3.05 | 1 | 5 | |
| | Khoi | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | Human | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | (blank) | | 1 | 1.00 | . | . | . | . | 1 | 1 | |
| | Total | | 51 | 3.00 | 1.549 | .217 | 2.56 | 3.44 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.355 | .190 | 2.62 | 3.38 | | | |
| | | Random Effects | | | | .853 | .81 | 5.19 | | | 1.244 |
| Peer support | African | | 8 | 4.38 | .518 | .183 | 3.94 | 4.81 | 4 | 5 | |
| | Indian | | 3 | 4.67 | .577 | .333 | 3.23 | 6.10 | 4 | 5 | |
| | White | | 37 | 4.27 | 1.018 | .167 | 3.93 | 4.61 | 1 | 5 | |
| | Khoi | | 1 | 5.00 | . | . | . | . | 5 | 5 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Human | | 1 | 1.00 | . | . | . | . | 1 | 1 | |
| | (blank) | | 1 | 4.00 | . | . | . | . | 4 | 4 | |
| | Total | | 51 | 4.25 | 1.017 | .142 | 3.97 | 4.54 | 1 | 5 | |
| | Model | Fixed Effects | | | .941 | .132 | 3.99 | 4.52 | | | |
| | | Random Effects | | | | .446 | 3.11 | 5.40 | | | .327 |
| The beauty of the natural environment | African | | 8 | 2.38 | .916 | .324 | 1.61 | 3.14 | 1 | 4 | |
| | Indian | | 3 | 3.00 | 1.732 | 1.000 | -1.30 | 7.30 | 1 | 4 | |
| | White | | 37 | 3.89 | 1.022 | .168 | 3.55 | 4.23 | 2 | 5 | |
| | Khoi | | 1 | 4.00 | . | . | . | . | 4 | 4 | |
| | Human | | 1 | 2.00 | . | . | . | . | 2 | 2 | |
| | (blank) | | 1 | 3.00 | . | . | . | . | 3 | 3 | |
| | Total | | 51 | 3.55 | 1.172 | .164 | 3.22 | 3.88 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.048 | .147 | 3.25 | 3.84 | | | |
| | | Random Effects | | | | .598 | 2.01 | 5.09 | | | .604 |
| The existance of good leadership within community | African | | 8 | 4.25 | .463 | .164 | 3.86 | 4.64 | 4 | 5 | |
| | Indian | | 3 | 4.33 | .577 | .333 | 2.90 | 5.77 | 4 | 5 | |
| | White | | 37 | 3.68 | 1.270 | .209 | 3.25 | 4.10 | 1 | 5 | |
| | Khoi | | 1 | 2.00 | . | . | . | . | 2 | 2 | |
| | Human | | 1 | 1.00 | . | . | . | . | 1 | 1 | |
| | (blank) | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | Total | | 51 | 3.75 | 1.230 | .172 | 3.40 | 4.09 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.157 | .162 | 3.42 | 4.07 | | | |
| | | Random Effects | | | | .490 | 2.49 | 5.00 | | | .384 |
| Local non-profit organisations | African | | 8 | 4.38 | .518 | .183 | 3.94 | 4.81 | 4 | 5 | |
| | Indian | | 3 | 3.33 | .577 | .333 | 1.90 | 4.77 | 3 | 4 | |
| | White | | 36 | 3.28 | 1.365 | .228 | 2.82 | 3.74 | 1 | 5 | |
| | Khoi | | 1 | 1.00 | . | . | . | . | 1 | 1 | |
| | Human | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | (blank) | | 1 | 2.00 | . | . | . | . | 2 | 2 | |
| | Total | | 50 | 3.42 | 1.326 | .188 | 3.04 | 3.80 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.241 | .176 | 3.07 | 3.77 | | | |
| | | Random Effects | | | | .540 | 2.03 | 4.81 | | | .475 |

a Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.

## Background : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Domestic assistance | Between Groups | 7.732 | 1 | 7.732 | 3.570 | .065 |
| | Within Groups | 103.948 | 48 | 2.166 | | |
| | Total | 111.680 | 49 | | | |
| Childcare facilities | Between Groups | 11.845 | 1 | 11.845 | 4.831 | .033 |
| | Within Groups | 117.675 | 48 | 2.452 | | |
| | Total | 129.520 | 49 | | | |
| Education facilities | Between Groups | 17.183 | 2 | 8.592 | 3.834 | .029 |
| | Within Groups | 107.562 | 48 | 2.241 | | |
| | Total | 124.745 | 50 | | | |
| Communication infrastructural amenities | Between Groups | 6.880 | 2 | 3.440 | 2.595 | .085 |
| | Within Groups | 63.630 | 48 | 1.326 | | |
| | Total | 70.510 | 50 | | | |
| Subsidised accommodation / housing | Between Groups | 10.279 | 2 | 5.140 | 3.011 | .055 |
| | Within Groups | 80.221 | 47 | 1.707 | | |
| | Total | 90.500 | 49 | | | |

**Descriptives**

| | | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum | | Between- Component Variance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| | | | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | |
| Domestic assistance | Rural | | 22 | 3.36 | 1.529 | .326 | 2.69 | 4.04 | 1 | 5 | | |
| | Urban | | 28 | 2.57 | 1.425 | .269 | 2.02 | 3.12 | 1 | 5 | | |
| | (blank) | | 0 | . | . | . | . | . | . | . | | |
| | Total | | 50 | 2.92 | 1.510 | .214 | 2.49 | 3.35 | 1 | 5 | | |
| | Model | Fixed Effects | | | 1.472 | .208 | 2.50 | 3.34 | | | | |
| | | Random Effects | | | | .397 | -2.13 | 7.97 | | | | .226 |
| Childcare facilities | Rural | | 22 | 3.91 | 1.509 | .322 | 3.24 | 4.58 | 1 | 5 | | |
| | Urban | | 28 | 2.93 | 1.609 | .304 | 2.30 | 3.55 | 1 | 5 | | |
| | (blank) | | 0 | . | . | . | . | . | . | . | | |
| | Total | | 50 | 3.36 | 1.626 | .230 | 2.90 | 3.82 | 1 | 5 | | |
| | Model | Fixed Effects | | | 1.566 | .221 | 2.91 | 3.81 | | | | |
| | | Random Effects | | | | .492 | -2.90 | 9.62 | | | | .381 |
| Education facilities | Rural | | 22 | 4.45 | 1.224 | .261 | 3.91 | 5.00 | 1 | 5 | | |
| | Urban | | 28 | 3.32 | 1.679 | .317 | 2.67 | 3.97 | 1 | 5 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | (blank) | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | Total | | 51 | 3.84 | 1.580 | .221 | 3.40 | 4.29 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.497 | .210 | 3.42 | 4.26 | | | |
| | | Random Effects | | | | .530 | 1.56 | 6.12 | | | .486 |
| Communication infrastructural amenities | Rural | | 22 | 4.32 | .894 | .191 | 3.92 | 4.71 | 1 | 5 | |
| | Urban | | 28 | 3.57 | 1.317 | .249 | 3.06 | 4.08 | 1 | 5 | |
| | (blank) | | 1 | 4.00 | . | . | . | . | 4 | 4 | |
| | Total | | 51 | 3.90 | 1.188 | .166 | 3.57 | 4.24 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.151 | .161 | 3.58 | 4.23 | | | |
| | | Random Effects | | | | .324 | 2.51 | 5.30 | | | .162 |
| Subsidised accom-modation / housing | Rural | | 22 | 4.14 | 1.037 | .221 | 3.68 | 4.60 | 1 | 5 | |
| | Urban | | 27 | 3.30 | 1.489 | .287 | 2.71 | 3.89 | 1 | 5 | |
| | (blank) | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | Total | | 50 | 3.70 | 1.359 | .192 | 3.31 | 4.09 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.306 | .185 | 3.33 | 4.07 | | | |
| | | Random Effects | | | | .405 | 1.96 | 5.44 | | | .267 |

**Marital status : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Education facilities | Between Groups | 16.032 | 2 | 8.016 | 3.539 | .037 |
| | Within Groups | 108.713 | 48 | 2.265 | | |
| | Total | 124.745 | 50 | | | |
| Feeling prepared for rural practice | Between Groups | 4.103 | 2 | 2.051 | 2.743 | .074 |
| | Within Groups | 35.897 | 48 | .748 | | |
| | Total | 40.000 | 50 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 14.564 | 2 | 7.282 | 5.881 | .005 |
| | Within Groups | 59.436 | 48 | 1.238 | | |
| | Total | 74.000 | 50 | | | |

**Descriptives**

| | | | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | Mini-mum | Maximum | | Between- Compo-nent Variance |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound | Upper Bound | Lower Bound |
| Education facilities | Married | | 39 | 4.15 | 1.368 | .219 | 3.71 | 4.60 | 1 | 5 | |
| | Single | | 11 | 2.82 | 1.940 | .585 | 1.51 | 4.12 | 1 | 5 | |
| | Civil Partnership | | 1 | 3.00 | . | . | . | . | 3 | 3 | |
| | Total | | 51 | 3.84 | 1.580 | .221 | 3.40 | 4.29 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.505 | .211 | 3.42 | 4.27 | | | |
| | | Random Effects | | | | .657 | 1.02 | 6.67 | | | .612 |
| Feeling prepared for rural practice | Married | | 39 | 4.05 | .944 | .151 | 3.75 | 4.36 | 1 | 5 | |
| | Single | | 11 | 4.00 | .447 | .135 | 3.70 | 4.30 | 3 | 5 | |
| | Civil Partnership | | 1 | 2.00 | . | . | . | . | 2 | 2 | |
| | Total | | 51 | 4.00 | .894 | .125 | 3.75 | 4.25 | 1 | 5 | |
| | Model | Fixed Effects | | | .865 | .121 | 3.76 | 4.24 | | | |
| | | Random Effects | | | | .320 | 2.62 | 5.38 | | | .139 |
| Exposure to rural practice during undergraduate training | Married | | 39 | 4.26 | .993 | .159 | 3.93 | 4.58 | 1 | 5 | |
| | Single | | 11 | 3.00 | 1.483 | .447 | 2.00 | 4.00 | 1 | 5 | |
| | Civil Partnership | | 1 | 5.00 | . | . | . | . | 5 | 5 | |
| | Total | | 51 | 4.00 | 1.217 | .170 | 3.66 | 4.34 | 1 | 5 | |
| | Model | Fixed Effects | | | 1.113 | .156 | 3.69 | 4.31 | | | |
| | | Random Effects | | | | .656 | 1.18 | 6.82 | | | .643 |

a Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.

## Background of spouse : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Childcare facilities | Between Groups | 14.053 | 2 | 7.026 | 2.860 | .067 |
| | Within Groups | 115.467 | 47 | 2.457 | | |
| | Total | 129.520 | 49 | | | |
| Education facilities | Between Groups | 27.705 | 2 | 13.853 | 6.852 | .002 |
| | Within Groups | 97.040 | 48 | 2.022 | | |
| | Total | 124.745 | 50 | | | |
| Recreation / sport amenities | Between Groups | 17.743 | 2 | 8.872 | 5.843 | .005 |
| | Within Groups | 72.884 | 48 | 1.518 | | |
| | Total | 90.627 | 50 | | | |
| Entertainment amenities | Between Groups | 13.472 | 2 | 6.736 | 4.262 | .020 |
| | Within Groups | 75.861 | 48 | 1.580 | | |
| | Total | 89.333 | 50 | | | |
| Communication infrastructural amenities | Between Groups | 11.808 | 2 | 5.904 | 4.827 | .012 |
| | Within Groups | 58.702 | 48 | 1.223 | | |
| | Total | 70.510 | 50 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 14.797 | 2 | 7.398 | 5.998 | .005 |
| | Within Groups | 59.203 | 48 | 1.233 | | |
| | Total | 74.000 | 50 | | | |
| The existance of local community health structure | Between Groups | 5.384 | 2 | 2.692 | 2.614 | .084 |
| | Within Groups | 48.396 | 47 | 1.030 | | |
| | Total | 53.780 | 49 | | | |
| Spouse employment | Between Groups | 11.000 | 2 | 5.500 | 3.302 | .046 |
| | Within Groups | 78.280 | 47 | 1.666 | | |
| | Total | 89.280 | 49 | | | |
| Developing appropriate financial incentive / reward system for rural doctors | Between Groups | 7.321 | 2 | 3.660 | 2.760 | .073 |
| | Within Groups | 63.660 | 48 | 1.326 | | |
| | Total | 70.980 | 50 | | | |



## Educational qualification of spouse : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Childcare facilities | Between Groups | 17.122 | 2 | 8.561 | 3.580 | .036 |
| | Within Groups | 112.398 | 47 | 2.391 | | |
| | Total | 129.520 | 49 | | | |
| Education facilities | Between Groups | 22.808 | 2 | 11.404 | 5.370 | .008 |
| | Within Groups | 101.937 | 48 | 2.124 | | |
| | Total | 124.745 | 50 | | | |
| Communication infrastructural amenities | Between Groups | 10.552 | 2 | 5.276 | 4.224 | .020 |
| | Within Groups | 59.957 | 48 | 1.249 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Total | 70.510 | 50 | | | |
| Locum support | Between Groups | 10.180 | 2 | 5.090 | 3.287 | .046 |
| | Within Groups | 74.330 | 48 | 1.549 | | |
| | Total | 84.510 | 50 | | | |
| The quality of the roads in the area | Between Groups | 12.687 | 2 | 6.344 | 3.942 | .026 |
| | Within Groups | 77.234 | 48 | 1.609 | | |
| | Total | 89.922 | 50 | | | |
| The quality of the water in the area | Between Groups | 9.696 | 2 | 4.848 | 2.566 | .088 |
| | Within Groups | 88.784 | 47 | 1.889 | | |
| | Total | 98.480 | 49 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 15.119 | 2 | 7.560 | 6.163 | .004 |
| | Within Groups | 58.881 | 48 | 1.227 | | |
| | Total | 74.000 | 50 | | | |
| Exposure to rural practice as a result of community service | Between Groups | 8.145 | 2 | 4.073 | 2.624 | .084 |
| | Within Groups | 68.280 | 44 | 1.552 | | |
| | Total | 76.426 | 46 | | | |
| Feeling welcome within a community | Between Groups | 3.212 | 2 | 1.606 | 2.986 | .060 |
| | Within Groups | 24.747 | 46 | .538 | | |
| | Total | 27.959 | 48 | | | |
| Defining of local health service needs at community level | Between Groups | 6.368 | 2 | 3.184 | 2.428 | .099 |
| | Within Groups | 61.632 | 47 | 1.311 | | |
| | Total | 68.000 | 49 | | | |
| Issue of support to: The doctor's spouse | Between Groups | 10.360 | 2 | 5.180 | 3.894 | .027 |
| | Within Groups | 61.191 | 46 | 1.330 | | |
| | Total | 71.551 | 48 | | | |
| Issue of support to: The doctor's dependent/s | Between Groups | 8.449 | 2 | 4.225 | 2.977 | .061 |
| | Within Groups | 63.863 | 45 | 1.419 | | |
| | Total | 72.313 | 47 | | | |
| Developing appropriate financial incentive / reward system for rural doctors | Between Groups | 6.661 | 2 | 3.330 | 2.485 | .094 |
| | Within Groups | 64.320 | 48 | 1.340 | | |
| | Total | 70.980 | 50 | | | |
| | Total | 77.520 | 49 | | | |
| A health-related community representative structure | Between Groups | 11.459 | 2 | 5.729 | 2.974 | .061 |
| | Within Groups | 90.541 | 47 | 1.926 | | |
| | Total | 102.000 | 49 | | | |

**Employment status of spouse : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Education facilities | Between Groups | 23.127 | 2 | 11.563 | 5.462 | .007 |
| | Within Groups | 101.618 | 48 | 2.117 | | |
| | Total | 124.745 | 50 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 12.440 | 2 | 6.220 | 4.850 | .012 |
| | Within Groups | 61.560 | 48 | 1.283 | | |
| | Total | 74.000 | 50 | | | |
| Spouse employment | Between Groups | 10.820 | 2 | 5.410 | 3.241 | .048 |
| | Within Groups | 78.460 | 47 | 1.669 | | |
| | Total | 89.280 | 49 | | | |
| Feeling welcome within a community | Between Groups | 3.185 | 2 | 1.593 | 2.957 | .062 |
| | Within Groups | 24.774 | 46 | .539 | | |
| | Total | 27.959 | 48 | | | |
| Defining of local health service needs at community level | Between Groups | 9.243 | 2 | 4.621 | 3.697 | .032 |
| | Within Groups | 58.757 | 47 | 1.250 | | |
| | Total | 68.000 | 49 | | | |
| Issue of support to: The doctor's spouse | Between Groups | 7.070 | 2 | 3.535 | 2.522 | .091 |
| | Within Groups | 64.481 | 46 | 1.402 | | |
| | Total | 71.551 | 48 | | | |
| Developing appropriate financial incentive / reward system for rural doctors | Between Groups | 6.615 | 2 | 3.307 | 2.466 | .096 |
| | Within Groups | 64.366 | 48 | 1.341 | | |
| | Total | 70.980 | 50 | | | |
| Communities working together within a specific regional context in order to recruit rural doctors | Between Groups | 9.552 | 2 | 4.776 | 3.943 | .026 |
| | Within Groups | 58.134 | 48 | 1.211 | | |
| | Total | 67.686 | 50 | | | |
| Local business sector | Between Groups | 8.876 | 2 | 4.438 | 2.912 | .064 |
| | Within Groups | 71.624 | 47 | 1.524 | | |
| | Total | 80.500 | 49 | | | |

**Dependents : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Childcare facilities | Between Groups | 15.556 | 2 | 7.778 | 3.208 | .049 |
| | Within Groups | 113.964 | 47 | 2.425 | | |
| | Total | 129.520 | 49 | | | |
| Education facilities | Between Groups | 30.831 | 2 | 15.416 | 7.879 | .001 |
| | Within Groups | 93.914 | 48 | 1.957 | | |
| | Total | 124.745 | 50 | | | |
| Traditional healthcare | Between Groups | 9.246 | 2 | 4.623 | 3.629 | .034 |
| | Within Groups | 59.874 | 47 | 1.274 | | |
| | Total | 69.120 | 49 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 8.457 | 2 | 4.228 | 3.097 | .054 |
| | Within Groups | 65.543 | 48 | 1.365 | | |
| | Total | 74.000 | 50 | | | |
| Ability of the community to organise around health issues | Between Groups | 9.402 | 2 | 4.701 | 3.200 | .050 |
| | Within Groups | 70.519 | 48 | 1.469 | | |
| | Total | 79.922 | 50 | | | |



**Dependents (ages) 1-5 : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Entertainment amenities | Between Groups | 5.917 | 1 | 5.917 | 5.214 | .037 |
| | Within Groups | 17.024 | 15 | 1.135 | | |
| | Total | 22.941 | 16 | | | |
| Religious amenities | Between Groups | 4.711 | 1 | 4.711 | 4.033 | .063 |
| | Within Groups | 17.524 | 15 | 1.168 | | |
| | Total | 22.235 | 16 | | | |
| Subsidised accommodation / housing | Between Groups | 8.741 | 1 | 8.741 | 6.892 | .019 |
| | Within Groups | 19.024 | 15 | 1.268 | | |
| | Total | 27.765 | 16 | | | |
| Family ties within the rural community or close proximity | Between Groups | 6.668 | 1 | 6.668 | 3.204 | .094 |
| | Within Groups | 31.214 | 15 | 2.081 | | |
| | Total | 37.882 | 16 | | | |
| A health-related community representative structure | Between Groups | 9.189 | 1 | 9.189 | 6.586 | .021 |
| | Within Groups | 20.929 | 15 | 1.395 | | |
| | Total | 30.118 | 16 | | | |

6 – 10 : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Religious amenities | Between Groups | 7.203 | 1 | 7.203 | 5.281 | .039 |
| | Within Groups | 17.731 | 13 | 1.364 | | |
| | Total | 24.933 | 14 | | | |
| Subsidised accommodation / housing | Between Groups | 12.208 | 1 | 12.208 | 7.859 | .015 |
| | Within Groups | 20.192 | 13 | 1.553 | | |
| | Total | 32.400 | 14 | | | |
| Lay healthcare provision within the community | Between Groups | 6.857 | 1 | 6.857 | 8.229 | .014 |
| | Within Groups | 10.000 | 12 | .833 | | |
| | Total | 16.857 | 13 | | | |
| Peer support | Between Groups | 4.103 | 1 | 4.103 | 4.749 | .048 |
| | Within Groups | 11.231 | 13 | .864 | | |
| | Total | 15.333 | 14 | | | |
| Exposure to rural practice as a result of intership | Between Groups | 9.231 | 1 | 9.231 | 4.171 | .062 |
| | Within Groups | 28.769 | 13 | 2.213 | | |
| | Total | 38.000 | 14 | | | |
| The existance of local community health structure | Between Groups | 7.203 | 1 | 7.203 | 6.819 | .022 |
| | Within Groups | 13.731 | 13 | 1.056 | | |
| | Total | 20.933 | 14 | | | |
| The existance of good leadership within the community | Between Groups | 11.510 | 1 | 11.510 | 7.704 | .016 |
| | Within Groups | 19.423 | 13 | 1.494 | | |
| | Total | 30.933 | 14 | | | |
| Spouse employment | Between Groups | 6.669 | 1 | 6.669 | 6.314 | .026 |
| | Within Groups | 13.731 | 13 | 1.056 | | |
| | Total | 20.400 | 14 | | | |
| Defining of local health service needs at community level | Between Groups | 3.703 | 1 | 3.703 | 3.160 | .099 |
| | Within Groups | 15.231 | 13 | 1.172 | | |
| | Total | 18.933 | 14 | | | |
| Doctor's family feeling integrated within the community | Between Groups | 4.741 | 1 | 4.741 | 3.388 | .089 |
| | Within Groups | 18.192 | 13 | 1.399 | | |
| | Total | 22.933 | 14 | | | |
| A health-related community representative structure | Between Groups | 4.762 | 1 | 4.762 | 3.896 | .072 |
| | Within Groups | 14.667 | 12 | 1.222 | | |
| | Total | 19.429 | 13 | | | |

11-15 : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Education facilities | Between Groups | 18.264 | 2 | 9.132 | 5.442 | .021 |
| | Within Groups | 20.136 | 12 | 1.678 | | |
| | Total | 38.400 | 14 | | | |
| Free accommodation / housing | Between Groups | 9.597 | 2 | 4.798 | 3.568 | .061 |
| | Within Groups | 16.136 | 12 | 1.345 | | |
| | Total | 25.733 | 14 | | | |
| The marketing of community natural environmental resources | Between Groups | 12.273 | 2 | 6.136 | 4.682 | .031 |
| | Within Groups | 15.727 | 12 | 1.311 | | |
| | Total | 28.000 | 14 | | | |
| The level of community diversity | Between Groups | 7.788 | 2 | 3.894 | 3.450 | .066 |
| | Within Groups | 13.545 | 12 | 1.129 | | |
| | Total | 21.333 | 14 | | | |
| Spouse employment | Between Groups | 9.318 | 2 | 4.659 | 3.808 | .052 |
| | Within Groups | 14.682 | 12 | 1.223 | | |
| | Total | 24.000 | 14 | | | |
| The marketing of the community human resources | Between Groups | 8.264 | 2 | 4.132 | 4.891 | .028 |
| | Within Groups | 10.136 | 12 | .845 | | |
| | Total | 18.400 | 14 | | | |



16-20 : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Traditional healthcare | Between Groups | 6.686 | 2 | 3.343 | 3.766 | .078 |
| | Within Groups | 6.214 | 7 | .888 | | |
| | Total | 12.900 | 9 | | | |
| The existance of good leadership within the community | Between Groups | 1.886 | 2 | .943 | .540 | .605 |
| | Within Groups | 12.214 | 7 | 1.745 | | |
| | Total | 14.100 | 9 | | | |
| The level of community diversity | Between Groups | 9.643 | 2 | 4.821 | 6.949 | .022 |
| | Within Groups | 4.857 | 7 | .694 | | |
| | Total | 14.500 | 9 | | | |
| Feeling welcome within a community | Between Groups | 1.167 | 2 | .583 | 4.200 | .072 |
| | Within Groups | .833 | 6 | .139 | | |
| | Total | 2.000 | 8 | | | |
| Local community-based organisations | Between Groups | 8.222 | 2 | 4.111 | 4.625 | .061 |
| | Within Groups | 5.333 | 6 | .889 | | |
| | Total | 13.556 | 8 | | | |

20 and above : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Recreation / sport amenities | Between Groups | 8.192 | 2 | 4.096 | 4.312 | .045 |
| | Within Groups | 9.500 | 10 | .950 | | |
| | Total | 17.692 | 12 | | | |
| Entertainment amenities | Between Groups | 7.064 | 2 | 3.532 | 3.474 | .072 |
| | Within Groups | 10.167 | 10 | 1.017 | | |
| | Total | 17.231 | 12 | | | |
| Communication infrastructural amenities | Between Groups | 4.667 | 2 | 2.333 | 3.182 | .085 |
| | Within Groups | 7.333 | 10 | .733 | | |
| | Total | 12.000 | 12 | | | |
| The existance of good leadership within the community | Between Groups | 6.103 | 2 | 3.051 | 4.577 | .039 |
| | Within Groups | 6.667 | 10 | .667 | | |
| | Total | 12.769 | 12 | | | |
| Appropriate matching and placing of a rural doctor | Between Groups | 6.756 | 2 | 3.378 | 3.323 | .078 |
| | Within Groups | 10.167 | 10 | 1.017 | | |
| | Total | 16.923 | 12 | | | |
| Local councillors | Between Groups | 8.367 | 2 | 4.183 | 3.236 | .087 |
| | Within Groups | 11.633 | 9 | 1.293 | | |
| | Total | 20.000 | 11 | | | |
| Local community-based organisations | Between Groups | 11.423 | 2 | 5.712 | 3.685 | .063 |
| | Within Groups | 15.500 | 10 | 1.550 | | |
| | Total | 26.923 | 12 | | | |
| Local business sector | Between Groups | 10.859 | 2 | 5.429 | 4.231 | .047 |
| | Within Groups | 12.833 | 10 | 1.283 | | |
| | Total | 23.692 | 12 | | | |



**Qualification : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The existance of local community health structure | Between Groups | 10.147 | 3 | 3.382 | 3.566 | .021 |
| | Within Groups | 43.633 | 46 | .949 | | |
| | Total | 53.780 | 49 | | | |
| Being valued within a community | Between Groups | 5.932 | 3 | 1.977 | 2.446 | .075 |
| | Within Groups | 37.990 | 47 | .808 | | |
| | Total | 43.922 | 50 | | | |

## Qualification received : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Recreation / sport amenities | Between Groups | 11.936 | 1 | 11.936 | 7.432 | .009 |
| | Within Groups | 78.692 | 49 | 1.606 | | |
| | Total | 90.627 | 50 | | | |
| Entertainment amenities | Between Groups | 6.642 | 1 | 6.642 | 3.936 | .053 |
| | Within Groups | 82.692 | 49 | 1.688 | | |
| | Total | 89.333 | 50 | | | |
| The beauty of the natural environment | Between Groups | 5.653 | 1 | 5.653 | 4.399 | .041 |
| | Within Groups | 62.974 | 49 | 1.285 | | |
| | Total | 68.627 | 50 | | | |
| The level of community diversity | Between Groups | 4.148 | 1 | 4.148 | 2.997 | .090 |
| | Within Groups | 66.432 | 48 | 1.384 | | |
| | Total | 70.580 | 49 | | | |
| Provision of community resources to support local youth learners / students financially | Between Groups | 6.039 | 1 | 6.039 | 4.352 | .042 |
| | Within Groups | 68.000 | 49 | 1.388 | | |
| | Total | 74.039 | 50 | | | |



## Place in which internship was conducted : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Recreation / sport amenities | Between Groups | 11.256 | 2 | 5.628 | 3.404 | .041 |
| | Within Groups | 79.371 | 48 | 1.654 | | |
| | Total | 90.627 | 50 | | | |
| Entertainment amenities | Between Groups | 8.190 | 2 | 4.095 | 2.423 | .099 |
| | Within Groups | 81.143 | 48 | 1.690 | | |
| | Total | 89.333 | 50 | | | |
| Lay healthcare provision within the community | Between Groups | 9.245 | 2 | 4.623 | 3.334 | .044 |
| | Within Groups | 65.175 | 47 | 1.387 | | |
| | Total | 74.420 | 49 | | | |
| Peer support | Between Groups | 10.943 | 2 | 5.472 | 6.446 | .003 |
| | Within Groups | 40.743 | 48 | .849 | | |
| | Total | 51.686 | 50 | | | |
| The issue of the safety / security within the community | Between Groups | 10.608 | 2 | 5.304 | 5.533 | .007 |
| | Within Groups | 46.019 | 48 | .959 | | |
| | Total | 56.627 | 50 | | | |
| The issue of the crime within the community | Between Groups | 12.269 | 2 | 6.134 | 6.074 | .004 |
| | Within Groups | 48.476 | 48 | 1.010 | | |
| | Total | 60.745 | 50 | | | |
| Family ties within the rural community or close proximity | Between Groups | 22.857 | 2 | 11.429 | 6.063 | .004 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Within Groups | 90.476 | 48 | 1.885 | | |
| | Total | 113.333 | 50 | | | |
| Exposure to rural practice as a result of internship | Between Groups | 14.723 | 2 | 7.361 | 3.930 | .026 |
| | Within Groups | 89.905 | 48 | 1.873 | | |
| | Total | 104.627 | 50 | | | |
| The existance of local community health structure | Between Groups | 5.280 | 2 | 2.640 | 2.558 | .088 |
| | Within Groups | 48.500 | 47 | 1.032 | | |
| | Total | 53.780 | 49 | | | |
| The existance of good leadership within the community | Between Groups | 8.067 | 2 | 4.034 | 2.863 | .067 |
| | Within Groups | 67.619 | 48 | 1.409 | | |
| | Total | 75.686 | 50 | | | |
| Spouse employment | Between Groups | 8.621 | 2 | 4.311 | 2.512 | .092 |
| | Within Groups | 80.659 | 47 | 1.716 | | |
| | Total | 89.280 | 49 | | | |
| The drafting of a rural doctor's service agreement | Between Groups | 9.210 | 2 | 4.605 | 2.617 | .083 |
| | Within Groups | 84.476 | 48 | 1.760 | | |
| | Total | 93.686 | 50 | | | |
| Appropriate matching and placing of a rural doctor | Between Groups | 7.655 | 2 | 3.827 | 2.745 | .074 |
| | Within Groups | 66.933 | 48 | 1.394 | | |
| | Total | 74.588 | 50 | | | |
| The marketing of the community human resources | Between Groups | 12.860 | 2 | 6.430 | 5.066 | .010 |
| | Within Groups | 57.119 | 45 | 1.269 | | |
| | Total | 69.979 | 47 | | | |

**Place in which community service was conducted : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Entertainment amenities | Between Groups | 12.404 | 3 | 4.135 | 2.526 | .069 |
| | Within Groups | 76.930 | 47 | 1.637 | | |
| | Total | 89.333 | 50 | | | |
| The beauty of the natural environment | Between Groups | 8.483 | 3 | 2.828 | 2.210 | .099 |
| | Within Groups | 60.144 | 47 | 1.280 | | |
| | Total | 68.627 | 50 | | | |
| Exposure to rural practice as a result of internship | Between Groups | 18.242 | 3 | 6.081 | 3.308 | .028 |
| | Within Groups | 86.385 | 47 | 1.838 | | |
| | Total | 104.627 | 50 | | | |
| Exposure to rural practice as a result of community service | Between Groups | 14.745 | 3 | 4.915 | 3.426 | .025 |
| | Within Groups | 61.681 | 43 | 1.434 | | |
| | Total | 76.426 | 46 | | | |
| The existance of local community health structure | Between Groups | 7.591 | 3 | 2.530 | 2.520 | .070 |
| | Within Groups | 46.189 | 46 | 1.004 | | |
| | Total | 53.780 | 49 | | | |

## Initial practice after full registration : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Communication infrastructural amenities | Between Groups | 8.910 | 2 | 4.455 | 3.471 | .039 |
| | Within Groups | 61.600 | 48 | 1.283 | | |
| | Total | 70.510 | 50 | | | |
| Subsidised accommodation / housing | Between Groups | 10.844 | 2 | 5.422 | 3.199 | .050 |
| | Within Groups | 79.656 | 47 | 1.695 | | |
| | Total | 90.500 | 49 | | | |
| Lay healthcare provision within the community | Between Groups | 12.764 | 2 | 6.382 | 4.865 | .012 |
| | Within Groups | 61.656 | 47 | 1.312 | | |
| | Total | 74.420 | 49 | | | |
| The issue of the crime within the community | Between Groups | 8.695 | 2 | 4.348 | 4.009 | .025 |
| | Within Groups | 52.050 | 48 | 1.084 | | |
| | Total | 60.745 | 50 | | | |
| Family ties within the rural community or close proximity | Between Groups | 20.067 | 2 | 10.033 | 5.164 | .009 |
| | Within Groups | 93.267 | 48 | 1.943 | | |
| | Total | 113.333 | 50 | | | |
| Being valued within a community | Between Groups | 4.672 | 2 | 2.336 | 2.857 | .067 |
| | Within Groups | 39.250 | 48 | .818 | | |
| | Total | 43.922 | 50 | | | |
| Defining of local health service needs at community level | Between Groups | 14.063 | 2 | 7.032 | 6.127 | .004 |
| | Within Groups | 53.937 | 47 | 1.148 | | |
| | Total | 68.000 | 49 | | | |
| The marketing of the community human resources | Between Groups | 9.195 | 2 | 4.598 | 3.404 | .042 |
| | Within Groups | 60.784 | 45 | 1.351 | | |
| | Total | 69.979 | 47 | | | |
| Issue of support to: The doctor's spouse | Between Groups | 8.005 | 2 | 4.002 | 2.897 | .065 |
| | Within Groups | 63.546 | 46 | 1.381 | | |
| | Total | 71.551 | 48 | | | |
| Issue of support to: The doctor's dependent/s | Between Groups | 17.258 | 2 | 8.629 | 7.053 | .002 |
| | Within Groups | 55.055 | 45 | 1.223 | | |
| | Total | 72.313 | 47 | | | |
| Periodic monitoring / assessment of: The wellbeing of the doctor | Between Groups | 6.580 | 2 | 3.290 | 2.767 | .073 |
| | Within Groups | 57.067 | 48 | 1.189 | | |
| | Total | 63.647 | 50 | | | |
| Periodic monitoring / assessment of: The wellbeing of the doctor's family | Between Groups | 17.046 | 2 | 8.523 | 6.411 | .004 |
| | Within Groups | 61.158 | 46 | 1.330 | | |
| | Total | 78.204 | 48 | | | |
| Developing appropriate financial incentive / reward system for rural doctors | Between Groups | 9.014 | 2 | 4.507 | 3.491 | .038 |
| | Within Groups | 61.967 | 48 | 1.291 | | |
| | Total | 70.980 | 50 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Communities working together within a specific regional context in order to recruit rural doctors | Between Groups | 6.520 | 2 | 3.260 | 2.558 | .088 |
| | Within Groups | 61.167 | 48 | 1.274 | | |
| | Total | 67.686 | 50 | | | |
| Identifying of local youth talent as potential healthcare professional at community level | Between Groups | 9.148 | 2 | 4.574 | 3.279 | .046 |
| | Within Groups | 65.572 | 47 | 1.395 | | |
| | Total | 74.720 | 49 | | | |

**Primary sector of employment : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The beauty of the natural environment | Between Groups | 11.082 | 4 | 2.770 | 2.215 | .082 |
| | Within Groups | 57.545 | 46 | 1.251 | | |
| | Total | 68.627 | 50 | | | |

**Length of time in rural practice : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Allied healthcare services | Between Groups | 20.518 | 6 | 3.420 | 2.584 | .031 |
| | Within Groups | 58.227 | 44 | 1.323 | | |
| | Total | 78.745 | 50 | | | |



**Your work plans in next 5 years – most likely to remain in rural practice : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Recreation / sport amenities | Between Groups | 5.889 | 1 | 5.889 | 3.406 | .071 |
| | Within Groups | 84.738 | 49 | 1.729 | | |
| | Total | 90.627 | 50 | | | |
| Traditional healthcare | Between Groups | 3.853 | 1 | 3.853 | 2.834 | .099 |
| | Within Groups | 65.267 | 48 | 1.360 | | |
| | Total | 69.120 | 49 | | | |
| The beauty of the natural environment | Between Groups | .018 | 1 | .018 | .013 | .910 |
| | Within Groups | 68.610 | 49 | 1.400 | | |
| | Total | 68.627 | 50 | | | |
| The quality of the roads in the area | Between Groups | 1.183 | 1 | 1.183 | .653 | .423 |
| | Within Groups | 88.738 | 49 | 1.811 | | |
| | Total | 89.922 | 50 | | | |
| The quality of the water in the area | Between Groups | .963 | 1 | .963 | .474 | .494 |
| | Within Groups | 97.517 | 48 | 2.032 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Total | 98.480 | 49 | | | |
| Family ties within the rural community or close proximity | Between Groups | 11.657 | 1 | 11.657 | 5.618 | .022 |
| | Within Groups | 101.676 | 49 | 2.075 | | |
| | Total | 113.333 | 50 | | | |
| Exposure to rural practice as a result of internship | Between Groups | 19.523 | 1 | 19.523 | 11.240 | .002 |
| | Within Groups | 85.105 | 49 | 1.737 | | |
| | Total | 104.627 | 50 | | | |
| Exposure to rural practice as a result of community service | Between Groups | 5.460 | 1 | 5.460 | 3.462 | .069 |
| | Within Groups | 70.966 | 45 | 1.577 | | |
| | Total | 76.426 | 46 | | | |
| The existance of good leadership within the community | Between Groups | 6.053 | 1 | 6.053 | 4.259 | .044 |
| | Within Groups | 69.633 | 49 | 1.421 | | |
| | Total | 75.686 | 50 | | | |
| Ability of the community to organise around health issues | Between Groups | 4.955 | 1 | 4.955 | 3.239 | .078 |
| | Within Groups | 74.967 | 49 | 1.530 | | |
| | Total | 79.922 | 50 | | | |
| A health-related community representative structure | Between Groups | 6.750 | 1 | 6.750 | 3.402 | .071 |
| | Within Groups | 95.250 | 48 | 1.984 | | |
| | Total | 102.000 | 49 | | | |



**Work plans most likely to work abroad : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Exposure to rural practice during undergraduate training | Between Groups | 13.504 | 3 | 4.501 | 3.497 | .023 |
| | Within Groups | 60.496 | 47 | 1.287 | | |
| | Total | 74.000 | 50 | | | |
| Exposure to rural practice as a result of internship | Between Groups | 13.515 | 3 | 4.505 | 2.324 | .087 |
| | Within Groups | 91.112 | 47 | 1.939 | | |
| | Total | 104.627 | 50 | | | |
| Exposure to rural practice as a result of community service | Between Groups | 14.651 | 3 | 4.884 | 3.399 | .026 |
| | Within Groups | 61.775 | 43 | 1.437 | | |
| | Total | 76.426 | 46 | | | |

**Work plans retire : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Recreation / sport amenities | Between Groups | 13.008 | 2 | 6.504 | 4.022 | .024 |
| | Within Groups | 77.619 | 48 | 1.617 | | |
| | Total | 90.627 | 50 | | | |
| Allied healthcare services | Between Groups | 8.269 | 2 | 4.134 | 2.816 | .070 |
| | Within Groups | 70.476 | 48 | 1.468 | | |
| | Total | 78.745 | 50 | | | |
| Exposure to rural practice as a result of internship | Between Groups | 11.485 | 2 | 5.742 | 2.959 | .061 |
| | Within Groups | 93.143 | 48 | 1.940 | | |
| | Total | 104.627 | 50 | | | |
| The level of community diversity | Between Groups | 8.175 | 2 | 4.088 | 3.079 | .055 |
| | Within Groups | 62.405 | 47 | 1.328 | | |
| | Total | 70.580 | 49 | | | |
| Ability of the community to organise around health issues | Between Groups | 8.017 | 2 | 4.008 | 2.676 | .079 |
| | Within Groups | 71.905 | 48 | 1.498 | | |
| | Total | 79.922 | 50 | | | |

# ANOVA STATISTICS RESULTS : B. Retention

## Gender : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Local community-based organisations | Between Groups | 6.727 | 1 | 6.727 | 4.804 | .033 |
| | Within Groups | 65.804 | 47 | 1.400 | | |
| | Total | 72.531 | 48 | | | |
| Local non-profit organisations | Between Groups | 11.240 | 1 | 11.240 | 8.467 | .006 |
| | Within Groups | 62.392 | 47 | 1.327 | | |
| | Total | 73.633 | 48 | | | |
| Local business sector | Between Groups | 5.245 | 1 | 5.245 | 3.704 | .061 |
| | Within Groups | 63.733 | 45 | 1.416 | | |
| | Total | 68.979 | 46 | | | |
| Communities working together within a specific regional context in order to retain rural doctors | Between Groups | 3.482 | 1 | 3.482 | 2.919 | .094 |
| | Within Groups | 56.069 | 47 | 1.193 | | |
| | Total | 59.551 | 48 | | | |
| Developing appropriate financial incentive / reward system for rural doctors | Between Groups | 2.885 | 1 | 2.885 | 3.627 | .065 |
| | Within Groups | 29.423 | 37 | .795 | | |
| | Total | 32.308 | 38 | | | |
| Periodic monitoring / assessment of: The wellbeing of the doctor | Between Groups | 3.901 | 1 | 3.901 | 3.899 | .054 |
| | Within Groups | 48.019 | 48 | 1.000 | | |
| | Total | 51.920 | 49 | | | |
| The availability of: Subsidised accommodation / housing | Between Groups | 4.426 | 1 | 4.426 | 3.400 | .072 |
| | Within Groups | 59.887 | 46 | 1.302 | | |
| | Total | 64.313 | 47 | | | |
| Spouse employment | Between Groups | 4.708 | 1 | 4.708 | 3.862 | .055 |
| | Within Groups | 57.292 | 47 | 1.219 | | |
| | Total | 62.000 | 48 | | | |



## Age group : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Ability of the community to organise around health issue | Between Groups | 13.191 | 4 | 3.298 | 2.147 | .091 |
| | Within Groups | 69.129 | 45 | 1.536 | | |
| | Total | 82.320 | 49 | | | |
| The availability of: Entertainment amenities | Between Groups | 15.127 | 4 | 3.782 | 3.106 | .024 |
| | Within Groups | 54.793 | 45 | 1.218 | | |
| | Total | 69.920 | 49 | | | |
| The availability of: Communication infrastructural amenities | Between Groups | 8.523 | 4 | 2.131 | 2.649 | .046 |
| | Within Groups | 35.395 | 44 | .804 | | |
| | Total | 43.918 | 48 | | | |

## Population group : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The municipality | Between Groups | 14.222 | 4 | 3.555 | 2.220 | .082 |
| | Within Groups | 70.472 | 44 | 1.602 | | |
| | Total | 84.694 | 48 | | | |
| Local councillors | Between Groups | 13.239 | 4 | 3.310 | 2.102 | .097 |
| | Within Groups | 69.292 | 44 | 1.575 | | |
| | Total | 82.531 | 48 | | | |
| The beauty of the natural environment | Between Groups | 13.096 | 5 | 2.619 | 2.265 | .065 |
| | Within Groups | 48.571 | 42 | 1.156 | | |
| | Total | 61.667 | 47 | | | |
| The availability of: Subsidised accommodation / housing | Between Groups | 31.721 | 5 | 6.344 | 3.691 | .007 |
| | Within Groups | 72.196 | 42 | 1.719 | | |
| | Total | 103.917 | 47 | | | |
| The availability of: Lay healthcare provision within the community | Between Groups | 10.445 | 4 | 2.611 | 2.423 | .063 |
| | Within Groups | 45.257 | 42 | 1.078 | | |
| | Total | 55.702 | 46 | | | |



## Background place : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The quality of the roads in the area | Between Groups | 7.952 | 2 | 3.976 | 2.643 | .081 |
| | Within Groups | 72.205 | 48 | 1.504 | | |
| | Total | 80.157 | 50 | | | |

## Marital status : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The marketing of community natural environmental resources | Between Groups | 7.620 | 2 | 3.810 | 2.870 | .067 |
| | Within Groups | 62.400 | 47 | 1.328 | | |
| | Total | 70.020 | 49 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 8.075 | 2 | 4.037 | 4.044 | .024 |
| | Within Groups | 47.925 | 48 | .998 | | |
| | Total | 56.000 | 50 | | | |
| The availability of: Recreation / sport amenities | Between Groups | 7.211 | 2 | 3.606 | 3.117 | .053 |
| | Within Groups | 55.534 | 48 | 1.157 | | |
| | Total | 62.745 | 50 | | | |

## Background of spouse : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The marketing of community natural environmental resources | Between Groups | 6.907 | 2 | 3.454 | 2.572 | .087 |
| | Within Groups | 63.113 | 47 | 1.343 | | |
| | Total | 70.020 | 49 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 7.422 | 2 | 3.711 | 3.667 | .033 |
| | Within Groups | 48.578 | 48 | 1.012 | | |
| | Total | 56.000 | 50 | | | |
| The availability of: Recreation/ sport amenities | Between Groups | 8.081 | 2 | 4.041 | 3.548 | .037 |
| | Within Groups | 54.664 | 48 | 1.139 | | |
| | Total | 62.745 | 50 | | | |
| The availability of: Communication infrastructural amenities | Between Groups | 7.038 | 2 | 3.519 | 4.389 | .018 |
| | Within Groups | 36.881 | 46 | .802 | | |
| | Total | 43.918 | 48 | | | |
| The issue of safety / security within the community | Between Groups | 3.450 | 2 | 1.725 | 3.888 | .027 |
| | Within Groups | 21.296 | 48 | .444 | | |
| | Total | 24.745 | 50 | | | |

## Work plans retire : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Exposure to rural practice during undergraduate training | Between Groups | 8.000 | 2 | 4.000 | 4.000 | .025 |
| | Within Groups | 48.000 | 48 | 1.000 | | |
| | Total | 56.000 | 50 | | | |



## Educational qualification of spouse : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The marketing of community natural environmental resources | Between Groups | 7.294 | 2 | 3.647 | 2.733 | .075 |
| | Within Groups | 62.726 | 47 | 1.335 | | |
| | Total | 70.020 | 49 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 9.977 | 2 | 4.989 | 5.203 | .009 |
| | Within Groups | 46.023 | 48 | .959 | | |
| | Total | 56.000 | 50 | | | |
| The availability of: Educational facilities | Between Groups | 5.349 | 2 | 2.675 | 3.384 | .042 |
| | Within Groups | 37.151 | 47 | .790 | | |
| | Total | 42.500 | 49 | | | |
| The availability of: Recreation / sport amenities | Between Groups | 8.019 | 2 | 4.010 | 3.517 | .038 |
| | Within Groups | 54.726 | 48 | 1.140 | | |
| | Total | 62.745 | 50 | | | |
| The availability of: Communication infrastructural amenities | Between Groups | 4.455 | 2 | 2.227 | 2.596 | .085 |
| | Within Groups | 39.463 | 46 | .858 | | |
| | Total | 43.918 | 48 | | | |

## Employment status of spouse : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Local non-profit organisations | Between Groups | 7.474 | 2 | 3.737 | 2.598 | .085 |
| | Within Groups | 66.159 | 46 | 1.438 | | |
| | Total | 73.633 | 48 | | | |
| Communities working together within a specific regional context in order to retain rural doctors | Between Groups | 7.298 | 2 | 3.649 | 3.213 | .049 |
| | Within Groups | 52.253 | 46 | 1.136 | | |
| | Total | 59.551 | 48 | | | |
| Exposure to rural practice during undergraduate training | Between Groups | 6.202 | 2 | 3.101 | 2.989 | .060 |
| | Within Groups | 49.798 | 48 | 1.037 | | |
| | Total | 56.000 | 50 | | | |
| The availability of: Educational facilities | Between Groups | 9.905 | 2 | 4.952 | 7.141 | .002 |
| | Within Groups | 32.595 | 47 | .694 | | |
| | Total | 42.500 | 49 | | | |

## Dependents : ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Ability of the community to organise around health issue | Between Groups | 7.873 | 2 | 3.936 | 2.485 | .094 |
| | Within Groups | 74.447 | 47 | 1.584 | | |
| | Total | 82.320 | 49 | | | |
| Defining of local health service needs at community level | Between Groups | 8.273 | 2 | 4.137 | 3.358 | .043 |
| | Within Groups | 57.907 | 47 | 1.232 | | |
| | Total | 66.180 | 49 | | | |
| The marketing of community natural environmental resources | Between Groups | 8.218 | 2 | 4.109 | 3.125 | .053 |
| | Within Groups | 61.802 | 47 | 1.315 | | |
| | Total | 70.020 | 49 | | | |
| The availability of: Traditional healthcare | Between Groups | 9.347 | 2 | 4.674 | 2.707 | .077 |
| | Within Groups | 81.153 | 47 | 1.727 | | |
| | Total | 90.500 | 49 | | | |

Number of dependents : 1 – 5 : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The level of community diversity | Between Groups | 3.643 | 1 | 3.643 | 3.341 | .088 |
| | Within Groups | 16.357 | 15 | 1.090 | | |
| | Total | 20.000 | 16 | | | |
| The marketing of community human resources | Between Groups | 6.771 | 1 | 6.771 | 5.078 | .041 |
| | Within Groups | 18.667 | 14 | 1.333 | | |
| | Total | 25.438 | 15 | | | |
| Feeling welcome within a community | Between Groups | 1.256 | 1 | 1.256 | 4.699 | .048 |
| | Within Groups | 3.744 | 14 | .267 | | |
| | Total | 5.000 | 15 | | | |
| Being valued within a community | Between Groups | 1.434 | 1 | 1.434 | 5.253 | .037 |
| | Within Groups | 4.095 | 15 | .273 | | |
| | Total | 5.529 | 16 | | | |
| The availability of: Recreation / sport amenities | Between Groups | 6.863 | 1 | 6.863 | 6.176 | .025 |
| | Within Groups | 16.667 | 15 | 1.111 | | |
| | Total | 23.529 | 16 | | | |
| The availability of: Entertainment infrastructural amenities | Between Groups | 6.476 | 1 | 6.476 | 5.543 | .033 |
| | Within Groups | 17.524 | 15 | 1.168 | | |
| | Total | 24.000 | 16 | | | |
| The availability of: Religious amenities | Between Groups | 4.084 | 1 | 4.084 | 5.642 | .031 |
| | Within Groups | 10.857 | 15 | .724 | | |
| | Total | 14.941 | 16 | | | |



6 – 10 : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Ability of the community to organise around health issue | Between Groups | 10.177 | 1 | 10.177 | 7.593 | .016 |
| | Within Groups | 17.423 | 13 | 1.340 | | |
| | Total | 27.600 | 14 | | | |
| Defining of local health service needs at community level | Between Groups | 12.190 | 1 | 12.190 | 67.516 | .000 |
| | Within Groups | 2.167 | 12 | .181 | | |
| | Total | 14.357 | 13 | | | |
| Building partnerships with various roleplayers involved with rural doctor retention | Between Groups | 6.669 | 1 | 6.669 | 11.215 | .005 |
| | Within Groups | 7.731 | 13 | .595 | | |
| | Total | 14.400 | 14 | | | |
| The beauty of the natural environment | Between Groups | 4.310 | 1 | 4.310 | 3.216 | .096 |
| | Within Groups | 17.423 | 13 | 1.340 | | |
| | Total | 21.733 | 14 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Issue of support to: The doctor | Between Groups | 4.103 | 1 | 4.103 | 4.749 | .048 |
| | Within Groups | 11.231 | 13 | .864 | | |
| | Total | 15.333 | 14 | | | |
| Being valued within a community | Between Groups | 4.103 | 1 | 4.103 | 4.749 | .048 |
| | Within Groups | 11.231 | 13 | .864 | | |
| | Total | 15.333 | 14 | | | |
| The availability of: Childcare facilities | Between Groups | 4.741 | 1 | 4.741 | 6.047 | .029 |
| | Within Groups | 10.192 | 13 | .784 | | |
| | Total | 14.933 | 14 | | | |
| The availability of: Religious amenities | Between Groups | 2.792 | 1 | 2.792 | 3.359 | .090 |
| | Within Groups | 10.808 | 13 | .831 | | |
| | Total | 13.600 | 14 | | | |
| The availability of: Communication infrastructural amenities | Between Groups | 6.669 | 1 | 6.669 | 11.215 | .005 |
| | Within Groups | 7.731 | 13 | .595 | | |
| | Total | 14.400 | 14 | | | |
| The availability of: Lay healthcare provision within the community | Between Groups | 4.523 | 1 | 4.523 | 3.443 | .086 |
| | Within Groups | 17.077 | 13 | 1.314 | | |
| | Total | 21.600 | 14 | | | |



11 – 15 : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The municipality | Between Groups | 6.314 | 2 | 3.157 | 3.046 | .089 |
| | Within Groups | 11.400 | 11 | 1.036 | | |
| | Total | 17.714 | 13 | | | |
| Appropriate matching and placing of a rural doctor | Between Groups | 5.364 | 2 | 2.682 | 3.726 | .055 |
| | Within Groups | 8.636 | 12 | .720 | | |
| | Total | 14.000 | 14 | | | |
| The marketing of community human resources | Between Groups | 9.888 | 2 | 4.944 | 5.371 | .022 |
| | Within Groups | 11.045 | 12 | .920 | | |
| | Total | 20.933 | 14 | | | |
| Exposure to rural practice as a result of community service | Between Groups | 4.106 | 2 | 2.053 | 4.713 | .031 |
| | Within Groups | 5.227 | 12 | .436 | | |
| | Total | 9.333 | 14 | | | |
| The availability of: Entertainment amenities | Between Groups | 5.752 | 2 | 2.876 | 3.758 | .054 |
| | Within Groups | 9.182 | 12 | .765 | | |
| | Total | 14.933 | 14 | | | |
| The availability of: Traditional healthcare | Between Groups | 7.052 | 2 | 3.526 | 3.961 | .048 |
| | Within Groups | 10.682 | 12 | .890 | | |
| | Total | 17.733 | 14 | | | |

16 – 20 : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The level of community diversity | Between Groups | 8.171 | 2 | 4.086 | 7.280 | .020 |
| | Within Groups | 3.929 | 7 | .561 | | |
| | Total | 12.100 | 9 | | | |
| The municipality | Between Groups | 9.389 | 2 | 4.694 | 9.941 | .012 |
| | Within Groups | 2.833 | 6 | .472 | | |
| | Total | 12.222 | 8 | | | |
| Local councillors | Between Groups | 8.000 | 2 | 4.000 | 6.000 | .037 |
| | Within Groups | 4.000 | 6 | .667 | | |
| | Total | 12.000 | 8 | | | |
| The marketing of community human resources | Between Groups | 8.171 | 2 | 4.086 | 14.830 | .003 |
| | Within Groups | 1.929 | 7 | .276 | | |
| | Total | 10.100 | 9 | | | |
| Being valued within a community | Between Groups | 6.043 | 2 | 3.021 | 24.675 | .001 |
| | Within Groups | .857 | 7 | .122 | | |
| | Total | 6.900 | 9 | | | |
| The availability of: Traditional healthcare | Between Groups | 9.643 | 2 | 4.821 | 4.922 | .046 |
| | Within Groups | 6.857 | 7 | .980 | | |
| | Total | 16.500 | 9 | | | |

20 and above : **ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Local business sector | Between Groups | 5.564 | 2 | 2.782 | 3.629 | .065 |
| | Within Groups | 7.667 | 10 | .767 | | |
| | Total | 13.231 | 12 | | | |
| Communities working together within a specific regional context in order to retain rural doctors | Between Groups | 6.982 | 2 | 3.491 | 3.879 | .066 |
| | Within Groups | 7.200 | 8 | .900 | | |
| | Total | 14.182 | 10 | | | |
| The availability of: Recreation / sport amenities | Between Groups | 6.974 | 2 | 3.487 | 3.736 | .061 |
| | Within Groups | 9.333 | 10 | .933 | | |
| | Total | 16.308 | 12 | | | |

**Qualification : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Being valued within a community | Between Groups | 5.955 | 3 | 1.985 | 3.103 | .036 |
| | Within Groups | 29.425 | 46 | .640 | | |
| | Total | 35.380 | 49 | | | |

**Qualification received : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Local business sector | Between Groups | 7.174 | 1 | 7.174 | 5.223 | .027 |
| | Within Groups | 61.805 | 45 | 1.373 | | |
| | Total | 68.979 | 46 | | | |
| The beauty of the natural environment | Between Groups | 5.855 | 1 | 5.855 | 4.826 | .033 |
| | Within Groups | 55.812 | 46 | 1.213 | | |
| | Total | 61.667 | 47 | | | |
| The marketing of community human resources | Between Groups | 4.709 | 1 | 4.709 | 3.075 | .086 |
| | Within Groups | 71.984 | 47 | 1.532 | | |
| | Total | 76.694 | 48 | | | |
| Feeling prepared for rural practice | Between Groups | 2.598 | 1 | 2.598 | 4.048 | .050 |
| | Within Groups | 31.442 | 49 | .642 | | |
| | Total | 34.039 | 50 | | | |
| The quality of the roads in the area | Between Groups | 5.465 | 1 | 5.465 | 3.585 | .064 |
| | Within Groups | 74.692 | 49 | 1.524 | | |
| | Total | 80.157 | 50 | | | |
| The quality of the water in the area | Between Groups | 5.280 | 1 | 5.280 | 3.409 | .071 |
| | Within Groups | 75.896 | 49 | 1.549 | | |
| | Total | 81.176 | 50 | | | |

**Place in which internship was conducted : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Local business sector | Between Groups | 4.370 | 1 | 4.370 | 3.044 | .088 |
| | Within Groups | 64.608 | 45 | 1.436 | | |
| | Total | 68.979 | 46 | | | |
| The beauty of of the natural environment | Between Groups | 8.167 | 2 | 4.083 | 3.435 | .041 |
| | Within Groups | 53.500 | 45 | 1.189 | | |
| | Total | 61.667 | 47 | | | |
| The marketing of community human resources | Between Groups | 15.135 | 2 | 7.568 | 5.655 | .006 |
| | Within Groups | 61.559 | 46 | 1.338 | | |
| | Total | 76.694 | 48 | | | |
| The availability of: Entertainment amenities | Between Groups | 6.761 | 2 | 3.381 | 2.516 | .092 |
| | Within Groups | 63.159 | 47 | 1.344 | | |
| | Total | 69.920 | 49 | | | |

**Work plans – work abroad : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Exposure to rural practice during undergraduate training | Between Groups | 10.004 | 3 | 3.335 | 3.407 | .025 |
| | Within Groups | 45.996 | 47 | .979 | | |
| | Total | 56.000 | 50 | | | |
| Feeling integrated within a community | Between Groups | 5.371 | 3 | 1.790 | 3.017 | .040 |
| | Within Groups | 26.108 | 44 | .593 | | |
| | Total | 31.479 | 47 | | | |
| Developing appropriate financial incentive/reward system for rural doctors | Between Groups | 6.033 | 3 | 2.011 | 2.679 | .062 |
| | Within Groups | 26.274 | 35 | .751 | | |
| | Total | 32.308 | 38 | | | |

## Place in which community service was conducted ; ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Defining of local health service needs at community level | Between Groups | 8.942 | 3 | 2.981 | 2.395 | .080 |
| | Within Groups | 57.238 | 46 | 1.244 | | |
| | Total | 66.180 | 49 | | | |
| A health-related community representative structure | Between Groups | 12.790 | 3 | 4.263 | 2.756 | .053 |
| | Within Groups | 69.618 | 45 | 1.547 | | |
| | Total | 82.408 | 48 | | | |
| The municipality | Between Groups | 15.209 | 3 | 5.070 | 3.283 | .029 |
| | Within Groups | 69.484 | 45 | 1.544 | | |
| | Total | 84.694 | 48 | | | |
| Exposure to rural practice as a result of internship | Between Groups | 17.614 | 3 | 5.871 | 4.307 | .009 |
| | Within Groups | 62.706 | 46 | 1.363 | | |
| | Total | 80.320 | 49 | | | |
| Exposure to rural practice as a result of community service | Between Groups | 15.945 | 3 | 5.315 | 4.248 | .010 |
| | Within Groups | 58.800 | 47 | 1.251 | | |
| | Total | 74.745 | 50 | | | |



## Initial practice after full registration ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Issue of support to: The doctor's spouse | Between Groups | 2.160 | 1 | 2.160 | 2.895 | .096 |
| | Within Groups | 34.319 | 46 | .746 | | |
| | Total | 36.479 | 47 | | | |
| Issue of support to: The doctor's dependent/s | Between Groups | 4.212 | 1 | 4.212 | 4.324 | .043 |
| | Within Groups | 45.788 | 47 | .974 | | |
| | Total | 50.000 | 48 | | | |
| Being valued within a community | Between Groups | 4.870 | 2 | 2.435 | 3.751 | .031 |
| | Within Groups | 30.510 | 47 | .649 | | |
| | Total | 35.380 | 49 | | | |
| The availability of: Entertainment amenities | Between Groups | 6.988 | 2 | 3.494 | 2.610 | .084 |
| | Within Groups | 62.932 | 47 | 1.339 | | |
| | Total | 69.920 | 49 | | | |
| The availability of: Lay healthcare provision within the community | Between Groups | 6.651 | 2 | 3.325 | 2.983 | .061 |
| | Within Groups | 49.052 | 44 | 1.115 | | |
| | Total | 55.702 | 46 | | | |
| The availability of: Traditional healthcare | Between Groups | 9.133 | 2 | 4.567 | 2.638 | .082 |
| | Within Groups | 81.367 | 47 | 1.731 | | |
| | Total | 90.500 | 49 | | | |

**Primary sector of employment : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Appropriate matching and placing of a rural doctor | Between Groups | 9.093 | 4 | 2.273 | 2.237 | .080 |
| | Within Groups | 45.727 | 45 | 1.016 | | |
| | Total | 54.820 | 49 | | | |
| The beauty of the natural environment | Between Groups | 10.472 | 4 | 2.618 | 2.199 | .085 |
| | Within Groups | 51.195 | 43 | 1.191 | | |
| | Total | 61.667 | 47 | | | |
| Being valued within a community | Between Groups | 6.956 | 4 | 1.739 | 2.753 | .039 |
| | Within Groups | 28.424 | 45 | .632 | | |
| | Total | 35.380 | 49 | | | |
| The availability of: Peer support | Between Groups | 6.680 | 4 | 1.670 | 2.295 | .074 |
| | Within Groups | 33.477 | 46 | .728 | | |
| | Total | 40.157 | 50 | | | |
| The availability of: Locum support | Between Groups | 11.012 | 4 | 2.753 | 3.096 | .024 |
| | Within Groups | 40.909 | 46 | .889 | | |
| | Total | 51.922 | 50 | | | |
| Spouse employment | Between Groups | 11.000 | 4 | 2.750 | 2.373 | .067 |
| | Within Groups | 51.000 | 44 | 1.159 | | |
| | Total | 62.000 | 48 | | | |

**Length of time in rural practice : ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| The existence of a local community health structure | Between Groups | 13.502 | 6 | 2.250 | 2.133 | .068 |
| | Within Groups | 46.419 | 44 | 1.055 | | |
| | Total | 59.922 | 50 | | | |
| The availability of: Recreation / sport amenities | Between Groups | 13.085 | 6 | 2.181 | 1.932 | .097 |
| | Within Groups | 49.660 | 44 | 1.129 | | |
| | Total | 62.745 | 50 | | | |
| The availability of: Religious amenities | Between Groups | 16.953 | 6 | 2.825 | 2.408 | .042 |
| | Within Groups | 51.635 | 44 | 1.174 | | |
| | Total | 68.588 | 50 | | | |

**Work plans – remain in rural practice ; ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Building partnerships with various roleplayers involved | Between Groups | 3.389 | 1 | 3.389 | 4.027 | .050 |
| | Within Groups | 41.238 | 49 | .842 | | |
| | Total | 44.627 | 50 | | | |
| A health-related community representative structure | Between Groups | 7.250 | 1 | 7.250 | 4.534 | .038 |
| | Within Groups | 75.158 | 47 | 1.599 | | |
| | Total | 82.408 | 48 | | | |
| Communities working together within a specific regional context | Between Groups | 3.599 | 1 | 3.599 | 3.023 | .089 |
| | Within Groups | 55.952 | 47 | 1.190 | | |
| | Total | 59.551 | 48 | | | |
| Issue of support to: The doctor's dependent/s | Between Groups | 4.083 | 1 | 4.083 | 4.180 | .047 |
| | Within Groups | 45.917 | 47 | .977 | | |
| | Total | 50.000 | 48 | | | |

**Appendix 9 : Spearman's Rank Correlation :** Recruitment



| Question No | Factor | Question No | Factor | rho | p-value |
|---|---|---|---|---|---|
| B.1.1 | Domestic assistance | B.1.2 | Childcare facilities | 0,814 | 0,00000 |
| B.1.1 | Domestic assistance | B.1.3 | Educational facilities | 0,585 | 0,00001 |
| B.1.1 | Domestic assistance | B1.5 | Entertainment amenities | 0,507 | 0,00017 |
| B.1.1 | Domestic assistance | B.1.8 | Subsidised accommodation/ housing | 0,434 | 0,00183 |
| B.1.1 | Domestic assistance | B.1.10 | Lay healthcare provision (home-based carers, community health workers) within the community | 0,501 | 0,00024 |
| B.1.1 | Domestic assistance | B.3 | The quality of the roads in the area | 0,477 | 0,00046 |
| B.1.1 | Domestic assistance | B.4 | The quality of the water in the area | 0,569 | 0,00002 |
| B.1.1 | Domestic assistance | B.6 | The issue of crime within the community | 0,514 | 0,00013 |
| B.1.1 | Domestic assistance | B.7 | Family ties within the rural community or close proximity | 0,424 | 0,00213 |
| B.1.1 | Domestic assistance | B.10 | Exposure to rural practice as a result of internship | 0,513 | 0,00014 |
| B.1.1 | Domestic assistance | B.19 | Spouse employment | 0,448 | 0,00126 |
| B.1.1 | Domestic assistance | B.21 | Defining of local health service needs at community level | 0,490 | 0,00035 |
| B.1.1 | Domestic assistance | B.22 | The drafting of a rural doctor's service agreement | 0,647 | 0,00000 |
| B.1.1 | Domestic assistance | B.23 | Appropriate matching and placing of a rural doctor | 0,517 | 0,00012 |
| B.1.1 | Domestic assistance | B.27.3 | Support to the doctor's dependent/s | 0,426 | 0,00283 |
| B.1.1 | Domestic assistance | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,558 | 0,00003 |
| B.1.1 | Domestic assistance | B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | 0,424 | 0,00217 |
| | | | | | |
| B.1.2 | Childcare facilities | B.1.3 | Educational facilities | 0.758 | 0,0000 |
| B.1.2 | Childcare facilities | B.1.5 | Entertainment amenities | 0,450 | 0,00105 |
| B.1.2 | Childcare facilities | B.3 | The quality of the roads in the area | 0,404 | 0,00363 |
| B.1.2 | Childcare facilities | B.4 | The quality of the water in the area | 0,540 | 0.00006 |
| B.1.2 | Childcare facilities | B.19 | Spouse employment | 0.475 | 0,00057 |
| B.1.2 | Childcare facilities | B.21 | Defining of local health service needs at community level | 0,478 | 0,00051 |
| B.1.2 | Childcare facilities | B.22 | The drafting of a rural doctor's service agreement | 0,502 | 0,00020 |
| B.1.2 | Childcare facilities | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,453 | 0,00095 |
| | | | | | |
| B.1.3 | Educational facilities | B.1.7 | Communication infrastructural amenities | 0,528 | 0,00007 |
| B.1.3 | Educational facilities | B.3 | The quality of the roads in the area | 0,420 | 0,00216 |
| B.1.3 | Educational facilities | B.4 | The quality of the water in the area | 0,483 | 0,00038 |
| B.1.3 | Educational facilities | B.5 | The issue of safety/ security within the community | 0,408 | 0,00294 |
| B.1.3 | Educational facilities | B.6 | The issue of crime within the community | 0,427 | 0,00179 |
| B.1.3 | Educational facilities | B.19 | Spouse employment | 0,434 | 0,00163 |
| B.1.3 | Educational facilities | B.27.3 | Support to the doctor's dependent/s | 0,407 | 0,00408 |
| | | | | | |
| B.1.4 | Recreation/ sport amenities | B.1.5 | Entertainment amenities | 0,683 | 0,00000 |
| | | | | | |
| B.1.5 | Entertainment amenities | B.4 | The quality of the water in the area | 0,409 | 0,00316 |
| B.1.5 | Entertainment amenities | B.6 | The issue of crime within the community | 0,456 | 0,00077 |

| | | | | | |
|---|---|---|---|---|---|
| B.1.5 | Entertainment amenities | B.7 | Family ties within the rural community or close proximity | 0,507 | 0,00015 |
| B.1.5 | Entertainment amenities | B.15 | The existence of good leadership within the community | 0,447 | 0,00100 |
| B.1.5 | Entertainment amenities | B.19 | Spouse employment | 0,5 | 0,00022 |
| B.1.5 | Entertainment amenities | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,431 | 0,00223 |
| B.1.5 | Entertainment amenities | B.27.3 | Support to the doctor's dependent/s | 0,397 | 0,00526 |
| | | | | | |
| B.1.6 | Religious amenities | B.18 | Ability of the community to organise around health issues (work collectively) | 0,380 | 0,00599 |
| | | | | | |
| B.1.7 | Communication infrastructural amenities | B.1.12 | Peer support | 0,358 | 0,00982 |
| B.1.7 | Communication infrastructural amenities | B.3 | The quality of the roads in the area | 0,369 | 0,00778 |
| B.1.7 | Communication infrastructural amenities | B.7 | Family ties within the rural community or close proximity | 0,403 | 0,00335 |
| B.1.7 | Communication infrastructural amenities | B.19 | Spouse employment | 0,477 | 0,00046 |
| B.1.7 | Communication infrastructural amenities | B.25 | Doctor's family feeling integrated within the community | 0,492 | 0,00028 |
| B.1.7 | Communication infrastructural amenities | B.25 | Doctor's family feeling integrated within the community | 0,492 | 0,00028 |
| B.1.7 | Communication infrastructural amenities | B.27.3 | Support to the doctor's dependent/s | 0,448 | 0,00139 |
| B.1.7 | Communication infrastructural amenities | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,365 | 0,00848 |
| | | | | | |
| B.1.8 | Subsidised accommodation/ housing | B.1.10 | Lay healthcare provision (home-based carers, community health workers) within the community | 0.428 | 0,00215 |
| B.1.8 | Subsidised accommodation/ housing | B.4 | The quality of the water in the area | 0,389 | 0,00569 |
| B.1.8 | Subsidised accommodation/ housing | B.21 | Defining of local health service needs at community level | 0,443 | 0,00142 |
| B.1.8 | Subsidised accommodation/ housing | B.22 | The drafting of a rural doctor's service agreement | 0,499 | 0,00022 |
| B.1.8 | Subsidised accommodation/ housing | B.35.1 | A health-related community representative structure (eg Health Board) | 0,406 | 0,00378 |
| | | | | | |
| B.1.9 | Free accommodation/ housing | B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | 0,425 | 0,00185 |
| B.1.9 | Free accommodation/ housing | B.35.1 | A health-related community representative structure (eg Health Board) | 0,391 | 0,00505 |
| B.1.9 | Free accommodation/ housing | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,391 | 0,00505 |
| B.1.9 | Free accommodation/ housing | B.35.6 | Local business sector | 0,522 | 0,00010 |
| | | | | | |
| B.1.10 | Lay healthcare provision (home-based carers, community health workers) within the community | B.1.11 | Allied healthcare services (eg nurses) | 0,394 | 0,00462 |
| B.1.10 | Lay healthcare provision | B.1.13 | Locum support | 0,457 | 0,00086 |
| B.1.10 | Lay healthcare provision | B.1.14 | Traditional healthcare | 0,438 | 0,00187 |
| B.1.10 | Lay healthcare provision | B.5 | The issue of safety/ security within the community | 0,444 | 0,00122 |
| B.1.10 | Lay healthcare provision | B.6 | The issue of crime within the community | 0,404 | 0,00365 |
| B.1.10 | Lay healthcare provision | B.7 | Family ties within the rural community or close proximity | 0,499 | 0,00022 |

| | | | | | |
|---|---|---|---|---|---|
| B.1.10 | Lay healthcare provision | B.10 | Exposure to rural practice as a result of internship | 0,451 | 0,00101 |
| B.1.10 | Lay healthcare provision | B.15 | The existence of good leadership within the community | 0,533 | 0,0007 |
| B.1.10 | Lay healthcare provision | B.18 | Ability of the community to organise around health issues (work collectively) | 0,411 | 0,00303 |
| B.1.10 | Lay healthcare provision | B.19 | Spouse employment | 0,398 | 0,00463 |
| B.1.10 | Lay healthcare provision | B.22 | The drafting of a rural doctor's service agreement | 0,590 | 0,00001 |
| B.1.10 | Lay healthcare provision | B.23 | Appropriate matching and placing of a rural doctor | 0,380 | 0,00648 |
| B.1.10 | Lay healthcare provision | B.25 | Doctor's family feeling integrated within the community | 0,393 | 0,00518 |
| B.1.10 | Lay healthcare provision | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,595 | 0,00001 |
| B.1.10 | Lay healthcare provision | B.28.2 | Periodic monitoring/ assessment of wellbeing of doctor's family | 0,418 | 0,00315 |
| B.1.10 | Lay healthcare provision | B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | 0,451 | 0,00102 |
| B.1.10 | Lay healthcare provision | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,473 | 0,00053 |
| B.1.10 | Lay healthcare provision | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,343 | |
| B.1.10 | Lay healthcare provision | B.34 | The community forging of relations with medical training institutions | 0,433 | 0,00188 |
| | | | | | |
| B.1.11 | Allied healthcare services (eg nurses) | B.1.12 | Peer support | 0,440 | 0,00125 |
| B.1.11 | Allied healthcare services (eg nurses) | B.22 | The drafting of a rural doctor's service agreement | 0,454 | 0,00082 |
| B.1.11 | Allied healthcare services (eg nurses) | B.23 | Appropriate matching and placing of a rural doctor | 0,405 | 0,00320 |
| B.1.11 | Allied healthcare services (eg nurses) | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,384 | 0,00537 |
| | | | | | |
| B.1.12 | Peer support | B.20 | Feeling welcome within a community | 0,373 | 0,00756 |
| B.1.12 | Peer support | B.24 | Feeling integrated within a community | 0,391 | 0,00460 |
| | | | | | |
| B.1.13 | Locum support | B.3 | The quality of the roads in the area | 0,414 | 0,00251 |
| B.1.13 | Locum support | B.4 | The quality of the water in the area | 0,517 | 0,00012 |
| B.1.13 | Locum support | B.5 | The issue of safety/ security within the community | 0,460 | 0,00060 |
| B.1.13 | Locum support | B.18 | Ability of the community to organise around health issues (work collectively) | 0,432 | 0,00155 |
| B.1.13 | Locum support | B.22 | The drafting of a rural doctor's service agreement | 0,442 | 0,00118 |
| B.1.13 | Locum support | B.23 | Appropriate matching and placing of a rural doctor | 0,374 | 0,00683 |
| B.1.13 | Locum support | B.27.3 | Issue of support to the doctor's dependent/s | 0,428 | 0,00241 |
| B.1.13 | Locum support | B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,410 | 0,00284 |
| B.1.13 | Locum support | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,429 | 0,00212 |
| B.1.13 | Locum support | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,390 | 0,00462 |
| B.1.13 | Locum support | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,392 | 0,00447 |
| B.1.13 | Locum support | B.34 | The community forging of relations with medical training institutions | 0,391 | 0,00493 |
| B.1.13 | Locum support | B.35.1 | A health-related community representative structure (eg Health Board) | 0,472 | 0,00053 |

| | | | | | |
|---|---|---|---|---|---|
| B.1.14 | Traditional healthcare | B.4 | The quality of the water in the area | 0,410 | 0,00345 |
| B.1.14 | Traditional healthcare | B.10 | Exposure to rural practice as a result of internship | 0,387 | 0,00608 |
| B.1.14 | Traditional healthcare | B.18 | Ability of the community to organise around health issues (work collectively) | 0,433 | 0,00189 |
| B.1.14 | Traditional healthcare | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,407 | 0,00372 |
| | | | | | |
| B.2 | The beauty of the natural environment | B.353 | Local councillors | 0,407 | 0,00372 |
| | | | | | |
| B.3 | The quality of the roads in the area | B.4 | The quality of the water in the area | 0,785 | 0,00000 |
| B.3 | The quality of the roads in the area | B.5 | The issue of safety/ security within the community | 0,610 | 0,00000 |
| B.3 | The quality of the roads in the area | B.6 | The issue of crime within the community | 0,522 | 0,00009 |
| B.3 | The quality of the roads in the area | B.21 | Defining of local health service needs at community level | 0,500 | 0,00022 |
| B.3 | The quality of the roads in the area | B.22 | The drafting of a rural doctor's service agreement | 0,443 | 0,00114 |
| B.3 | The quality of the roads in the area | B.23 | Appropriate matching and placing of a rural doctor | 0,402 | 0,00343 |
| B.3 | The quality of the roads in the area | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,371 | 0,00943 |
| B.3 | The quality of the roads in the area | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,428 | 0,00173 |
| | | | | | |
| B.4 | The quality of the water in the area | B.5 | The issue of safety/ security within the community | 0,673 | 0,00000 |
| B.4 | The quality of the water in the area | B.6 | The issue of crime within the community | 0,654 | 0,00000 |
| B.3 | The quality of the water in the area | B.15 | The existence of good leadership within the community | 0,395 | 0,00452 |
| B.4 | The quality of the water in the area | B.21 | Defining of local health service needs at community level | 0,492 | 0,00033 |
| B.4 | The quality of the water in the area | B.22 | The drafting of a rural doctor's service agreement | 0,512 | 0,00015 |
| B.3 | The quality of the water in the area | B.23 | Appropriate matching and placing of a rural doctor | 0,548 | 0,00004 |
| B.4 | The quality of the water in the area | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,404 | 0,00491 |
| B.4 | The quality of the water in the area | B.27.3 | Support to the doctor's dependent/s | 0,380 | 0,00836 |
| B.3 | The quality of the water in the area | B.28.1 | Periodic monitoring and assessment of the wellbeing of the doctor | 0,388 | 0,00542 |
| B.4 | The quality of the water in the area | B.28.2 | Periodic monitoring and assessment of the wellbeing of the doctor's family | 0,456 | 0,00112 |
| B.4 | The quality of the water in the area | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,389 | 0,00525 |
| | | | | | |
| B.5 | The issue of safety/ security within the community | B.6 | The issue of crime within the community | 0,820 | 0,00000 |
| B.5 | The issue of safety/ security within the community | B.15 | The existence of good leadership within the community | 0,437 | 0,00135 |
| B.5 | The issue of safety/ security within the community | B.18 | Ability of the community to organise around health issues (work collectively) | 0,387 | 0,00501 |
| B.5 | The issue of safety/ security within the community | B.21 | Defining of local health service needs at community level | 0,365 | 0,00907 |
| B.5 | The issue of safety/ security within the community | B.22 | The drafting of a rural doctor's service agreement | 0,574 | 0,00001 |

| | | | | | |
|---|---|---|---|---|---|
| B.5 | The issue of safety/ security within the community | B.23 | Appropriate matching and placing of a rural doctor | 0,587 | 0,00001 |
| B.5 | The issue of safety/ security within the community | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,404 | 0,00441 |
| B.5 | The issue of safety/ security within the community | B.27.2 | Support to the doctor's spouse | 0,444 | 0,00139 |
| B.5 | The issue of safety/ security within the community | B.27.3 | Support to the doctor's dependents | 0,412 | 0,00363 |
| B.5 | The issue of safety/ security within the community | B.28.1 | Periodic monitoring of the wellbeing of the doctor | 0,491 | 0,00025 |
| B.5 | The issue of safety/ security within the community | B.28.2 | Periodic monitoring of the wellbeing of the doctor's family | 0,568 | 0,00002 |
| | | | | | |
| B.6 | The issue of crime within the community | B.15 | The existence of good leadership within the community | 0,501 | 0,00018 |
| B.6 | The issue of crime within the community | B.18 | Ability of the community to organise around health issues (work collectively) | 0,430 | 0,00165 |
| B.6 | The issue of crime within the community | B.19 | Spouse employment | 0,438 | 0,00146 |
| B.6 | The issue of crime within the community | B.21 | Defining of local health service needs at community level | 0,460 | 0,00077 |
| B.6 | The issue of crime within the community | B.22 | The drafting of a rural doctor's service agreement | 0,558 | 0,00002 |
| B.6 | The issue of crime within the community | B.23 | Appropriate matching and placing of a rural doctor | 0,493 | 0,00024 |
| B.6 | The issue of crime within the community | B.27.2 | Issue of support to the doctor | 0,372 | 0,00853 |
| B.6 | The issue of crime within the community | B.27.3 | Issue of support to the doctor's dependents | 0,434 | 0,00206 |
| B.6 | The issue of crime within the community | B.28.1 | Periodic monitoring/ assessment of wellbeing of the doctor | 0,512 | 0,00012 |
| B.6 | The issue of crime within the community | B.28.2 | Periodic monitoring/ assessment of wellbeing of the doctor's family | 0,582 | 0,00001 |
| B.6 | The issue of crime within the community | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | | |
| | | | | | |
| B.7 | Family ties within the rural community or close proximity | B.10 | Exposure to rural practice as a result of internship | 0,430 | 0,00164 |
| B.7 | Family ties within the rural community or close proximity | B.11 | Exposure to rural practice as a result of community service | 0,374 | 0,00952 |
| B.7 | Family ties within the rural community or close proximity | B.12 | Acceptance within a community | 0,395 | 0,00452 |
| B.7 | Family ties within the rural community or close proximity | B.13 | The marketing of community natural environmental resources | 0,455 | 0,00078 |
| B.7 | Family ties within the rural community or close proximity | B.22 | The drafting of a rural doctor's service agreement | 0,376 | 0,00659 |
| B.7 | Family ties within the rural community or close proximity | B.24 | Feeling integrated within a community | 0,466 | 0,00058 |
| B.7 | Family ties within the rural community or close proximity | B.25 | Doctor's family feeling integrated within the community | 0,515 | 0,00013 |
| B.7 | Family ties within the rural community or close proximity | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,624 | 0,00000 |
| B.7 | Family ties within the rural community or close proximity | B.27.3 | Support to the doctor's dependent/s | 0,369 | 0,00976 |
| B.7 | Family ties within the rural community or | B.28.1 | Periodic monitoring/ assessment of wellbeing of | 0,406 | 0,00314 |

| | | | | | |
|---|---|---|---|---|---|
| | close proximity | | the doctor | | |
| B.7 | Family ties within the rural community or close proximity | B.28.2 | Periodic monitoring/ assessment of wellbeing of the doctor's family | 0,374 | 0,00817 |
| | | | | | |
| B.8 | Feeling prepared for rural practice | B.11 | Exposure to rural practice as a result of community service | 0,423 | 0,00304 |
| | | | | | |
| B.9 | Exposure to rural practice during undergraduate training | B.10 | Exposure to rural practice as a result of internship | 0,547 | 0,00003 |
| B.9 | Exposure to rural practice during undergraduate training | B.11 | Exposure to rural practice as a result of community service | 0,602 | 0,00001 |
| B.9 | Exposure to rural practice during undergraduate training | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,380 | 0,00597 |
| | | | | | |
| B.10 | Exposure to rural practice as a result of internship | B.11 | Exposure to rural practice as a result of community service | 0,724 | 0,0000 |
| B.10 | Exposure to rural practice as a result of internship | B.22 | The drafting of a rural doctor's service agreement | 0,367 | 0,00809 |
| B.10 | Exposure to rural practice as a result of internship | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,380 | 0,00594 |
| | | | | | |
| B.11 | Exposure to rural practice as a result of community service | B.16 | Being valued within a community | 0,393 | 0,00626 |
| | | | | | |
| B.12 | Acceptance within a community | B.13 | The marketing of community natural environmental resources | 0,381 | 0,00640 |
| B.12 | Acceptance within a community | B.16 | Being valued within a community | 0,567 | 0,00002 |
| B.12 | Acceptance within a community | B.20 | Feeling welcome within a community | 0,411 | 0,00335 |
| B.12 | Acceptance within a community | B.24 | Feeling integrated within a community | 0,530 | 0,00007 |
| B.12 | Acceptance within a community | B.25 | Doctor's family feeling integrated within the community | 0,458 | 0,00092 |
| B.12 | Acceptance within a community | B.27.1 | Issue of support to the doctor | 0,409 | 0,00320 |
| B.12 | Acceptance within a community | B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,383 | 0,00606 |
| | | | | | |
| B.13 | The marketing of community natural environmental resources | B.14 | The existence of a local community health structure | 0,479 | 0,00043 |
| B.13 | The marketing of community natural environmental resources | B.24 | Feeling integrated within a community | 0,428 | 0,00172 |
| B.13 | The marketing of community natural environmental resources | B.25 | Doctor's family feeling integrated within the community | 0,388 | 0,00538 |
| B.13 | The marketing of community natural environmental resources | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,407 | 0,00413 |
| B.13 | The marketing of community natural environmental resources | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,391 | 0,00460 |
| | | | | | |
| B.14 | The existence of a local community health structure | B.15 | The existence of good leadership within the community | 0,423 | 0,00220 |
| B.14 | The existence of a local community health structure | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,425 | 0,00294 |
| | | | | | |
| B.15 | The existence of good leadership within the | B.16 | Being valued within a community | 0,400 | 0,00367 |

| | | | | | |
|---|---|---|---|---|---|
| | community | | | | |
| B.15 | The existence of good leadership within the community | B.18 | Ability of the community to organise around health issues (work collectively) | 0,470 | 0,00050 |
| B.15 | The existence of good leadership within the community | B.20 | Feeling welcome within a community | 0,375 | 0,00734 |
| B.15 | The existence of good leadership within the community | B.21 | Defining of local health service needs at community level | 0.373 | 0,00756 |
| B.15 | The existence of good leadership within the community | B.22 | The drafting of a rural doctor's service agreement | 0,373 | 0,00696 |
| B.15 | The existence of good leadership within the community | B.23 | Appropriate matching and placing of a rural doctor | 0,389 | 0,00481 |
| B.15 | The existence of good leadership within the community | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,508 | 0,00023 |
| | | | | | |
| B.16 | Being valued within a community | B.20 | Feeling welcome within a community | 0,547 | 0,00004 |
| B.16 | Being valued within a community | B.24 | Feeling integrated within a community | 0,439 | 0,00128 |
| B.16 | Being valued within a community | B.25 | Doctor's family feeling integrated within the community | 0,382 | 0,00613 |
| | | | | | |
| B.17 | The level of community diversity (eg cultural diversity) | B.18 | Ability of the community to organise around health issues (work collectively) | | |
| B.17 | The level of community diversity (eg cultural diversity) | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,389 | 0,00527 |
| B.17 | The level of community diversity (eg cultural diversity) | B.34 | The community forging of relations with medical training institutions | 0,425 | 0,00234 |
| B.17 | The level of community diversity (eg cultural diversity) | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,448 | 0,00124 |
| | | | | | |
| B.18 | Ability of the community to organise around health issues (work collectively) | B.23 | Appropriate matching and placing of a rural doctor | 0.366 | 0,00823 |
| B.18 | Ability of the community to organise around health issues (work collectively) | B.24 | Feeling integrated within a community | 0,421 | 0,00210 |
| B.18 | Ability of the community to organise around health issues (work collectively) | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,373 | 0,00898 |
| B.18 | Ability of the community to organise around health issues (work collectively) | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,406 | 0,00311 |
| B.18 | Ability of the community to organise around health issues (work collectively) | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,426 | 0,00182 |
| | | | | | |
| B.19 | Spouse employment | B.23 | Appropriate matching and placing of a rural doctor | 0,377 | 0,00688 |
| B.19 | Spouse employment | B.25 | Doctor's family feeling integrated within the community | 0,494 | 0,00031 |
| B.19 | Spouse employment | B.27.2 | Support to doctor's spouse | 0,385 | 0,00628 |
| B.19 | Spouse employment | B.27.3 | Support to doctor's dependents | 0,506 | 0,00025 |
| B.19 | Spouse employment | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,395 | 0,00544 |
| B.19 | Spouse employment | B.34 | The community forging of relations with medical training institutions | 0,387 | 0,00604 |
| | | | | | |
| B.20 | Feeling welcome within a community | B.24 | Feeling integrated within a community | 0,482 | 0,00040 |
| B.20 | Feeling welcome within a community | B.25 | Doctor's family feeling integrated within the | 0,462 | 0,00083 |

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| | | | community | | |
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| B.21 | Defining of local health service needs at community level | B.22 | The drafting of a rural doctor's service agreement | 0,524 | 0,00009 |
| B.21 | Defining of local health service needs at community level | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,521 | 0,00018 |
| B.21 | Defining of local health service needs at community level | B.27.2 | Support to doctor's spouse | 0,393 | 0,00575 |
| B.21 | Defining of local health service needs at community level | B.27.3 | Support to doctor's dependents | 0,494 | 0,00042 |
| B.21 | Defining of local health service needs at community level | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,576 | 0,00002 |
| B.22 | The drafting of a rural doctor's service agreement | B.23 | Appropriate matching and placing of a rural doctor | 0,529 | 0.00007 |
| B.22 | The drafting of a rural doctor's service agreement | B.25 | Doctor's family feeling integrated within the community | 0,377 | 0,00691 |
| B.22 | The drafting of a rural doctor's service agreement | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,591 | 0,00001 |
| B.22 | The drafting of a rural doctor's service agreement | B.27.3 | Support to doctor's dependents | 0,440 | 0,00177 |
| B.22 | The drafting of a rural doctor's service agreement | B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,371 | 0,00733 |
| B.22 | The drafting of a rural doctor's service agreement | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,491 | 0,00034 |
| B.22 | The drafting of a rural doctor's service agreement | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,377 | 0,00645 |
| B.22 | The drafting of a rural doctor's service agreement | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,368 | 0,00787 |
| B.22 | The drafting of a rural doctor's service agreement | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,422 | 0,00206 |
| B.22 | The drafting of a rural doctor's service agreement | B.34 | The community forging of relations with medical training institutions | 0,384 | 0,00587 |
| | | | | | |
| B.23 | Appropriate matching and placing of a rural doctor | B.29 | Developing appropriate financial incentive/ reward system for rural doctors | 0,391 | 0,00456 |
| | | | | | |
| B.24 | Feeling integrated within a community | B.25 | Doctor's family feeling integrated within the community | 0,709 | 0,00000 |
| B.24 | Feeling integrated within a community | B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,378 | 0,00631 |
| B.24 | Feeling integrated within a community | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,385 | 0,00525 |
| B.24 | Feeling integrated within a community | B.35.1 | A health-related community representative structure (eg Health Board) | 0,378 | 0,00680 |
| | | | | | |
| B.25 | Doctor's family feeling integrated within the community | B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,390 | 0.00669 |
| B.25 | Doctor's family feeling integrated within the community | B.27.2 | Support to doctor's spouse | 0,386 | 0,00681 |
| B.25 | Doctor's family feeling integrated within the community | B.27.3 | Support to doctor's dependents | 0,496 | 0,00039 |
| B.25 | Doctor's family feeling integrated within the | B.28.1 | Periodic monitoring/ assessment of the wellbeing | 0,431 | 0,00177 |

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| | community | | of the doctor | | |
| B.25 | Doctor's family feeling integrated within the community | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,452 | 0,00128 |
| B.25 | Doctor's family feeling integrated within the community | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,416 | 0,00267 |
| B.25 | Doctor's family feeling integrated within the community | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,458 | 0,00083 |
| B.25 | Doctor's family feeling integrated within the community | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,406 | 0,00347 |
| B.25 | Doctor's family feeling integrated within the community | B.34 | The community forging of relations with medical training institutions | 0,435 | 0,00180 |
| B.25 | Doctor's family feeling integrated within the community | B.35.1 | A health-related community representative structure (eg Health Board) | | |
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| B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | B.27.3 | Support to doctor's dependents | 0,411 | 0,00502 |
| B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,381 | 0,00748 |
| B.26 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,448 | 0,00179 |
| | | | | | |
| B.27.1 | Issue of support to the doctor | B.27.2 | Support to doctor's spouse | 0,503 | 0,00023 |
| B.27.1 | Issue of support to the doctor | B.27.3 | Support to doctor's dependents | 0,418 | 0,00315 |
| | | | | | |
| B.27.2 | Issue of support to the doctor's spouse | B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,391 | 0,00547 |
| B.27.2 | Issue of support to the doctor's spouse | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,535 | 0,00009 |
| B.27.2 | Issue of support to the doctor's spouse | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,459 | 0,00090 |
| B.27.2 | Issue of support to the doctor's spouse | B.34 | The community forging of relations with medical training institutions | 0,383 | 0,00714 |
| | | | | | |
| B.27.3 | Issue of support to the doctor's dependents | B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,541 | 0,00007 |
| B.27.3 | Issue of support to the doctor's dependents | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,700 | 0,00000 |
| B.27.3 | Issue of support to the doctor's dependents | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,545 | 0,00006 |
| B.27.3 | Issue of support to the doctor's dependents | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0.463 | 0,00091 |
| B.27.3 | Issue of support to the doctor's dependents | B.34 | The community forging of relations with medical training institutions | 0,523 | 0,00016 |
| B.27.3 | Issue of support to the doctor's dependents | B.35.1 | A health-related community representative structure (eg Health Board) | 0,414 | 0,00384 |
| | | | | | |
| B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,866 | 0,00000 |

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| B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | 0,370 | 0,00748 |
| B.28.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | B.34 | The community forging of relations with medical training institutions | 0.434 | 0,00166 |
| | | | | | |
| B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,415 | 0,00303 |
| B.28.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | B.34 | The community forging of relations with medical training institutions | 0,503 | 0,00027 |
| | | | | | |
| B.29 | Developing appropriate financial incentive/ reward system for rural doctors | B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | 0,577 | 0,00001 |
| B.29 | Developing appropriate financial incentive/ reward system for rural doctors | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,442 | 0,00116 |
| | | | | | |
| B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | B.31 | Communities working together within a specific regional context in order to recruit rural doctors | 0,635 | 0,00000 |
| B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,470 | 0,00050 |
| B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,561 | 0,00002 |
| B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | B.34 | The community forging of relations with medical training institutions | 0,463 | 0,00072 |
| B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,362 | 0,00973 |
| B.30 | Building partnerships with various roleplayers involved with rural doctor recruitment | B.35.6 | Local business sector | 0,406 | 0,00340 |
| | | | | | |
| B.31 | Communities working together within a specific regional context in order to recruit rural doctors | B.32 | Identifying of local youth talent as potential healthcare professional at community level | 0,619 | 0,00000 |
| B.31 | Communities working together within a specific regional context in order to recruit rural doctors | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,579 | 0,00001 |
| B.31 | Communities working together within a specific regional context in order to recruit rural doctors | B.34 | The community forging of relations with medical training institutions | 0,542 | 0,00005 |
| B.31 | Communities working together within a specific regional context in order to recruit rural doctors | B.35.3 | Local councillors | 0.377 | 0,00761 |
| B.31 | Communities working together within a specific regional context in order to recruit rural doctors | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,396 | 0,00438 |
| B.31 | Communities working together within a specific regional context in order to recruit rural doctors | B.35.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,390 | 0,00506 |

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| B.31 | Communities working together within a specific regional context in order to recruit rural doctors | B.35.6 | Local business sector | 0,595 | 0,00001 |
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| B.32 | Identifying of local youth talent as potential healthcare professional at community level | B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,721 | 0,00000 |
| B.32 | Identifying of local youth talent as potential healthcare professional at community level | B.34 | The community forging of relations with medical training institutions | 0,657 | 0,00000 |
| B.32 | Identifying of local youth talent as potential healthcare professional at community level | B.35.1 | A health-related community representative structure (eg Health Board) | 0,449 | 0,00107 |
| B.32 | Identifying of local youth talent as potential healthcare professional at community level | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,404 | 0,00362 |
| B.32 | Identifying of local youth talent as potential healthcare professional at community level | B.35.6 | Local business sector | 0,492 | 0,00028 |
| | | | | | |
| B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | B.34 | The community forging of relations with medical training institutions | 0,775 | 0,00000 |
| B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | B.35.1 | A health-related community representative structure (eg Health Board) | 0,397 | 0,00435 |
| B.33 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | B.35.6 | Local business sector | 0,456 | 0,00088 |
| | | | | | |
| B.34 | The community forging of relations with medical training institutions | B.35.1 | A health-related community representative structure (eg Health Board) | 0,377 | 0,00754 |
| B.34 | The community forging of relations with medical training institutions | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,427 | 0,00221 |
| B.34 | The community forging of relations with medical training institutions | B.35.6 | Local business sector | 0,454 | 0,00106 |
| | | | | | |
| B.35.1 | A health-related community representative structure (eg Health Board) | B.35.2 | The Municipality | 0,744 | 0,00000 |
| B.35.1 | A health-related community representative structure (eg Health Board) | B.35.3 | Local councillors | 0,569 | 0,00002 |
| B.35.1 | A health-related community representative structure (eg Health Board) | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,424 | 0,00218 |
| B.35.1 | A health-related community representative structure (eg Health Board) | B.35.6 | Local business sector | 0,492 | 0,00029 |
| | | | | | |
| B.35.2 | The Municipality | B.35.3 | Local councillors | 0,863 | 0,00000 |
| B.35.2 | The Municipality | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,615 | 0,00000 |
| B.35.2 | The Municipality | B.35.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,430 | 0,00184 |
| B.35.2 | The Municipality | B.35.6 | Local business sector | 0,579 | 0,00001 |
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| B.35.3 | Local councillors | B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,716 | 0,00000 |
| B.35.3 | Local councillors | B.35.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,484 | 0,00042 |
| B.35.3 | Local councillors | B.35.6 | Local business sector | 0,648 | 0,00000 |
| | | | | | |
| B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | B.35.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,743 | 0,00000 |
| B.35.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | B.35.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,743 | 0,00000 |
| | | | | | |
| B.35.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | B.35.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,738 | 0,00000 |
| | | | | | |

## **Appendix 9 : Spearman's Rank Correlation :** Retention

| Question No | Factor | Question No | Factor | rho | p-value |
|---|---|---|---|---|---|
| D.29.1 | Domestic assistance | D.29.2 | Childcare facilities | 0,636 | 0,00000 |
| D.29.1 | Domestic assistance | D.29.3 | Educational facilities | 0,534 | 0,00007 |
| D.29.1 | Domestic assistance | D.29.5 | Entertainment amenities | 0,407 | 0,00338 |
| D.29.1 | Domestic assistance | D.29.11 | Allied healthcare services (eg nurses) | 0,365 | 0,00841 |
| D.29.1 | Domestic assistance | D.34 | The quality of the roads in the area | 0,422 | 0,00229 |
| D.29.1 | Domestic assistance | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,407 | 0,00374 |
| | | | | | |
| D.29.2 | Childcare facilities | D.29.3 | Educational facilities | 0,519 | 0,00012 |
| D.29.2 | Childcare facilities | D.29.6 | Religious amenities | 0,378 | 0,00629 |
| D.29.2 | Childcare facilities | D.29.11 | Allied healthcare services (eg nurses) | 0,383 | 0,00556 |
| D.29.2 | Childcare facilities | D.30 | Spouse employment | 0,383 | 0,00664 |
| D.29.2 | Childcare facilities | D.28 | The drafting of a rural doctor's service agreement | 0,415 | 0,00274 |
| D.29.2 | Childcare facilities | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,426 | 0,00230 |
| | | | | | |
| D.29.3 | Educational facilities | D.29.12 | Peer support | 0,365 | 0,00914 |
| D.29.3 | Educational facilities | D.32 | The issue of safety/ security within the community | 0,443 | 0,00126 |
| D.29.3 | Educational facilities | D.33 | The issue of crime within the community | 0,503 | 0,00020 |
| D.29.3 | Educational facilities | D.17 | Feeling prepared for rural practice | 0,413 | 0,00289 |
| | | | | | |
| D.24.4 | Recreation/ sport amenities | D.29.5 | Entertainment amenities | 0,601 | 0,00000 |
| D.24.4 | Recreation/ sport amenities | D.13 | The marketing of community natural environmental resources | 0,446 | 0,00117 |
| D.24.4 | Recreation/ sport amenities | D.30 | Spouse employment | 0,370 | 0,00879 |
| | | | | | |
| D.29.5 | Entertainment amenities | D.29.13 | Locum support | 0,380 | 0,00646 |
| D.29.5 | Entertainment amenities | D.35 | The quality of the water in the area | 0.393 | 0,00475 |
| D.29.5 | Entertainment amenities | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,435 | 0,00200 |
| | | | | | |
| D.29.6 | Religious amenities | D.17 | Feeling prepared for rural practice | 0,364 | 0,00872 |
| | | | | | |
| D.29.8 | Subsidised accommodation/ housing | D.29.9 | Free accommodation/ housing | 0,536 | 0,00010 |
| D.29.8 | Subsidised accommodation/ housing | D.35 | The quality of the water in the area | 0,378 | 0,00733 |
| | | | | | |
| D.29.9 | Free accommodation/ housing | D.29.14 | Traditional healthcare | 0,377 | 0,00904 |
| D.29.9 | Free accommodation/ housing | D.19 | Exposure to rural practice as a result of internship | 0,374 | 0,00953 |
| D.29.9 | Free accommodation/ housing | D.20 | Exposure to rural practice as a result of community service | 0,372 | 0,00931 |
| D.29.9 | Free accommodation/ housing | D.13 | The marketing of community natural environmental resources | 0,388 | 0,00697 |
| | | | | | |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.29.11 | Allied healthcare services (eg nurses) | 0,456 | 0,00111 |

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| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.29.14 | Traditional healthcare | 0,383 | 0,00719 |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.4 | The existence of a local community health structure | 0,446 | 0,00150 |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.1 | Ability of the community to organise around health issues (work collectively) | 0,535 | 0,00011 |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.2 | Defining of local health service needs at community level | 0,417 | 0,00355 |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,522 | 0,00017 |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.8 | Communities working together within a specific regional context in order to retain rural doctors | 0,386 | 0,00735 |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.16 | The community forging of relations with medical training institutions | 0,454 | 0,00118 |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.7.3 | Local councillors | 0,410 | 0,00425 |
| D.29.10 | Lay healthcare provision (home-based carers, community health workers) within the community | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,493 | 0,00043 |
| | | | | | |
| D.29.11 | Allied healthcare services (eg nurses) | D.29.12 | Peer support | 0,405 | 0,00318 |
| D.29.11 | Allied healthcare services (eg nurses) | D.17 | Feeling prepared for rural practice | 0,451 | 0,00088 |
| D.29.11 | Allied healthcare services (eg nurses) | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | | |
| | | | | | |
| D.29.12 | Peer support | D.29.13 | Locum support | 0,415 | 0,00243 |
| D.29.12 | Peer support | D.14 | The beauty of the natural environment | 0,499 | 0,00031 |
| D.29.12 | Peer support | D.17 | Feeling prepared for rural practice | 0,588 | 0,00001 |
| D.29.12 | Peer support | D.12 | Appropriate matching and placing of a rural doctor | 0,435 | 0,00177 |
| D.29.12 | Peer support | D.26.2 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,425 | 0,00236 |
| | | | | | |
| D.29.13 | Locum support | D.35 | The quality of the water in the area | 0,461 | 0,00066 |
| D.29.13 | Locum support | D.32 | The issue of safety/ security within the community | 0,367 | 0,00806 |
| D.29.13 | Locum support | D.33 | The issue of crime within the community | 0,367 | 0,00655 |
| D.29.13 | Locum support | D.11 | Family ties within the rural community or close proximity | 0,368 | 0,00849 |
| D.29.13 | Locum support | D.11 | Family ties within the rural community or close proximity | 0,368 | 0,00849 |
| D.29.13 | Locum support | D.30 | Spouse employment | 0,382 | 0,00676 |
| D.29.13 | Locum support | D.12 | Appropriate matching and placing of a rural doctor | 0,387 | 0,00605 |
| D.29.13 | Locum support | D.24.2 | Issue of support to the doctor's spouse | 0,410 | 0,00348 |
| D.29.13 | Locum support | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,455 | 0,00091 |

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| D.29.13 | Locum support | D.26.2 | Periodic monitoring of the wellbeing of the doctor's family | 0,512 | 0,00017 |
| | | | | | |
| D.29.14 | Traditional healthcare | D.2 | Defining of local health service needs at community level | 0,368 | 0,00930 |
| D.29.14 | Traditional healthcare | D.28 | The drafting of a rural doctor's service agreement | 0,382 | 0,00675 |
| D.29.14 | Traditional healthcare | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,503 | 0,00027 |
| D.29.14 | Traditional healthcare | D.8 | Communities working together within a specific regional context in order to recruit rural doctors | 0,460 | 0,00099 |
| D.29.14 | Traditional healthcare | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,453 | 0,00096 |
| D.29.14 | Traditional healthcare | D.16 | The community forging of relations with medical training institutions | 0,409 | 0,00322 |
| D.29.14 | Traditional healthcare | D.7.3 | Local councillors | 0,381 | 0,00685 |
| D.29.14 | Traditional healthcare | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,529 | 0,00009 |
| D.29.14 | Traditional healthcare | D.7.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,426 | 0,00225 |
| | | | | | |
| D.14 | The beauty of the natural environment | D.13 | The marketing of community natural environmental resources | 0.578 | 0,00002 |
| | | | | | |
| D.34 | The quality of the roads in the area | D.35 | The quality of the water in the area | 0,771 | 0,00000 |
| D.34 | The quality of the roads in the area | D.30 | Spouse employment | 0,391 | 0,00602 |
| | | | | | |
| D.35 | The quality of the water in the area | D.33 | The issue of crime within the community | 0,430 | 0,00164 |
| D.35 | The quality of the water in the area | D.30 | Spouse employment | 0,524 | 0,00011 |
| D.35 | The quality of the water in the area | D.28 | The drafting of a rural doctor's service agreement | 0,402 | 0,00380 |
| D.35 | The quality of the water in the area | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,472 | 0,00053 |
| D.35 | The quality of the water in the area | D.26.2 | Periodic monitoring of the wellbeing of the doctor's family | 0,436 | 0,00173 |
| | | | | | |
| D.32 | The issue of safety/ security within the community | D.33 | The issue of crime within the community | 0,757 | 0,00000 |
| D.32 | The issue of safety/ security within the community | D.17 | Feeling prepared for rural practice | 0,371 | 0,00744 |
| D.32 | The issue of safety/ security within the community | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,407 | 0,00367 |
| | | | | | |
| D.11 | Family ties within the rural community or close proximity | D.22 | Acceptance within a community | 0,482 | 0,00039 |
| D.11 | Family ties within the rural community or close proximity | D.13 | The marketing of community natural environmental resources | 0,458 | 0,00082 |
| D.11 | Family ties within the rural community or close proximity | D.21 | Feeling welcome within a community | 0,387 | 0,00713 |
| D.11 | Family ties within the rural community or close proximity | D.23 | Feeling integrated within a community | 0,468 | 0,00090 |
| D.11 | Family ties within the rural community or close proximity | D.31 | Doctor's family feeling integrated within the community | 0,558 | 0,00003 |

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| D.11 | Family ties within the rural community or close proximity | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,474 | 0,00057 |
| D.11 | Family ties within the rural community or close proximity | D.8 | Communities working together within a specific regional context in order to retain rural doctors | 0,440 | 0,00173 |
| D.11 | Family ties within the rural community or close proximity | D.9 | Identifying of local youth talent as potential healthcare professional at community level | 0,421 | 0,00236 |
| D.11 | Family ties within the rural community or close proximity | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,436 | 0,00157 |
| | | | | | |
| D.17 | Feeling prepared for rural practice | D.18 | Exposure to rural practice during undergraduate training | 0,404 | 0,00327 |
| D.17 | Feeling prepared for rural practice | D.20 | Exposure to rural practice as a result of community service | 0,377 | 0,00638 |
| D.17 | Feeling prepared for rural practice | D.16 | The community forging of relations with medical training institutions | 0,363 | 0,00894 |
| | | | | | |
| D.18 | Exposure to rural practice during undergraduate training | D.19 | Exposure to rural practice as a result of internship | 0,703 | 0,00000 |
| D.18 | Exposure to rural practice during undergraduate training | D.20 | Exposure to rural practice as a result of community service | 0,712 | 0,00000 |
| | | | | | |
| D.19 | Exposure to rural practice as a result of internship | D.20 | Exposure to rural practice as a result of community service | 0,889 | 0,00000 |
| | | | | | |
| D.20 | Exposure to rural practice as a result of community service | D.4 | The existence of a local community health structure | 0,397 | 0,00393 |
| D.20 | Exposure to rural practice as a result of community service | D.28 | The drafting of a rural doctor's service agreement | 0,375 | 0,00726 |
| | | | | | |
| D.22 | Acceptance within a community | D.21 | Feeling welcome within a community | 0,840 | 0,00000 |
| D.22 | Acceptance within a community | D.23 | Feeling integrated within a community | 0,889 | 0,00000 |
| | | | | | |
| D.13 | The marketing of community natural environmental resources | D.30 | Spouse employment | 0,408 | 0,00401 |
| D.13 | The marketing of community natural environmental resources | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,470 | 0,00064 |
| D.13 | The marketing of community natural environmental resources | D.16 | The community forging of relations with medical training institutions | 0,476 | 0,00048 |
| D.13 | The marketing of community natural environmental resources | D.7.6 | Local business sector | 0,382 | 0,00876 |
| | | | | | |
| D.4 | The existence of a local community health structure | D.5 | The existence of good leadership within the community | 0,652 | 0,00000 |
| D.4 | The existence of a local community health structure | D.1 | Ability of the community to organise around health issues (work collectively) | 0,637 | 0,00000 |
| D.4 | The existence of a local community health structure | D.12 | Appropriate matching and placing of a rural doctor | 0,367 | 0,00951 |
| D.4 | The existence of a local community health structure | D.26.2 | Periodic monitoring of the wellbeing of the doctor's family | 0,370 | 0,00896 |
| D.4 | The existence of a local community health structure | D.7.2 | The municipality | 0,380 | 0,00703 |

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| D.4 | The existence of a local community health structure | D.7.3 | Local councillors | 0,401 | 0,00432 |
| | | | | | |
| D.5 | The existence of good leadership within the community | D.3 | The level of community diversity (eg cultural diversity) | 0,403 | 0,00367 |
| D.5 | The existence of good leadership within the community | D.1 | Ability of the community to organise around health issues (work collectively) | 0,587 | 0,00001 |
| D.5 | The existence of good leadership within the community | D.2 | Defining of local health service needs at community level | 0,590 | 0,00001 |
| D.5 | The existence of good leadership within the community | D.31 | Doctor's family feeling integrated within the community | 0,397 | 0,00431 |
| D.5 | The existence of good leadership within the community | D.7.2 | The municipality | 0,446 | 0,00147 |
| D.5 | The existence of good leadership within the community | D.7.3 | Local councillors | 0,527 | 0,00012 |
| | | | | | |
| D.27 | Being valued within a community | D.21 | Feeling welcome within a community | 0,421 | 0,00318 |
| D.27 | Being valued within a community | D.23 | Feeling integrated within a community | 0,406 | 0,00468 |
| D.27 | Being valued within a community | D.31 | Doctor's family feeling integrated within the community | 0,406 | 0,00347 |
| D.27 | Being valued within a community | D.24.1 | Support to doctor | 0,525 | 0,00013 |
| D.27 | Being valued within a community | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,378 | 0,00747 |
| | | | | | |
| D.3 | The level of community diversity (eg cultural diversity) | D.1 | Ability of the community to organise around health issues (work collectively) | 0,445 | 0,00121 |
| D.3 | The level of community diversity (eg cultural diversity) | D.1 | Local councillors | 0,402 | 0,00420 |
| | | | | | |
| D.1 | Ability of the community to organise around health issues (work collectively) | D.2 | Defining of local health service needs at community level | 0,744 | 0,00000 |
| D.1 | Ability of the community to organise around health issues (work collectively) | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,390 | 0,00609 |
| D.1 | Ability of the community to organise around health issues (work collectively) | D.7.1 | A health-related community representative structure (eg Health Board) | 0,471 | 0,00073 |
| D.1 | Ability of the community to organise around health issues (work collectively) | D.7.2 | The municipality | 0,520 | 0,00015 |
| D.1 | Ability of the community to organise around health issues (work collectively) | D.7.3 | Local councillors | 0,636 | 0,00000 |
| D.1 | Ability of the community to organise around health issues (work collectively) | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,484 | 0,00049 |
| | | | | | |
| D.30 | Spouse employment | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,380 | 0,00849 |
| D.30 | Spouse employment | D.24.2 | Issue of support to the doctor's spouse | 0,418 | 0,00349 |
| D.30 | Spouse employment | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,393 | 0,00573 |
| D.30 | Spouse employment | D.26.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,407 | 0,00456 |
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| D.21 | Feeling welcome within a community | D.23 | Feeling integrated within a community | 0,834 | 0,00000 |
| D.21 | Feeling welcome within a community | D.31 | Doctor's family feeling integrated within the community | 0,431 | 0,00221 |
| D.21 | Feeling welcome within a community | D.8 | Communities working together within a specific regional context in order to retain rural doctors | 0,376 | 0,00992 |
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| D.2 | Defining of local health service needs at community level | D.6 | Building partnerships with various roleplayers involved with rural doctor retention | 0,372 | 0,00782 |
| D.2 | Defining of local health service needs at community level | D.7.1 | A health-related community representative structure (eg Health Board) | 0,410 | 0,00376 |
| D.2 | Defining of local health service needs at community level | D.7.2 | The municipality | 0,492 | 0,00038 |
| D.2 | Defining of local health service needs at community level | D.7.3 | Local councillors | 0,575 | 0,00002 |
| D.2 | Defining of local health service needs at community level | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,576 | 0,00002 |
| D.2 | Defining of local health service needs at community level | D.7.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,488 | 0,00043 |
| D.2 | Defining of local health service needs at community level | D.7.6 | Local business sector | 0,380 | 0,00919 |
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| D.28 | The drafting of a rural doctor's service agreement | D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | 0,455 | 0,00114 |
| D.28 | The drafting of a rural doctor's service agreement | D.24.2 | Issue of support to the doctor's spouse | 0,428 | 0,00242 |
| D.28 | The drafting of a rural doctor's service agreement | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,395 | 0,00499 |
| D.28 | The drafting of a rural doctor's service agreement | D.8 | Communities working together within a specific regional context in order to retain rural doctors | 0,436 | 0,00196 |
| | | | | | |
| D.12 | Appropriate matching and placing of a rural doctor | D.31 | Doctor's family feeling integrated within the community | 0,370 | 0,00894 |
| D.12 | Appropriate matching and placing of a rural doctor | D.24.2 | Issue of support to the doctor's spouse | 0,470 | 0,00086 |
| D.12 | Appropriate matching and placing of a rural doctor | D.9 | Identifying of local youth talent as potential healthcare professional at community level | 0,416 | 0,00291 |
| D.12 | Appropriate matching and placing of a rural doctor | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,386 | 0,00618 |
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| D.23 | Feeling integrated within a community | D.31 | Doctor's family feeling integrated within the community | 0,401 | 0,00470 |
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| D.31 | Doctor's family feeling integrated within the community | D.24.1 | Support to doctor | 0,541 | 0,00006 |
| D.31 | Doctor's family feeling integrated within the community | D.24.2 | Support to the doctor's spouse | 0,544 | 0,00005 |
| D.31 | Doctor's family feeling integrated within the community | D.24.3 | Support to the doctor's dependent/s | 0,583 | 0,00001 |
| D.31 | Doctor's family feeling integrated within the community | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,390 | 0,00507 |

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| D.31 | Doctor's family feeling integrated within the community | D.26.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,457 | 0,00096 |
| D.31 | Doctor's family feeling integrated within the community | D.8 | Communities working together within a specific regional context in order to retain rural doctors | 0,416 | 0,00292 |
| D.31 | Doctor's family feeling integrated within the community | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,365 | 0,00839 |
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| D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | D.8 | Communities working together within a specific regional context in order to retain rural doctors | 0,504 | 0,00026 |
| D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | D.9 | Identifying of local youth talent as potential healthcare professional at community level | 0,390 | 0,00557 |
| D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,370 | 0,00880 |
| D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | D.16 | The community forging of relations with medical training institutions | 0,607 | 0,00000 |
| D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | D.7.2 | The municipality | 0,466 | 0,00097 |
| D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | D.7.3 | Local councillors | 0,469 | 0,00088 |
| D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,414 | 0,00380 |
| D.15 | The marketing of community human resources (eg mechanics, teachers, councillors, leaders) | D.7.6 | Local business sector | 0,396 | 0,00716 |
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| D.24.1 | Issue of support to the doctor | D.24.2 | Support to doctor's spouse | 0,621 | 0,00000 |
| D.24.1 | Issue of support to the doctor | D.24.3 | Support to doctor's dependents | 0,514 | 0,00019 |
| D.24.1 | Issue of support to the doctor | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,445 | 0,00135 |
| D.24.1 | Issue of support to the doctor | D.26.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,446 | 0,00150 |
| | | | | | |
| D.24.2 | Issue of support to the doctor's spouse | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,499 | 0,00026 |
| D.24.2 | Issue of support to the doctor's spouse | D.26.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,510 | 0,00018 |
| D.24.2 | Issue of support to the doctor's spouse | D.9 | Identifying of local youth talent as potential healthcare professional at community level | 0,478 | 0,00052 |
| D.24.2 | Issue of support to the doctor's spouse | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,525 | 0,00011 |
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| D.24.3 | Issue of support to the doctor's dependents | D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | 0,436 | 0,00174 |
| D.24.3 | Issue of support to the doctor's dependents | D.26.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,502 | 0,00024 |

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| D.24.3 | Issue of support to the doctor's dependents | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,410 | 0,00346 |
| | | | | | |
| D.26.1 | Periodic monitoring/ assessment of the wellbeing of the doctor | D.26.2 | Periodic monitoring/ assessment of the wellbeing of the doctor's family | 0,945 | 0,00000 |
| | | | | | |
| D.6 | Building partnerships with various roleplayers involved with rural doctor recruitment | D.8 | Communities working together within a specific regional context in order to recruit rural doctors | 0,423 | 0,00244 |
| D.6 | Building partnerships with various roleplayers involved with rural doctor recruitment | D.7.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,449 | 0,00123 |
| D.6 | Building partnerships with various roleplayers involved with rural doctor recruitment | D.7.6 | Local business sector | 0,382 | 0,00806 |
| | | | | | |
| D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.9 | Identifying of local youth talent as potential healthcare professional at community level | 0,595 | 0,00001 |
| D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,652 | 0,00000 |
| D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.16 | The community forging of relations with medical training institutions | 0,652 | 0,00000 |
| D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.7.2 | The municipality | 0,482 | 0,00060 |
| D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.7.3 | Local councillors | 0,458 | 0,00120 |
| D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,605 | 0,00001 |
| D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.7.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,601 | 0,00001 |
| D.8 | Communities working together within a specific regional context in order to recruit rural doctors | D.7.6 | Local business sector | 0,546 | 0,00011 |
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| D.9 | Identifying of local youth talent as potential healthcare professional at community level | D.10 | Provision of community resources to support local youth learners/ students financially (eg bursaries) | 0,833 | 0,00000 |
| | | | | | |
| D.16 | The community forging of relations with medical training institutions | D.7.3 | Local councillors | 0,388 | 0,00584 |
| D.16 | The community forging of relations with medical training institutions | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,400 | 0,00443 |
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| D.7.1 | A health-related community representative structure (eg Health Board) | D.7.2 | The Municipality | 0,653 | 0,00000 |

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| D.7.1 | A health-related community representative structure (eg Health Board) | D.7.3 | Local councillors | 0,650 | 0,00000 |
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| D.7.2 | The Municipality | D.7.3 | Local councillors | 0,858 | 0,00000 |
| D.7.2 | The Municipality | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,539 | 0,00006 |
| D.7.2 | The Municipality | D.7.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,402 | 0,00418 |
| D.7.2 | The Municipality | D.7.6 | Local business sector | 0,548 | 0,00007 |
| | | | | | |
| D.7.3 | Local councillors | D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | 0,627 | 0,00000 |
| D.7.3 | Local councillors | D.7.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,426 | 0,00225 |
| D.7.3 | Local councillors | D.7.6 | Local business sector | 0,511 | 0,00024 |
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| D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | D.7.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | 0,858 | 0,00000 |
| D.7.4 | Local community-based organisations (eg community associations, forums, co-operatives, labour organisations) | D.7.6 | Local business sector | 0,660 | 0,00000 |
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| D.7.5 | Local non-profit organisations (NPOs) (eg research / human-rights organisations) | D.7.6 | Local business sector | 0,664 | 0,00000 |
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# Appendix 10 : Interview with Professor Steve Reid (19 September 2008)

**Researcher:** Thank you Prof Steve Reid for having this interview with me. My research examines the role of communities in the recruitment and retrenchment of doctors in South Africa from the perspective of the rural doctor.

A basic model is the balancing model, which highlights that some of the professional aspects or mainstream aspects with reference to recruitment and retention of rural doctors, had been researched. What also needs to be taken into consideration is that perhaps to a large degree, we often put a large emphasis on recruitment as opposed to retention. For example, programmes such as Community Service focuses on recruiting the doctor and getting the doctor at the practice location. Incentives such as rural and scarce skills allowances as well as hospital revitalisation initiatives, address recruitment and may touch on addressing retention.

However, the role of community participation in the process of rural doctor recruitment and retention remains a neglected aspect. Alluding to the balancing model, the study looks at exploring doctors' perceptions around the role that the community can play in this regard. From a literary perspective, some of the theories support this and from an empirical perspective, one needs to test this to see if some of the literary aspects for example the socio-cultural aspects are significant to doctors.

There are some limitations to this study in a sense that some of the aspects would require further investigation and issues such as the understanding of representative as well as leadership structures. As an anthropologist myself, I recognise the centrality of such issues and have engaged with communities and the *concept of community* to some degree, which I have tried to unpack[1]. This would demand follow-up research and these kind of issues would be identified as some of the required follow-up research questions.

I just wanted to discuss selected issues with you. I am aware that there are some useful case studies reflecting community involvement, such as Mosvold case. Generally I think that there is latent potential for increased Community involvement in health, in the Worcester area as well. Some good work in this regard is being conducted there, particularly looking at some initiatives involving the community and the hospital. Prof I wanted to ask you some of your comments related to the proposed research.

**Professor Reid**: I think you definitely on the right tract to recognise this as an important and under-researched area relating to community involvement in health generally. When you write specifically on recruitment and retention there are a lot of potential there. I think the Friends of Mosvold idea is one sort of model of involvement and it is by no means the only one.

Just to step back a bit I think one has to realise that a limiting factor is that doctors are selected from the high socio-economic groups. There is a class issue that is starting to change but it hasn't change much - one is still getting kids going to Med School that has the best academic merit and has come through a related education system. Hence, when engaging with the issue working in a rural area, a lot of class issues come to the fore, which we often underestimate. We don't call them class issues in SA and we get it mixed up with racial issues and I reiterate that we underestimate this.

I remember that a colleague once said that its often the doctors, who can afford to work in rural areas, who come from the higher socio-economic class and consequently they don't have those huge economic pressures to earn a big income in order to support their family. Whereas the individuals that come from a disadvantage background, have a huge debt to pay often to family members to keep the extended family going. Often they are the first university graduate to be successful of the extended family.

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[1] . Thurston Marinus. 1998. "Understanding the Local Institutions and Organisations Relating to Natural Resource Management in the Leliefontein Reserve (Namaqualand)". Unpublished MA Dissertation, Department of Anthropology: University of the Western Cape.

There are those kind of social and class issues that I didn't see, such as the word "class" in your proposal. I think maybe you underestimated that. When you read the overseas literature, especially from the UK it is much clearer about their class issues. They classify them firstly according to income, then talk about social class 3 and 4 in relation to quintiles – which I cannot recall for sure now. But they have classified medical admissions for example by social class and followed them through. There are some useful references there that I think could add to your studies. So that's one broad comment I suppose.

Then another broad field of reading and understanding is the concept of community involvement which is a pillar of the primary and public health care approach. You probably have read most of this stuff and the relevant traditional literature on community involvement. I am not sure of the author but a useful article is entitled: "Who participates in Health?" In other words the classic, traditional model is that communities must come and assist the health care service to produce a better health service and that is to produce better results. Furthermore, the community must participate and assist *us* in the health service. But this author was turning it on its head, saying that maybe we as health workers should have actually participate in the community.

We should take our services to where the community gathers in order to function on their terms of reference rather than for them to participate on our terms and that was quite useful. So that whole area about community participation in health would be a background part of literature review. Your focus is on the broad area of community participation in health and how it applies to recruitment and retention in rural areas and I think you really found a gap in the market.

If I had done research I would have used a more qualitative approach than a quantitative approach but be that as it may. I think there are a lot of underutilised strategies for recruitment and retention and I long felt that the sooner individuals get involved with their communities in which they are working, the more likely they are to stay and feel part of and more accountable to the communities that they serve. It is one of the principals of family medicine that a family physician would live in that community and to be a member of that community that he or she serves as a doctor but its not always practiced that way. But I think it is really an important principal.



Now what we try to do with students while they are still in training is to link them back up to their communities of origin. Which means they have practicals to do in their community. They have to do some home visits or they have to do some projects. Especially in KZN we try to link them where they come from and so also with foreign students.

Students from Botswana have to go back to Botswana and they carry out their community health projects there. This applies also to students from Limpopo as they have to go back to Limpopo and similarly students from the Eastern Cape, have to do practicals in the Eastern Cape. These students get linked up as second year, third year and fourth year students and recognised as student and therefore future doctors.

And I think that's really important during the educational process and once they are doctors are qualified, a big issue is recruiting these doctors back to their region. The issue of bursaries which you haven't really expanded on and the related obligation, and especially a provincial bursary as being a very specific instrument and a significant contributor. For example, the big provincial bursars such as Limpopo, Eastern Cape and KZN encourage and facilitate the bringing of graduates back to those provinces - if not back to a district.

But communities as such have played very little role in that and I think that what the difference which the Friends of Mosvold scheme has shown is that – if communities are involved from the beginning during the selection of students to receive a bursary then there is a buy-in at community level. And then when they return, having gone away to the city and qualified and received the degree - there needs to be some process of welcoming and orientating back into the community. An active process I believe of welcoming, orientating and assimilating and getting that health practitioner excepted by the community[2].

[2] . Dambisya (2007) conceptualises this as a more focused approach to 'bonding'.

So I've longed felt that that people coming back to their community should be effectively welcomed by the mayor or the district manager, local politicians, the church or some group of people to say " Here are our home coming boy/girl" and that is what needs to happen. "He/ she is one of us, he/she had gone away and got this training. He/she is coming back and we want to welcome him/ her and make him/ her feel comfortable. We want to provide accommodation for him/ her or schools for his/ her kids or whatever it is that we as a community can play in that regard. However this role, to a large degree is not happening.

So people come back, they do their community service here and nobody contacts them and says: "Hey thanks for coming back" and no one says: "Oh you have come back". "You are so and so's son/ daughter, we know so and so who is part of our community. Now you one of us and we looking forward to you serving us as physiotherapist or a dentist or a pharmacist or a doctor or what ever – but welcome home.

Somebody needs to say that! I feel very strongly somebody needs to say that and that contact is often not being made. Its not just a once off. Its not just a welcome and orientation - its an ongoing set of relationships.

Some years back we did a study of my students who were from Swaziland. We haven't published this study but I can give you the unpublished report. It was just with a group of under graduate students. We did the research project and the question was around the motivation of Swazi citizen doctors who returned to practice in Swaziland. As you know Swaziland does not have a medical school. So if you are a Swazi citizen and you want to study medicine you have to go to SA or UK or wherever you can to get a medical training from and the result is that very few return. So in the whole of Swaziland there are a total of 34 Swazi doctors who have returned to practice in Swaziland, the rest are foreign. These are total of 200 to 250 doctors in Swaziland, only 34 are Swazi citizens, in other words Swazi born. So it's a big problem. The students' project was to go and interview each of those 34. They managed to get about 25 of the group of 34. I cannot remember the numbers exactly, but they got around to the majority of those and asked them why they have decided to return.

The major finding of the study was that these doctors practice in Swaziland because they felt like they belong there versus practice elsewhere, where they felt like a foreigner. Even in SA this was the feeling, even though from a language perspective it wasn't that different. The doctors stated that Swaziland was there home, despite the myriad of frustrations. So what was keeping them there was the sense of belonging. So the whole social network of family and extended family and in that case Swazi nationhood/ nationality was the single biggest motivating factor for them to return and remain in Swaziland. This was to me a very interesting find and it adds to your thesis. I think it supports your thesis that communities have a big role to play.

**Researcher:** Professor, the one concept that I have picked up from the literature that I haven't perhaps alluded to in this proposal as such is the concept of Ubuntu. The underpinning around Ubuntu is that "I am because you are". By implication my thinking around that was by virtue of being an African doctor one potentially expects the community to be involved with the recruitment and retention process?

**Professor Reid**: I don't know if Ubuntu is a jargon word or the real thing and one of the people you should speak to is Andre Smit, the photographer, because he is making a movie of Ubuntu and he has a big interest in this topic. He is asking the pertinent question whether the idea of Ubuntu is non-existent, especially in the light of the recent xenophobia incidents. What do we mean by Ubuntu? Is it the real thing, is it really happening, or is it a figment of some PR-machines imagination.

I think here at the Rural Doctors' Conference are examples cited of real Ubuntu, of doctors going beyond the call of duty, to actually reach out, there are some exceptional people in this gathering. Certainly it does happen but I don't know if it is a very widely extended thing, I don't know. I think what happens at medical school or during health sciences training is that people get inducted into the sort of western lifestyle and move away from a more communal approach to life and the nuclear family becomes more important and income and the image and the status and the car. The sort of western lifestyle becomes more and more important and I see it happening to my students over four or five years. I see the change coming out at the end and buying the flashiest car and getting into the high earning lifestyle. Its frightening!

So the huge social and cultural issues, which are some of the issues picked up in your mini-thesis are the major issues. For me the question is what do we do about it? If you uncover this and you turnover the stone and you say there is something under the stone; and say lets have a look at it – then you've got to say well "how do we move from here and how can we use this information or this insight that we have"? What interventions make the most sense, in the light of this understanding? How do we involve communities more in the whole process of recruitment and retention or to put it the other way around in terms of that author whose name I cannot remember: "How do we get our graduates more involved with the communities that they serve as practitioners because its quite feasible for some practitioners to go and work in a hospital and not to have anything to do at all with community in which the hospital is situated"? They jet in and I promise you in their very fancy cars, they drive a distance of 150 km just to go to work and they drive home at the end of the day. They go and do their work in wherever section such as 'out patients or theatre' and then they drive out of that community and they are not part of that community. That is the most extraordinary phenomena.

**Researcher:** That is an interesting phenomena you mentioning Prof and it is addressed in literature with reference to the developmental role of a doctor and how the doctor contributes to uplifting and empowering the community. It is not just about the role of the community in this process but also the role of the doctor in the community. It's a symbiotic relationship.

**Professor Reid**: What I am saying is that it is a two way process and that's why that article for me was very seminal and I'll find you the author while we talking. It makes you think of community participation in a different way.

**Researcher:** Prof that ushers in another interesting issue, namely that of community development. If one examines key literary aspects in this regard, the locus of community development is found in local government documentation and in particular material related to municipal aspects. I think that the link has not been adequately integrated with the medical model of health practice. For example, there may not be a focus on health from a community development perspective.

**Professor Reid**: I think that health and development is a theme that is missing from the literature, most of which come from North America and Europe because there health is not a developmental issue. It offers a service that has basically nothing to do with development, in particular rural health. When we say rural development and rural health in SA we immediately assume that it has a component of development and that it is part of the issue of broader development. But you don't get that in the literature, so we working with a medical model that for me is an inappropriate one in this context. Even with family medicine I don't think it's the right model. I started writing more about family medicine in Africa and what we mean by that; or as such rural health, whatever name you want to call it. It must have a developmental focus as far as I'm concerned. So I think you right that it is an important component.

**Researcher:** Perhaps just to highlight this perception Prof, implicit in departmental health policies it is stated you must engage with the community, you must consult and empower the community – in particular concepts such as the establishment of rural health boards etc. reflect this. With regard to the questions that you raised and its applicability to my work, a pertinent question is "How do we translate this into practical on the ground/ grassroots level, where you actually get the community involved?" Beyond issues such as the existence of a health board, related questions need to be asked as to how representative these are, and the impact of community-based organisations. What is the role of these broader stakeholders in the community and how do they play a role? I have picked up on some of the themes that you have alluded to such as those which relate to integration and value. Related themes such as support of the spouse, support of the dependants and the importance of social networks have been initially probed in this study and I hope that doctors' responses in the study questionnaire are going to provide some insights in this regard. Perhaps embracing the 80/20 principle – the top 20% themes coming through can be identified and engaging with the challenge of taking these forward in a constructive way.

**Professor Reid**: I think that you have captured most of them in your questionnaire. I tried to point out some of the gaps. I found the reference I wanted to give to you which is Nickson PJ 1991 and the title is "Community participation in healthcare: Who participates with who"?.

The article outlines how far a doctor is expected to go in terms of his/her role in the community in which they live. He makes the point that they have a professional duty to get involved in issues that have a direct impact on the health of the community. Up to a certain level every doctor has a responsibility to be concerned about the direct influences on the health of the community and to do something about it. A lot of that works comes from the community orientation in primary healthcare. Its abbreviated as COPC and I do quite a lot of teaching around the model of COPC.

**Researcher:** Thankyou very much Professor Reid for availing time to grant me this interview.