THE NEEDS AND PREFERENCES OF GENERAL PRACTITIONERS REGARDING THEIR CONTINUOUS PROFESSIONAL DEVELOPMENT: A FREE STATE PERSPECTIVE

by

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DECLARATION

I hereby declare that the submitted extensive mini-dissertation and the content thereof is the result of my own independent work. Where help and input was received, acknowledgement was given. I also declare that this work is submitted for the first time at this institution, University of the Free State, towards a Master's degree in Health Professions Education and has never been submitted to any other institution for the purpose of obtaining a qualification.

....

P.J. Botes Date

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....

P.J. Botes Date

DEDICATION

I dedicate this dissertation to my wife, Claudette, who supported me during a difficult period in my career and studies.

****

I further dedicate this dissertation the staff of the Department of Family Medicine who pressured me to complete the degree when motivation was low.

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LIST OF ACRONYMS

CEU	-	Continuing Education Units
CME	-	Continuing Medical Education
CPD	-	Continuing Professional Development
GP	-	General Practitioner
HPCSA	-	Health Professions Council of South Africa
KT	-	Knowledge Translation
M. Fam. Med.	-	Master of Family Medicine
M. Med. (Fam)	-	Master of Medicine (Family Medicine)
M. Prax. Med.	-	Master of Family Medicine
UFS	-	University of the Free State
UP	-	University of Pretoria
WHO	-	World Health Organization

SUMMARY

Key words: General Practitioners, Adult Learning, Continuing Professional Development, Refresher Courses

The Health Professions Council of South Africa requires all Health Practitioners to complete accredited learning opportunities, and provide proof thereof, for the purpose of updating their knowledge and acquire new skills. Continuing Professional Development is the chosen model, which has a goal of holistic development of practitioners. The Department of Family Medicine, University of the Free State, provides such opportunities through Refresher Courses, which covers common fields of interest over a period of three years.

The goal of this study was to find reasons and possible solutions for the perceived lack of interest in these Refresher Course learning opportunities and to determine how the Department of Family Medicine could adapt their education strategy to meet the needs of General Practitioners.

A cross-sectional study design was chosen, by which a questionnaire was posted to randomly chosen participant in the Free State Province. The needs and preferences of General Practitioners regarding their continuous development were queried and factors influencing their usage of learning opportunities were assessed.

The study revealed that General Practitioners still prefer a lecture form of presentation in large or small groups. They prefer the current format to continue, but find it difficult to leave their practices unattended. There is a slight movement towards training opportunities on computer. Thus, although the current format should not change, the Department of Family Medicine should consider strategies to accommodate those who find it difficult to attend.

OPSOMMING

Sleutelterme: Algemene Praktisyns, Volwasse leerders. Voortgesette Professionele Ontwikkeling, Opknappingskursusse

Die Gesondheidsberoeperaad van Suid Afrika 'Health Professions Council of South Africa' verwag van alle Gesondheidspraktiseerders om geakkrediteerde leergeleenthede te voltooi en bewys daarvan te lewer, met die doel om hul kennis op te dateer en nuwe vaardighede aan te skaf. Voortgesette Professionele Ontwikkeling is die verkose model, wat die doel het van holistiese ontwikkeling van praktiseerders. Die Departement Huisartskunde, Universiteit van die Vrystaat, bied sulke geleenthede in die vorm van Opknappingskursusse, wat die algemene velde van belangstelling dek oor 'n tydperk van drie jaar.

Die doel van die studie was om redes en moontlike oplossings te vind vir die waargenome gebrek aan belangstelling in hierdie Opknappingskursus en leer geleenthede en om te bepaal hoe die Departement Huisartskunde hul onderrig strategie kan aanpas om aan die behoeftes van Algemene Praktisyn te voldoen.

'n Deursnee-studie ontwerp is gebruik, waarby 'n vraelys gepos is aan ewekansig gekose deelnemers in die Vrystaat Provinsie. Die behoeftes en voorkeure van

Algemene Praktisyn aangaande hul voortgesette onderrig was bevraagteken en die faktore wat hul gebruik van leer geleenthede beïnvloed is geassesseer.

Hierdie studie het aan die lig gebring dat Algemene Praktisyn steeds lesingformaat aanbiedinge in groot- of kleingroepe verkies. Hul verkies om voort te gaan met die huidige formaat, maar vind dit moeilik om hul praktyke onbeman te los. Daar is 'n effense beweging na leergeleenthede op die rekenaar. Dus, al moet die huidige formaat nie verander, moet die Departement Huisartskunde strategieë oorweeg om dié wat dit moeilik vind om die kursusse by te woon te akkommodeer.

THE NEEDS AND PREFERENCES OF GENERAL PRACTITIONERS REGARDING THEIR CONTINUING PROFESSIONAL DEVELOPMENT: A FREE STATE PERSPECTIVE

CHAPTER 1

ORIENTATION OF THE STUDY

1.1 INTRODUCTION

In this research project, an in-depth study was done by the researcher with a view to determine the needs and preferences of the General Practitioners (GPs) of the Free State concerning their Continued Professional Development (CPD), which keep them up to date with current knowledge and methods. Furthermore the researcher wished to establish how the participants view the role of the Department of Family Medicine, UFS, as training provider.

The Health Professions Council of South Africa requires all registered health professions workers to attend and complete accredited learning opportunities with the purpose of updating and acquiring new skills and knowledge. Lectures on ethics and development are also essential. These training sessions are acknowledged for Continued Professional Development (HPCSA 2011:5).

The aim of this first chapter is to orientate the reader to the study in that it provides background to the research problem and the problem statement.

The research question, overall goal, aim and objectives are also stated. These are followed by the demarcation of the study, whereafter the significance and value of the study is highlighted. Thereafter a brief overview of the research design and methods of investigation is given and diagrammed. The chapter is concluded by a synopsis of the following chapters.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

Health practitioners are required to continuously learn and adapt as new information becomes available. One of the most difficult medical fields would be that of the General Practitioner (GP). GPs are considered to be 'on the edge' (Tulinius & Hølge-Hazelton 2010:412). They are required to have some knowledge of various medical related fields and are constantly under pressure to adapt the way they approach patients and their treatment. They need to have a holistic view of the patient's health, family matters and any other factors which may influence the patient's welfare. For General Practitioners, the *Preventive* is just as important as the *Curative*.

Continuing Medical Education is defined as a practitioner's life-long process of continuing education to improve and keep up to date his or her knowledge and skills in his or her field of speciality (Permanent Working Group of European Junior Doctors 2000:8).

The main purpose of Continuing Medical Education (CME) is to improve and maintain clinical knowledge and skills (Harrison & Hogg 2003:884). The traditional manner of transferring knowledge is a lecture given by a specialist, pharmaceutical representative or another expert. Lectures are usually given in a lecture format, with limited feedback from the attendees.

Over the last few decades, CME has been discussed and evaluated critically. Major changes were implemented and other methods of knowledge transfer were investigated (Harrison & Hogg 2003:884).

Adjustment needed to be made to adapt to a changing world and greater demands. In South Africa, the Health Professions Act, 1974 (Act No 56 of 1974 in HPCSA 2011:3) supported the development of the Continuing Professional Development (CPD) and tasked the Health Professions Council of South Africa to manage the process. As of January 1st 2007, all Health Professionals registered with the HPCSA are required to participate in CPD activities. The

main purpose of the CPD system is to develop the health practitioner as a complete professional, allowing for training in the medical field, ethics, personal health, practice management and medical law (HPCSA 2011:5). Health Practitioners are required to collect 30 Continuing Education Units (CEU) per year, which include five compulsory ethical discussion points.

Training options include refresher courses, ward rounds, journal discussions, reviewing of journal articles, presentations, update meetings, conferences, research, media and internet activities (HPCSA 2011:11).

The Department of Family Medicine at the University of the Free State has been presenting refresher courses for General Practitioners since 1979. Through tri-annual courses all the relevant topics are presented through a triennial rotation. Courses are presented in cooperation with the topic-related specialist departments. The programme often also includes external guest speakers. Lectures are given in lecture format, with time given for group discussion.

A massive hindrance in the Department of Family Medicine's training is the lack of rural and remote General Practitioners attending these development opportunities. These physicians are frustrated by the limited training they receive, which also differs greatly from that of their urban colleagues. (Booth & Lawrance 2001:265, Alan & Schaefer 2005:337)

Although doctors give the impression that they prefer presentations in a lecture style format, the course attendees are very few. Only a small number of these attendees come from rural areas, where the majority urban located practitioners have the advantage of a number of CPD opportunities.

1.3 PROBLEM STATEMENT AND RESEARCH QUESTIONS

The problem that exists is that little information is available regarding the needs and preferences of general practitioners in relation to their continuous professional development.

So far, only a few South African studies focussed on the needs of General Practitioners, especially those in a rural and remote area. The Free State area is rarely concentrated on and this study will attempt to provide the necessary information in attempt to identify and fill the gap in GPs educational needs and preferences.

Relevant and essential South African scholarly works focussing on the CPD training topic included the studies of Castleman, *Needs of General Practitioners for CPD in South Africa* (Castleman 2004) and *A model to manage CPD for the alumni of a private higher education institution* (Castleman 2007), Collender's *A model for continuing professional development (CPD) in occupational therapy in South Africa: An adult education perspective* (Collender 2011) and *Needs and opportunities for post-graduate education and training programmes for the Optometry profession* by Kriel (2003).

The main research question emanating from the problem statement is:

What are the needs and preferences of General Practitioners in the Free State regarding their CPD training?

The following subsequent research questions are:

(i) Which factors influence these needs and preferences of GPs?

(ii) Where do physicians currently acquire their required training?

(iii) Why do physicians currently not attend refresher courses?

(iv) Does the Department of Family Medicine need to change their method of training to accommodate the needs and preferences of the GPs in the Free State Province?

1.4 OVERALL GOAL, AIM AND OBJECTIVES OF THE STUDY

1.4.1 Overall goal of the study

The overall goal of the study was to find reasons and solutions to the lack of interest in Refresher Courses and to adapt the educational strategy of the Department of Family Medicine, UFS, to meet the needs of General Practitioners.

1.4.2 Aim of the study

The aim of the study is to determine the needs and preferences of General Practitioners regarding their Continuing Professional Development, in a Free State Perspective.

1.4.3 Objectives of the study

To achieve the aim, the following objectives were pursued:

1. Compiling a needs analysis for General Practitioners' training.

This objective addresses research question (i) (cf. 1.3). A literature review and a questionnaire were used to address this objective.

2. Identifying factors which influence training, including demography, availability and preferences for training.

This objective addresses research question (ii) (cf. 1.3). A questionnaire was used to address this objective.

3. Determine how General Practitioners currently accumulate their CEUs.

This objective addresses research question (iii) (cf. 1.3). A questionnaire was used to address this objective.

4. Establish why General Practitioners do not attend refresher courses presented by the Department of Family Medicine, UFS.
This objective addresses research question (iv) (cf. 1.3). A questionnaire was used to address this objective.

5. By using objectives (1 - 4) conceptualise and contextualise how the Department of Family Medicine need to reposition itself to meet the needs of physicians.
This objective addresses research question (v) (cf. 1.3). A literature review and a questionnaire survey were used to address this objective.

1.5 DEMARCATION OF THE FIELD AND SCOPE OF THE STUDY

The findings of the study may be applied in the formulation of improved CPD training delivery structures for Departments of Family Medicine in South Africa.

The study fits in the scope of Health Professions Education, with the intention of continuing and updating medical practitioners within the medical field of Family Medicine. This includes the registered General Practitioners and Family Physicians.

Accredited Service Providers are higher education institutions who have been accredited to offer learning opportunities to medical practitioners after being evaluated and approved having met the criteria and regulations as set by the HPCSA (2011:9). Training of General Practitioners needs to be within the frame of these criteria.

In a personal context, the researcher is an Officer within the Department of Family Medicine, University of the Free State. After completing a degree in Human Movement Science, the researcher joined the Department of Family Medicine as an Assistant Researcher where his involvement with continuous education and the presentation thereof grew each year over the past decade.

The Department tasked the researcher with an assignment of improving the delivery mode of training opportunities for General Practitioners.

The study participants are the General Practitioners from the Free State included in the HPCSA register of 2010, excluding the registrars enrolled at the University of the Free State.

The timeframe of the study is from 2011 to 2012, with the data gathering period from November 2011 to June 2012.

1.6 SIGNIFICANCE AND VALUE OF THE STUDY

Until recently, very little attention was given to the preferences and needs of General Practitioners concerning their methods of learning. A number of factors, including limited resources, relevant topics and travel distances have been shown to frustrate General Practitioners and preventing them from receiving the training they require.

This research study intends to provide information that identifies these obstructions more specifically in order to recommend improvements to the current training provision strategies.

This study can serve as a directive for departments of Family Medicine to ascertain the needs of the general practitioners in their district/province, for the educational needs of GPs vary widely due to the nature of the physician's employment, area of practice, training method preference and previous training. The need to identify shortcomings will become apparent and adjustments can be made.

Aspects of these results could also influence CPD learning opportunities for other medical fields.

1.7 RESEARCH DESIGN OF THE STUDY AND METHODS OF INVESTIGATION

1.7.1 Design of the study

To determine the needs and preferences of General Practitioners, a 'snap shot' needs to be taken of the GP population in the Free State. A representative group needs to be selected with no pre-determined bias other than their profession. For this purpose a cross-sectional study design was chosen. (Cohen, Manion & Morrison 2007: 213)

This type of study includes an analytical aspect. Prevalence was measured over the entire study sample, randomly selected from the study population (Joubert & Ehrlich 2007:85-87).

A questionnaire was used to gather quantitative data, but was enhanced by comments made in the qualitative open-ended questions.

1.7.2 Methods of investigation

The method used during the project comprised a literature review and a questionnaire survey.

According to Cohen, Mannion and Morrison (2007:317) the questionnaire is an ideal method of collecting survey data. It provides structure, is easy to analyze and does not require the researcher to be present during completion.

The research included a literature review with the main focus on CPD/CME for General Practitioners and their needs and preferences, both locally and internationally.

The questionnaire included three main sections: Profile of the participant; needs and Preferences of General Practitioners; and the Department of Family

Medicine's involvement in CPD training. Each section included Likert-Scale questions and short-answer questions, but were enhanced with qualitative style open-ended questions.

The study population was the General Practitioners registered in the Free State Province, South Africa. According to the HPCSA database of 2010 (HPCSA 2010), there were 1039 General Practitioners and Family Physicians registered in the Free State, excluding registrars registered at the University of the Free State.

From the General Practitioners in the Free State, 300 were included in the study sample via a systematic randomisation method (Joubert & Ehrlich 2007:100) compiled by the Department of Biostatistics, UFS. Being a registered General Practitioner/Family Physician in the Free State is the only inclusion criterion, while all current Registrars were excluded since they are not required to gather CEU's through CPD activities during their study years.

This study can be schematised as follows:

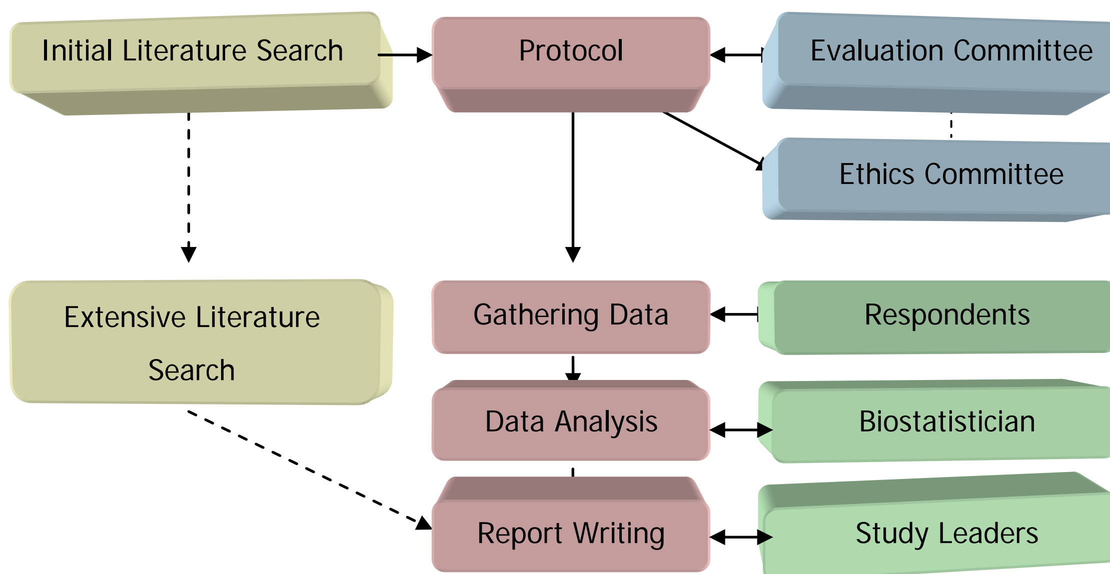

Figure 1.1: Schematic overview of the project

[Compiled by the Researcher, Botes 2012]

1.8 IMPLEMENTATION OF THE FINDINGS

Analysed results and findings are included in this report, which will be brought to the attention of the Department of Family Medicine.

Focus will be on the needs and preferences and how they compare with current teaching practice.

The results and findings will be submitted to an academic journal with the intention of publishing - the intent being to challenge the current CPD training approach for General Practitioners in all situations.

1.9 ARRANGEMENT OF THE REPORT

This research report consists of seven chapters and the arrangement is as follows:

In Chapter 1, the current chapter titled ***Orientation to the study***, presents a backdrop to the study and the purpose of the study is summarised. The research design and method are outlined.

In Chapter 2, ***Continuing Professional Development – Theoretical concepts***, a conceptualisation and contextualisation of adult learning, professional development and learning mode will be examined via a literature review.

In Chapter 3, ***Research design and Methodology***, the design and method will be discussed in depth. A brief on the subsequent data gathering and analysis will be given.

In Chapter 4, ***Results and discussion of findings of questionnaire survey***, the analysis of the survey data will be presented and discussed.

In Chapter 5, ***Interpretation and Discussion of General Practitioner's Needs and Preferences***, the needs and preferences of the participants will be considered to develop a recommendation for an improved learning delivery.

In Chapter 6, ***Conclusion, recommendations and limitations***, a formal conclusion and recommendation and the limitations of the study will be conferred.

1.10 SUMMARY OF CHAPTER

Chapter 1 provided the background and introduction of the research project conducted, focusing on the needs and preferences of Free State General Practitioners regarding their Continuing Professional Development. This report will identify the factors which influence the usage of learning opportunities and what physicians perceive as their needs.

In Chapter 2, entitled *Continuing Professional Development – Theoretical concepts*, will be a review of the applicable literature to set the background for Continuing Professional Development and Adult Learning. This will form the foundation of the study.

CHAPTER 2

CONTINUING PROFESSIONAL DEVELOPMENT – THEORETICAL CONCEPTS

2.1 INTRODUCTION

Continuing Professional Development (CPD) has become a popular term among health professionals in the past two decades. Legislation now also require Health Professionals to manage their own learning by formulating a needs analysis and completing learning opportunities. Health professionals have to satisfy these learning gaps and provide proof thereof for re-registration.

Continuing Medical Education (CME) is not a new concept, being widely used for more than a century, but shortcomings have become obvious as CME had a small educational scope, mainly focusing on specific medical topics. CPD, in essence, have a broader educational reach, realizing that a professional have greater needs than updating his medical knowledge. Attention is given to the professional in a holistic manner, touching on subjects like management, ethics, teaching, communication and any other educational needs of the professional.

In Chapter 1, an overview and outline of the study were given as well as the aim of the project. In Chapter 2, a thorough literature review will justify the underpinning structure of the study. Adult Learning will be reviewed in an attempt to conceptualize Continuing Professional Development as a learning method. The influence of current South African legislation on CPD and HPCSA regulations will also be discussed.

The chapter will be concluded with a short summary.

2.2 OVERVIEW OF ASPECTS TO BE DISCUSSED

A Literature review can be described as a summary of research that has previously been done on the subject. The intention of a review of literature is to convey a critical examination and explanation of existing work (Joubert & Erlich 2007:66).

The literature search was done by using multiple search engines focusing on Continuing Education, Adult Learning, General Practitioners' further training and their preferences thereof. In attempt to understand the origin of Continuing Professional Development, a short history was summarized, followed by a comparison between CPD and Continuing Medical Education.

The researcher attempted to explain how CPD fits into the theories of Adult Education, specifically focussing on the important principles of Adult Learning. A few social learning theories will be mentioned, Levinson's adulthood stages, Maslow's Needs hierarchy, Knowles' Andragogy and Constructivism.

In order to compare the results of the study, similar types of studies regarding CPD/CME internationally was summarized in the final section of this chapter.

In Figure 2.1 the researcher schematically illustrated the layout of this chapter.

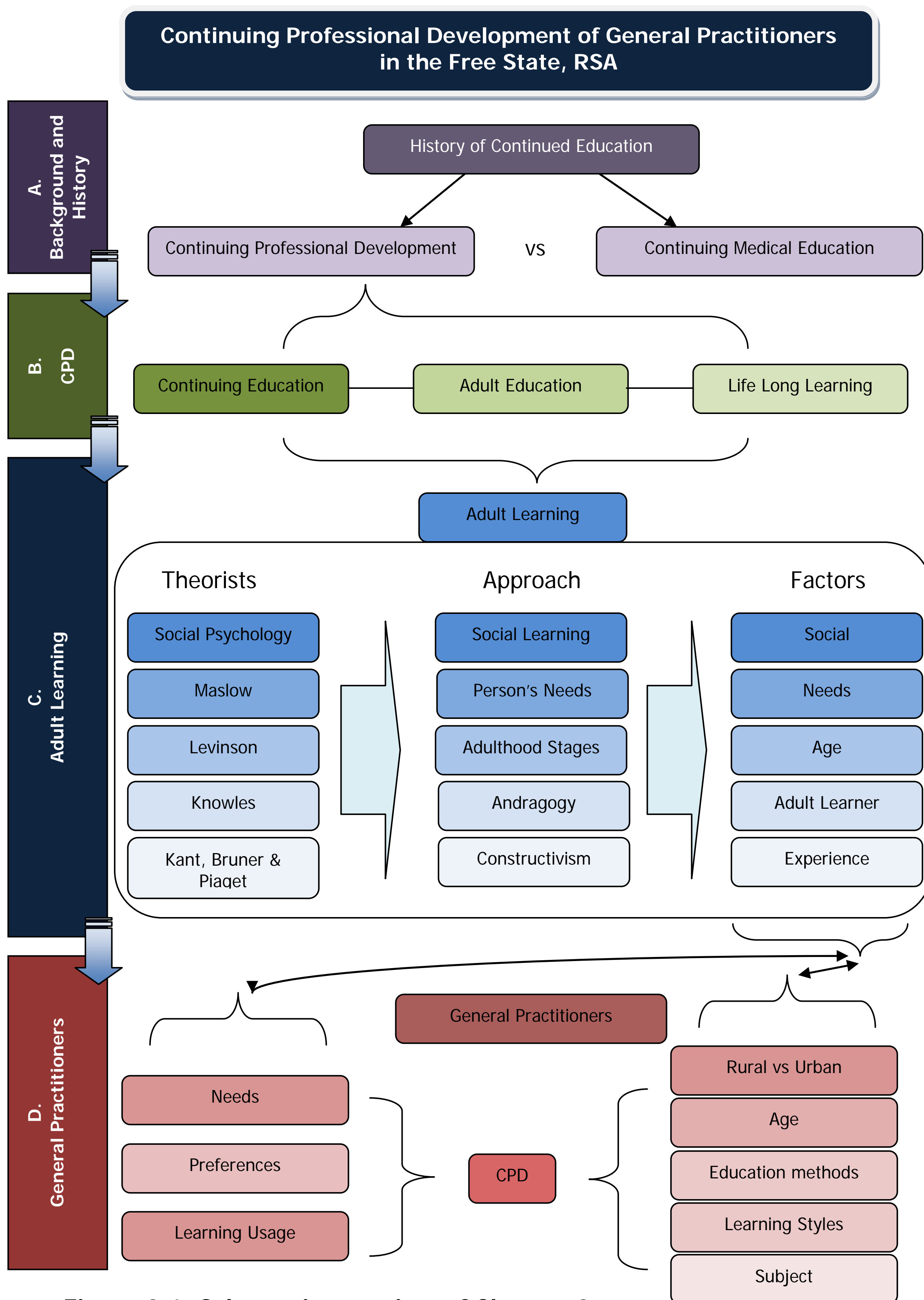

Figure 2.1: Schematic overview of Chapter 2

[Compiled by the Researcher, Botes 2012]

2.3 BACKGROUND AND HISTORY

Although it is uncertain when Continuing Education first developed, the appearance of speciality fields, after World War I, seemingly triggered the need for further development in the medical field of the United States of America and Europe (Davis, Davis & Bloch 2008:652).

Further interest in CME (Continuing Medical Education) developed because of a massive knowledge explosion after World War 2 and a need to update returning medical personnel from the battle field. Pharmaceutical companies realized the potential of such training in the manner they could influence physician practice. Also, a need for social accountability required doctors to build on their competence (Davis, Davis & Bloch 2008:652-653).

Regarding Social Accountability of Education Institutions, the WHO: Towards Unity for Health report (1995:83) encouraged "...*educational institutions to adapt their education, research and health services delivery missions to meet the priority health concerns of society and to ensure that the health professionals can play the roles expected of them. Educational institutions, through partnerships with other agencies, are stimulated to work towards the improvement of quality, equity, relevance and cost-effectiveness in health care and to use adequate grids and indicators to assess their responsiveness to society's needs.*"

The preferred method of presenting these courses was large group lectures. In the 1980's the lack of control over CME activities became obvious. Organizations were developed in the USA and Europe to manage CME learning activities. CME also became important for the certification of physicians (Davis, Davis & Bloch 2008:653).

2.3.1 South African Legislation and the role of the HPCSA

In South Africa the HPCSA were given the authority to manage continued education, in the Health Professions Act of 1974. Although training opportunities were readily available from a number of sources, only in 1999 did the HPCSA implement a system of repeat certification, where medical professionals are required to attend a number of training opportunities and provide proof of learning with re-registration (De Villiers & De Villiers 1999:716).

The HPCSA decided to rather focus on Continuing Professional Development, which is a broader spectrum of knowledge than the CME used abroad. The focus would be on the professional as a whole, rather than only on his/her knowledge of their specific medical field (De Villiers & De Villiers 1999:716-717).

In order to promote effective and relevant learning, the HPCSA installed a system where practitioners have to acquire 30 points per year and 60 points over the two year cycle. An audit system randomly checks doctor's progress (Macdonald 2011:1).

Macdonald (2011:3) exclaimed that for CPD to be effective in South Africa, the Adult Learning principles have to be embraced.

A few important factors, due to changed legislation and regulations, should be kept in mind when planning for training opportunities (Kent & De Villiers 2007:906-907):

- Increase of female students and eventually practitioners;
- Race diversity, including culture and religions;
- Health Care reform;
- Improved rural doctors and graduating students from these areas;
- The massive challenge of HIV in the country;
- Change from a specialist driven to a generalist approach.

2.4 CONTINUING PROFESSIONAL DEVELOPMENT

With Continuing Professional Development (CPD), as a training method, the emphasis is on learners taking responsibility of their own growth in knowledge and skill. Constant reflection and critical self-evaluation moves the onus from the manager to the individual for personnel development. The focus of CPD is an improvement of the individual in a holistic manner, which enhances the learner in all aspects of his life (Megginson & Whitaker 2003:7-8).

From the United Kingdom, the Chartered Institute of Personnel and Development listed the following principles regarding CPD (Megginson & Whitaker 2003:7):

- Professional development is an ongoing, career-long process;
- The development is the responsibility of the individual;
- The individual should examine his/her own learning needs and how to achieve them
- Learning goals should be formulated by encompassing the needs of the individual, the employer and the clients (community);
- The learning process should be recognized as a fundamental component of the employee's working activities.

In South Africa, according to Section 26 of the Health Professions Act, from 1974, the HPCSA may create or change rules on continuing education for those registered as medical practitioners. These rules would be vital in the maintenance of the practitioner's registration with the HPCSA (HPCSA 2011:3). Furthermore they include the type of education, but also the registration of the providers of these learning opportunities.

2.4.1 CPD versus CME

Continuing Medical Education (CME) has been in existence for a very long time. Doctors participated in meetings, discussions and journal reading to sharpen their knowledge for more than a century (Gibbs, Brigden & Hellenberg 2005:5).

Only in 1998 the Standing Committee on Postgraduate Medical and Dental Committee (United Kingdom) stated that the current formats of continuous learning are insufficient. World wide similar type of committees joined in this line of thought and Continuing Professional Development was born. Focus shifted to the holistic development of the physician, which included topics like management, audit, research and teaching (Gibbs, Brigden & Hellenberg 2005:5-6).

Doctors using CME participated in these training opportunities without considering the reasoning and even their own personal needs. With CPD the participant are motivated to develop a needs analysis and plan their development accordingly. This planning process places CPD training firmly within the Adult Learning Theory (Gibbs, Brigden & Hellenberg 2005:5-6).

Despite the differences in definitions of CME (clinical update) and CPD (holistic professional growth), the lines between the two systems have become vague. In most countries where CME is still being used, sessions on personal, social and managerial skills have been included. Furthermore, mandatory training for recertification is also in the process of being implemented in most countries (Peck, McCall, McLaren & Rotem 2000:432).

2.4.2 CPD versus KT

Knowledge Translation (KT) is a rather new model of continuous education curriculum development. Although there are many overlapping aspects and similarities between CPD and KT, the main difference is with KT where monitoring and evaluation of implementation of learned knowledge and actual

behavioural change takes place, within the health worker's work place. With CPD, curriculum planners rely on feedback and reflection from the physicians (Sargeant, Borduas, Sales, Klein, Lynn & Stenerson 2011: 167-170).

Although the researcher will not focus on KT, this model should be considered for future research projects. How behaviour changed and whether learning needs were fulfilled was an oversight of this project and will be mentioned as a shortcoming.

2.5 ADULT LEARNING

Robert D Fox (1998) wrote that in the 90s the belief increased that Continued Education should be based on the principles of teaching. Especially *Adult Learning* as a concept grew and strengthened CME/CPD. He explained that CME/CPD should be viewed as an intervention: "*CME is a systematic attempt to facilitate change in doctors' practice*". This concept forced institutions and facilitators to adapt their manner of training by setting specific goals, which would influence physicians' medical approaches in their practices.

Fox continued that these changes should be small and slowly implemented, but should be significant enough to cause physicians to reflect on the suggested changes.

Towle (2000:209-210) listed 6 factors which influences change in Health Care and CME/CPD:

- Fast changing demography and disease patterns
- New developing technologies
- Current trends in health care
- Consumerism and patient empowerment
- Efficiency and effectiveness of current treatment
- The changing roles of health care professionals

Physicians of the future will have to adapt their approaches to health care. A scientific basis and research orientated way of thinking should be implemented in their practices (Towle 2000:208-218). Towle recommended two strategies to achieve a successful CME/CPD system: Making CPD part of the continuum of medical education; and involving patients in the training process.

2.5.1 Theoretical concepts regarding Adult Learning

Theory can be defined as an unproven speculation formed from scientific facts, in an attempt to rationalize a phenomenon (Knowles, Iolton & Swanson 2011:8-10). Considering that learning theories are formed with assumptions regarding the unpredictable nature of humans and also learning styles, the researcher will discuss a few theories which forms the foundation of this study.

Although it is difficult to find a clear definition on learning, the generally accepted explanation is: A process of repeated experience where knowledge is transferred in order to change the behaviour and attitude of a learner in a positive manner (Knowles, Iolton & Swanson 2011:8-10).

Adult learning is even more complex to define. Most of the early theorists considered it as a learning process that takes place after initial formal learning concluded, but it seems the lines between initial formal learning and adult learning has become vague and is moving towards a concept of *lifelong learning* (Rubenson 2011:5).

To define Adult Learning, two principles must be included: (i) whether the person is considered an adult and (ii) whether the learning activity was planned and purposeful (Merriam & Brockett 2011:7-10).

In 2009, a systematic review of CPD/CME literature listed the principles involved in *Adult Learning* (Davis, Bordage, Moores, Bennett, Marinopoulos, Mazmanian, Dorman & McCrory 2009: 8s-16s):

- Learners should be actively involved in the learning process
- Content should be relevant to the learner's work
- The learner's own experiences should be considered
- Learners should set their own learning goals
- Support should be available for self-directed learning
- Learners should be given time to reflect on their learning
- Observation of faculty role modelling

The report exclaimed the need for research on continuing education and especially a focus on learning principles. Lastly, the report found that a large gap exists between best clinical evidence and current preferred practice (Davis, Bordage, Moores, Bennett, Marinopoulos, Mazmanian, Dorman & McCrory 2009: 8s-16s).

Merriam and Brockett (2011:5-7) compares *Adult Education* with *Adult Learning* and explains the difference: With *Adult Learning,* the learner is the main factor in the process of knowledge transfer and successful learning depends on the learner's involvement in the process. Other than educational influences, learning could include everyday experiences at work or at home. *Adult Education* is the planned teaching activities to transfer knowledge to learners. Education is not needed for learning to take place, but education is dependent on the learning process.

The *Adult Learner* according to Schlosser and Simonson (2010:87) is "*A person who is responsible for decisions that affect his or her learning opportunities and the resulting consequences. Could be legal-age designated as 18-21. Often refers to postsecondary learners. Adult learners often have special learning considerations, andragogy, as identified by Malcolm Knowles.*"

The following theories regarding learning and adult learning form the foundation of this study.

2.5.2 Social Psychologists

Social psychologists consider how behaviour is influenced by previous life and social experiences. Their approach, called *Social Learning Theory*, identifies three processes by which learning occurs (Taylor, Peplau & Sears 2000:6-7).

Association: where the human brain is conditioned to associate certain stimuli with a positive or negative event. As used by Pavlov.

Reinforcement: Skinner and associates studied how behaviour was reinforced when learning satisfied a certain need, or even avoiding something unpleasant.

Observational learning: Learning from watching '*models*', for example in the Hospital where Interns would observe the senior physician and imitate the actions and reactions to certain situations.

In this approach, focus is rather on past learning and experiences. Learning is always influenced by the learner's needs.

Although the Social Learning Theory on its own has little value to explain an adult's learning, the concepts are important for theories like Andragogy and Constructivism. The researcher will refer to the theory when discussing the results.

2.5.3 Maslow's Needs Hierarchy

Maslow's Hierarchy of Needs could be considered important work, taking into account the researcher's focus on the *needs* of General Practitioners.

His theory explains that the basic physiological needs have to be met and would be the person's main focus before moving to the next level. The same fulfilment needs to occur upwards at the following levels of safety, and then

love and belonging, before the levels of esteem and self-actualization becomes important (McLeod 2007:online).

An adult's learning focus would initially be on surviving. With that fulfilled, the person's focus would be on his family and relationships, and learning would be mainly in order to provide. In the next phases the learner's focus may change to his self-worth. The student would attempt to improve his status in the community, thus learning would be more specialized. Finally, self-actualization: Further learning-participation would only be to update previous knowledge. A need may develop to transfer his knowledge and teaching/mentorship occurs.

Critics of Maslow's theory claims there are many omissions from his hierarchy, including the 'need to learn' (Poston 2009:347). The researcher's opinion is that learning is intertwined throughout the needs hierarchy.

More critique was what exactly Maslow considered a self-actualized person. The criticism is that many poets, authors and artists lived in poverty, but are considered to have reached the level of self-actualization (McLeod 2007:online). The researcher's opinion is that there may be flaws in this theory, but lower-level needs are also not measured the same between different persons, societies and even generations. These self-actualized persons may not have required the luxuries which some of us may consider important needs.

In Figure 2.2 the needs hierarchy is displayed and explains how needs could be grouped at different levels. The researcher will discuss Maslow's theory, in conjunction with Levinson's Adulthood stages, when interpreting the results in Chapter 5.

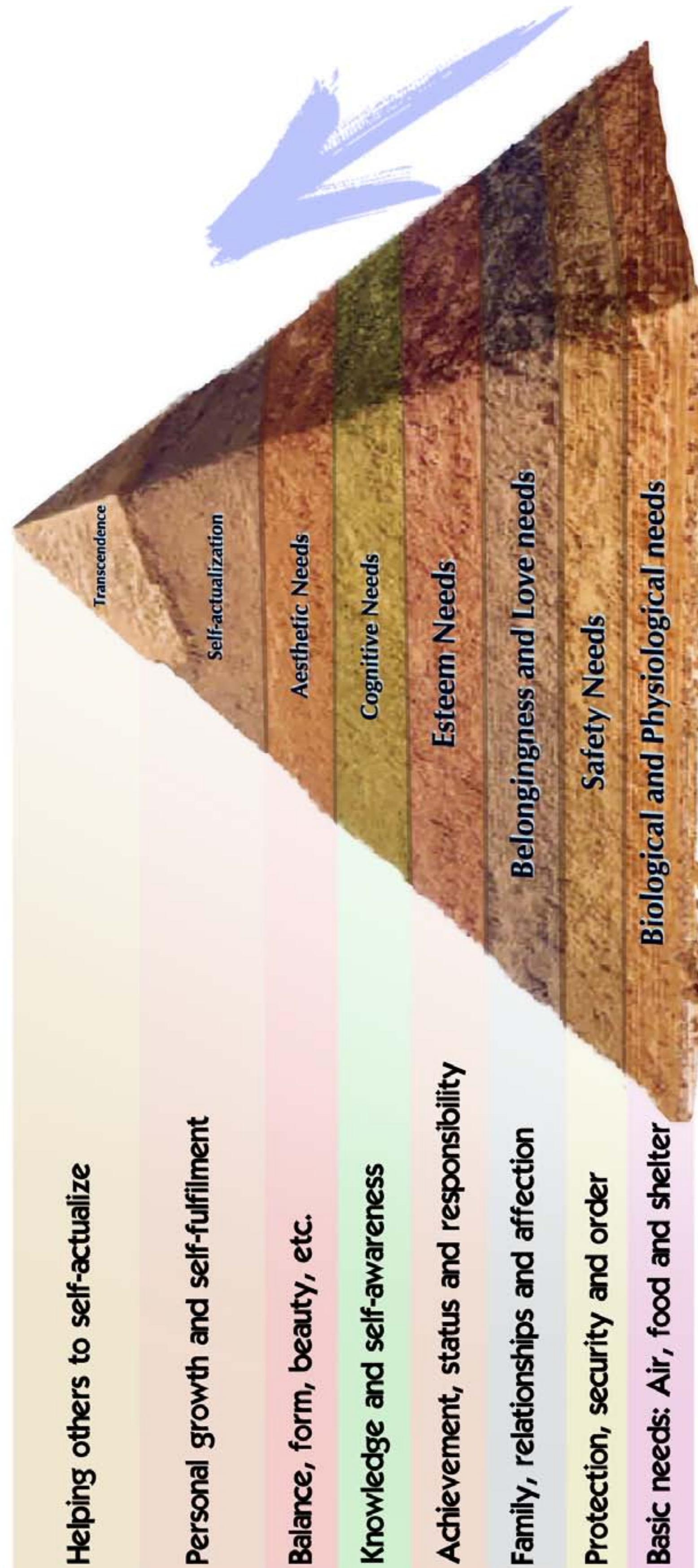

Figure 2.2: Maslow's Hierarchy of Needs (Adapted 8-stage version)

[Compiled by the Researcher, Botes 2013]

2.5.4 Levinson's Adulthood Stages

Although Levinson's theory of Adulthood Stages came under a lot of criticism, mostly due to his stages being very age specific, the theory still forms an important foundation for modern theories and approaches (Knowles, Iolton, Swanson 2011:8-10).

Levinson described three adulthood stages: Early Adulthood (<40), Middle Adulthood (40-59) and Late Adulthood (60<). Figure 2.3 displays the stages and attempts to explain the transitions through each life segment.

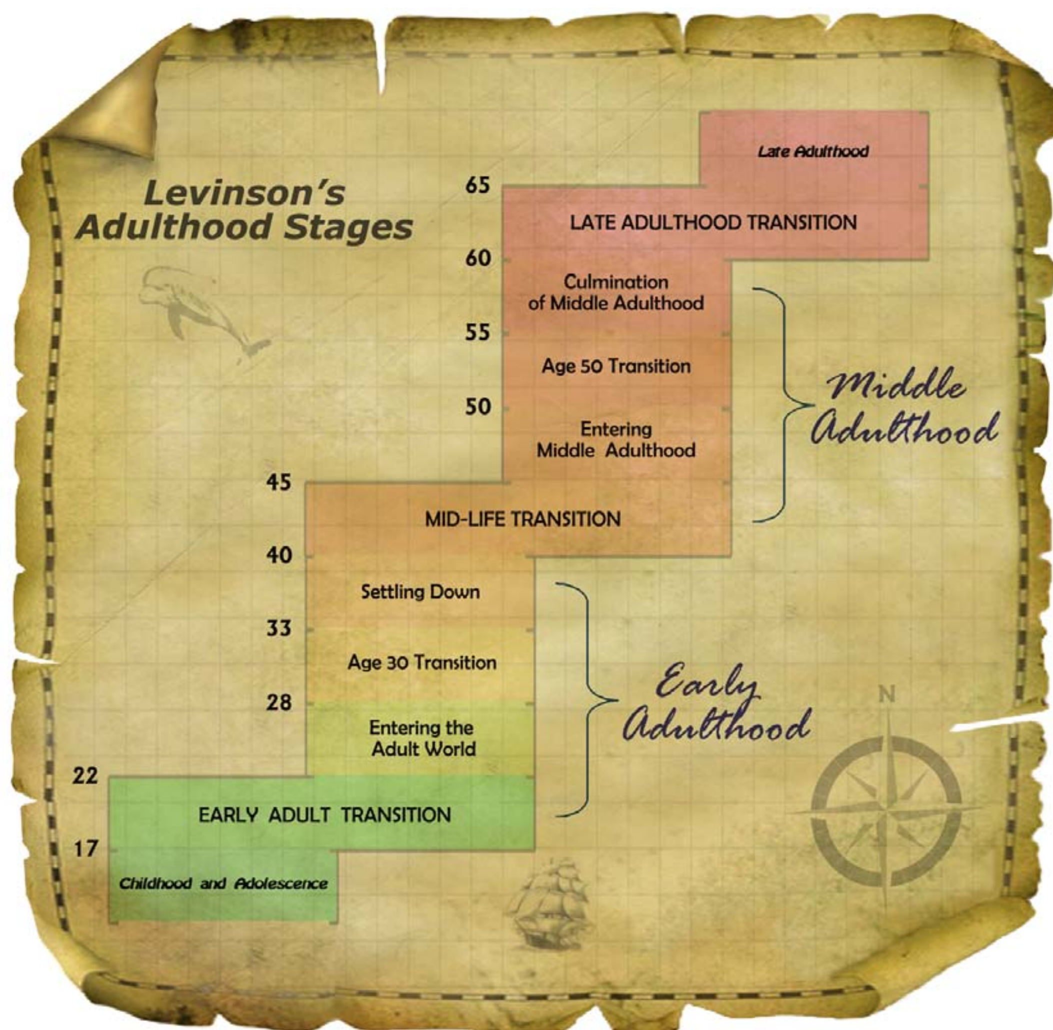

Figure 2.3: Levinson's Adulthood Stages (1978)

[Compiled by the Researcher, Botes 2013]

CPD providers need to consider each of these transitions during life and how it influences a professional's needs.

The researcher used the three stages of Levinson's theory in Chapter 4, comparing the stages with their preference of learning method.

Although each person should be approached differently, merging Maslow's hierarchy with Levinson's adult stages should help to give an impression of an average learner's needs throughout his adult life.

2.5.5 Constructivism

Constructivism was first developed by Kant, and further developed by Piaget and Bruner. The theory entails a spiralling format of learning, where the same topics are continually revisited, but each time at a higher and more in-depth level of understanding. Thus, previous experience and knowledge is important. (Gibbs, Brigden & Hellenberg 2005:5-6)

This theory influenced how curricula are developed in the modern era, especially in South African medical schools (Gibbs, Brigden & Hellenberg 2005:5-6).

Refresher courses presented by the Department of Family Medicine, UFS, are also structured according to this theory. Beginning with basic knowledge, collected during the physicians' undergraduate years, the professional builds on his knowledge by attending these courses which includes new and more advanced knowledge regarding these medical related topics. Working in a spiral format, each theme is revisited every third year. The researcher will refer certain results back to this theory.

2.5.6 Knowles' Andragogy

Pedagogy is simply defined as the process of teaching a child. This concept places all responsibility for learning on the teacher. Self-directed learning is limited and the individual's needs and previous experience is of little importance (Knowles, Holton & Swanson 2011:59-62). That was the theory behind Pedagogy prior to Andragogy being a popular term. In the past few decades certain principles from Andragogy also influenced curriculums and how children are taught in the modern age (Knowles, Holton & Swanson 2011:67).

In the late 60s and early 70s Knowles presented the concept of Andragogy, which is almost the exact opposite of Pedagogy of that era. Andragogy is the adult learning process, which is self-directed, depends on the learner's needs and the learner builds on his previous experiences (Knowles, Holton & Swanson 2011:59-62).

Knowles offered four definitions for an *Adult* (Knowles, Holton & Swanson 2011:59-62):

- A person can be considered an adult when he reaches an age where the person can reproduce – *Biological Definition*;
- When a person, by law, is old enough to vote and/or acquire a drivers license – *Legal Definition*;
- If a person is old enough to perform adult tasks like work, marry, raise kids – *Social Definition*;
- When a person reaches an age where he/she realizes his/her own responsibility and the need for self-directedness – *Psychological Definition*.

In the Andragogy theory, the Psychological Definition forms the main foundation. The adult learner needs to be responsible for his own decision making and drive his own learning process.

Andragogy is built on the following assumptions (Merriam, Cafferalla & Baumgartner 2007:84-85):

- The person's self-concept matured to a point of self-directedness;
- Experience is being built on, which brings vast opportunities for learning;
- Readiness to learn develops when the learning is relevant to the person's needs and social roles.

In Figure 2.4 the core principles of Andragogy, and factors influencing adult learning, are displayed.

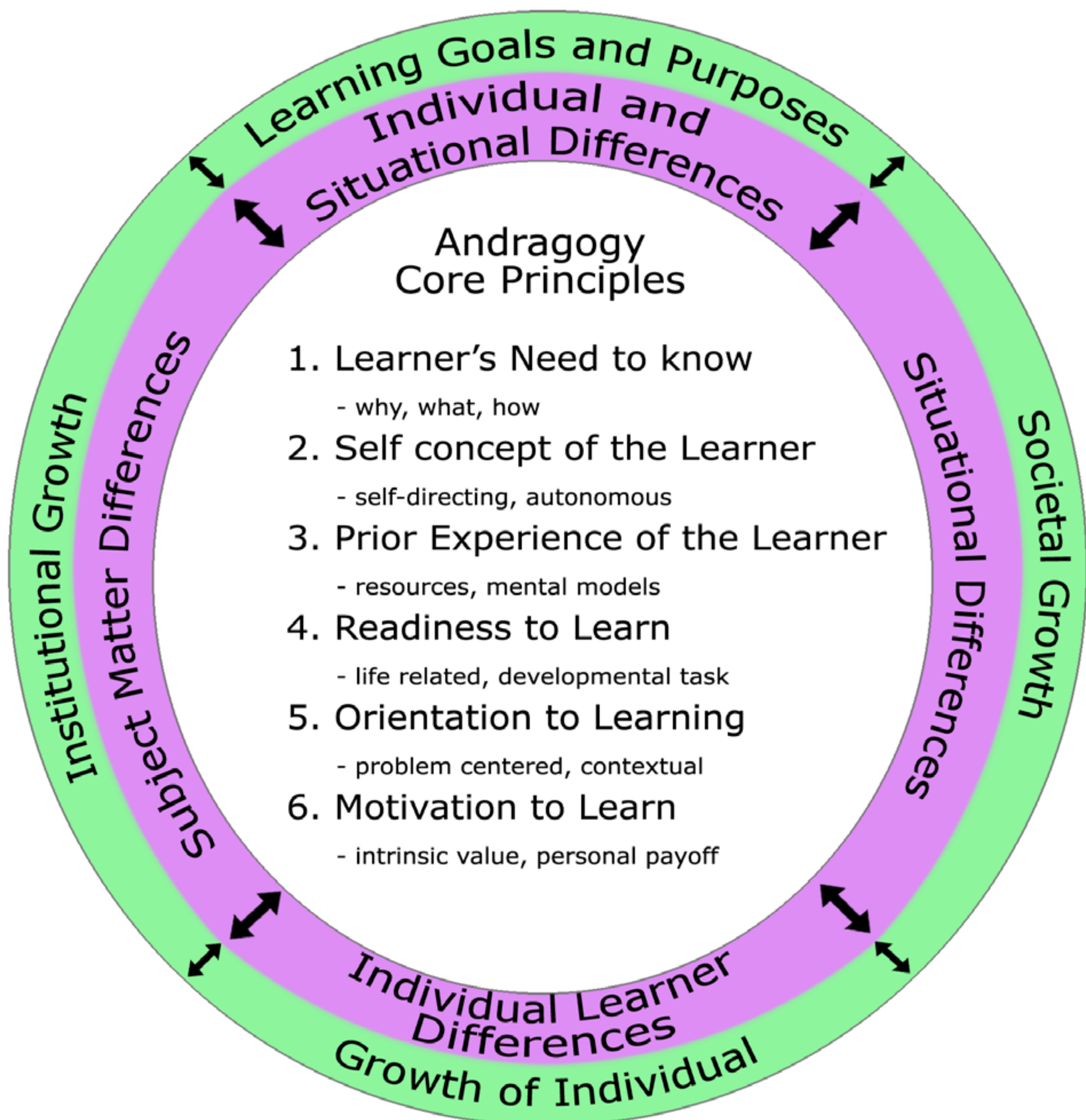

Figure 2.4: Andragogy Core Principles by Knowles

[Compiled by the Researcher, Botes 2013]

Knowles' Andragogy forms the groundwork of CPD training in South Africa. The researcher kept the principles of Adult Learning in mind during the development of the questionnaire.

2.5.7 Lifelong learning

Lifelong learning has become a popular term in the past decade. It is a concept considered much broader than Adult Learning, which defines learning as a process from birth to death (Merriam & Brockett 2011:13).

Collins (2009:615) explained that lifelong learning should:

- be continuous
- span over a life time
- be supported
- be applicable
- be stimulating and empowering
- incorporate knowledge, values and skills
- incorporate confidence, creativity and be enjoyable
- be inclusive of all the learner's roles, circumstances and environments

Barriers to lifelong learning are a lack of motivation, time and resources. Other influences include an inability or unwillingness to perceive the knowledge deficit and make the necessary changes. Group mentality may also be a large factor (Collins 2009:618).

Pure Lifelong Learning requires a rethink and restructure of how we are taught from our young years. Unfortunately there exists no system or structure which makes Lifelong Learning plausible. For Lifelong Learning to function, all learning from childhood should be structured in the same manner as the adult learning process, but each learning institution the learner encounter has different approaches to teaching. Thus, true Lifelong Learning is a concept, but implementation is improbable (Merriam, Caffarella & Baumgartner 2012:48).

For this study the researcher will only focus on Adult Learning, focusing on the needs of medical professionals during their practising years, although the principle of Lifelong Learning directly connects with the fundamental of Adult Learning and CPD's: You are never too young or too old to learn!

2.6 GENERAL PRACTITIONERS' USE OF TRAINING OPPORTUNITIES

General Practitioners spend long hours in the traditional conference type lectures, usually presented by specialists on a specific topic. Research has shown that this teaching method is one of the least effective knowledge transfer systems available (Klein, Allen, Manca, Sargeant, Barnett 2009:63-67).

2.6.1 Learning Format

Education activities have been divided by Peck, McCall, McLaren and Rotem (2000:432) into three broad groups. "*External activities"* which include seminars, congresses, refresher courses, meetings and media-format presentations; "*Internal activities"* which include ward rounds, journal discussions, teaching, consultations with colleagues and case studies; "*Enduring media*", which include CD/DVD, journals and web-based learning, are usually assessed with a test questionnaire.

In a Meta-Analysis of literature regarding CME/CPD learning, Mansouri and Lockyer (2007) found that there is moderate knowledge transfer during such courses. They also discovered that the effect is small when evaluating physician performance and patient outcomes. They concluded that a significant increase in knowledge transfer does occur when using interactive interventions, using a number of teaching methods, more time is given on a subject and regular sessions on the same subject occurs.

Although the large group lectures shows the least amount of knowledge transfer, General Practitioners tend to prefer this manner of learning:

2.6.2 United States of America

In the United States of America, most General Practitioners indicated that they've attended live lectures or refresher courses (Stancic, Mullen, Prokhorov, Frankowski & McAlister 2003:162-167). Despite a low level of behavioural change, the majority pointed out they prefer this method of delivery, but there is a significant increase in interest for use of on-line CME courses.

The factors indicated, by Stancic et al. (2003:166), which influence physicians' choices delivery format included: personal development; cost; convenience and personal control over content.

The study targeted only participants who attended the course, which means the results could not be generalized.

2.6.3 Australia

Australian doctors preferred the traditional teaching methods of lectures and journal reading, even though they indicated they have limited time for training (Steward & Khadra 2009:47). They also understood the importance of CME/CPD training.

Despite many similarities in topic choices between rural and urban Australian doctors, there are vast differences between their needs. Rural doctors showed greater interest in Emergency Medicine and Trauma, Cardiology and social relevant topics, where urban GPs tended towards Travel Medicine and Palliative care (Allan & Schaefer 2005:337-342).

2.6.4 Germany

In Germany, a study regarding educational media for CPD, General Practitioners again indicated their preference for traditional large group lectures, despite modern technology (Vollmar, Rieger, Butzlaff & Ostermann 2009:1-11). A

growing number of physicians tend towards the usage of online media for their training, which could indicate that future doctors, who are more capable with technology usage, might show a larger interest in other learning methods.

Despite having sufficient internet access and using it regularly, usage of CPD activities on-line remained low. GPs tend to be conservative in their learning methods, preferring to keep to the learning method they are used to (Vollmar, Rieger, Butzlaff & Ostermann 2009:1-11).

This would probably mean that learners, who grew up using the computer and internet to learn, would find technological advanced learning methods more appealing.

Doctors of the future will have to be more open to especially e-learning. Towle (2000:211) explained it will become impossible to memorize the vast quantities of information, and an on-line research-based structure will become essential for physicians to function.

2.6.5 Nepal

Doctors in rural Nepal also lacked time and opportunity to partake in CPD/CME courses (Butterworth, Zimmerma, Hayes & Knoble 2010:34-44). They showed a great need for further training in emergency medicine and acute medical conditions. These physicians showed a definite interest in skill-based learning, but had limited opportunity to participate in these type of courses. Internet usage and media received very low preference.

2.7 NEEDS ASSESSMENT

Needs assessment is different from assessment, in the sense that assessment of learning measures mainly academic achievements through examination or evaluation based on minimum criteria, where needs assessment is difficult to measure. Needs assessment may sometimes have similar structure, but basing

it entirely on an assessment method would give only a narrow perspective of actual needs (Grant 2002:156).

Grant (2002:157) listed a few classifications of needs: felt needs, expressed needs, normative needs and comparative needs. More published comparisons are: subjective versus objective; clinical versus administrative; and individual versus group needs.

Needs assessment tools commonly used (Grant 2002:158-159):

- Analysis of gap/discrepancy
- Reflection
- Self assessment
- Peer review
- Observation
- Significant event auditing / Critical incident review
- Practice review

In this project a combination of reflection and a gap analysis are used to determine the needs of General Practitioners.

2.8 SOCIAL ACCOUNTABILITY

The World Health Organization requested Medical Schools to adapt their programs by taking the health needs of the community it serves into consideration. Thompson & Davis (2008:30-39) conducted a survey in Canadian medical schools to determine the gap in their CPD training, especially focussing on the social contract. Their conclusion was that medical schools tend to consider only the needs and preferences of physicians, excluding the social needs in their program planning.

This project is also guilty of excluding the community, but opportunity for future projects has been identified. Social accountability will be mentioned as a shortcoming of this project.

2.9 ORGANIZATION OF CPD ACTIVITIES

De Villiers (in Mash & Blitz-Lindeque 2006) listed a number of important aspects for planning and implementation of CPD activities for General Practitioners:

- Identifying the needs of attendees and choosing the topics;
- Determining the format of delivery;
- Have opportunities for reflection;
- Choosing the ideal content expert;
- Choose suitable date and venue;
- Booking of audiovisual/simulation equipment if needed;
- Organize suitable catering (religious issues should be considered);
- Timely accreditation for CPD and following guidelines of HPCSA;
- Send out invitations on time;
- Attendance register should record all necessary information;
- Receive feedback on each activity

The researcher will reflect on these recommendations in Chapter 5 when reviewing the participant's open comments.

2.10 SUMMARY OF CHAPTER

In Chapter 2 the researcher completed a literature review, focusing firstly on Continuing Professional development as a concept, comparing the system with other models and placing CPD within the Adult Learning theory. Adult learning theories considers how the individual is responsible for his own learning and which *needs* should be considered when planning learning opportunities.

Finally a short review was compiled of similar international studies.

In Chapter 3 the research aim and methodology for the project will be discussed.

Chapter 3

RESEARCH METHODS AND PROCEDURES

3.1 INTRODUCTION

As discussed in Chapter 1, the aim of this study was to determine the needs and preferences of General Practitioners regarding their Continuing Professional Development.

Research methodology was described by Kothari (2004: 9-11) as the systematic process of answering a research question. This includes not only the research methods to be used, but also the theory behind the chosen design.

In this chapter, the researcher will discuss the theoretical perspectives on the research design and methods selected for use in this study. This is followed by a more detailed description and discussion of the literature review and questionnaire survey that were applied by the researcher in order to gather, analyse and present the valuable data required for the interpretation of the needs and preferences. The chapter concludes by discussing the ethical considerations applicable to this study.

The study design is aimed at achieving the objectives and answering the research questions. This will be done by means of a literature review and a questionnaire to be completed by a research sample from the Free State General Practitioner population.

3.2 THEORETICAL PERSPECTIVES ON THE RESEARCH DESIGN

Theory building, strategy of inquiry and types of design will be discussed in this section.

Quantitative Research is a systematic method where through careful design and sampling, results are numerically measured and statistically analysed (Thomas 2003:1-3). *Qualitative* research is the research method which attempts to interpret participants' emotions, way of thinking, beliefs, behaviour and reaction to situations. This is done through in-depth interviews, focus group discussions and participant observation (Joubert & Ehrlich 2007:311,319-323). Usually it is considered the opposite of *Quantitative* Research, which means the information gathered in *Qualitative* Research cannot be mathematically measured, but a grey area exists where elements from both methods could be successfully mixed in a research project (Thomas 2003:1-8).

According to Kothari (2004:31-33), a research design can be described as the blueprint for the study, by clearly stating the research problem, the research procedures to be used, the study population and the method of analysing the gathered data.

The most general research designs are divided into *Experimental* and *Observational* study categories. *Experimental* study designs aim to determine the effects of the researcher's intervention, where *Observational* studies evaluate the natural unfolding of the issues being researched (Joubert & Ehrlich 2007:77).

The chosen research method for this project is a *cross-sectional* survey within the *analytical* component of the *Observational* category.

3.2.1 Theory building in a cross-sectional study

A cross-sectional study can be described as taking a representative *snapshot* of the research population at a specific moment of time (Cohen, Manion & Morrison 2007:213). This type of study cannot assess intervention by the researcher.

This study design incorporates a descriptive element, as gathered from the *snapshot*, but also includes an analytical element where an attempt is made to find the reasoning behind these trends.

Cross-sectional study samples are chosen through systematic random sampling from the study population and several group comparisons can be made (Cohen, et al 2007:213).

3.3 RESEARCH METHODS

The methods used were a literature review and an empirical questionnaire survey. In the following paragraphs the researcher will discuss these methods separately.

3.3.1 Literature review

A literature review is a critical examination and discussion on works which were previously done (Joubert & Ehrlich 2007:66). Therefore, the review in the previous chapter is meant to provide a background of the relevant published (and in some instances unpublished) reports and discussions on the topic of Continuing Professional Development.

The functions of this literature review were to justify this research project, to formulate the research question, to develop the questionnaire survey, to place the results into context and to help make sense of the findings (Joubert & Ehrlich 2007:66).

In Figure 3.1 the Researcher compiled a basic map of key terms which were used in the literature search on the study topic.

Concept map of key terms:

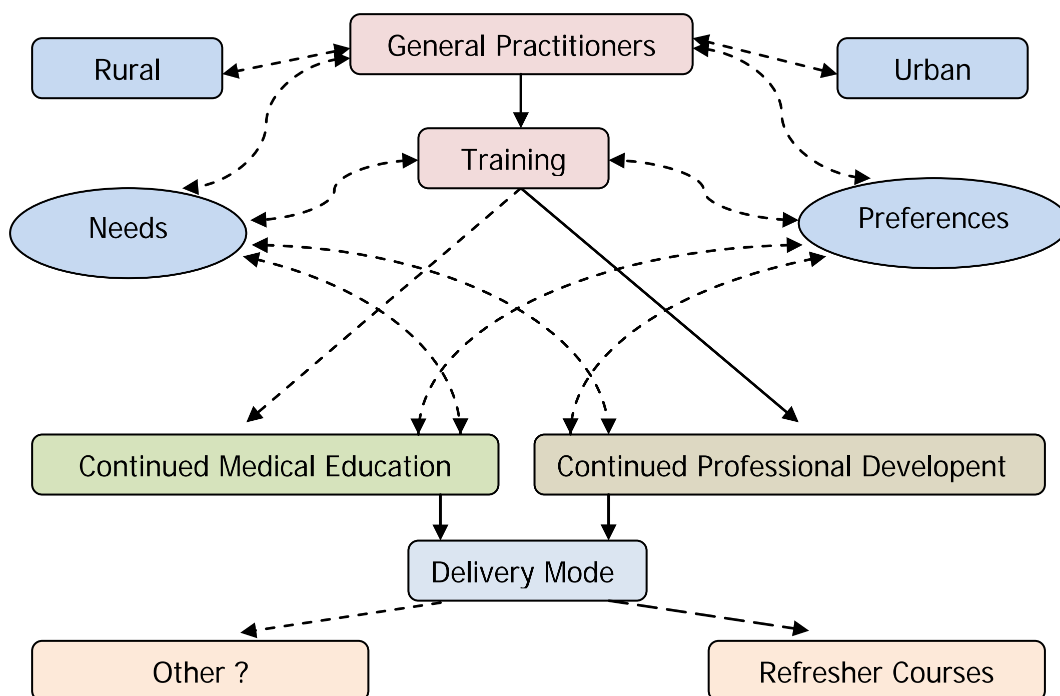

Figure 3.1: Concept Map of Key Terms for Literature Search
[Compiled by the Researcher, Botes 2012]

3.3.2 Questionnaire survey

The following paragraphs will discuss the questionnaire in relation to the theory, the survey format, the sample selection, collection and interpretation. (cf. APPENDIX A)

3.3.2.1 *Theoretical aspects*

Questionnaire surveys are usually used as quantitative research tools by which measurement of specific variables takes place. These typical epidemiological surveys have a list of questions for respondents which could be answered by the respondent himself or via an interview (Joubert & Ehrlich 2007:106).

Postal Surveys tend to have a low response rate, but a systematic review (Edwards, Roberts, Clarke, DiGuiseppi, Pratap & Wentz 2002:1-5) attempted to resolve how to increase response rates. The review determined that the most important factors to influence response rates are incentives, shorter questionnaires, brown envelopes, a stamped return envelope, pre-contact, follow-up, interesting survey, user-friendliness, University as source, factual and relevant questions.

3.3.2.2 *Questionnaire for General Practitioners*

The questionnaire included three main sections: Profile of the participant; Needs and Preferences of General Practitioners; and the Department Family Medicine's involvement in CPD training. Each section included short-answer questions, but Section 2 also incorporated Likert-scale questions. The questionnaire was further enhanced by qualitative style open-ended questions.

Questions were designed from the objectives set for the project. Further additional questions were made after examining previous studies done by Castleman (2004 & 2007) at the University of the Free State.

Section 1: Personal Information asked questions about the participant's gender, age, qualifications, work environment and most common ailments he/she encountered in his/her practice.

Section 2: Needs and Preferences revolved around the educational delivery method preferences, education design and the medical fields which the participant feels he/she needs more exposure to.

Section 3: Department of Family Medicine included questions regarding the participant's use of refresher courses and, if used, at which University. The section concluded with open-ended questions on how the Department could improve their delivery of CPD.

3.3.2.3 *Sample selection*

Target population

The target population was the General Practitioners registered in the Free State Province, South Africa. According to the HPCSA database of 2010 there were 1039 General Practitioners and Family Physicians registered in the Free State, excluding the Registrars currently enrolled at the University of the Free State.

Survey population

A list of the Free State physicians and their postal addresses was compiled from the HPCSA register of 2010 (HPCSA 2010b).

Being a registered General Practitioner/Family Physician in the Free State was the only inclusion criteria, while all current Registrars were excluded since they are not required to gather CEU's through CPD activities during their study years.

Sample size

A systematic randomization method was used to select 300 participants from the target population (Joubert & Ehrlich 2007:100). The smaller sample was selected to improve the manageability in an attempt to improve the response

rate, which is usually low in posted questionnaires. This sample size gives the researcher a guarantee that the calculated percentages are within 5% of the population value. The number is still large enough to assure that subgroup comparisons are big enough to allow for meaningful conclusions.

Numbers were generated by the Biostatistician's randomization software and the researcher used the numbers to identify the 300 participants numerically from the list of Free State General Practitioners (cf. APPENDIX B).

Description of the sample

All 300 General Practitioners were on the register of the HPCSA in 2010. Address changes, immigration, retirement and even deaths could not be traced with the initiation of the project.

General Practitioners and Family Physicians, those who completed a post-graduate degree within the Family Medicine field, were included.

The pilot study

A pilot study was conducted by requesting five attendees of the August 2011 Family Medicine Refresher Course to complete the questionnaire.

The reason for the pilot study was to test the questionnaire for usability, viability and correctness. A few problems were identified and corrections were made on the final questionnaire. The pilot study data was not included with the collected data which was analyzed.

Data gathering

The researcher posted questionnaires to the postal addresses of the Free State General Practitioners who were randomly chosen from the HPCSA register. In

the consent letter, participants were informed of the aim of the study, as well as the expectation and their rights in the voluntary participation.
As a mechanism of response, participants were given a choice of:

1) posting the questionnaire;

2) faxing the questionnaire;

3) via e-mail (optional PDF version of questionnaire);

4) completing the questionnaire on an on-line form (www.surveymonkey.com).

The questionnaire was mailed to the postal addresses of the randomly selected participants registered with the HPCSA. After a certain time of no-response, the researcher attempted to contact the participants telephonically, by SMS where the cell-number was available, by e-mail or fax. The questionnaire was available in English and Afrikaans.

With return of the questionnaires, the data was coded. A data typist, employed at the University of the State, imported the information into an electronic format, which was analysed by a Biostatistician. The open-ended questions were also categorized and coded in order to be analysed.

Frequent reminders were sent to participants in the study sample.

Data analysis

Coded questionnaires were submitted for analyses to the Department of Biostatistics of the Faculty of Health Sciences at the University of the Free State. Data typists captured the data to an electronic format and the Biostatistician completed a quantitative data analysis to deliver the results in numerical format.

Data reporting and interpretation

Data reporting is the process of presenting the data in an understandable format including tables, figures and/or short descriptions (Cohen, Manion, Morrison 2007:87). The results of this research project will be presented in Chapter 4.

Data interpretation is the process of evaluating and discussing the results in relation to the objectives of the study. The results will be interpreted in Chapter 5.

3.4 ENSURING THE QUALITY, RELIABILITY AND VALIDITY OF THE STUDY

The researcher will explain the factors ensuring quality in the following paragraphs.

3.4.1 Credibility/Internal validity

Credibility / Internal validity is explained as the extent to which the measurement was done correctly and also whether the intended aspects were measured (Joubert & Ehrlich 2007:117).

In this study, the questionnaire was designed after a literature review and specific research objectives were set. Questions were set in accordance with the objectives.

3.4.2 Data quality (reliability/dependability) and objectivity

If a project can be repeated on the same study population and similar results are achieved, the data can be considered reliable/dependable (Joubert & Ehrlich 2007:117).

The questionnaire was evaluated by a Research Evaluation Committee consisting of Health Research experts. After the Ethics Committee of the Faculty of Health Sciences also approved the project, a pilot study was conducted to test the questionnaire.

In this study, the research sample was chosen randomly by method of a randomization system provided and checked by the Department of Biostatistics, University of the Free State.

3.5 ETHICAL CONSIDERATIONS

3.5.1 Approval

This study was submitted to the Ethics Committee of the Faculty of Health Sciences, at the University of the Free State, for approval. Rules and regulations of the Committee were adhered to. The researcher received approval from the Ethics Committee (cf. APPENDIX C).

3.5.2 Informed consent

A consent letter was included with the posted questionnaire (cf. APPENDIX D). The web- and e-mail based questionnaire began with a similar consent letter, which then required the participant to agree to their participation by pressing a confirmation button.

3.5.3 Right to privacy and confidentiality

Participants' data will be kept confidential and personal-identifying information will not be shared. Research data, which was analyzed, excluded all names.

3.6 SUMMARY OF CHAPTER

This chapter discussed the methodology which was implemented for this study. The cross-sectional study design was chosen and a survey questionnaire was designed. A sample of 300 General Practitioners were randomly chosen and were contacted by post and then by phone, e-mail and fax.

The study was approved by the Ethics Committee of the Faculty of Health Sciences, University of the Free State.

In the following chapter, Chapter 4, the results of the study will be presented.

CHAPTER 4

RESULTS OF QUESTIONNAIRE SURVEY

4.1 INTRODUCTION

In Chapter 3, the methodology used in the research project and the theoretical aspects thereof were discussed. In this chapter, the researcher will present the results of the study, discussing each section in line with the objectives discussed in Chapter 1.

The results will be presented in graphs and tables, followed by a short discussion to elucidate the results obtained and will conclude by a short summary.

4.2 PROJECT IMPLEMENTATION AND FEEDBACK

The project consisted of a questionnaire survey to determine the CPD needs and preferences of Free State General Practitioners.

The pilot study questionnaires were completed by five General Practitioners who attended the August 2011 refresher course presented by Department of Family Medicine, UFS. These participants were excluded from the main study. A few minor corrections were made to clarify the questionnaire.

E-mails, faxes, SMS's and telephone calls were used to inform the participants of the intended study. Questionnaires were mailed in November 2011 to the 300 randomly chosen General Practitioners.

A total of 19 questionnaires returned unopened where physicians had changed addresses or passed away.

By January 2012, the researcher had received very little feedback from the randomly chosen General Practitioners. The researcher persisted by sending questionnaires by fax, e-mails and offering participants another option of completing the questionnaire online, via SurveyMonkey. Telephonic and SMS reminders did not improve the response rate.

In November 2012, the research was concluded, with a total of 60 responses collected. The following figure displays the format used for questionnaire completion and return.

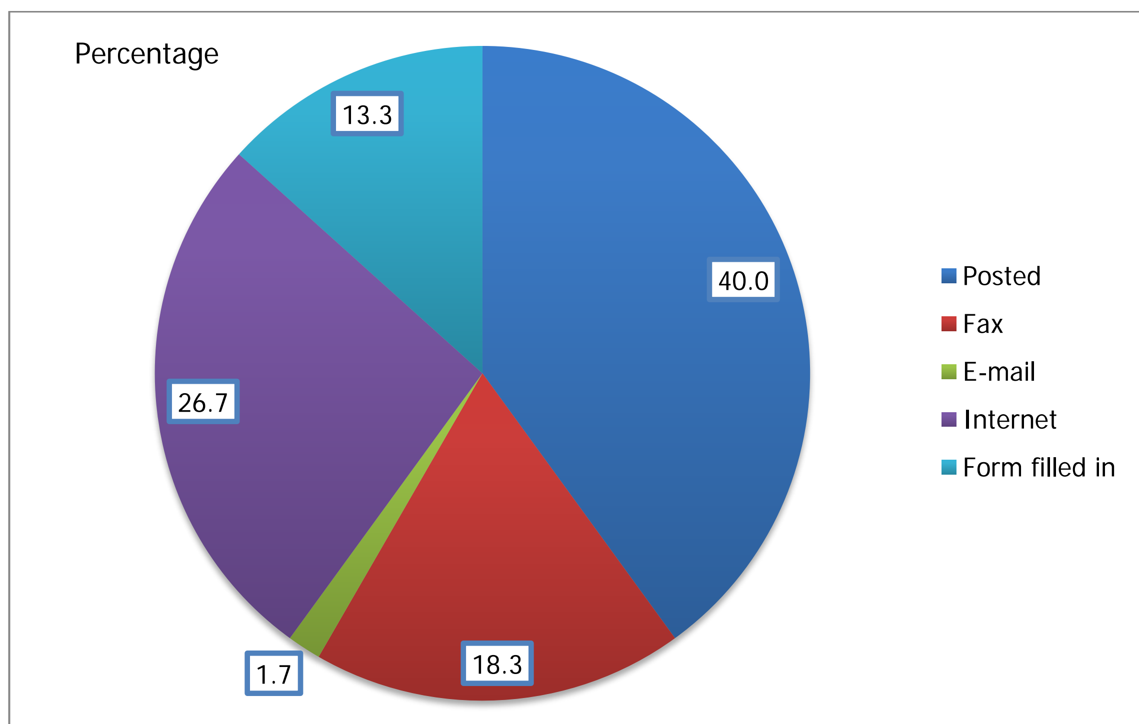

Figure 4.1: Questionnaire format used by participants (n=60)

The majority (40%) of participants preferred to mail the questionnaire back to the researcher, but a significant number (26.7%) also preferred to complete the questionnaire on the online platform.

4.3 DEMOGRAPHY OF PARTICIPANTS

In this section, the participants' demographic information will be interpreted and graphed.

General information including age, gender, language, qualifications and employment were recorded. It was also asked whether there are facilities available for patients during the absence of the physician. Finally, the most common ailments seen by the participants were identified.

4.3.1 Age of participants

In Figure 4.2, using Levinson's stages of adulthood (cf. 2.4.3), the participants were grouped into three groups. One participant did not complete the question.

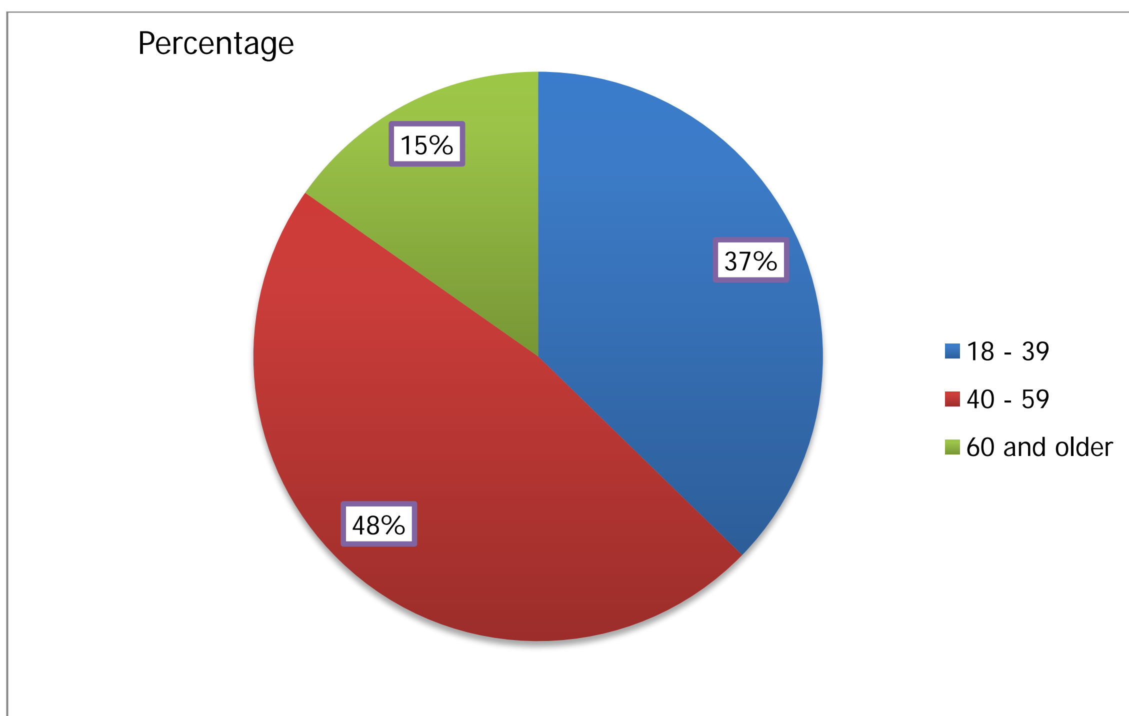

Figure 4.2: Age groups of participants (n=59)

The Middle Adulthood group (46.7%), between the ages of 40 to 59, formed the largest group followed by the Early Adulthood group (36.7%). The median age is 45.

4.3.2 Gender

The gender profile indicated an almost equal number of male (53.3%) and female (46.7%) participants. All participants completed the question (n=60).

4.3.3 Language

In Figure 4.3 the participants' home languages are displayed. The Afrikaans speaking physicians forms the majority of the study (73.3%). Very few Sotho speaking physicians returned their questionnaires (6.67%).

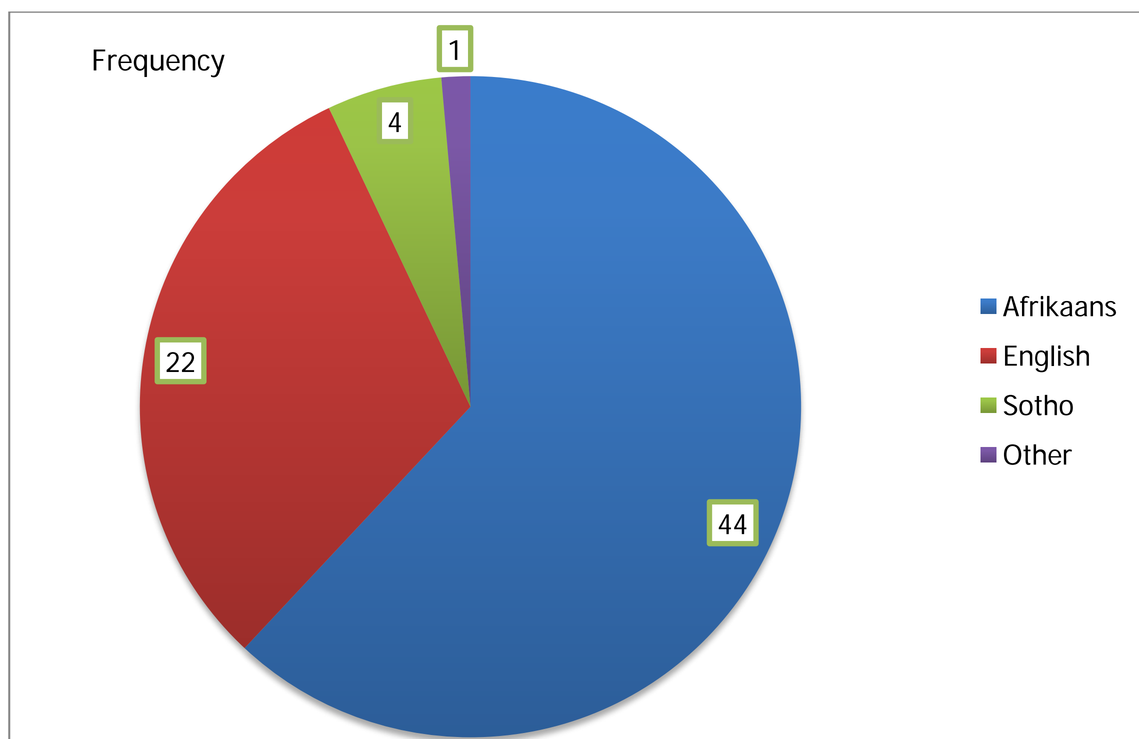

Figure 4.3: Home language of participants (n=60)

Only one participant marked the 'Other' column and specified another language, Luganda.

4.3.4 Basic Medical Qualification

In Figure 4.4 the majority of participants indicated that they have completed their basic medical qualification at the University of the Free State (58.33%).

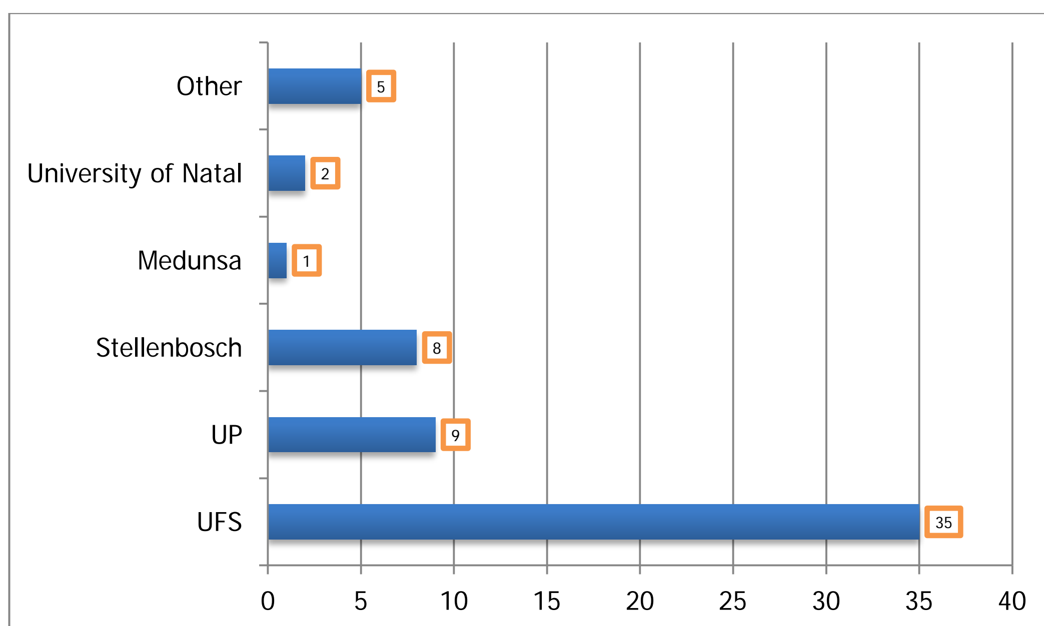

Figure 4.4: Completion of basic medical qualifications (n=60)

The participants who marked 'Other' indicated basic medical degrees from Bangladesh (3), Democratic Republicof Congo (1) and Uganda (1).

4.3.4.1 *Year of Completion for Basic Medical Qualification*

Dividing the years into decades, Figure 4.5 shows the spread of Basic Medical Qualifications of participants.

The graph shows a steady increase over the decades, from the 1960s (8.5%) to 2000s (28.8%).

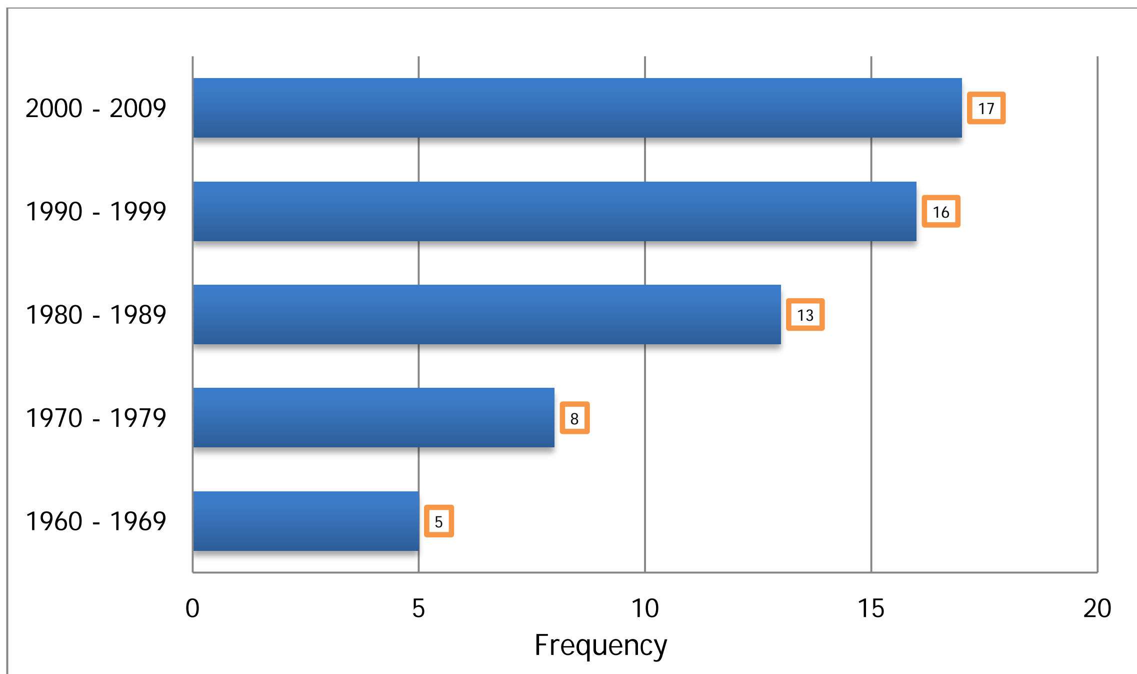

Figure 4.5: Year of completion for Basic Medical Qualification (n=59)

The most recent completion year was for one participant who indicated his final year as 2006. One can probably presume that there are no Community Service doctors who completed the questionnaire.

4.3.5 Completed a Postgraduate Qualification

When asked whether the participants completed a Postgraduate Qualification, the results showed that 50.85% completed some form of additional course.

4.3.5.1 *Type of Postgraduate Qualification*

If a participant stated in the previous question (cf. 4.3.6) they did complete an additional postgraduate programme, they were asked to specify the type of degree/certificate.As projected in Figure 4.6, from those who completed an additional qualification, 47.22% added a Master's in Family Medicine degree to their name. This group includes the M.Prax.Med., M.Fam.Med and M.Med. (Fam) degrees.

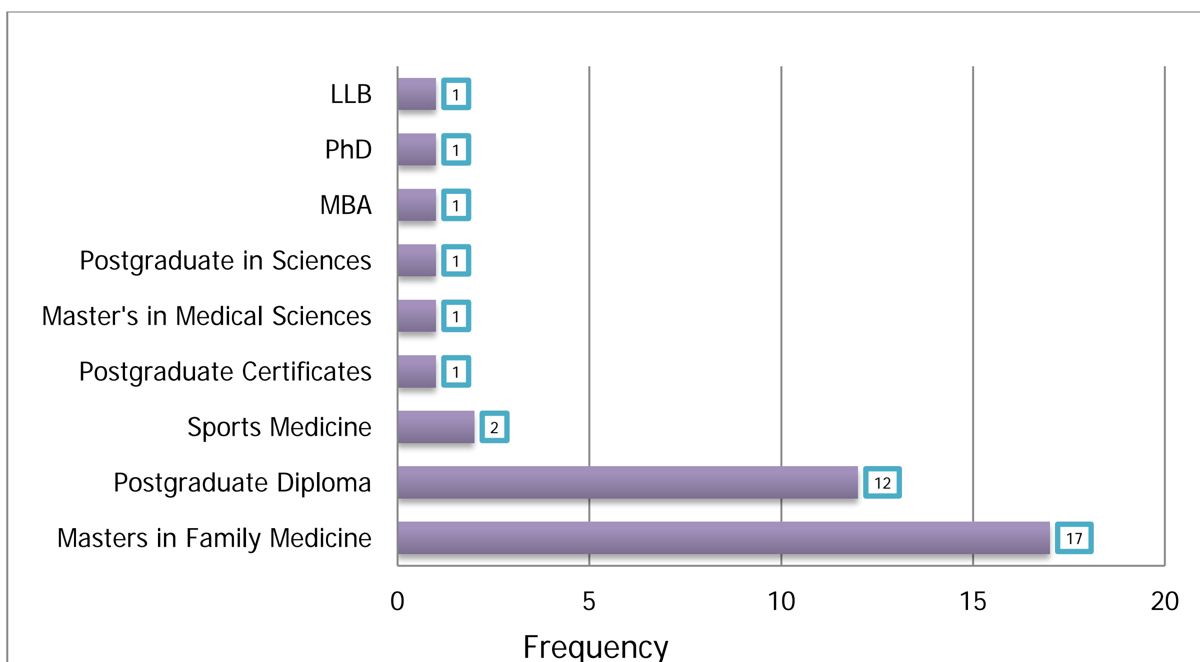

Figure 4.6: Type of Post Graduate Qualifications (n=37)

The Postgraduate Diplomas group included diplomas in Anaesthetics, Family Planning, Palliative Care, Tropical Medicine and Forensic Medicine.

4.3.6 Current Employment

In Figure 4.7 the nature of the participating physicians' employment is graphed. The physicians who indicated Private Practice formed the majority group of 60%. Government employees who completed the questionnaire represented only 16.66%.

One corporate physician completed the questionnaire and one physician indicated his full-time involvement in a retail store. Pure academic appointments were 6.7% and research-related appointments were 5%.

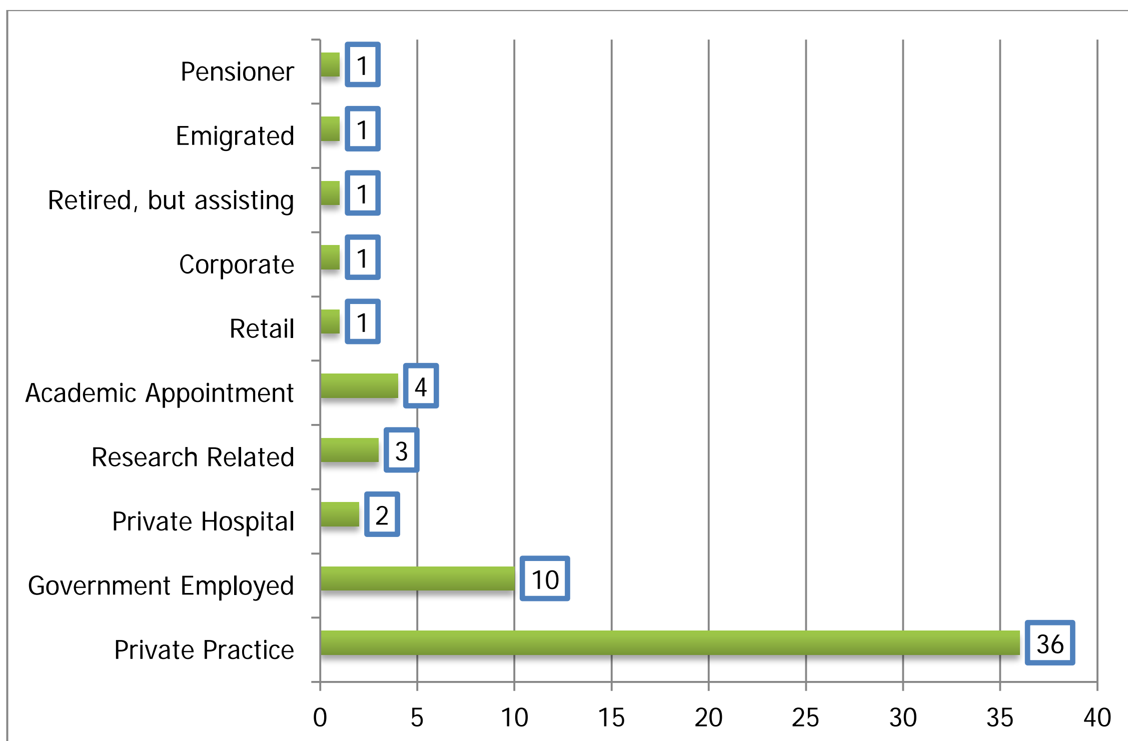

Figure 4.7: Nature of Employment (n=60)

4.3.7 Area of Practice

The next question was related to the participants' area of practice - in what type of setting they are employed.

As seen in Figure 4.8, 36.7% indicated they work in a city. A number of these participants probably do not consider Bloemfontein as a Metropolitan. Mangaung Local Municipality, wherein Bloemfontein resides, were upgraded to Metropolitan status in 2011. Town GPs formed a sizable group of 35%.

Only nine (15%) indicated they are situated in a rural area.

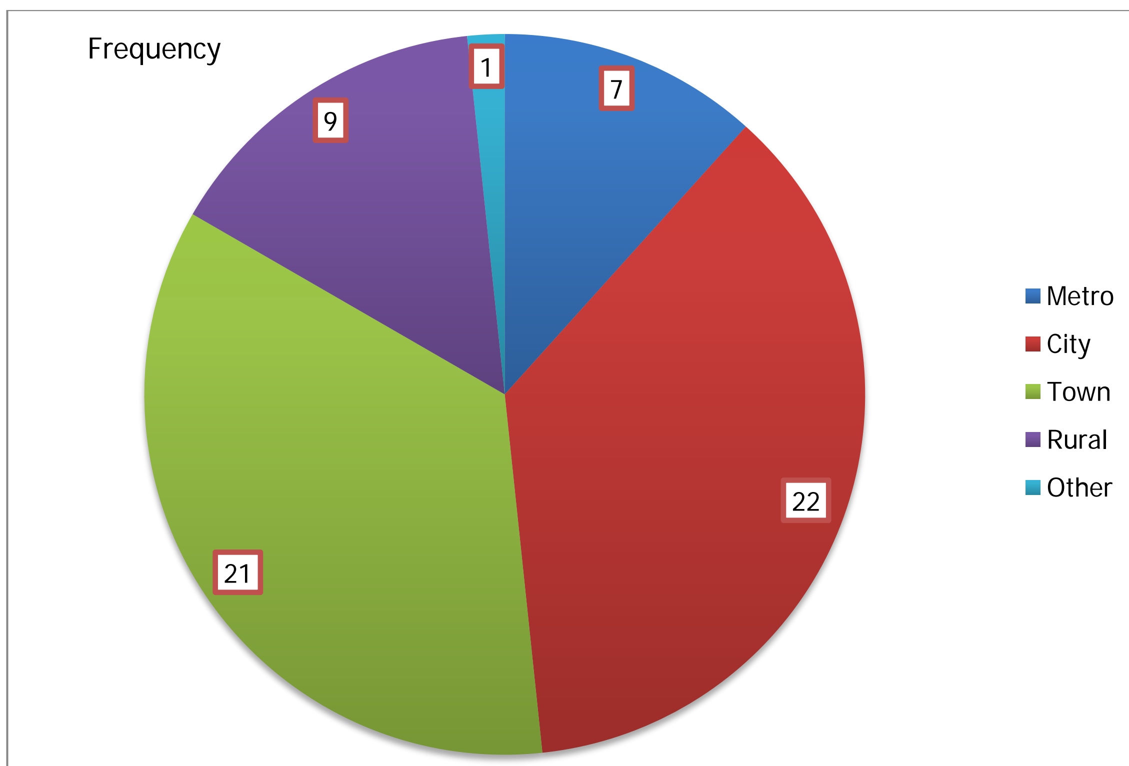

Figure 4.8: Area of Practice (n=60)

4.3.8 Internet Access

When the partaking GPs where asked about whether they are able to connect via the Internet, only one of the 60 participants pointed out that he did not have regular access to the information highway.

4.3.9 Facilities available in the area when the physician is not available

From 57 replies to the question whether there are facilities available for patients if the participating physician is not available, 52 (91.23%) indicated there are other physician or hospitals (or both) in the area.

4.3.9.1 *What facilities/personnel are available?*

As shown in Figure 4.9, only 33 answered the question on what other facilities are available. For most of these participants there are other doctors and hospitals available when he/she is not available (34%).

With a low response rate from rural GPs (cf. 4.3.8), the high rate of hospital availability is understandable.

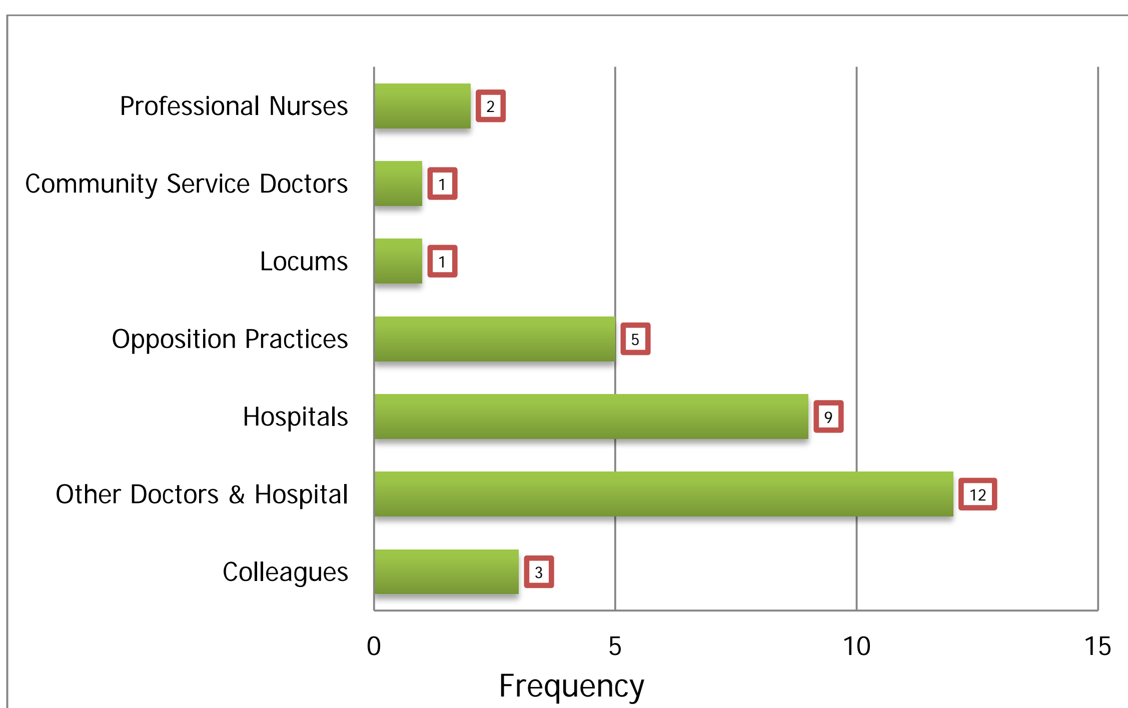

Figure 4.9: Facilities/Personnel if practitioner is not available (n=33)

4.3.10 Most common ailments seen in practice

In Figure 4.10 the most common ailments, seen by the partaking general practitioners, are summarized.

In the questionnaire the participants were asked to list the three most common ailments encountered at their practice. Of the participants, 54 answered the

question. Listed ailments were grouped by using the international ICD10 code list.

Respiratory ailments formed the majority grouping (27.2%), followed by circulatory ailments (20.4%) and infectious diseases (11.7%).

Respiratory ailments include upper respiratory infections (52.3%), bronchitis, sinusitis, pneumonia, pharyngitis and flu. Circulatory ailments were grouped from general circulatory diseases, hypertension (81.8%) and stroke. The digestive ailments group were mainly formed by gastro-enteritis (73.33%), but also gastritis, abdominal complaints and colitis.

Infectious and parasitic diseases included HIV (63.16%), tuberculosis, malaria and general infections.

The 'Other' group was formed by minor surgery, emergency cases and injury on duty.

Ailments due to external causes were allergy-related cases. Stress, depression and anxiety were 'Mental-related ailments'.

The group relating to Injuries and Trauma encompassed sports injuries, head injuries, spinal chord injuries, trauma and ailments simply reported as 'injuries'.

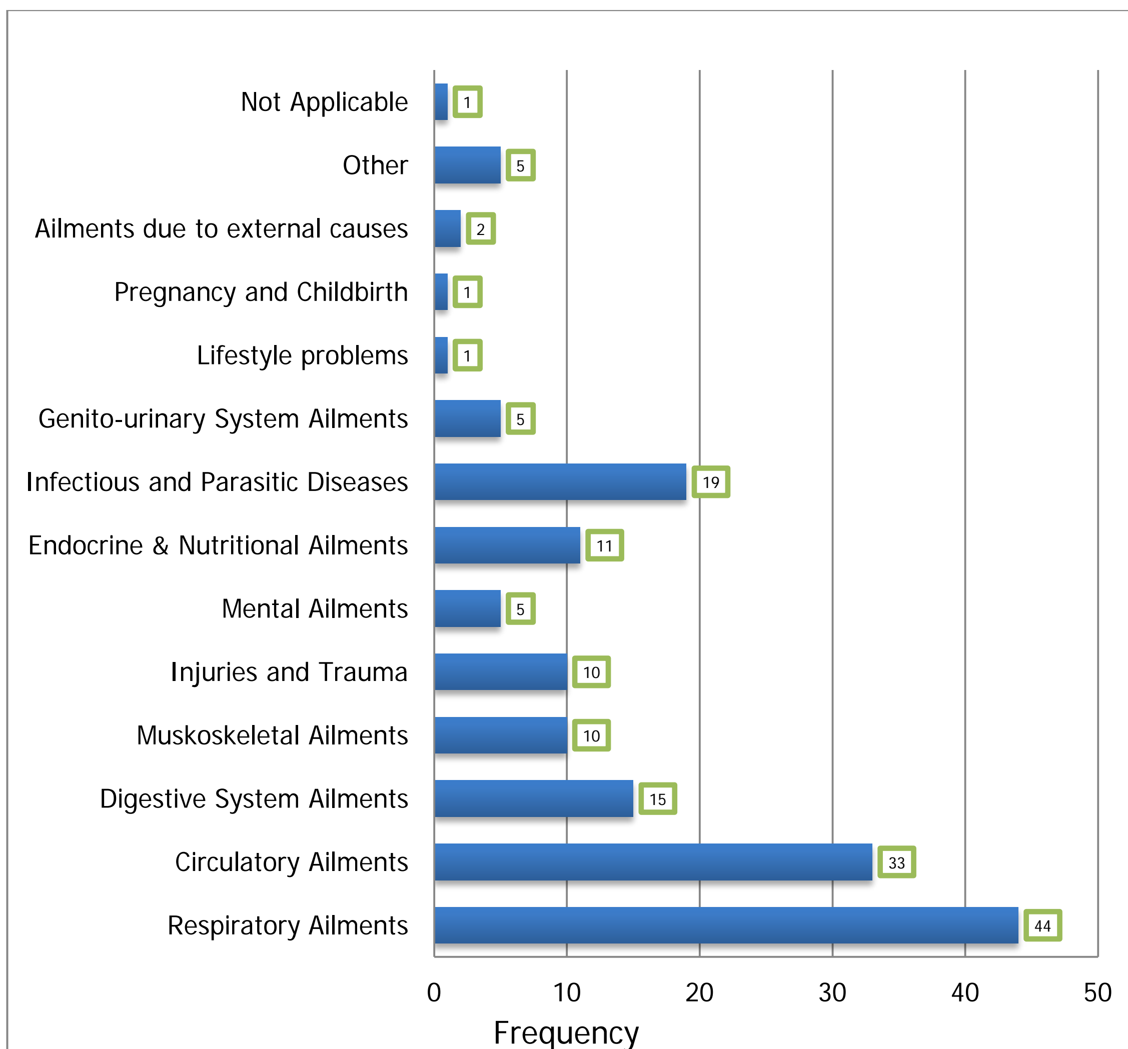

Figure 4.10: Ailments most frequently seen (n=162)

4.4 NEEDS AND PREFERENCE ANALYSIS

In this section, General Practitioners' needs will be determined by looking at the type of learning opportunities they prefer, what type of teaching method they would choose and the medical topics they are most interested in.

4.4.1 Learning opportunities GPs prefer to use

Participants were asked to select their preferred learning opportunities by completing a Likert-scale question. For least interest they marked 1, and for most interest they chose 4. In figure 4.11 the results are displayed.

With Figure 4.11 the researcher attempted to project the interest/non-interest by grouping the 'Least Interest' (blue) with 'Little Interest' (red). 'Some Interest' (purple) and 'Most Interest' (light blue). The empty space in the centre was missing data.

When combining the 'Some Interest' and 'Most interest' data Refresher courses (61.7%) and Short lectures (53.3%) seem to be preferred methods for General Practitioners. Continuing Medical Education on computer training (45%) and Journals (45%) are also popular.

Unpopular methods among GPs were Teleconferencing (85%), Supervised in-service training (80%) and Ward rounds (66.7%).

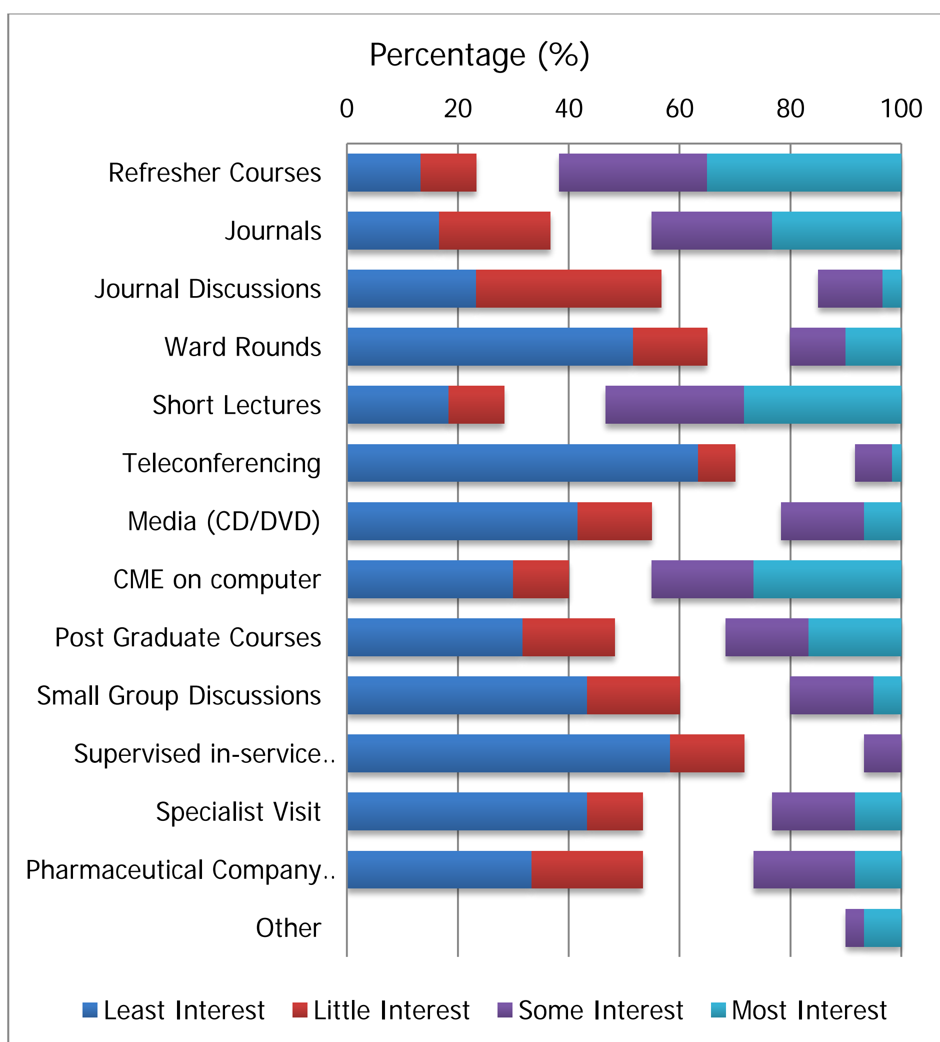

Figure 4.11: Learning Opportunities which GPs prefer

Although the rural response rate was low, the researcher compared the results of the rural participants with the Learning Opportunities statistics. In Figure 4.12 the results are shown.

Rural physicians also indicated Refresher courses (55.5%) and Short lectures (55.5%) as their most popular method of learning. Specialist visits (44.4%) increased significantly from the overall preferences and CME on Computer decreased.

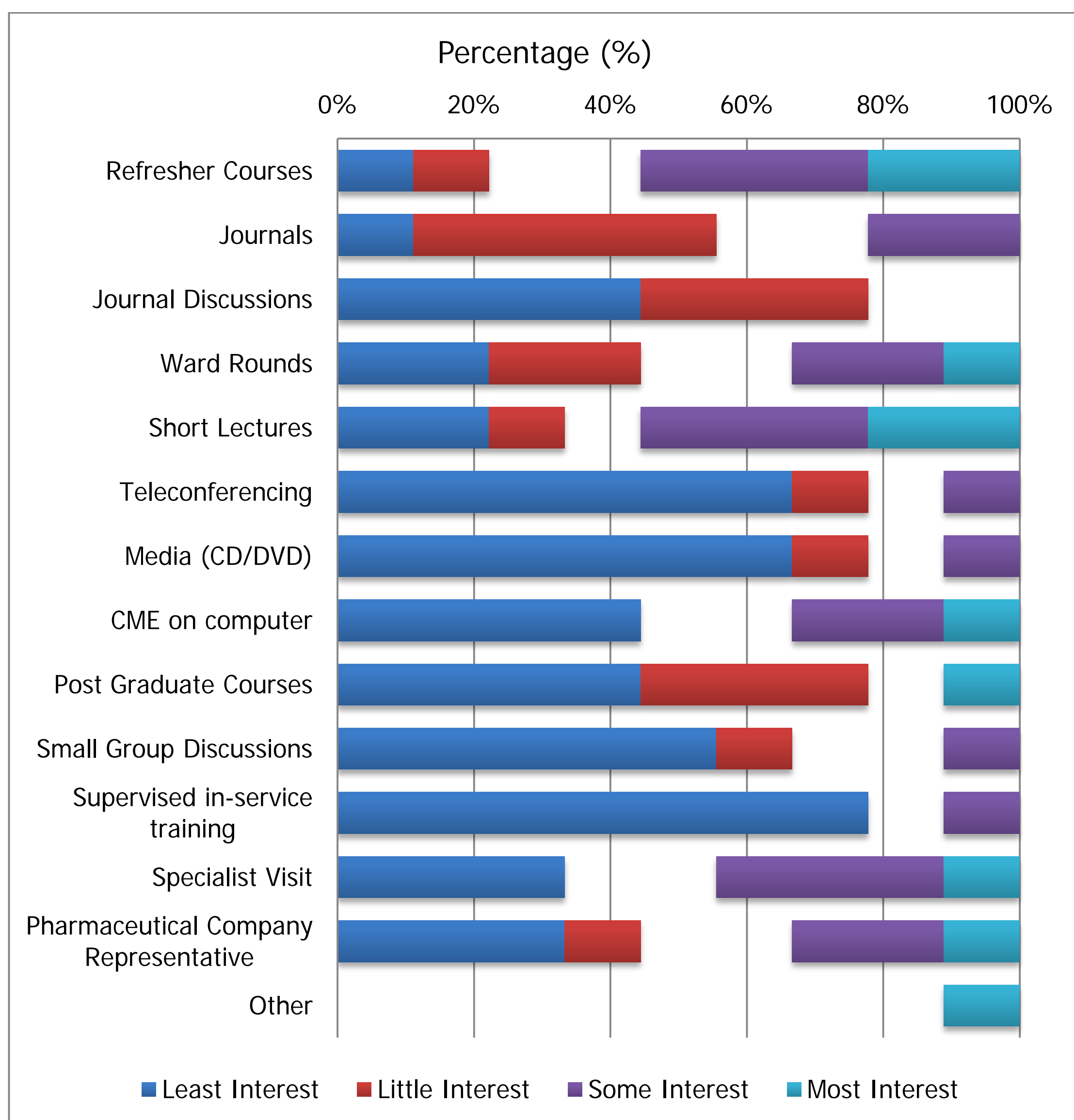

Figure 4.12: Learning Opportunities which Rural GPs prefer

Supervised in-service learning, Media (CD/DVD), Teleconferencing and Journal discussions (all negative on 77.8%) do not seem to be rural physicians' learning opportunities of choice.

Unfortunately there were only nine rural participants, thus a significant conclusion cannot be drawn from these results.

In Figure 4.13 the researcher attempted to identify whether age is important in the use of more modern learning opportunities.

Using Levinson's adult stages (cf. 2.4.3) the researcher compared the groups in terms of Teleconferencing, Media (CD/DVD) and CME on computer.

With Teleconferencing there was little interest in all groups, although there are no interest with the 60 and older participants. Media (CD/DVD) showed a slight increase in positive preference for the 40-59 age group (32.1%). CME on computer also showed very positive results among the 18-39 group (54.6%) as well as the 40-59 group (53.6%). The older group again showed no interest.

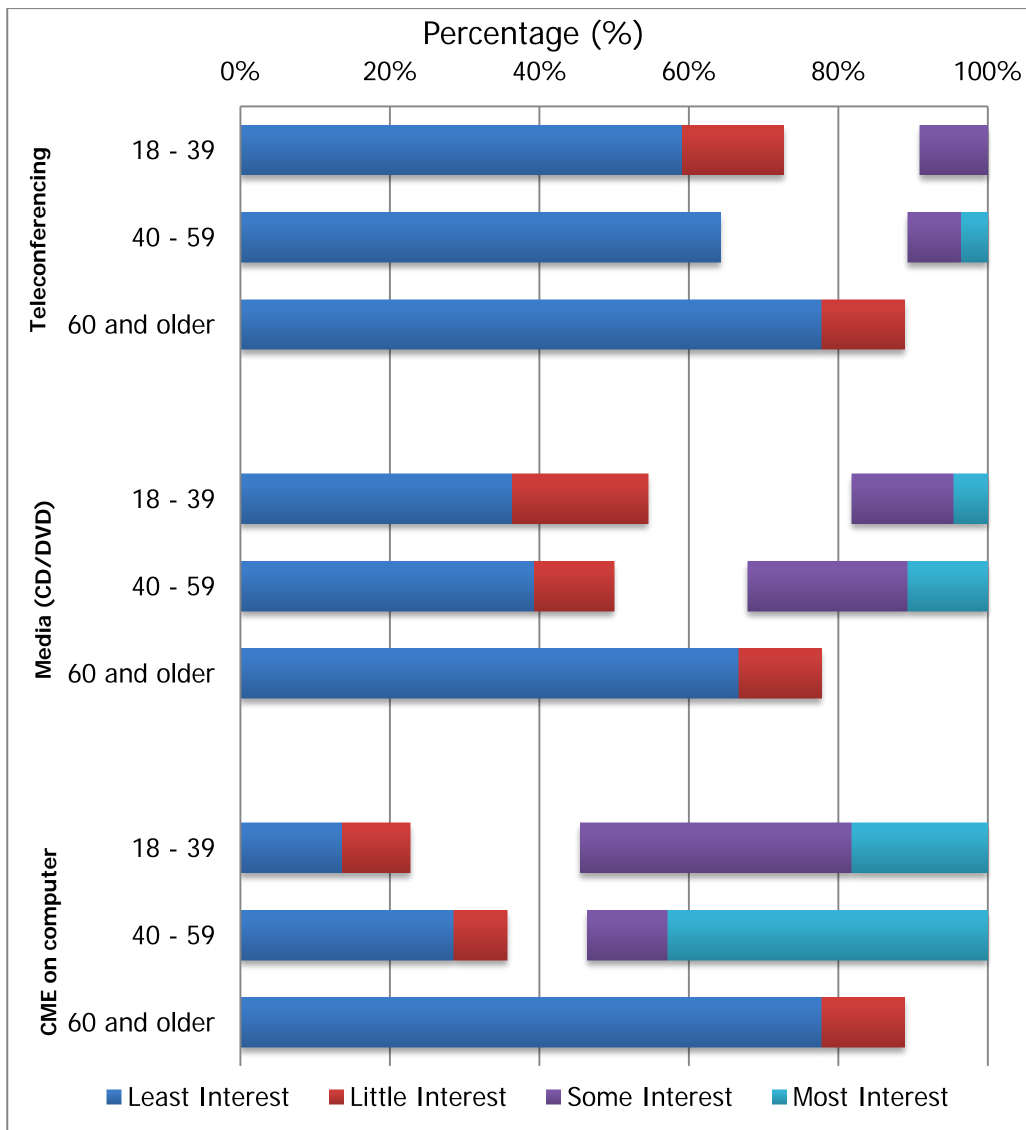

Figure 4.13: Age versus more modern learning opportunities

4.4.2 Medical topics which GPs rate as important to them

General Practitioners were asked to rate topics of interest to them, by ranking their top 10 choices. Their first choice would be marked as 1, up to 10th choice.

In figure 4.13 the researcher illustrates the results.

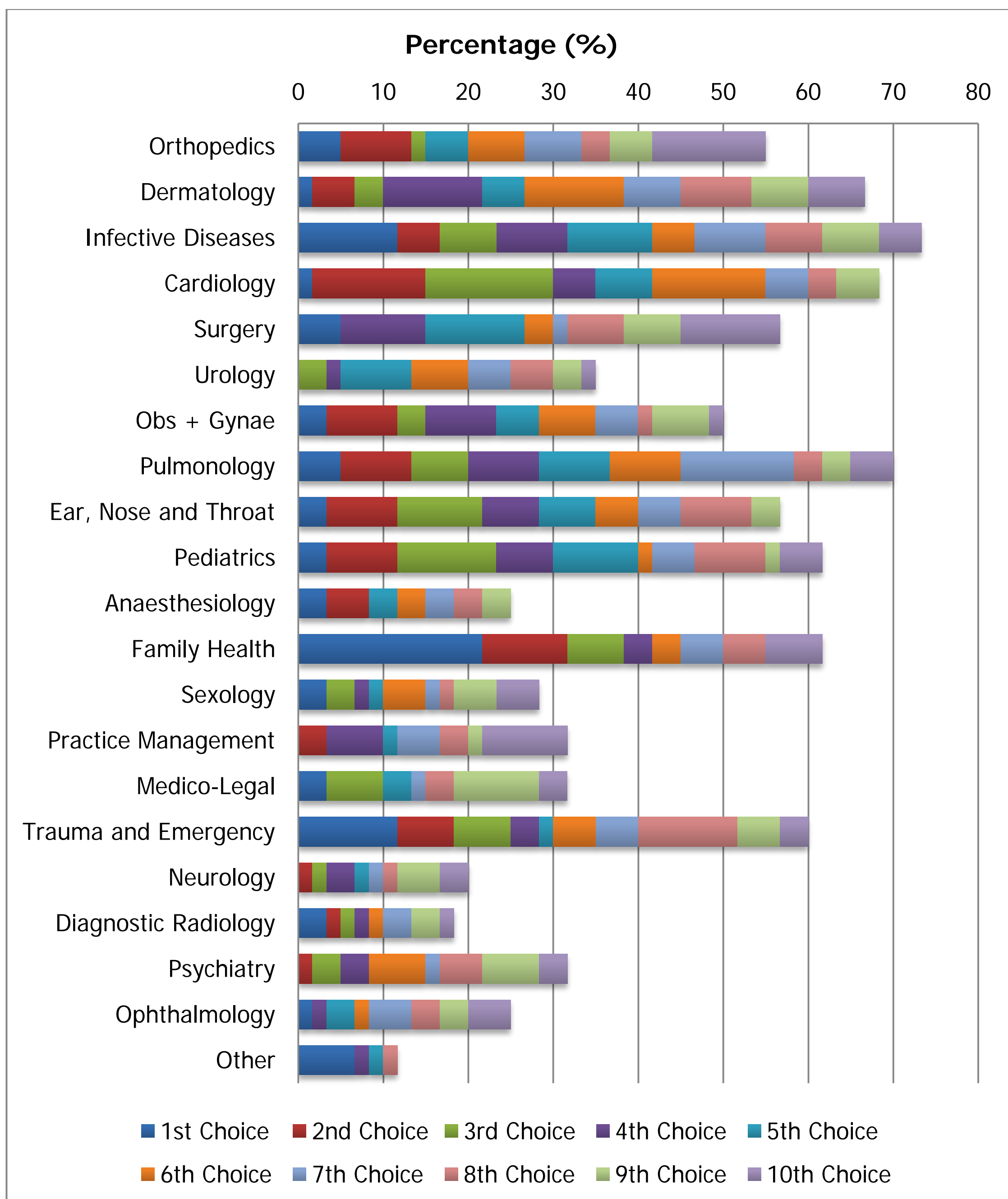

Figure 4.14: Topics of interest to participating General Practitioners

The top 5 ranked topics were Infective Diseases (73.3%), Pulmonology (70%), Cardiology (68.3%), Dermatology (66.7%), Family Health (61.7%) and Paediatrics (61.7%).

Family Health received the most first choice rankings (21.67%), followed by Infective Diseases (11.7%) and Trauma and Emergency medicine (11.7%).

The participants showed little interest in Diagnostic Radiology (18.3%), Neurology (20%), Ophthalmology (25%) and Anaesthesiology (25%).

4.4.3 Type of educational design GPs prefer

General Practitioners were asked to rate the educational designs that they would probably select. Choices were from large group to small group sessions, practical sessions, journal reading and tests, study/mini-sabbatical or working on an interactive platform on their computer or internet.

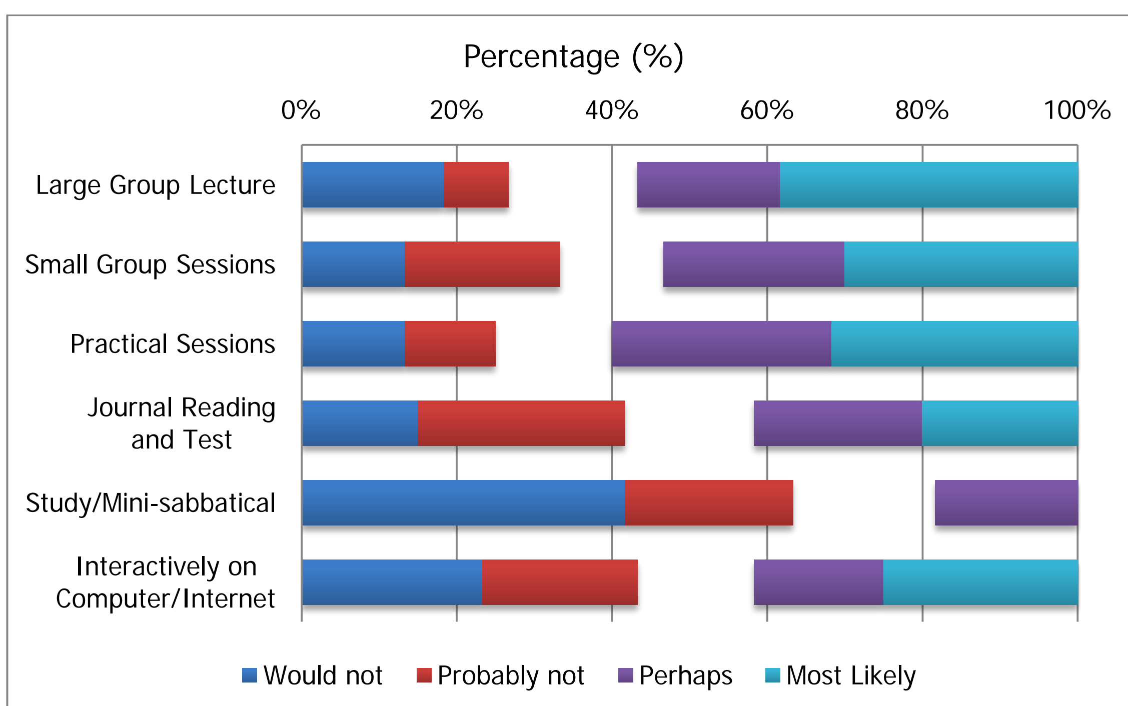

Figure 4.15: Type of educational design GPs prefer

The most popular educational design among GPs was practical sessions (60%). This was followed by Large group lectures (56.6%) and Small group sessions (53.3%).

Study/mini-sabbatical received the most negative feedback with 63.4%. No 'Most likely' responses were received.

4.4.4 Comments on Educational Needs

Participants were asked to supply additional comments regarding their educational needs. Only 14 replies were recorded.

One participant noted that there is a lack of time, thus he/she would prefer structured training. Another physician requested a course focusing on basic medical sciences. Also noted is a request for a course which covers multiple topics. Three physicians mentioned they would prefer a course that is short and to the point. Thus, the course should not be time-consuming.

The following topics were requested: Hospital Management/Administration, Staff Training and Clinical Auditing.

On the format, recommendations were made to look at focus group meetings, ward rounds with expert practitioners and simulation-based education.

A rural physician stated the difficulty for rural doctors to leave their practice for a day. The GP also mentioned the long distances to travel for refresher courses as a disadvantage.

4.5 CURRENT TREND IN THE ACCUMULATION OF CEU's

In the following section the researcher will present results regarding General Practitioners' use of refresher courses.

4.5.1 Usage of Dept Family Medicine's (UFS) training opportunities

Participants were asked whether they had attended GP refresher courses at the Department of Family Medicine, UFS, in the previous three years.

From the 58 who answered the question, 37.9% stated they were present at one or more of these learning opportunities.

4.5.2 Attendance of Refresher Courses presented by other Universities/Colleges

Asked whether the Free State participants attended refresher courses at other academic institutions, 21% replied that they did indeed make use of these lectures. Three participants did not give a reply.

In Table 4.1 the academic institutions stated are summarized. Eleven participants specified one or more institutions in this open-ended question.

Table 4.1: Other University/Colleges whose refresher courses physicians of the Free State attended

Academic Institution	Frequency
University of Stellenbosch	1
University of Cape Town	4
University of Witwatersrand	1
University of Pretoria	1
UFS (Different course)	2
Mediclinic Hoogland, Bethlehem	2
Kaponong Conference, Benoni	1
FPD Course	1

4.5.3 How the Department of Family Medicine could improve on their training delivery

In an open-ended question, participants were given the opportunity to comment on how the Department of Family Medicine could improve/adapt to meet the needs of General Practitioners in the Free State. In Table 4.2 the results were grouped and summarized.

Table 4.2: Comments on how to improve/adapt the course

Comment	Percentage (%)
Satisfied with current course/format	10.0
Good for younger colleagues	1.7
Prefer weekend courses	5.0
Not informed / Informed late	11.7
Include more topics relevant to GPs	3.3
Assistance with Accommodation	1.7
Help with finding locums	1.7
Prefer after hours training	5.0
Shorter courses	6.7
Not applicable	6.7
Prefer working through notes and DVD of lectures	6.7
Need more doctors in rural areas	1.7
Multiple topics in same course	1.7
Prefer online CPD activities	8.3
Prefer to view courses online / Teleconferencing	3.3
Advanced Life Support and further Trauma training	3.3
Academic responsibilities prevent attendance	1.7
Prefer Distant Education	3.3
Practical sessions with lectures	1.7
Short CME on a weekly basis	1.7

(n=60)

There seems to be a number of physicians who are not aware or were not informed of the refresher courses presented at the department of Family Medicine, UFS. This is an issue that should be resolved.

4.6 FACTORS INFLUENCING REFRESHER COURSE USAGE

Participants were asked to indicate possible factors which influence their ability to attend refresher courses. The results are tabled in Table 4.3.

Table 4.3: Factors influencing refresher course usage

Influencing Factor		Percentage (%)
Lack of finances/sponsors		13.3
Cannot afford time away from practice/hospital		70
Difficult to find Locums		36.7
Distance away from practice/hospital and home		31.7
Would prefer lectures after hours		16.7
Lectures do not meet my needs		6.7
Course too long		18.3
Would prefer a different educational method		11.7
Other	Was not aware of courses / not informed	6.7
	Patient/ Academic responsibilities	1.67
	Difficult for locum to miss work (financially)	1.67

(n=60)

As expected, the majority of physicians felt they could not afford time away from their practice. Finding locums seems to be the second biggest issue for these physicians. Even though they have a problem leaving their practice, only a small number of physicians (18.3%) considered the three day course to be too long.

4.7 DISCUSSION

After initiation of the study, only 60 participants returned the questionnaire. Repeated reminders did not improve the response rate sufficiently.

Most participants still preferred to mail questionnaires, but a smaller amount did fax their completed questionnaires. Unfortunately, a number of addresses seemed to be wrong, which is strange considering the fact that the addresses should be correct as registered with the HPCSA.

Making use of the SurveyMonkey online platform did facilitate responses, but only in the late stages, presumably when participants failed to complete the PDF format version which was e-mailed to them. The PDF questionnaire could have been an issue, since the document was rather large. Some e-mail servers may have had problems sending these e-mails through.

The demography showed an almost equal amount of male and female participants. The age groups were well represented, with the 60 and older group much smaller, probably due to retirement and passing away.

The majority of participants are employed in the metro/city areas. Unfortunately for this study the researcher received very little feedback from General Practitioners in the rural areas.

Mostly due to the lack of response from rural physicians, most doctors indicated alternative medical support when they were not available. Thus, this could not be an important factor to determine lack of attendance of refresher courses.

As expected, General Practitioners reported respiratory, circulatory, infective diseases and digestive illnesses as their most common ailments. This can also be seen in the topics physicians marked as important to them.

Overall it seems physicians still prefer to have large group refresher courses; the results do portray a slight movement towards more modern learning opportunities.

Most physicians indicated they simply cannot afford time away from their practice. Finances and the length of the course do not seem to be serious negative factors.

One question which should have been asked in the questionnaire, but was unfortunately excluded, was what CPD activities General Practitioners currently use other than refresher courses.

4.8 SUMMARY OF CHAPTER

In this chapter the results of the questionnaire were graphed, tabled and briefly discussed.

Unfortunately, the study received limited response (20%) (cf. Chapter 6). The demography seems to be well-spread through the age groups and genders, but the rural physician feedback was disappointing.

Results shows preference for refresher courses and short courses, but negative feedback was received for ward rounds and more modern methods of learning. Although, working on their own, through computer activities and journals seems to be equally balanced.

Physicians indicated they do not have the luxury of time to leave their practices unattended in order to attend refresher courses.

In Chapter 5, the results will be discussed in-depth and compared with previous studies to investigate reasons for poor refresher course attendance by General Practitioners.

CHAPTER 5

INTERPRETATION AND DISCUSSION OF GENERAL PRACTITIONERS' NEEDS AND PREFERENCES

5.1 INTRODUCTION

In Chapter 4 the researcher presented the results from the study by manner of tables and graphs. This chapter will reflect on the results and attempt to answer the researcher's questions from Chapter 1.

5.2 INTERPRETATION OF THE NEEDS ANALYSIS

To reach Objective 1, a needs analysis (cf. 1.4.3) was conducted through a literature review and a section of the questionnaire. The questions used included the type of learning format physicians prefer, the topics they are interested in, the educational design they tend to use and also looking back at the ailments they most commonly encounter in practice by comparing them to the popular topics.

5.2.1 Learning Format

From the results (cf. 4.4.1), General Practitioners indicated a preference for refresher courses (61.7%) and short lectures (53.3%). Even with modern technology offering a range of private, student-driven and easy accessible formats of CPD training, the doctors from the Free State tend to prefer a course or lecture attended by a number of peers.

Similar results were found in studies done in the United States of America, Germany and Australia (cf. 2.6.2 – 2.6.5). World-wide, the preference among GPs tends towards refresher courses, conferences and short topic-specific lectures.

With Group lectures it also seems there is little interest in group discussions, like journal discussions. This would indicate that doctors prefer the traditional method where an expert lecturer transfers knowledge through presentations. Interaction seems to be of little interest.

Even though a disappointing number of rural physicians completed the questionnaire, interesting results were compiled. Both refresher courses and short lectures are preferred (both with 55.5%), but there seems to be a need for specialist visits in the rural areas (44.4%). Very little interest in modern technological driven CPD opportunities was indicated.

Comparing age groups, divided into three groups according to Levinson's Adulthood Stages, the researcher attempted to find a correlation between the usage of modern technological learning format and age (cf. Figure 4.13). None of the age groups indicated real interest in Teleconferencing. A slightly higher interest was indicated in CPD sessions viewed on CD/DVD, but it was not truly significant. These slight increases are also seen in the studies completed in the United States of America and Germany (cf. 2.6.2). These researchers still remained positive that future generations would be more inclined towards technologically driven learning formats.

Interestingly, both Early- and Middle Adulthood groups showed a strong tendency towards CPD training via the computer. The researcher expected mainly the Early Adulthood group to lean towards this type of training, with current adults in the Early Adulthood phase having grown up during a time when computer usage became essential, but there is little difference between the two groups.

5.2.2 Topics of interest

When asked which ailments the doctors most often encounter in their practice (cf. 4.3.11), the results showed respiratory diseases (27.2%), circulatory diseases (20.4%) and infectious diseases (11.7%).

With the question regarding their topics of choice (cf. 4.4.2), the results leaned towards these ailment encounters. A need for learning opportunities was indicated for Infective Diseases (73.3%), Pulmonary (70%) and Cardiology (68.3%). This could point towards General Practitioners considering their practice's needs and that of the community. (cf. 2.8)

Further topics which scored highly were Dermatology (66.7%), Family Health (61.7%) and Paediatrics (61.7%). Interesting to note is the number of first choice learning needs, which shows Family Health as the majority at 21.67%. These results could point to Family Physicians' acknowledging responsibility towards the health and well-being of the family as a whole.

5.2.3 Educational Design

General Practitioners were asked to specify which type of Educational Design they would prefer (cf. 4.4.3), and an interesting result came to light. Even though Large Group lectures were still the preferred design (56.6%)as expected, and Small Group sessions (53.3%) also rated highly, the need for supervised Practical Training Sessions arose with 60%.

Even though the Department's refresher courses rarely had practical sessions, very few attending Doctors previously indicated this need or even showed interest. A more in-depth study will have to be done to examine this need.This is similar to the study completed in Nepal (cf. 2.6.5). Most rural participants in that study preferred to have practical training.

5.2.4 Comments on Training Needs

Only 14 physicians gave comments in the open comment section regarding their needs.

One physician remarked that a refresher course should be entirely based on Basic Medical Sciences, thus the participant is requesting a review of the current basic knowledge which forms the foundation of a practitioner's career. The refresher courses presented are designed to build on previous knowledge and add new information on a higher level. This is based on the Constructivism (cf. 2.5.5) theory which is a spiralling system where new information adds on to previous knowledge by revisiting topics on a frequent basis. The comment cannot be ignored if one considers the fast-changing and ever-improving fields of medical science. Very few GPs seem to attend courses on a frequent basis, thus one cannot assume all physicians are up-to-date and gaps could cause problems in their learning. This issue will form part of the recommendations.

Another request was to have a course which covers all topics over the length of the course. The request would thus mean that no more than one or two lectures could be spent on a topic/field. This partly coincides with the previous request, but this would mean little new information would be added and would only serve as a review of previous knowledge.

Requests were made for administrative training in Hospital Management, handling of Staff Training and Clinical Auditing. These themes falls under the topic Practice Management and the requests will be proposed to the organizing committee. The comments further acknowledge the difference and importance of CPD as a holistic approach when compared to the classic CME which only focussed on medical related fields (cf. 2.4.1).

On the format of CPD activities, recommendations were given to look at ward rounds with specialists, focus group meetings and simulation-based training. The majority of participants showed very little interest in these types of training, but there are still a few physicians who indicated this as a need, thus opportunities should be considered.

5.3 REFLECTING ON THE FACTORS INFLUENCING USAGE OF FURTHER EDUCATION OPPORTUNITIES

To achieve Objective 2 (cf. 1.4.3), the researcher examined the stated factors influencing the use of refresher courses (cf. 4.3). To create a broader picture the researcher looked at the participants' demographic data and questions relating to their employment nature, area of practice and availability of facilities within their areas.

5.3.1 Nature of Employment

Most participants (60%) indicated that they are currently practicing within a private practice. Only 16.66% stated their employment as governmental. When considering their employment status, the problem regarding the time away from practice (cf. 5.3.1) does make sense. Governmental physicians would find it less difficult to apply for study leave and attend courses.

It is disappointing that so few physicians from the Department of Health completed and returned the questionnaire.

5.3.2 Area of Practice

From the responses (cf. 4.3.8), 48.3% indicated their area of practice in a city/metropolitan. Most of these would probably be from the Bloemfontein area. A large group (35%) indicated they are practising within a town-community, while only 9% were from rural areas. These are probably the physicians who find it most difficult to leave their practices unattended and locums are hard to locate.

5.3.3 Internet Access

Only one participant (cf. 4.3.9) indicated he/she do not have access to the internet; thus, a lack of connectivity could not be considered a problem for technological methods of training.

5.3.4 Availability of other Facilities/Medical Personnel

Regarding the question whether alternative facilities or doctors are available, most (91.23%) indicated there are hospitals, clinics, partners or opposition practices available for their patients if they are not available. This is not necessarily a positive factor, since practices could lose clientele to opposition physicians.

5.4 DISCUSSING THE MANNER IN WHICH GENERAL PRACTITIONERS CURRENTLY ACCUMULATE THEIR POINTS

In order to achieve the objective of determining how GPs accumulate the CEU points required by the HPCSA (cf. 1.4.3), the researcher asked the participants whether they have attended the courses presented at the Department of Family Medicine, UFS, or at another teaching institution (cf. 4.5).

Only 37.9% of the participants indicated that they have attended refresher courses presented by the Department of Family Medicine, UFS, in the three years prior to the study (cf. 4.5.1). This would indicate doctors make use of alternative learning opportunities to collect the CEU points required for re-registration (cf. 1.2).

When asked whether they have attended courses at another teaching institution, only 21.7% of the physicians acknowledged completing courses at different Universities, another course presented at the University of the Free State, conferences or lectures sponsored by pharmaceutical companies (cf. 4.5.2).

This could mean between 40% to 50% had to complete alternative learning opportunities like journal reading, ward rounds, CME on computer,or short lectures to achieve the required CEU points. In retrospect, this was an unfortunate omission from the project: to determine their usage of these alternative opportunities.

5.5 ESTABLISH WHY GENERAL PRACTITIONERS DO NOT ATTEND REFRESHER COURSES

To determine why GPs do not attend courses on offer to them, the researcher asked participants to indicate problematic factors (cf. 4.6).

Most participants (70%) felt they could not afford time away from their practice/hospital (cf. 4.3). Adding to that problem, locums are hard to find (36.7%), which would then require physicians to leave their practises unattended.

The distance to travel for these physicians is also an issue (31.6%). Considering the courses only being presented in Bloemfontein (in the Motheo district), it places extra pressure on physicians who fear emergency situations at their practises.

Only a small percentage (18.3%), but still of importance, indicated that the normal 3-day courses are too long and that they would rather prefer shorter courses. A few GPs (16.7%) felt that they would prefer lectures to be presented after hours.

As indicated by the participants when asked about their learning format and educational design, very few doctors (11.7%) felt a change is necessary to the manner the refresher courses are presented.

In the open comments, a rural physician explained the dilemma for rural doctors: most of them cannot afford a day away from their practices. He continued that a major problem is the long distances away from their practices. A consideration could be to organize shorter day courses and present them via a rotation system periodically through the 5 districts forming the Free State Province (Figure 5.1). All courses are currently presented in Bloemfontein, in the Motheo district.

Figure 5.1: Free State Districts
[Compiled by the Researcher, Botes 2013]

Although the Department of Family Medicine, UFS, sends out e-mails, an estimated 2000 invitations by post, and often advertise in journals, 6.7% indicated an important factor were that they were not aware of the courses presented (cf. 4.6). In the open commentary on how the course could be improved, 11.7% indicated that they were not informed, or were informed too late, which made it impossible to plan for their absence (cf. 4.5).

5.6 CONCEPTIALIZING FAMILY MEDICINE'S INVOLVEMENT IN CONTINUOUS PROFESSIONAL DEVELOPMENT

In order to achieve objective 5 (cf. 1.4.3), the researcher evaluated the discussed results from the previous objectives (cf. 5.2 – 5.5) and conceptualized Family Medicine's future involvement in offering training opportunities to Free State GPs.

5.6.1 Needs of General Practitioners

From this study it is clear that General Practitioners would prefer to continue with refresher courses and short lectures as the method of learning (cf. 5.2). Although this format is considered least effective for knowledge transfer, doctors show little intention of participating in other formats of teaching.

In order to adapt to the needs of rural doctors, shorter courses closer to their area of practice should be considered. Their needs also include regular visits from specialists to their area, which the Department could organize.

Modern CPD opportunities should be looked at for future development. Slight interest does exist for CME training on the computer and interest may increase in the coming years.

Regarding the medical fields/topics (cf. 5.2.2), courses which should be emphasized thoroughly by the Department of Family Medicine include Infective Diseases, Pulmonary, Cardiology, Dermatology, Family Health and Paediatrics. These were stated as important needs for GPs, but all topics have interest of some amount, thus, these fields cannot be excluded, but less emphasis could be placed on these areas with probable shorter sessions.

With the design (cf. 5.2.3) a large percentage indicated interest in practical/simulated learning. This is an important adjustment to the current

content delivery format. Specialist departments will be informed of this tendency and such supervised sessions will need to be organized.

Further comments (cf. 5.2.4) indicated more frequent sessions regarding practice management topics.

5.6.2 Demographic factors influencing usage of learning opportunities

Most participants in the study indicated they are General Practitioners (cf. 5.3.2) practising in private practices, thus considering their time away from their practices should be considered important. Although most physicians indicated availability of alternative facilities when they are not available, the concern does exist that they may lose clients and thus income.

Internet facilities are not considered an issue if training opportunities via the computer is made available.

5.6.2.1 Age factor

The age factor should be considered when combining Maslow's Needs Hierarchy (cf. 2.5.3) and Levinson's Adulthood Stages (cf. 2.5.4). Although these needs should be considered on average with a normal developing career, each individual's needs or career development may differ. The GP learner's needs when combining these theories include the (i) early adulthood, where the basic medical degree is achieved and the focus for learning is to start and stabilize his career in order to meet his basic needs of survival and provision. In the (ii) middle adulthood the learner's needs would change to improving his status, and this usually includes a family with children in school which are factors influencing his usage of learning opportunities. In the (iii) late adulthood stages family provision is less of a factor, and the learner has probably achieved the highest level of his development. Course attendance is mainly to update his

knowledge, have interaction with peers and possibly even be involved in mentoring.

5.6.3 Current accumulation of CEU points

Only a small percentage indicated they have attended refresher courses at the Department of Family Medicine in the past 3 years (cf. 5.4). Even those who indicated they have attended courses at alternative universities or opportunities did not indicate frequent usage of courses. Thus, the participants probably made use of alternative short lecture opportunities or journal reading.

Factors stated by General Practitioners included largely the time away from practices and the difficulty to find locums (cf. 5.5). The Department of Family Medicine could develop a database of physicians who are available as locums to assist GPs who are interested in attending courses.

Furthermore, a few GPs indicated the length of the course to be too long, thus the Department of Family Medicine should consider shortening the course or to present short lectures on a more frequent basis, possibly after hours.

5.6.4 Adult Learning principles

From Knowles' Andragogy theory (cf. 2.5.6), the principles of Adult Learning largely influenced the forming of this discussion. The needs of General Practitioners were analysed, purpose and influences for learning were discussed, background and demographics were approached, the format they prefer and the GP's willingness and interest were portrayed by the GPs' indications of topics.

CPD education is firmly based in the Adult Learning theory.

5.7 SUMMARY OF CHAPTER

In this Chapter the important results from Chapter 4 were assessed and discussed.

General Practitioners prefer to attend refresher courses and short courses presented in lecture format. There is still very little interest in modern technological methods of teaching. Supervised practical sessions during these courses should be developed.

General Practitioners struggle to attend courses due to their responsibilities at their practices. Shorter refresher courses or short lecture opportunities should be considered to accommodate this issue.

This could also be concluded from the assumption that General Practitioners currently attend such short learning opportunities presented elsewhere. Very few GPs attended refresher courses presented by Department of Family Medicine, UFS, or even attended similar courses at other teaching institutions.

In the final Chapter, Chapter 6, the researcher will conclude the study and compile recommendations.

CHAPTER 6

CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

6.1 INTRODUCTION

In the previous chapter, the results from the study were interpreted in correlation with the objectives of the study. This chapter will form conclusions and attempt to answer the questions (cf. 1.3) which initiated the objectives of this study.The chapter will also reflect on the limitations of the project and present recommendations for programme adjustments and future research projects.

The conclusion of this project was reached by answering the objectives set by the researcher. A personal reflection regarding CPD usage and the presentation thereof is also included in this chapter.

6.2 CONCLUSIONS FROM THE STUDY

6.2.1 Overall goal of the study

The overall goal of the study was to find reasons and solutions for the lack of interest of General Practitioners for Refresher Courses as presented by the Department of Family Medicine, UFS, and to give recommendations to adapt the educational strategy of the Department regarding their CPD training opportunities. To achieve this goal, the researcher set an aim and objectives, which will be discussed below.

6.2.2 Aim of the study

The aim of the study was to determine the needs and preferences of General Practitioners regarding their Continuing Professional Development, in a Free

State Perspective. This was achieved by formulating objectives, completing a literature study and gathering data via a questionnaire.

6.2.3 Objectives of the study

Objective 1: Compiling a needs analysis for General Practitioners' training.

From the completed questionnaires, the results showed that General Practitioners still have a preference for Large and Small group lectures (cf. 5.2). There are a smaller number of physicians who tend towards CPD training via the computer in the early- and mid-adulthood groups, but there is very little preference for teleconferencing and other media. From the literature review it does seem to be a worldwide occurrence. Doctors still prefer topic experts presenting in a lecture format.

Objective 2: Identifying factors that influence training.

This objective addresses research question (ii) (cf. 1.3). A questionnaire was used to address this objective. The majority of the participants are GPs involved in practices, thus leaving their practices unattended is problematic (cf. 5.6.2). Internet availability is not an issue. Age is an important aspect to consider, as learners' perceived needs change as they move through adult phases.

Objective 3: Determine how General Practitioners currently accumulate their CEUs.

This objective addresses research question (iii) (cf. 1.3). A questionnaire was used to address this objective. Very few General Practitioners attended the courses during the past 3 years, and even fewer attended courses at other academic institutions (cf. 5.6.3). The questionnaire only asked which refresher courses physicians attended at which academic institutions, but did not ask which other format of training and gathering of CEU's the participants made use

of. Considering the low attendance of refresher courses, physicians probably make use of alternative, short learning activities provided by pharmaceutical companies or other media; for example, journal reading.

Objective 4: Establish why General Practitioners do not attend refresher courses presented by the Department of Family Medicine, UFS.

This objective addresses research question (iv) (cf. 1.3). A questionnaire was used to address this objective. The main reason for not attending courses is GP's unwillingness to leave their practises for a few days unattended (cf. 5.6.4), which also include the distance which they have to travel. The difficulty to locate locums is also a factor. Financial reasons and lack of interest do not seem to be major constraints. There were a few doctors who felt the courses were too long.

Objective 5: By using objectives (1 - 4) conceptualise and contextualise how the Department of Family Medicine need to reposition itself to meet the needs of physicians.

This objective addresses research question (v) (cf. 1.3). Combining the information from Objectives 1 to 4, the researcher conceptualized the manner in which the Department could change their approach (cf. 5.6). The Department of Family Medicine is advised to continue the current format of presenting courses, as it seems to be the preferred method, which includes courses being presented as lectures. Although a number of participants indicated the courses should remain as they are, a few doctors indicated the courses may be too long. Topics which should receive extra attention include Infective Diseases, Pulmonary, Cardiology, Dermatology, Family Health and Paediatrics. There is still enough interest in other fields to continue with the current format, although less emphasis could be on these topics to include more medical areas in a specific course. Practical sessions should be organized. Short lectures presented by specialists should be considered to accommodate doctors in rural areas.

6.3 RECOMMENDATIONS

The following recommendations were made from the study:

- Courses should continue to be presented in lecture format, although practical session should be added where applicable;

- CME on computer training should be looked at as an option, as there is an increased interest in this format, but the majority still prefer a lecture type of knowledge transfer;

- Main focus should be on courses related to Infective Diseases, Pulmonary, Cardiology, Dermatology, Family Health and Paediatrics;

- All topics should receive attention, but the fields with less interest could be combined;

- Courses should be advertised well in advance to improve attendance;

- The Department of Family Medicine should develop a database for locums to assist practitioners;

- Practice Management lectures should be presented more often;

- Consideration of more Basic Medical Sciences appropriate to the course topic should be made; and

- Regular evening presentations should be implemented, although Journal Discussions seems to be of little interest.

Further research recommendations:

- Social accountability should be addressed as part of the needs analysis;

- Actual knowledge transfer and improvement of practice after completion of a course should be evaluated;
- Format of content (CD/DVD vs hard copies) should be addressed;
- Type of practical session GPs are willing to partake in; and
- Develop a structure for possible CME on computer.

6.4 LIMITATIONS OF THE STUDY

The researcher recognizes the following limitations of the study:

Only 60 participants completed and returned questionnaires; thus, a very low completion rate. Furthermore, the distributions of age, only 6 rural physicians and place of practice from the sample show possible bias. Generalizing these results can thus not be done.

The study did not include social accountability as part of the study, and neither was actual knowledge transfer assessed. Future studies should include these facets of the needs analysis.

An unfortunate omission from the questionnaire was to identify which alternative CPD learning opportunities the participants used other than those presented at academic institutions.

A qualitative research project would have added more depth to the results, as physicians seem to be less willing to complete questionnaires.

6.5 CONTRIBUTIONS OF THE RESEARCH

The researcher is of the opinion that the study emphasized considering the needs and preferences of General Practitioners when planning for future course presentations.

These results will be reported to the Department of Family Medicine, UFS, in order to improve the learning opportunities as preferred by GPs. Recommendations will be addressed by the organizing committee and adjustments will be made.

The results and recommendations will be published and other academic institutions may find the information of value to adapt their courses and other learning opportunities.

6.6 CONCLUDING REMARKS

This study originated from the question, 'Why do General Practitioners not attend refresher courses?' In order to find the answer, a needs analysis was done to determine physicians' needs and preferences. A cross-sectional study was done to improve the validity and reliability of the study. Questionnaires were sent to 300 GPs and Family Physicians, asking relevant questions and giving opportunity for commenting. Unfortunately the response rate was very low.

Results included the topics and further training doctors need, as well as which format they prefer. Formal, lecture-style presentations is still the preferred method, although there is a slight increase in more technological formats of training.

The Refresher Course organizing committee of the Department of Family Medicine, UFS, will be informed of the results and findings may influence planned future learning opportunities.

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APPENDIX A

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Appendix E:

Questionnaire

Topic: The needs and preferences of General Practitioners regarding their Continuous Professional Development - A Free State Perspective

Researchers: PJ Botes, J Bezuidenhout, WJ Steinberg

For office use only 1-3

Personal Information

1. Date: ..../................../................. (4-9)

2. Age: .... (10-11)

3. Gender Female | Male (12)

4. Home Language (13-14)

....

5. Where did you complete your basic Medical Qualification? (15-16)

- UVS / UFS (17)
- UP
- Stellenbosch
- Medunsa
- Wits
- Natal
- Unitra
- UCT
- Other .... (18-19)

6. Which year did you complete your basic medical degree? (20-24)

....

7. Did you complete post graduate qualifications? (25)

Yes | No

Specify .... (26-27, 28-29)

8. Nature of your current employment

- Private Practice (30)
- Governmental Appointment
- Private Hospital
- Part-time appointment
- Currently unemployed
- Other .... (31-32)

9. Area of practice (33)

- Metropolitan
- City
- Small town
- Rural area

10. Do you have internet access? Yes | No (34)

11. Are there any facilities/medical personnel in your area when you are not available?

Yes | No (34)

Specify .... (35-36)

12. What 3 types of ailments do you see most often in your practice?

Ailment 1: .... (37-38)

Ailment 2: .... (39-40)

Ailment 3: .... (41-42)

Needs Assessment

There are many methods of keeping your medical knowledge up to date.

13. Please mark which methods you prefer (from Least to Most)

	Least			Most		
a) Refresher Courses	1	2	3	4		43
b) Journals	1	2	3	4		44
c) Journal discussions	1	2	3	4		45
d) Ward rounds	1	2	3	4		46
e) Short lectures	1	2	3	4		47
f) Teleconferences	1	2	3	4		48
g) Media (CD/DVD)	1	2	3	4		49
h) CME on computer	1	2	3	4		50
i) Post grad course	1	2	3	4		51
j) Small groups	1	2	3	4		52
k) Supervised in-service	1	2	3	4		53
l) Specialist visit	1	2	3	4		54
m) Pharmaceutical Representatives	1	2	3	4		55
n) Other?	1	2	3	4		56-57
						58

14. Please rate 10 medical topics in order of interest to you (from *1* to *10*, with *1* the topic of most interest)

	Topic		
	Orthopedics		59-60
	Dermatology		61-62
	Infective Diseases		63-64
	Cardiology		65-66
	Surgery		67-68
	Urology		69-70
	Obstetrics and Gynaecology		71-72
	Respiratory		73-74
	Ear, Nose and Throat		75-76
	Paediatrics		77-78
	Anaesthetics		79-80
	Family Health		1-2
	Sexology		3-4
	Practice Management		5-6
	Medico-Legal		7-8
	Trauma and Emergency Medicine		9-10
	Neurology		11-12
	Diagnostic Radiology		13-14
	Psychiatry		15-16
	Ophthalmology		17-18
	Other, please specify		19-20

15. Please rate the educational design you would probably select

	Would not			Most likely		
a) Large group lecture	1	2	3	4		21
b) Small group sessions	1	2	3	4		22
c) Practical sessions	1	2	3	4		23
d) Journal reading + test	1	2	3	4		24
e) Study/mini-sabbatical	1	2	3	4		25
f) Interactively on computer and internet	1	2	3	4		26

16. Any other comments regarding your Education Needs?

.... 27-28

.... 29-30

31-32

Department of Family Medicine

The Department of Family Medicine, University of the Free State, presents 3 refresher courses for general practitioners per year.

17.1 Have you attended a GP Refresher Course at the Department of Family Medicine, UFS, in the last 3 years?

Yes	No

33

17.2 Have you attended refresher courses presented by other Universities/Colleges in the last 3 years?

Yes	No

34

If yes, at which University/College?

.... 35-36
.... 37-38
.... 39-40
.... 41-42

17.3 What problems do you encounter which make attending refresher courses difficult?

	Option	Code
	Lack of finances/sponsors	43
	Can't afford time away from practice/hospital	44
	Difficult to find Locums	45
	Distance from practice/hospital and home	46
	Would prefer lectures after hours	47
	Lectures do not meet my needs	48
	Course too long	49
	Would prefer a different educational method	50
	Other, please specify	51-52

17.4 Please comment on how the Department of Family Medicine, UFS, could meet your continuing educational needs

.... 53-54
.... 55-56
.... 57-58
.... 59-60
.... 61-62
.... 63-64

Appendix F:

Vraelys

Titel: Die behoeftes en voorkeure van die Algemene praktisyns met betrekking tot hul Voortgesette Professionele Ontwikkeling - 'n Vrystaatse perspektief

Slegs vir kantoor gebruik

Navorsers: PJ Botes, J Bezuidenhout, WJ Steinberg

1-3

Persoonlike Inligting

1. Datum: ..../................../................. 4-9

2. Ouderdom: 10-11

3. Geslag | Vroulik | Manlik | 12

4. Huistaal 13-14

5. Waar het jy jou Mediese kwalifikasie voltooi? 15-16

- [ ] UV / UFS 17
- [ ] UP
- [ ] Stellenbosch
- [ ] Medunsa
- [ ] Wits
- [ ] Natal
- [ ] Unitra
- [ ] UCT
- [ ] Ander 18-19

6. In watter jaar het u u basiese mediese graad voltooi? 20-24

....

7. Het u enige na-graadse kwalifikasies voltooi? 25

| Ja | Nee |

Spesifiseer 26-27, 28-29

8. Aard van u huidige werkgewer

- [ ] Privaat Praktyk 30
- [ ] Staats aanstelling
- [ ] Privaat Hospitaal
- [ ] Deeltydse aanstelling
- [ ] Tans werkloos
- [ ] Ander 31-32

9. Area van u praktyk 33

- [ ] Metropool
- [ ] Stedelik
- [ ] Dorp
- [ ] Landelike gebied

10. Het u internet toegang? | Ja | Nee | 34

11. Is daar enige fasiliteite/mediese personeel in u omgewing wanneer u nie beskikbaar is nie?

| Ja | Nee | 34

Spesifiseer 35-36

12. Watter 3 kwale sien u die meeste in u praktyk?

Kwaal 1: 37-38

Kwaal 2: 39-40

Kwaal 3: 41-42

Behoeftebepaling

Slegs vir kantoor gebruik

Daar is talle metods om uself op datum te hou met mediese kennis.

13. Merk asseblief watter metodes u verkies (van Minste tot Meeste)

	Minste			Meeste	
a) Opknappingskursus	1	2	3	4	43
b) Joernale	1	2	3	4	44
c) Joernaal besprekings	1	2	3	4	45
d) Saalrondtes	1	2	3	4	46
e) Kort Lesings	1	2	3	4	47
f) Telekonferensies	1	2	3	4	48
g) Media (CD/DVD)	1	2	3	4	49
h) VPO op rekenaar	1	2	3	4	50
i) Nagraadse kursus	1	2	3	4	51
j) Klein groep	1	2	3	4	52
k) Onder toesig in-diens	1	2	3	4	53
l) Spesialiseerde besoek	1	2	3	4	54
m) Farmaseutiese Verteenwoordigers	1	2	3	4	55
n) Ander?	1	2	3	4	56-57
					58

14. Rangskik 10 mediese onderwerpe in volgorde van u belangstelling (van *1* tot *10* , met *1* die onderwerp van die meeste belang)

	Ortopedie	59-60
	Dermatologie	61-62
	Infektiewe siektes	63-64
	Kardiologie	65-66
	Chirurgie	67-68
	Urologie	69-70
	Obstetrie en Ginekologie	71-72
	Respiratories	73-74
	Oor, Nees en Keel	75-76
	Pediatrie	77-78
	Narkose	79-80
	Gesinsgesondheid	1-2
	Seksologie	3-4
	Praktykvoering	5-6
	Medies-wetlik	7-8
	Trauma en noodsorg	9-10
	Neurologie	11-12
	Diagnostiese Radiologie	13-14
	Psigiatrie	15-16
	Oogheelkunde	17-18
	Ander, spesifiseer	19-20

15. Watter tipe onderrig metode sou u verkies

	Glad nie			Voorkeur	
a) Groot groep lesing	1	2	3	4	21
b) Klein groep sessie	1	2	3	4	22
c) Praktiese sessie	1	2	3	4	23
d) Joernaal lees + toets	1	2	3	4	24
e) Studie/mini-sabbats	1	2	3	4	25
f) Interaktief op rekenaar of internet	1	2	3	4	26

16. Enige ander opmerkings aangaande u Onderrig Benodighede?

.... 27-28

.... 29-30

31-32

DEPARTEMENT HUISARTSKUNDE

Slegs vir kantoor gebruik

Die Departement Huisartskunde, Universiteit van die Vrystaat, bied 3 opknappingskursusse per jaar aan.

17.1 Het u 'n algemene praktisyn Opknappingskursus by Departement Huisartskunde, UV, in die laaste 3 jaar bygewoon?

Ja	Nee

33

17.2 Het u opknappingskursusse wat aangebied is by ander Universiteite/Kolleges in die laaste 3 jaar bygewoon?

Ja	Nee

34

Indien Ja, by watter Universiteit/Kollege?

....
....
....
....

35-36
37-38
39-40
41-42

17.3 Watter probleme maak dit moeilik om gereeld 'n opknappingskursus by te woon?

☐ Gebrek aan finansies / borge		43
☐ Kan nie tyd weg van praktyk/hospitaal bekostig		44
☐ Moeilik om Locums op te spoor		45
☐ Afstand weg van praktyk/hospitaal en Huis		46
☐ Sal lesings na-ure verkies		47
☐ Lesings voldoen nie aan my benodigdhede		48
☐ Kursus te lank		49
☐ Sal 'n ander onderrigmetode verkies		50
☐ Ander, spesifiseer	....	51-52

17.4 Lewer asseblief kommentaar oor hoe Departement Huisartskunde, UV, aan u onderrig behoeftes kan voldoen.

....
....
....
....
....
....

53-54
55-56
57-58
59-60
61-62
63-64

APPENDIX B

1) Randomization list of chosen practitioners

(Numbers provided by Biostatistician)

DEPARTMENT OF BIOSTATISTICS

Random Generated Numbers

Researcher: PJ Botes

Project: THE NEEDS AND PREFERENCES OF GENERAL PRACTITIONERS REGARDING THEIR CONTINUOUS PROFESSIONAL DEVELOPMENT: A FREE STATE PERSPECTIVE

8	142	289	413	557	668	790	906
9	146	292	417	560	673	791	915
13	147	294	418	562	685	793	916
16	156	301	427	564	689	800	918
20	157	302	429	567	690	803	919
22	158	309	431	569	692	805	921
28	167	311	433	573	693	810	938
32	168	312	436	581	696	812	941
33	169	313	445	583	698	815	947
35	174	317	460	584	702	824	949
38	177	319	461	588	703	825	950
40	178	321	463	591	708	826	960
55	187	324	470	593	709	831	961
56	188	331	471	596	711	836	963
60	198	332	472	597	714	838	977
64	201	336	476	600	715	841	979
65	203	339	477	603	734	845	980
69	212	341	480	605	735	846	981
77	224	345	483	611	736	850	983
82	225	346	485	613	737	851	987
84	226	348	486	616	740	852	988
85	227	349	488	618	743	853	990
88	233	353	495	622	744	856	993
89	240	354	496	630	745	858	1001
94	241	356	499	633	748	859	1003
100	248	358	500	638	751	860	1009
103	250	369	510	641	752	863	1012
107	258	376	511	642	753	868	1013
109	259	379	513	643	754	871	1015
111	266	382	514	646	756	878	1016
114	271	393	516	648	757	883	1024
115	272	398	522	651	759	885	1027
117	274	402	527	653	760	886	1028
118	276	403	535	655	768	887	1039
126	279	405	536	661	780	889	
130	282	406	547	662	785	893	
134	286	407	553	664	788	895	
141	288	412	556	666	789	899	

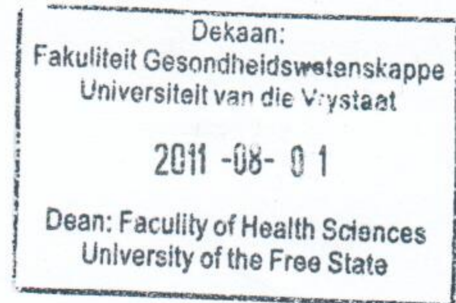
APPENDIX C

1) Approval letter from Ethics Committee, Faculty of Health Sciences, UFS

2) Approval letter from Dean: Faculty of Health Sciences, UFS

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

UFS·UV
HEALTH SCIENCES
GESONDHEIDSWETENSKAPPE



26th of July 2011

Prof GJ van Zyl

Dean: Faculty of Health Sciences

UFS

APPLICATION FOR PERMISSION TO CONTINUE WITH A RESEARCH PROJECT

Dear Prof. Van Zyl

I hereby apply to continue with the Research Project as approved by the Ethics Committee (Faculty of Health Sciences) on 115/2011......Etovs nr

Project title: The needs and preferences of General Practitioners regarding their Continuous Professional Development: A Free State Perspective

The purpose of the study is to identify the needs and preferences of Free State General Practitioners regarding their Continuous Professional Development (CPD). Department of Family Medicine presents 3 refresher courses per year, but only a small number of GPs from the Free State attend these sessions. We wish to determine how they gather their required CEU points and how the Department of Family Medicine could improve to deliver a more accessible service to the physicians in the Free State.

Three hundred randomly chosen physicians will receive questionnaires to complete. This is a cross-sectional study with a questionnaire consisting of Likert-scale questions.

Yours faithfully

Mr Johan Botes

Department of Family Medicine

Permission granted
Prof GJ v Zyl
Dean
1/8/11

Department of Family Medicine
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UNIVERSITY OF THE FREE STATE
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YUNIVESITHI YA FREISTATA

UNIVERSITEIT VAN DIE VRYSTAAT
UNIVERSITY OF THE FREE STATE
YUNIVESITHI YA FREISTATA

Direkteur: Fakulteitsadministrasie / Director: Faculty Administration
Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences

Research Division
Internal Post Box G40
☎(051) 4052812
Fax (051) 4444359

E-mail address: StraussHS@ufs.ac.za

Ms H Strauss

2011-08-22

REC Reference nr 230408-011
IRB nr 00006352

MR PJ BOTES
DEPT OF FAMILY MEDICINE
CR DE WET BUILDING
UFS

Dear Mr Botes

ECUFS NR 115/2011
PROJECT TITLE: THE NEEDS AND PREFERENCES OF GENERAL PRACTITIONERS REGARDING THEIR CONTINUOUS PROFESSIONAL DEVELOPMENT: A FREE STATE PERSPECTIVE.

- You are hereby kindly informed that the Ethics Committee approved the above project at the meeting held on 16 August 2011.

- Committee guidance documents: Declaration of Helsinki, ICH, GCP and MRC Guidelines on Bio Medical Research. Clinical Trial Guidelines 2000 Department of Health RSA; Ethics in Health Research: Principles Structure and Processes Department of Health RSA 2004; Guidelines for Good Practice in the Conduct of Clinical Trials with Human Participants in South Africa, Second Edition (2006); the Constitution of the Ethics Committee of the Faculty of Health Sciences and the Guidelines of the SA Medicines Control Council as well as Laws and Regulations with regard to the Control of Medicines.

- Any amendment, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

- The Committee must be informed of any serious adverse event and/or termination of the study.

- A progress report should be submitted within one year of approval of long term studies and a final report at completion of both short term and long term studies.

- Kindly refer to the ECUFS reference number in correspondence to the Ethics Committee secretariat.

Yours faithfully

....
CHAIR: ETHICS COMMITTEE

Cc Dr J Bezuidenhout

APPENDIX D

1) English Information Letter
2) Afrikaanse Inligtingsbrief
3) English Informed Consent Letter
4) Afrikaanse Ingeligte Toestemmingsbrief

Project title: The needs and preferences of General Practitioners regarding their Continuous Professional Development: a Free State Perspective

Researcher: Mr J Botes, Department of Family Medicine, UFS

Co-Researchers: Dr J Bezuidenhout, Prof WJ Steinberg

Information Letter

Dear participant

The Department of Family Medicine, UFS, is doing research to determine the current needs and preferences of Free State General Practitioners regarding their Continuing Medical Education.

The study is done as partial fulfilment for Mr J Botes' Masters in Health Practitioners Education.

Research is just the process to learn the answer to a question. In this study we want to learn how General Practitioners keep themselves up-to-date with new medical knowledge and how we as Department could improve in delivering a more accessible service to the physicians in our province.

We are asking/inviting you to participate in a research study by completing the questionnaire.

A cross-sectional study design will be used, which means a simple questionnaire, but also include a few qualitative-type open ended questions.

The questionnaire may be filled in and:

- posted back via the pre-stamped brown envelope included with the questionnaire;
- faxed to *(051) 401 3312*, Department Family Medicine;

or fill in the questionnaire:

- via e-mail. If you haven't received the questionnaire via e-mail, please contact Mr Botes at botesj@ufs.ac.za;
- via an online questionnaire at http://www.surveymonkey.com/s/NL25PNS

The research will hold no risks for you as individual. You may keep this information letter as well as a copy of the questionnaire.

Participation is voluntary, and you may withdraw from participation at any stage without penalty or loss of any benefits.

Confidentiality: All information will be handled confidentially. Results may be published, but no personal identifiable information will be included in the final report.

For further information/reporting of study-related adverse events you are free to contact Mr J Botes at 051 401 3313 or botesj@ufs.ac.za . Contact details of the Secretariat and Chair: Ethics Committee of the Faculty of Health Sciences, University of the Free State for reporting of complaints/problems are (051) 4052812.

____

Mr J Botes
Researcher
Department of Family Medicine, UFS

Projek Titel: Die behoeftes en voorkeure van die Algemene Praktisyns met betrekking tot hul Voortgesette Professionele Ontwikkeling: 'n Vrystaatse perspektief

Navorser: Mnr J Botes, die Departement Huisartskunde, UV

Mede-navorsers: Dr J Bezuidenhout, Prof WJ Steinberg

Inligtingsbrief

Geagte deelnemer

Die Departement Huisartskunde, UV, is besig om navorsing te doen om die huidige behoeftes en voorkeure van die Vrystaat Algemene praktisyns met betrekking tot hul voortgesette mediese onderwys te bepaal.

Die studie word gedoen as gedeeltelike vervulling vir Mnr J Botes se Meestersgraad in Gesondheids Praktisyns Onderwys.

Navorsing is net die proses om die antwoord te soek op 'n vraag. In hierdie studie wil ons leer hoe Algemene Praktisyns hulself op datum hou met nuwe mediese kennis en hoe ons as Departement kan verbeter in die lewering van 'n meer toeganklike diens aan die dokters in ons provinsie.

Ons vra / nooi u om deel te neem aan die navorsingstudie deur die vraelys te voltooi.

'n Deursnee-studie ontwerp sal gebruik word, wat beteken die invul van 'n eenvoudige vraelys, maar sluit ook 'n paar kwalitatiewe-tipe oop vrae in.

Die vraelys wat ingevul word, kan:

- terug gepos word deur middel van die vooruit-gestempelde bruin koevert wat met die vraelys ingesluit is;
- gefaks word na *(051) 401 3312*, Departement Huisartskunde;

of vul die vraelys in:

- deur middel van 'n e-pos. As jy nog nie die vraelys per e-pos ontvang, kontak Mnr Botes by botesj@ufs.ac.za;
- deur middel van 'n aanlyn vraelys by http://www.surveymonkey.com/s/NL25PNS

Die navorsing hou geen risikos vir jou as individu in nie. U kan hierdie inligtingsbrief hou, asook 'n afskrif van die vraelys.

Deelname is vrywillig en u kan ter enige tyd weier om deel te neem sonder benadeling van enige regte.

Vertroulikheid: Alle inligting sal vertroulik hanteer word. Resultate mag publiseer word, maar geen persoonlike identifiseerbare inligting sal ingesluit word in die finale verslag nie.

Vir verdere inligting / verslaggewing van studie-verwante newe-effekte is jy vry om Mnr J Botes te kontak by 051 401 3313 of botesj@ufs.ac.za. Kontak besonderhede van die Sekretariaat en Voorsitter: Etiekkomitee van die Fakulteit Gesondheidswetenskappe, Universiteit van die Vrystaat, vir die rapportering van klagtes / probleme is (051) 4052812.

____

Mnr J Botes
Navorser
Departement Huisartskunde, UV

CONSENT TO PARTICIPATE IN RESEARCH

Project title: The needs and preferences of General Practitioners regarding their Continuous Professional Development: a Free State Perspective

You have been asked to participate in a research study.

You have been informed about the study by the researcher, Mr. J. Botes.

You may contact Mr. J. Botes at (051) 401 3313 at any time if you have questions about the research.

You may contact the Secretariat of the Ethics Committee of the Faculty of Health Sciences, UFS at telephone number (051) 4052812 if you have questions about your rights as a research subject.

Your participation in this research is voluntary, and you will not be penalized or lose benefits of any type if you refuse to participate or decide to terminate participation.

If you agree to participate, you may keep a copy of this document, the participant information sheet, as well as a copy of the questionnaire.

Information will be kept confidential. No identifiable personal information will be used in any reports or possible publications.

I understand what is expected of me in this research study. I have read the information letter and the above information. I understand what my involvement in the study means and I voluntarily agree to participate.

_________________________	_____________________
Signature of Participant	Date

TOESTEMMING VIR DEELNAME AAN NAVORSING

Projek Titel: Die behoeftes en voorkeure van Algemene Praktisyns met betrekking tot hul Voortgesette Professionele Ontwikkeling: 'n Vrystaatse Perspektief

U is gevra om deel te neem aan 'n navorsingstudie.

U is ingelig oor die studie deur die navorser, Mr J. Botes.

U kan Mnr J. Botes enige tyd kontak by (051) 401 3313 as u vrae het oor die navorsing.

U kan die Sekretariaat van die Etiekkomitee van die Fakulteit Gesondheidswetenskappe, UV by telefoonnommer (051) 4052812 kontak, indien u vrae het oor u regte as 'n deelnemer.

U deelname aan hierdie navorsingsprojek is vrywillig en u sal nie gepenaliseer word of voordele verloor van enige aard as u weier om deel te neem of besluit om deelname te beëindig nie.

As jy saamstem om deel te neem, kan u 'n afskrif van hierdie dokument, die deelnemer inligtingsblad, asook ‘n afskrif van die vraelys hou.

Inligting sal vertroulik gehou word. Geen identifiseerbare persoonlike inligting sal gebruik word in enige verslae of moontlike publikasies nie.

Ek verstaan wat van my verwag word in hierdie navorsingstudie. Ek het die brief en die bogenoemde inligting gelees. Ek verstaan wat my betrokkenheid in die studie beteken en ek stem vrywillig in om deel te neem.

________________________ ____________________

Handtekening van deelnemer Datum

APPENDIX E

1) Letter from Language Editor

18 June 2013

Luna Bergh

55 Jim Fouché Avenue

Universitas, Bloemfontein

To whom it may concern

This is to certify that I language-edited Chapters 1 – 3 of Johan Botes's dissertation manually. He effected the changes himself. In this way both linguistic excellence and the candidate's ownership of his text were ensured.

In addition, I language-edited Chapters 4 – 6 of his dissertation electronically.

Sincerely

Luna Bergh

Language and writing specialist