THE DEVELOPMENT OF A SOUTH AFRICAN MEDICAL PRACTITIONER OUTCOME QUESTIONNAIRE

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ABSTRACT

There is much room for improvement within the South African healthcare system. As recognised by many middle-income countries, a key point of leverage is the utilisation of primary care staff. However, key stakeholders have recognised a gap between the skills of healthcare professionals and the needs of the general population. Therefore, efforts such as increasing frontline staff or spending more on hospital resources alone will not lead to improved primary care outcomes. The argument is made in this study that training institutions and primary care units would benefit from an accurate and comprehensive medical practitioner competency model as it would allow training and management efforts to be better suited for the South African context and be clearly aligned with the needs of the general population.

The study aimed to develop a theoretical model of medical practitioner performance with emphasis on non-clinical performance. The objectives of this study were twofold. Firstly, the outcomes and competencies of optimal performance of medical practitioners who act as the first point of contact in primary healthcare facilities were defined. Secondly, a South African Medical practitioner outcome questionnaire to measure these outcomes was developed.

This study applied a Delphi technique (n=4) as well as content validity rating (n=24) to adequately conceptualise the outcomes, obtain consensus among experts, and develop items for the questionnaire. Various interprofessional subject matter experts participated in the study.

The study resulted in a South African medical practitioner outcome questionnaire (SAMPOQ) which consists of a self-rating, patient-rating and other-rating form. It concluded with a proposed medical practitioner competency model. It is recommended that future researchers test the SAMPOQ on a representative sample to statistically evaluate its psychometric properties and evaluate the questionnaire.

OPSOMMING

Daar is baie ruimte vir verbetering in die Suid-Afrikaanse gesondheidsorg sisteem. Vele middel inkomste lande het al erken dat primêre sorg personeel as 'n hefboom van verandering benut kan word. Tog kon belanghebbendes 'n gaping identifiseer tussen die vaardighede van gesondheidswerkers en die behoeftes van die algehele populasie. Daarom sal inisiatiewe soos die vermeerdering van personeel of hospitaal begrotings nie alleen lei tot verbeterde primêre sorg uitkomstes nie. Hierdie studie argumenteer dat opleidingsinstansies en primêre sorg eenhede baat sou vind by 'n akkurate, deeglike mediese praktisyns bevoegdheidsmodel, aangesien dit ruimte skep vir beter opleiding en bestuurspogings in die Suid-Afrikaanse konteks. Hierdie bevoegdheidsmodel het ook die potensiaal om die vaardighede van mediese praktisyne in lyn te bring met die gesondheidsorg behoeftes van die publiek.

Die doel van hierdie studie was om 'n teoretiese model vir mediese praktisyns prestasie te ontwikkel, met spesiale fokus op nie-kliniese prestasie. Die doelwit van die studie was twee-ledig. Eerstens was die uitkomstes en prestasie bevoegdhede gedefinieer vir mediese praktisyne wat as die eerste kontakpunt in primêre gesondheidsorgfasiliteite optree. Tweedens was 'n metingsinstrument (die *South African Medical Practitioner Outcome Questionnaire*) ontwikkel om hierdie uitkomstes te meet.

Hierdie studie het gebruik gemaak van 'n Delphi-tegniek tesame met 'n inhoud geldigheid beoordeling om die bevoegdhede voldoende te konseptualiseer, konsensus te bereik tussen kenners, en om die items vir die vraelys te ontwikkel. Verskeie interprofessionele vakkundiges het aan die studie deelgeneem.

Dit het gelei tot die ontwikkeling van die *South African Medical Practitioner Outcome Questionnaire (SAMPOQ)*, wat bestaan uit 'n Self-gradering, Pasiënt-gradering en Ander-graderingsvorm. Die studie word afgesluit met 'n voorgestelde mediese praktisyns bevoegtheidsmodel. Dit word voorgestel dat toekomstige navorsers die skaal statistiese evalueer op 'n verteenwoordigende populasiegroep.

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This research signifies the end of my academic journey for now. I have been shaped as a researcher and future Industrial Psychologist. I was pushed at times to think laterally, rigidly, linearly and outside the box. I believe this will enable me to grow and be the best I can be by adapting my thinking to every possible situation. This was truly a once in a lifetime opportunity, and I am thankful to everyone who has been involved in my life.

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TABLE OF CONTENTS

LIST OF TABLES

List of Figures

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND OF SOUTH AFRICAN HEALTHCARE

The history of South African healthcare is burdened by the unequal distribution of healthcare and wide-spread diseases. While healthcare is currently available to all demographic groups of the population, some issues remain unresolved as South Africa has poorer health outcomes than many middle- and lower income countries (Coovadia, Jewkes, Barron, Sanders & McIntyre, 2009). According to the World Competitiveness Report, South Africa was ranked 121th out of 137 countries based on health and primary education (basic requirements pillar) in 2018. Diseases such as tuberculosis (TB) (132nd) and human immunodeficiency virus / acquired immunodeficiency syndrome (HIV/AIDS) (128th) significantly influence business in South Africa. Poor health is also reflected in life expectancy (129th), HIV prevalence in the adult population (134th), and infant mortality (105th) (Schwab, 2018).

In an effort to improve health outcomes, the Department of Health compiled a comprehensive plan to strengthen the healthcare system (National Planning Commission, 2013). The 2030 plan includes action steps to improve communication technology, infrastructure, financial management systems and the human resources (HR) function of healthcare. The HR function, in particular, is a fundamental component of any organisation and can be used as a key source of competitive advantage.

In utilising the HR function, organisations need to understand the complexities of human behaviour and the contextual workplace factors. Additionally, a comprehensive HR strategy needs to be formulated and implemented. The Department of Health recognises these elements as it views itself as an organisation with approximately 30 000 staff members that serve millions of patients annually within a stressful, busy and resource-constrained environment (National Planning Commission, 2013). In describing its HR strategy, the Department of Health expresses the need to "strengthen relationships, build trust and confidence and meaningful and effective communication in all directions between clinical staff and patients, between members of the multi-disciplinary teams, between staff at different institutions, between

management and clinical staff, between line function and support service staff and between the Department of Health and the strategic partners and stakeholders" (Western Cape Government, p.80, 2014).

Various interventions have flowed from the 2030 strategy, for example, the increase of skilled labour, the training of primary care staff, and the adaptation of training curricula to better suit the needs of the population. Other middle-income countries have relied on similar interventions (Burch & Reid, 2011; Pasio, Mash & Naledi, 2014; Reid & Cakwe, 2011). Important to note is that these interventions are not without challenges and shortcomings.

In an attempt to increase the supply of skilled labour, the South African Government implemented a one-year programme of mandatory community service for graduates (Burch & Reid, 2011). Although staff supply has increased, students are not subjected to formal evaluations or assessments to ensure competence in rural healthcare (Reid & Cakwe, 2011). Moreover, little evidence has emerged to prove its efficiency and effectiveness (Reid & Cakwe, 2011). In response, researchers have asked whether undergraduate health and medical curricula are "contributing to the transformation of South African society, or are they essentially reproductive?" and whether "the guidelines and accreditation processes by the professional bodies for health sciences curricula are still appropriate to our current and future context?" (Reid & Cakwe, 2011, p. 37-38).

Pasio, Mash and Naledi (2014) have recognised a similar challenge in the primary healthcare system as the placement of specialists in the frontline cannot always be achieved. Generalists in Africa need to work alongside traditional healthcare systems that are faced with challenges such as limited resources and not having the option to refer patients to other levels of care appropriately. As such, hospitals often have to rely on nurse practitioners, clinical officers and healthcare workers. General practitioners (GP)[1] are also expected to have an extended skill set, for example, skills related to obstetrics and anaesthetics (Pasio, Mash & Naledi, 2014). In response,

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[1] The term GP, Medical Practitioner, or Family Physician is used when the study under discussion specifically referred to one of the terms, and is therefore not used interchangeably unless stated otherwise.

Pasio, Mash and Naledi (2014) have argued for the need for a contextualised model of the role and contribution of GPs within primary care.

Such efforts to better define the role requirements of GPs have taken place in recent years. Firstly, a project team from the Division of Family Medicine and Primary Care at Stellenbosch University created a new national diploma in family medicine. The programme is specifically targeted towards GPs, and the purpose is to better equip GPs for the healthcare needs of the South African population. As part of the design process, the team held meetings with key stakeholders to define the training needs, future roles and competencies of the primary care doctor (Mash, Malan, Von Pressentin, & Blitz, 2016).

Secondly, Tygerberg hospital in conjunction with the Stellenbosch University's Medical and Health Science Faculty established standards of medical graduates. The standards were adapted from a framework used by The Royal College of Practitioners and Surgeons of Canada – an institution that oversees postgraduate medical education (Royal College, 2014).

Both of the efforts as mentioned above serve educational purposes. The latter concerns graduate attributes, and the former is focussed on the broad-based roles of primary care doctors with the purpose of creating a postgraduate diploma in family medicine.

As part of the latter initiative, Tygerberg medical campus collaborated with the Department of Industrial Psychology at Stellenbosch University to assist in identifying and defining the competencies of the framework for graduate medical students. In parallel to this, the Department started conducting extensive research on Honours and Masters level to construct a comprehensive medical practitioner competency model which would primarily serve managerial purposes (Fourie, 2016; Hattingh, 2018). This study, in particular, will form part of this initiative.

1.2 RATIONALE OF STUDY

A competency model can add value by explicitly defining the results or outcomes of performance and structurally aligning all of the key competencies with these outcomes. This could ensure the relevance and importance of all behaviours and

illustrate how different behaviours lead to important outcomes such as *patient satisfaction* and improved *health status*. Moreover, it includes intrinsic person characteristics or competency potential that enable optimal performance.

A competency model is used as a benchmark of performance and can be developed in a manner that serves the overarching strategy of the organisation. A carefully developed competency model can, therefore, ensure quality patient care, which is a top-level priority of the Department of Health (National Planning Commission, 2013).

The healthcare sector could, therefore, benefit from a competency model that describes superior performance of key role players in the primary care system. Key role players in this instance refer to nurses, occupational therapists, physiotherapists, family physicians, as well as GPs, who can also be referred to as interns or medical officers depending on their experience and job role. A competency model can enable the measurement, diagnosis and management of individual performance in a targeted and cost-effective manner. This could ensure that performance is up to standard and well aligned with the needs and context of the South African population.

This study will specifically address the role of the South African medical practitioner (MP)[2] which, for the purposes of this study, refers to any general medical practitioner or family physician who works in an interprofessional healthcare team. The MP acts as the first point of contact in a public or private healthcare facility. This, however, excludes other specialists and medical practitioners with independent private practices.

From both educational and organisational perspectives, there is a need locally and internationally for a medical practitioner competency model (Patterson, 2000). Currently, there is no known medical practitioner competency model. Amado and Dyson (2008) have studied several frameworks designed to compare primary health care performance and found that "…although they can be used to compare primary care providers… they do not include information regarding outcomes achievement, the success in making an impact on the health of the patients – the ultimate aim of primary care" (Amado & Dyson, 2008, p. 917). This notion suggests that the identification of performance outcomes is a critical component of developing a

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[2] For the remainder of this document, the term MP will refer to GPs and Family Physicians in primary care, unless a study is discussed that exclusively focused on either GPs or Family Physicians.

competency model. Moreover, the identification of outcomes is often used as the starting point or basis of developing a competency model (Bartram, 2006).

Internationally, it has been a common finding that performance outcomes, especially ones that are results of non-clinical or socio-psychological competencies, are difficult to define (Amado & Dyson, 2008). The prominent reason why such outcomes are hard to define lies in its interpersonal nature. Unlike the successful execusion of a clinical procedure (technical skill) where the outcome is recognised in the health or recovery of the patient, the outcomes of good collaboration and patient interaction largely depend on the unobservable experience and perception of the patient or co-worker (Mead & Bower, 2002).

Despite the challenge of determining outcomes of non-clinical performance it remains essential to do so. It was found that socially anchored competencies such as communication and leadership significantly influence the quality of patient care (Mead, Bower & Hann, 2002). Many of these potentially valuable competencies, however, remain ill-defined, unassessed and unevaluated. Moreover, the value of having identified outcomes lies in its various uses. Outcomes are necessary for a wide range of Human Resource Management (HRM) activities, especially when composing job descriptions, determining training needs, planning training programs, and measuring individual performance.

1.3 OBJECTIVE OF THE STUDY

The purpose of this research is to contribute to the development of a comprehensive medical practitioner competency model relevant to the South African context. This study will primarily focus on the performance outcomes that form part of this competency model. The overarching research question therefore is *what are the performance outcomes that explain MP performance?* Consequently, the objectives are as follows. Firstly, latent outcome and competency variables are identified through a literature review where the theoretical and empirical linkages between these variables are also discussed. Secondly, the outcomes and their definitions are established with subject matter experts through a Delphi technique. Thirdly, a medical practitioner outcome questionnaire is developed and refined through content validity

ratings. Lastly, all competencies and outcomes are presented in the form of a partial South African medical practitioner competency model.

This research could contribute to bodies of research, educational institutions and the management of medical staff through the identification of performance outcomes and competencies of South African medical practitioners.

1.4 STRUCTURE OF RESEARCH

Chapter 2 discusses the performance construct of medical practitioners. Multiple stakeholders and general population needs are considered in identifying the relevant outcomes and competencies.

Chapter 3 outlines the methods used to confirm the conceptualisation of outcomes and report on the content validity of items.

Chapter 4 presents a discussion of all findings pertaining to the final list of outcomes and proposed South African medical practitioner outcome questionnaire.

Chapter 5 summarises the findings, lists limitations, draws conclusions, and makes recommendations for future research.

CHAPTER 2: A REVIEW OF THE SOUTH AFRICAN MEDICAL PRACTITIONER PERFORMANCE CONSTRUCT

2.1 INTRODUCTION

Chapter 1 argued towards the need for a medical practitioner competency model. The building blocks of a competency model include situational variables, person characteristics, competencies, and performance outcomes. This literature review will focus in-depth on competencies and outcomes, and will briefly discuss situational variables and person characteristics.

The objective is not to merely list all known outcomes and behaviours but to clearly distinguish between outcomes and behaviours as distinct constructs and to do so in accordance with the principles of competency modelling and job performance theory.

With a better understanding of competency modelling and the performance construct, existing professional standards, educational standards, and research can be reviewed to compile a theoretical competency model.

When exploring the outcomes and competencies of performance, the needs of multiple stakeholders such as governing bodies and training institutions, patients, families of patients, communities, and colleagues will be considered. Moreover, it is essential that the outcomes and competencies be primarily attributable to individual performance and not team or organisational level performance. In summary, the outcomes and competencies should collectively indicate the extent to which the individual successfully performs his/her job.

2.2 COMPETENCY MODELLING

The primary purpose of this section is to distinguish between core dimensions that make up a competency model and describe the nature of these dimensions. A competency model consists of four distinct dimensions namely, person characteristics (also known as competency potential), competencies, situational variables and outcomes.

Person characteristics form part of the potential required by the individual to display the relevant competencies. They are attributes or individual dispositions and

attainments that enable competence. Person characteristics are intrinsic in nature and stable across time whereas competencies represent observable behaviours. Examples include personality traits, values, and aptitudes. These constructs are typically measured to make selection decisions.

Competencies are "sets of behaviours that are instrumental in the delivery of desired results" (Bartram, Roberton & Callinan, 2002, p. 3). Theron (2015, p. 9) describes competencies as "abstract representations of bundles of related observable behaviour, driven by a nomological network of constructs [competency potential], which… would constitute high job performance and would lead to job success defined in terms of output/the objectives for which the job exists." If one can master the required competencies, one would be referred to as being *competent*. Examples of competencies include *communication*, *leadership*, and *teamwork*. Competencies can be measured during assessment centres for selection and development. They can also be assessed as part of a performance appraisal.

Outcomes are the consequences or results of successfully performed competencies. Outcomes together with competencies ought to collectively define successful performance and be closely aligned with the bottom-line of an organisation (Bartram, Roberton & Callinan, 2002). Typical examples include customer or client *satisfaction*, *quality*, and *quantity* of output. Outcomes together with competencies can be assessed when conducting a performance appraisal. Management could use this information when developing and rewarding employees, and to implement continuous improvement.

Situational variables or contextual factors typically have a mediating or moderating effect on the relationships between the variables mentioned above. Situational variables can inhibit or promote performance and one's standing on a certain latent variable (Bartram, 2006). With the intended competency model, for instance, high *patient diversity*, and a lack of *resources* could be a significant situational variable. It could require a MP to be more flexible in his/her practice due to fewer resources and could demand strong communication skills and a keen understanding of the patient's broader context.

Competency models are structurally displayed (Bartram, 2006; Mischel, 2004). Person characteristics (competency potential) typically influence competencies, and

competencies typically influence outcomes; however, feedback loops between outcomes and competencies and person characteristics can also occur.

The starting point of developing a competency model should preferably lie in the desired outcomes of a job. The researcher can then determine which competencies are required to achieve these outcomes. Based on the competencies, the relevant person characteristics are defined. This approach ensures that all the identified competencies and person characteristics have a significant purpose and meaning.

Competency models are more than lists of tasks that form part of a job description. A competency model carries the potential of predicting successful performance as it is typically based on the attributes and behaviours of top performers, not minimum job requirements. Moreover, competency models are developed in the context of the organisational strategy. This principle is illustrated by the essential components and structure of a competency model illustrated in Figure 2.1 (Saville & Holdsworth, 2000, p.7-8). It is assumed that the job exists to serve the bottom-line. The desired outcomes of a job should, therefore, be directly determined by the strategy of the organisation. Competency models can, therefore, be developed with the purpose of achieving the bottom-line and facilitating strategic alignment throughout the organisation. Figure 2.1 illustrates how the organisational strategy influences both outcomes and competency requirements, which refer to the formal skill requirements of the job for example experience, qualification and regulatory examination.
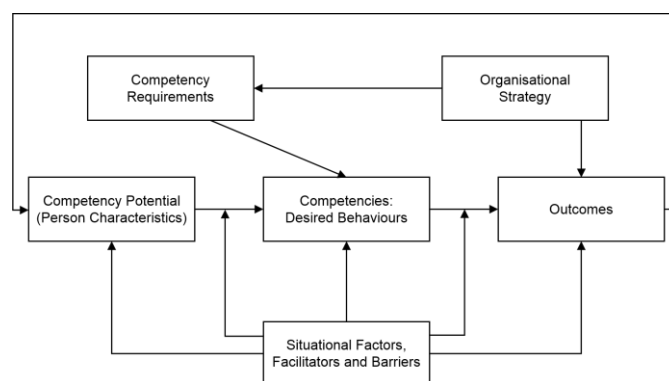
Figure 2.1 Essential components and structure of a competency model. Reprinted from "Competency design: Towards an integrated human resource management system", by Saville & Holdsworth, 2000, *p. 7. SHL Newsline, March,* 7–8. Copyright 2000 by SHL.

The researcher opines that a competency model of medical practitioners should be the starting point to form a basis. Subsequently, future researchers can develop competency models for practitioners in different contexts, for example, public-urban, pubic-rural, private institutions, and for specialised areas of medicine such as paediatrics, emergency medicine, obstetrics or gynaecology.

2.3 THE PERFORMANCE CONSTRUCT

This section discusses job performance in terms of task performance, contextual performance, and outcomes.

Hospitals have scarce resources that need to be transformed into valuable outputs and outcomes such as using medication and equipment for the treatment of patients. Jobs exist to combine and transform these resources into a service.

This study defines the performance of MPs as the scalable behaviours and outcomes of MP performance that are relevant to the goals of the primary care institution (Viswesvaran & Ones, 2000). Two higher level dimensions of performance are considered namely, task performance and contextual performance.

Specific tasks need to be performed by MPs to produce the output for which the job exists. The success at which these tasks are performed refers to task performance, which is defined as: "the proficiency with which incumbents perform … activities that contribute to the organisation's technical core either directly by implementing a part of its technological process, or indirectly by providing it with needed materials or services" (Borman & Motowidlo, 1993, p. 73). Task performance, therefore, refers to how well the MP adheres to the stipulated duties and responsibilities of the job (Viswesvaran & Ones, 2000).

Contextual performance can be defined as: "individual behaviour that is discretionary/extra-role, not directly or explicitly recognised by the formal reward system and that in the aggregate promotes the effective functioning of the organisation" (Viswesvaran & Ones, 2000, p. 218).

Borman and Motowidlo (1993, p. 82) list five first-order contextual performance factors namely, enthusiasm and extra effort, voluntary ownership of tasks, helping and

cooperating with others, following organisational rules and procedures, and endorsing, supporting, and defending organisational objectives." The researcher opines that behaviours described above should not necessarily lie outside the formal rewards system. In today's world of work, employees are increasingly expected to display socially responsible behaviours and green behaviours. Moreover, behaviours described above are often critical to serving the organisational strategy and cannot be deemed preferable or optional. They should be defined and measured as they could contribute to the bottom-line.

For the purpose of this study, it is essential to consider how generic performance outcomes are defined in literature. Bernardin and Beatty (1984) define performance as the outcomes or results of behaviour. Outcomes include:

Quality, which describes the extent to which the performer maintains perfection in acting out a process, or achieving a result in terms of some ideal standard;

Quantity or the amount produced by the activity which is typically expressed in monetary value, the number of units produced, or the number of completed activities;

Timeliness at which an activity is completed, or a result produced;

Cost-effectiveness, which describes the degree to which the use of resources is maximised in obtaining the highest gain or reduction in loss from each;

Need for supervision, which refers to the extent to which a performer can successfully execute a job function without requiring supervisory assistance; and

Interpersonal impact, which describes the degree to which a performer causes feelings of self-esteem, goodwill, and cooperativeness among peers.

Additional outcome variables have been discussed by Welbourne, Johnson and Erez (1998) namely, *career growth*/*human capital*, *innovations*, *customer satisfaction*/*market reputation*. Other examples include *psychological empowerment* (Spreitzer, 1995), *engagement* (Macey & Schneider, 2008) *organisational commitment* (Knippenberg & Sleebos, 2006) and *intention to quit* (Sturges, Conway, Guest & Lieffooghe, 2005).

Performance, as discussed above, is based on literature attempting to define generic performance. Where applicable, certain variables can become useful in describing MP performance.

2.4 FRAMEWORKS AND PARTIAL MODELS OF MEDICAL PRACTITIONER PERFORMANCE

This section explores frameworks and other partial models that describe MP performance in terms of competencies, outcomes and person characteristics. Research and other local and international standards are consulted.

2.4.1 HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA

The performance of medical professionals around the world is typically regulated by formal standards of performance. In the South African context, the Health Professions Council of South Africa's (HPCSA) acts as the main regulating body that maintains and enforces South African standards.

The HPCSA consists of twelve professional boards that are committed to promoting the health of the population, determine standards of professional education and training, and maintain excellent standards of ethical and professional practice. The Council ensures the on-going professional competence of registered members and fosters compliance with those standards (Health Professions Council of South Africa [HPCSA], 2014).

The Guidelines for Good Practice consist of 16 booklets each directed at a specific set of guidelines (HPCSA, 2007). The 16 booklets are ethical and professional rules that are prescribed for medical practitioners. Booklet-one, for instance, can be used as a framework solving ethical dilemmas, booklet-four provides guidelines on professional self-development and booklet-eleven consists of guidelines for the management of patients with HIV infection or AIDS. The HPCSA standards could provide some valuable information regarding the uniqueness of competency requirements and situational variables in South Africa.

2.4.2 PHYSICIAN COMPETENCY FRAMEWORK

In addition to the Guidelines of Good Practice, the HPCSA made a framework available in 2014 to specify competency standards of graduates. The *competency*

framework for undergraduate students in teaching and learning programmes at the Faculty of Medicine and Health Sciences – Stellenbosch University (HPCSA, 2014) was adapted from a Canadian framework developed by the Royal College of Practitioners and Surgeons of Canada. The Canadian framework is the product of an evidence-informed, collaborative process involving hundreds of royal college fellows, family physicians, educators, learners and other expert volunteers. The development of the framework involved the input of literature reviews, stakeholder surveys, focus groups, and consultations with healthcare professionals and members of the informed public. The strength of the framework lies in the fact that it is derived explicitly from societal needs (Canmeds, 2016).

The adapted framework contains a list of core competencies that are outlined according to seven roles. The core role is that of a *healthcare practitioner*, and surrounding roles describe the physician as a *professional*, *communicator*, *collaborator*, *leader and manager*, *health advocate*, and *scholar* (HPCSA, 2014).

The Medical Practitioner Roles are briefly defined below:

The *healthcare practitioner* role is central to the framework in that the medical practitioner integrates all roles by applying knowledge, skill and professional attitudes in a patient-centered manner.

The *communicator* role describes the medical practitioner as an effective facilitator of the doctor-patient relationship before, during and after interventions.

As a *collaborator*, the medical practitioner works effectively within a team to achieve optimal levels of care.

As a *leader and manager*, the medical practitioner is considered an integral participant in the organisation by organising sustainable practices, being involved with the allocation of resources, and contributing to the effectiveness of the healthcare system.

As *health advocates*, the medical practitioner applies expertise responsibly to promote the health and well-being of the general population.

Lastly, as a *scholar*, the medical practitioner demonstrated a lifelong commitment to reflective learning and the synthesis, dissemination, application and translation of knowledge.

Figure 2.2 illustrates how the roles mentioned above overlap and surround the central role of the *health practitioner*.

Figure 2.2. Medical Practitioner Roles. Reprinted from "Core competencies for undergraduate students in clinical associate, dentistry and medical teaching and learning programmes in South Africa", by Medical and Dental Professions Board of the Health Professions Council of South Africa, 2014, P. 1. Copyright 2005 by Royal College of Physicians and Surgeons of Canada.

Each role consists of multiple key competencies, and each key competency consists of a list of enabling competencies. As an example, a key competency of the *communicator* role is to develop rapport, trust and ethical therapeutic relationships. An example of an enabling competency is to demonstrate a patient-centred and community-centred approach when interacting with patients and their families. From a competency modelling perspective, the framework does not adequately distinguish between performance outcomes and competencies. In the example used, a possible outcome might be *hope in the patient*, *satisfaction with consultation*, *feelings of comfort and security*. Moreover, it could be argued that established *trust* should, in fact, be an outcome of successful patient-centered care and not a competency as referred to in the example. In other cases, the framework is somewhat unclear on the relationships

between core competencies and enabling competencies. Behaviours and skills are listed under each role without explicitly specifying structural relations or indicators of successful performance. Based on the example as well as other sections, the framework in its current form is not entirely consistent with the principles of competency modelling. However, by no means should the framework be disregarded for use as it outlines important educational standards and behaviours that form part of successful performance.

2.4.3 ROLES OF THE FUTURE PRIMARY CARE DOCTOR

As discussed in Chapter 1, a project team from the Division of Family Medicine and Primary Care, Stellenbosch University compiled a framework for Medical Doctors in the South African context. Primary care doctor[3] in this instance refers to GPs working in primary care. This should be considered an influential source in this study given its alignment with the needs in the primary healthcare system. The framework was developed alongside key stakeholders to define the training needs, future roles and competencies of GPs in primary care (Mash, Malan, Von Pressentin, & Blitz, 2016). The six primary roles of the framework are discussed below and illustrated in Figure 2.3.

The *competent clinician* is competent across the burden of disease and provides comprehensive patient-centered care. Clinical as well as communication and counselling skills are required to act in this role. Moreover, the primary care doctor ought to be equipped to care for more complicated patients referred to them by primary care nurses. Lastly, support ought to be provided by the doctor in maintaining continuity of care, integration of care and a family-orientated approach.

As a *collaborator*, the primary care doctor should be able to work in a collaborative style as part of a multi-professional team. The aim is to assist in problem-solving across levels of care. This responsibility extends to the community network of resources and organisations.

A *critical thinker* can make sense of community data, health information or the latest evidence and planning appropriate responses. Moreover, they should be able to help the team with rational planning and action.

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[3] The study discussed under section 2.4.3 specifically refers to the term 'primary care doctor'.

As a *change agent*, the primary care doctor should be able to actively contribute to quality improvement in primary care services. The primary care doctor should stand for the improvement of quality and performance of the local health system as outlined by relevant policies and guidelines. More specifically the doctor should know how to conduct a quality improvement cycle and partake in other clinical governance activities.

As a capability builder, the primary care doctor should be able to engage in learning conversations with other primary care providers to mentor them and build their capability. They should be able to offer or support continuing professional development activities, help foster a culture of inter-professional learning in the workplace, and attend to their learning and developmental needs.

Lastly, as a *community advocate,* the doctor should be able to think about and advocate for the health needs of the local community. The primary care doctor should exhibit a community-orientated mindset that supports the ward-based outreach teams. The community advocate ought to understand the community's health needs and social determinants of health and be mindful of equity and the population at risk.
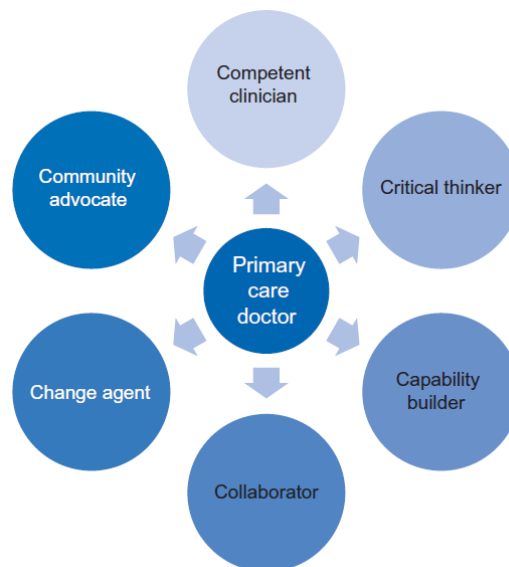
Figure 2.3. Roles of the Future Primary Care Doctor. Reprinted from "Strengthening primary health care through primary care doctors: the design of a new national Postgraduate Diploma in Family Medicine", by R.M. Mash, Z. Malan, K. Von Pressentin, & J. Blitz, 2016, *South African Family Practice*, 1-5, p. 33. Copyright 2015 by Taylor & Francis Group.

2.4.4 INTERNATIONAL STANDARDS

International standards relevant to this study include the Accreditation Council for Graduate Medical Education outcome project (Swing, 2007), The Scottish Practitioner's learning outcomes for the medical undergraduate in Scotland (Simpson et al., 2002), and The General Medical Council's outcomes and standards for undergraduate medical education (General Medical Council, 2009). These standards extensively outline and describe the critical competencies that medical students should have before qualifying as medical practitioners. Competencies are linked with various learning outcomes that trainers/educators should measure in order to establish whether the competencies can be performed. Learning outcomes, however, are different from performance outcomes as discusses in this study. Learning outcomes are considered as evidence that the competency can be performed and that successful learning has taken place, while performance outcomes are consequences or results of performance.

2.4.5 DESIRED QUALITIES AND BEHAVIOURS OF GENERAL PRACTITIONERS

Gruber and Frugone (2011) studied the desired qualities and behaviours that patients believe general practitioners (GPs)[4] should have in medical (service recovery) encounters. This was an exploratory study that made use of a qualitative laddering interviewing technique with 38 respondents. The authors tried to reveal the desired qualities and behaviours of GPs from a patient's perspective, to better understand the underlying variables of patient needs.

The study found that patients believe that GPs need to show competence, friendliness and empathy to grow trust in the relationship. Patients emphasised that GPs should listen actively and do the appropriate checks in order to find the root cause of the problem. The most important values identified by patients included well-being, belongingness, accomplishment, and self-realisation (Gruber & Frugone, 2011). Two categories of this study were highly relevant to this literature review namely, the desired consequences and attributes identified by patients. These categories can be interpreted as outcomes and competencies respectively.

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[4] Gruber and Frugone (2011) specifically referred to the term general practitioner (GP).

Table 2.1 shows an overview of consequences which could be interpreted as outcomes in the context of this study.

Table 2.1

Overview of consequences

Name of consequence	Description
Feel comfortable	Patients want to feel comfortable, at ease, worry free, relieved and assured that they are in good hands.
Effective treatment	GP can determine the best and most effective treatment for patients in order to solve their problems.
Trust	Patients feel that they can rely on and have confidence in the physician, his abilities, intentions, and diagnosis.
Feel cared for	Patients want to feel that there is someone they can lean on and feel taken care of.
Diagnosed correctly	GP can determine the correct diagnosis.
Open up	Patients want to feel they can tell everything to the GP and express freely.
Gain knowledge	Patients want to learn and understand more about illnesses and their condition; and get health advices.
Treated as individual	Patients want to feel like individuals, at the same level, related to physicians, fairly and not like numbers.
Feel taken seriously	Patients want to feel they are taken seriously and listened to.
Not waste time	Patients want to save time in the processes of seeing the GP and getting cured.
Feel motivated	By getting information, comfort and support, the patient will feel more confident, with hope, more energy, be willing to cooperate more optimistically and follow the treatment.
Taken seriously	Patients want to have the impression that their problem is acknowledged and taken seriously.
Negotiated process	Patients want to have an active role in the process of the treatment decision.
Control	Patients want to be in control of what they are doing, decide or make decisions by themselves and plan their lives.
Feel understood	Patients want to feel that the Doctor understands them and their needs; and feel accepted.
Prevent	Patients want to prevent illnesses and stay healthy.
Health	Patients want to get healthy and cured.
Well-being	Patients feel good, better and want to live a long, happy life.
Accomplishment	Patients want to carry on and achieve their goals (study, work, success and others).
Safety	Patients feel safe and secure.
Self-esteem	Patients feel better and happy about themselves, unique, recognized, back to normal self, and morally motivated.
Satisfaction	Patients feel satisfied and that they got what they expected.

Note. Reprinted from "Uncovering the desired qualities and behaviours of general practitioners (GPs) during medical (service recovery)", by T. Gruber and F. Frugone, 2011, *Journal of*

Service Management, 22(4), p. 502-503. Copyright 2011 by Emerald Group Publishing Limited

Table 2.2 shows the attributes of GPs that are desired by patients. In the context of this study, these attributes will be interpreted as competencies.

Table 2.2

Overview of attributes

Name of attributes	Description
Empathy	GP should show that he/she is interested in the patient, show she/he cares about the patient and is understanding of the feelings and background of the patient. Patients perceive this quality from the GP when he/she asks for the history and background of patients' ailments; tries to relate to them; through body language and supportive remarks; shows interest and sympathy as opposed of being bored and dismissive; and acts in an accommodating and compassionate manner.
Professionalism	GP should behave professionally. This means he/she should do checks, be conscious of time, be respectful, check and compare history, follow code of conducts and ethics.
Competence	The GP should have knowledge, skill and experience. In order to show competence, the GP should talk about his/her experience, the GP should talk about their background, be well spoken of, have confidence in his/her voice, be fast an accurate in his/her response, listen carefully and make notes and be prudent.
Informative	GP should give feedback, health advice, willing to answer questions, inform and discuss what is going on and the matter of illness of the patients.
Communication skills	GP should have good communication skills, be able to interact, be a good talker, have people skills, be easy to talk to and good eye contact and good body language.
Friendliness	GP should be friendly. Respondents of this research perceive GP's friendliness if his/her is warm, courteous, friendly and kind; breaks ice to start a conversation; smiles; is open minded; welcoming; friendly eyes; has nice personality; is polite.
Active listener	Patients want their GP to listen actively to them.

Note. Reprinted from "Uncovering the desired qualities and behaviours of general practitioners (GPs) during medical (service recovery)", by T. Gruber and F. Frugone, 2011, *Journal of Service Management*, 22(4), p. 501. Copyright 2011 by Emerald Group Publishing Limited.

2.4.6 PARTIAL COMPETENCY MODEL OF MEDICAL PRACTITIONERS

The two partial competency models discussed below can be considered most consistent with the principles of competency modelling. Both models were developed with similar objectives and within a South African context.

2.4.6.1 Fourie (2016)

Fourie (2016) applied a Repertory Grid Technique (RGT) and Critical Incident Technique to develop a partial South African Medical practitioner competency model. The sample included seven registered medical practitioners who acted in educational,

clinical and supervisory roles. The study explored the causal relationships between medical practitioner competencies that will lead to the achievement of certain medical practitioner outcomes.

The strength of Fourie's (2016) application is its alignment to the principles of competency modelling. In the context of this study, it can be regarded as a true partial competency model that describes the competencies and outcomes of MP performance. Moreover, the competencies are largely based on the input of experienced South African medical practitioners. The definitions for the eleven competencies on which the model was developed are shown in Table 2.3.

Table 2.3

Summary of defined competencies

Competency	Definition
Communicating effectively	Clearly articulates the message one wants to deliver, through one's words, writing and body language by using appropriate language or diagrams which the audience will understand; listening, without interrupting others; giving the patient the opportunity to communicate their 'story'; probing for the right information through respectively open and closed ended questions; attending to the words, writing and body language of other to comprehend the message they want to deliver.
Coping with pressure	Remaining calm while working under stressful conditions and to be able to take control of the situation to remain effective; prioritising activities and delegate tasks to other healthcare professionals.
Medical professionalism	Applying specialist and detailed expertise to all patients; treating all patients, colleagues and other people with respect and dignity; being punctual and accessible while on duty; displaying integrity, and complying with ethical and legal standards.
Patient-centredness	Displaying compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient.
Working with people	Showing respect for the views and contributions of other team members; collaborating with healthcare workers from other medical professions and viewing yourself as equal to others; listens, supports, cares and appreciates others; consults others and shares information and expertise with them; builds team spirit and reconciles conflict; adapts to the team and fit in well.

Table 2.3

Summary of defined competencies (continued)

Competency	Definition
Lifelong learning	Reflecting on work that was done, identifying knowledge and skill gaps and taking the necessary action to improve one's knowledge or clinical skills on a continuous basis to remain competent.
Self-care	Being aware of one's inner state and implementing the necessary strategies to achieve emotional and physical well-being for oneself.
Efficiency	Using resources effectively; contributing to the larger organisation's success; not compromising patient care for profits; and believing in one's own opinion.
Problem-solving	Recognising when problems exist, gathering and analysing all relevant information and identifying different solutions to solve the problem with the available resources and time.
Clinical leadership	Taking the lead and delegating activities to team members in a calm way; taking responsibility above and beyond one's duties and standing up to do the right thing.
Health advocacy	Responsibly use of one's expertise and influence to advance the health and well-being of individuals, communities, and populations.

Note. Reprinted from "The development of a South African medical practitioner competency questionnaire", by M. Fourie. 2016, p. 170. *Master's thesis, Stellenbosch University, Stellenbosch.* Copyright 2016 by Stellenbosch University.

Similar to Gruber and Frugone (2011), the study considered patient outcomes only. This is considered an area where the current study can improve as it is important to define performance holistically by considering the needs of co-workers and other stakeholders. The outcomes identified by Fourie (2016) are listed and defined in Table 2.4.

Table 2.4

Definitions of medical practitioner outcomes

Outcome	Definition
Trust in the practitioner	The extent to which the patient feels they can rely on and have confidence in the medical practitioner, his or her abilities, diagnosis and intentions.
Accurate diagnosis	The extent to which the medical practitioner accurately identifies a sickness or injury by evaluating the signs and symptoms, along with the patient's medical history.
Proper Treatment	The extent to which the medical practitioner prescribes the best and most effective remedy for the diagnosed sickness or injury, by taking the person's medical history into account.
Adherence to prescribed treatment	The extent to which the patient accurately adheres to the prescribed medicine and prescribed treatment instructions.

Table 2.4

Definitions of medical practitioner outcomes (continued)

Patient motivation	The degree to which the patient believes the treatment will lead to success and is motivated to complete it.
Sense of understanding	The degree to which the patient understands the medical problem, the aetiology of the problem and the manner in which the treatment will relieve the problem.
Patient well-being	The extent to which the patient experiences a good physical, mental and social condition.
Treated as individual	The extent to which the patient feels that he or she is treated fairly and as a human being, and not merely as a number, by being listened to, taken seriously, and being accepted by the medical practitioner who gives the patient the opportunity to have an active role in decision-making regarding their treatment.
Patient satisfaction	The extent to which the patient feels gratified by the medical service he or she received.

Note. Reprinted from "The development of a South African medical practitioner competency questionnaire", by M. Fourie, 2016, p. 33. *Master's thesis, Stellenbosch University, Stellenbosch.* Copyright 2016 by Stellenbosch University.

Figure 2.4 shows how all competencies and outcomes are brought together in the form of a theoretical structural model of performance. Important to note is that the partial competency model depicts the hypothesised structural relations among different competencies, outcomes, and in-between competencies and outcomes. The model, therefore, strived towards describing the true complexity MP performance. This can be regarded as a *partial* competency model as it does not include person characteristics that map onto the competencies nor situational variables that explain the promoting and habiting factors of MP competence. Figure 2.4 can also be regarded as a structural model that explains MP job performance as it defined the performance construct regarding the successful achievement of both competencies and outcomes.
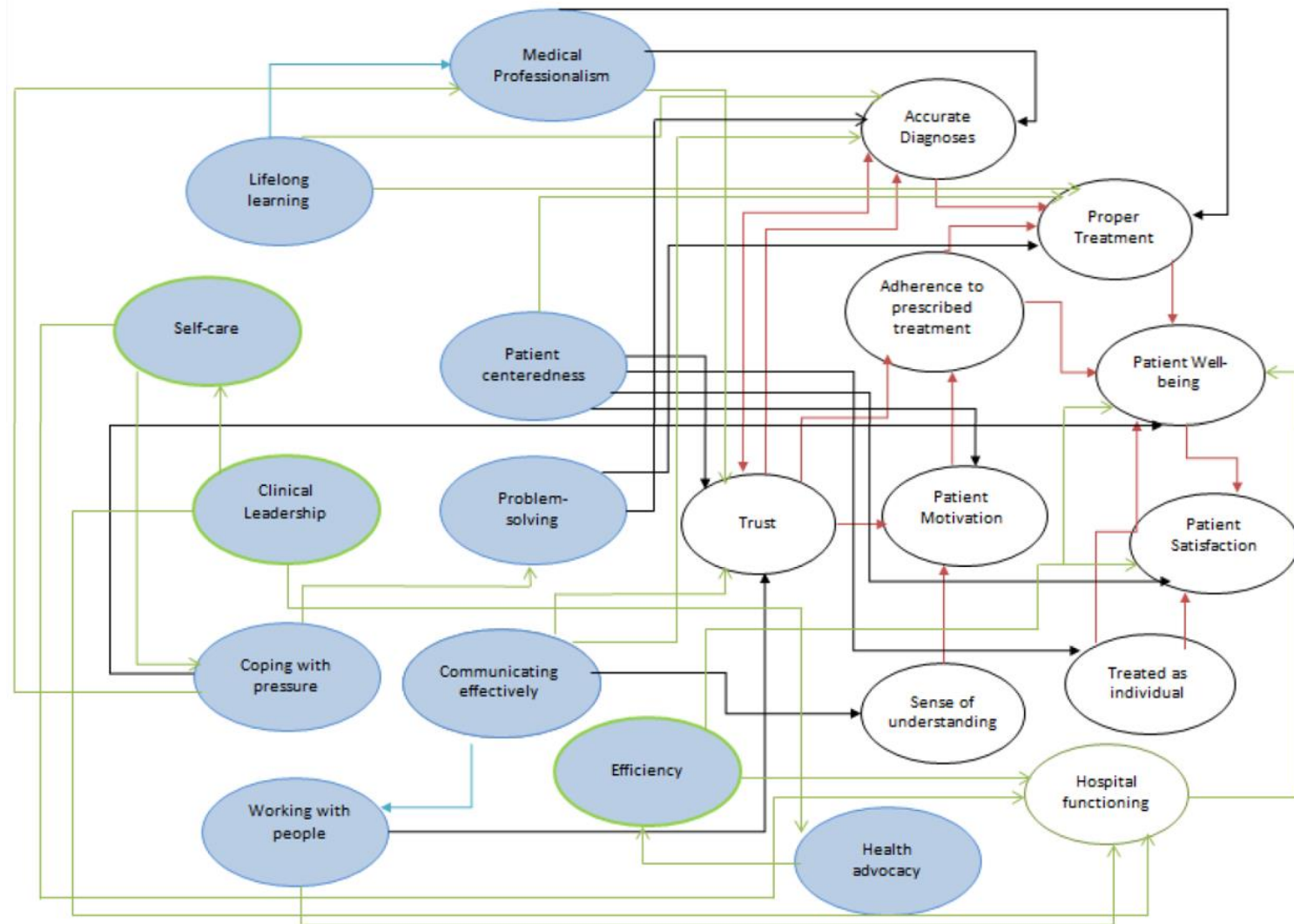
Figure 2.4. Partial South African Medical Practitioner Competency Model. Reprinted from "The development of a South African medical practitioner competency questionnaire", by M. Fourie, 2016, p. 168. *Master's thesis, Stellenbosch University, Stellenbosch.* Copyright 2016 by Stellenbosch University.

2.4.6.2 Hattingh (2018)

Similar to Fourie (2016), Hattingh (2018) applied a RGT approach with 10 respondents who included medical practitioners, family physicians and other specialists. The difference in scope between the two studies is that Hattingh (2018) investigated person characteristics (i.e. competency potential) whereas Fourie (2016) investigated the competencies of MP performance. Hattingh (2018) identified 29 distinct first-order themes relating to the medical practitioner competency potential. Of the final list of person characteristics identified in the study, 10% was added after considering the input of subject matter experts. The first-order themes were classified into thirteen distinct second-order person characteristics. The 13 person characteristics are listed and defined in Table 2.5.

Table 2.5

Definitions of modified person characteristics

Person characteristic	Definition
Resilience	Internal-individual resources that allows the individual to adapt and remain strong in the face of adversity.
Neuroticism	An individual's emotional stability and the general propensity to feel negative emotions in response to environmental factors.
Internal Locus of Control	The individual's belief of active involvement and ability to control and manage what happens to him/her in their environment, whether it be positive or negative.
Emotional Intelligence	The ability to identify and effectively manage emotion in oneself and in others as well as one's environment.
Self-efficacy	An individual's perceptions of their aptitude to perform tasks and accomplish goals.
Agreeableness	An individual's ability to get on well with others and show sympathy for others.
Calling	An occupation that appeals to a person, is experienced as intrinsically pleasurable and meaningful, and is considered an important part of an individual's identity.
Altruism	The motivation to display unselfish acts that is beneficial to others.
Achievement Motivation	The individual's drive to become competent and utilise the obtained competence to achieve success and avoid failure.
Openness to Experience	Having a curiosity to constantly change one's frame of reference with regards to intellectual and social understanding; a willingness to experience new things.
Conscientiousness	The degree of effectiveness and efficiency with which a person plans, organises and carries out tasks.
Fluid Intelligence	The ability to reason and to solve new problems independently of previously acquired knowledge.
Coping with Pressure	To remain calm while working under stressful conditions and to be able to take control of the situation and remain effective.

Note. Reprinted from "The Development of a Partial South African Medical Practitioner Competency Model", by J. Hattingh, 2018, p. 143. *Master's thesis, Stellenbosch University, Stellenbosch.* Copyright 2018 by Stellenbosch University.

Similar to Fourie (2016), Hattingh (2018) examined the potential causal linkages between variables. The study concluded with a conceptual model that proposed hypothesised relationships between medical practitioner person characteristics and medical practitioner competencies. The strength of this study is that it was built on the competency variables identified by Fourie (2016), which can be considered one significant step towards the development of a comprehensive competency model. The theoretical structural model is illustrated in Figure 2.5.
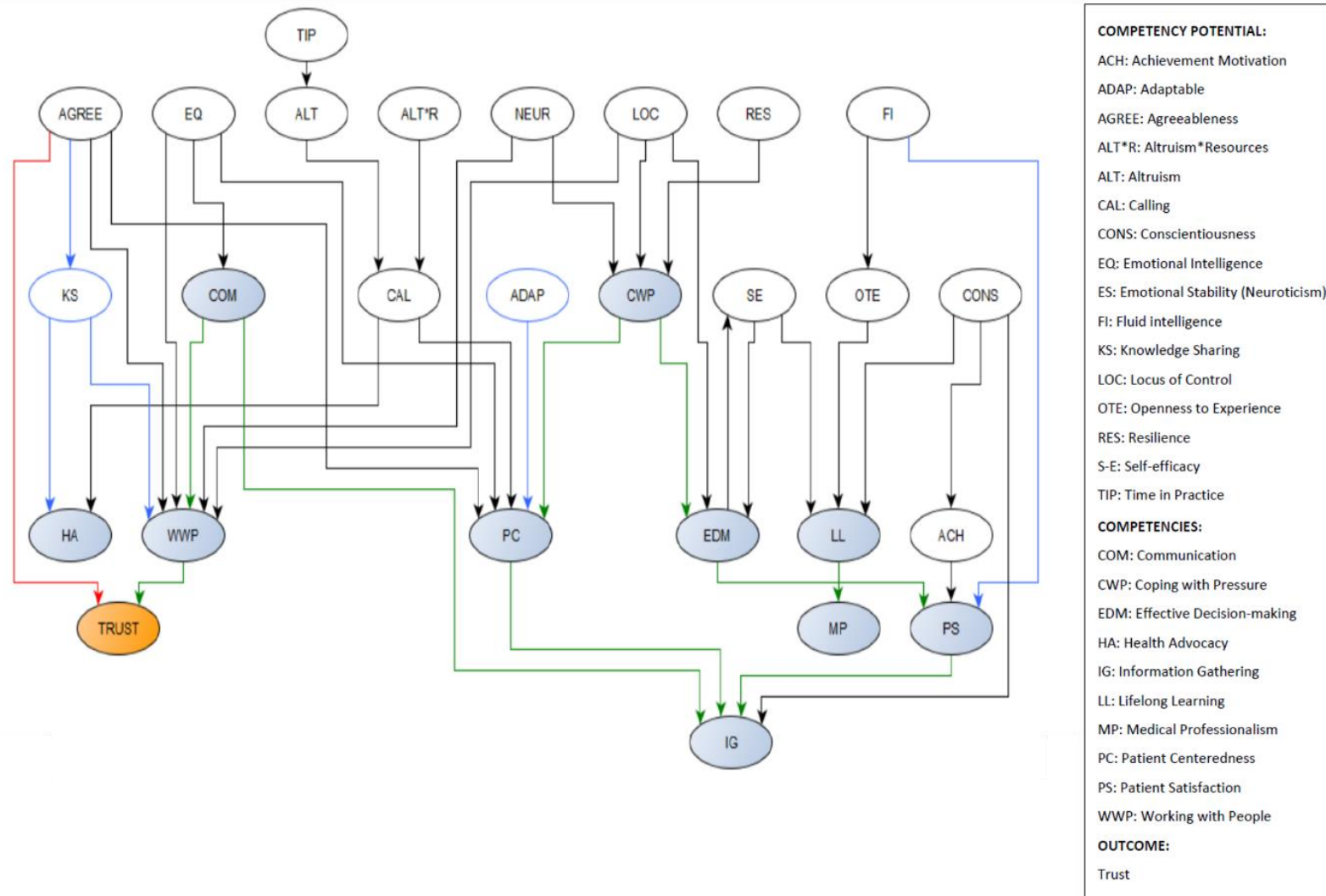
Figure 2.5. A modified proposed Partial Medical Practitioner Competency Model. Reprinted from "The Development of a Partial South African Medical Practitioner Competency Model", by Hattingh, J, 2018, p. 143. *Master's thesis, Stellenbosch University, Stellenbosch.* Copyright 2018 by Stellenbosch University.

2.5 FURTHER RESEARCH OF MEDICAL PRACTITIONER PERFORMANCE

From section 2.4 it is clear that literature requires a) outcomes that are built on the needs of multiple stakeholders, and b) a set of competencies that are linked with a more comprehensive set of outcomes. In further exploring literature, the researcher specifically searched for the needs and expected outcomes of patients, peers, the community, the organisation (hospital), as well as the personal needs of the MP.

Outcomes and competencies are discussed in depth in section 2.5. The section is structured according to five broad categories namely, The Doctor-Patient Relationship, Clinical Performance, Peer Interaction, Personal Wellbeing, and Community Involvement. Each category will discuss the relevant outcomes and the competencies required to reach the outcomes. Table 2.6 illustrates the outline of section 2.5.

Table 2.6

Outcomes and competencies per category of practice

Category	Outcomes	Competencies
The Doctor-Patient Relationship	Satisfaction Trust Dignity Safety Enablement Adherence	Patient-centred care Effective communication
Clinical Performance	Quality Quantity Timeliness Informational continuity Cost-effectiveness Patient continuity Accurate diagnosis Effective treatment	Technical competence Management Integrated reasoning Professionalism
Peer Interaction	Cohesion Peer appreciation	Working with people Clinical leadership
Personal Wellbeing	Job satisfaction Perceived competence	Self-care Self-development Coping with pressure
Community Involvement	Sphere of influence Health promotion	Community advocacy Cultural competence

2.5.1 THE DOCTOR-PATIENT RELATIONSHIP

The clinical encounter between medical practitioner (MP) and patient lies at the core of quality healthcare. MPs examine patients and gather information to accurately diagnose and devise a treatment plan. The doctor-patient relationship is not a simple back and forth exchange of information but is rather complex. When discussing the purpose of the clinical encounter and the needs of patients, the dynamics of the relationship should be well understood.

Previously, medical practitioners considered patient-centred characteristics such as care and compassion as central to treatment (Barry & Levitan, 2012). However, major advancements in medicine appear to have caused separation in the modern patient-practitioner relationship. Current literature suggests that medical practitioners need to pay more attention to how they establish and facilitate their relationships with patients. Over recent decades, hospitals have grown more concerned with Quality Patient Care - a concept that has also become more important among consumers, social scientists, policy makers, and government (Cleary & McNeil, 1988).

From a consumer's perspective, people prefer MPs that genuinely listen to their needs and consider their perspective (Barry & Levitan, 2012). Involving the patient in the healing process is not a mere need expressed by authors and the public, but certain outcomes thereof have been found to contribute to improved health, which is the primary objective of healthcare (Roter, 2000).

Mash, Moosa, and De Maeseneer (2008) concur with this notion. Viewing the patient and their illness in relation to their familial, occupational, environmental and social context is considered the most important principle in family medicine in Sub-Saharan Africa. It is believed that effective provider-patient relationships create therapeutic properties and that establishing confidentiality and trust is of utmost importance (Mash, Moosa, & De Maeseneer, 2008).

An essential factor of a patient-practitioner relationship is the extent to which decision-making power and influence is distributed in the relationship (Roter, 2000). Various suggestions have been made as to which style the relationship should take. On the one hand, MPs could listen to the patient's interests and values but not allow it to significantly influence the decisions with regards to medical treatment. This paternalistic relationship is criticised for being narrowly focused and for excluding the

patient perspective. On the other hand, one could have a more consumerist relationship where the patient is allowed high decision-making power while the practitioner assumes less power. Such a relationship is likely to prevent the patient from gaining the full benefit of care as it restricts the influence of the MP's expertise. Ideally, an optimal space should be found between these two styles to allow for both practitioner and patient power in the relationship.

2.5.1.1 Patient outcomes

The above discussion suggests that the patient should be central in the healing process, considered as a unique individual, and assessed holistically by the MP. The question, however, is why? Two themes are inferred from the above discussion. The first relates to the attitudinal or affective response of the patient which can be described by feelings of *satisfaction*, *safety*, *dignity* and *trust*. The second relates to instrumentality and can be described by the extent to which the relationship empowers the patient. An empowered patient is involved in shared decision making, and as a result feels *enabled* to become healthy and manage their illness, which could also result in and *adherence* to the treatment plan. These intended results of the relationship are discussed below as outcomes.

2.5.1.1.1 Satisfaction

Satisfaction is a well-known outcome of the patient-practitioner relationship. It is considered an important indicator of quality care and is perhaps the most commonly measured patient attitude (Clearly & McNeil, 1988). Satisfaction is often used as an additional indicator of quality care along with objective measures such as measures of clinical outcomes (example blood pressure or hypertension), and patient self-reports of perceived physical or emotional health status. Mead, Bower and Hann (2002, p. 284) note that clinical outcomes and self-reports are often "complicated by a wide range of problems presented to the MP, and by the fact that health outcomes are influenced by a host of factors which may not be amenable to change via communication". Due to such issues, many tend to focus on satisfaction as the main outcome of patient-centred consulting (Roter, 2000).

Currently, the following are considered common determinants in the relationship that together form an overall perception of satisfaction with consultation: warmth and sensitivity of the practitioner, attention to psychological problems, provision of

sufficient time, as well as the continuity, mutual trust and respect of the relationship (Roter, 2000).

Satisfaction with consultation in this study will refer to *the extent to which the expectations of patients are met by the MP in terms of warmth, sensitivity, attention to psychological problems, provision of sufficient time, and respect of the relationship.*

2.5.1.1.2 Trust

Trust is a defining outcome of any healthy interpersonal relationship. While it is a defining element, it is also an outcome that depends on the behaviour of the MP. Trust is particularly important to the relationship as it enables patients to open up towards the MP when disclosing critical information that is required for accurate diagnosis (Hall, Dugan, Zheng, & Mishra, 2001). Moreover, trust has been linked with how good patients adhere to their prescriptions, and have been shown to create stronger continuity of care (Hall, et al., 2002; Thom, Bloch, & Segal, 1999).

Trust is said to fulfil both intrinsic and instrumental functions and attributes meaning, importance and substance to the relationship – similar to the manner in which love or friendship is embedded in any intimate relationships such as friendship (Hall et al., 2001). The dimensions of trust are *fidelity* – the belief that the MP will pursue the best interests of the patient, *competence* – the belief that treatment will occur without error, *honesty* – being truthful and avoiding intentional falsehoods, and *confidentiality* – knowing that the protection and proper use of private information takes place (Hall et al., 2001).

This study defines trust as *the extent to which patients believe in the good intent, competence, honesty and confidentiality of their MP. It is the extent to which patients are comfortable and open up towards the MP.*

2.5.1.1.3 Dignity

Although medical staff acknowledge the humanity of patients, certain healthcare practices are at risk of dehumanising patients by reducing them to objects that are considered to be childlike, unintelligent, and dependent or even absent (Turnock, 2001).

Dignity is therefore considered a fundamental domain of patient care in healthcare. It is vital that patients be respected and their rights upheld. They ought to be informed and receive dignified attention in an acceptable and hygienic environment (Whittaker, Shaw, Spieker, & Linegar, 2011). For a MP, it is essential to maintain patient dignity by appreciating their individual standards (Mains, 1994).

A dignified patient knows they are worthy of respect. Moreover, Jacobson (2007) asserts that social dignity is experienced through interaction and can be 'lost or gained, threatened, violated, or promoted' (Jacobsen, 2007, p. 295).

Research has identified closely related concepts of dignity such as *respect* and *privacy* (Jacelon, 2003), *self-esteem* (Dixon, Palfreyman, Shackley & Brazier, 2011), and *autonomy* (Donnelly, 2008).

Dignity should be considered an important outcome given its strong association with basic human rights and psychological wellbeing. Dignity is likely to be compromised in hospitals with limited resources and space. The MP should, therefore, do what it takes to minimise the risk.

Dignity in this study refers to *the extent to which patients are shown respect and feel respected in terms of their personal needs and standards as a result of their interaction with the MP.*

2.5.1.1.4 Safety

Quality standards for healthcare establishments include *safety* as part of the Patient Safety, Clinical Governance and Clinical Care domain (Whittaker at al., 2011). The domain discusses how to reduce unintended harm to patients, to prevent and manage problems or adverse events including healthcare-associated infections, and support any affected patients or staff (Whittaker et al., 2011).

Patient safety can be defined as the prevention of harm to patients (Wilson, Pringle & Sheikh, 2001). MPs are required to prevent errors, learn from errors that do occur, and role model a culture of safety. For the patient, this means freedom from accidental or preventable injuries while in the care of medical professionals (Patient Safety Network, 2015). Patient safety practices are those that reduce the risk of adverse events (Patient Safety Network, 2015; Wilson, Pringle & Sheikh, 2001).

This study defines safety as *the extent to which patients experience freedom from accidental or preventable injuries while under the care of the MP.*

2.5.1.1.5 Enablement

Enablement is a post-consultation outcome that relates to how the patient feels and thinks after consultation. An enabled patient leaves the consultation session with a clear understanding of the health problem. The individual will have a sense of confidence and better coping abilities. While enablement and satisfaction may appear as synonymous, they have been proven to be two separate constructs (Mead, Bower & Hann, 2002). *Satisfaction* indicates the extent to which patient expectations have been fulfilled while *enablement* reflects the patient's personal coping abilities and understanding after consultation.

Enablement is similar to *self-efficacy* as it relates to one's belief in dealing with the situation. This is particularly important among patients infected with chronic illness where self-management of symptoms is required in cases of asthma or diabetes. A sense of enablement is also useful when patients are given the responsibility to alter their behaviours in order to improve health-related problems as with patients that have to stop smoking or radically alter their diets (Roter, 2000). With this in mind, enablement can be regarded as an important affective/cognitive outcome that could lead to other important health-related outcomes.

Enablement in this study is defined as *the extent to which patients are capable of understanding and coping better with their health issue s).*

2.5.1.1.6 Adherence

The World Health Organisation proposes that adherence is affected by these factors: (1) health care system or provider-patient relationship, (2) disease, (3) treatment, (4) patient characteristics, and (5) socioeconomic factors. (De Geest & Sabaté, 2003).

Because the provider-patient relationship is listed as one of the primary factors that affect patient adherence, it can be argued that patient adherence should be considered an outcome of MP behaviour.

Adherence is the extent to which the patient's behaviour, the taking of medication, diet, or lifestyle, corresponds with the agreed-upon recommendations from a health-care

professional (Robinson, Callister, Berry, & Dearing, 2008). Adherence is considered a salient outcome of the process of care (Zolnierek & DiMatteo, 2009).

This outcome is reported to have a substantial effect on the overall quality of care as non-adherence to prescribed medication has been associated with reduced treatment benefits and can distort the MP's assessment of therapeutic effectiveness. Non-adherence is thought to account for 30% to 50% of treatment failures. It typically leads to avoidable hospitalisation rates; institutionalisation for the frail elderly; and increased healthcare costs (Cohen, Christensen, & Feldman, 2012). Attention to adherence is important for both the health of patients and economic efficiency, as more medication is prescribed and more time and effort is spent on treatment than necessary.

Adherence in this study is defined as *the extent to which patients' behaviour, taking of medication, diet, or lifestyle, corresponds with the agreed-upon recommendations of the MP.*

2.5.1.2 Patient interaction competencies
In order to achieve the patient interaction outcomes discussed, a MP needs to display behaviours of patient centredness and effective communication.

2.5.1.2.1 Patient-centred care
In the doctor-patient relationship, power dynamics may differ across settings; however, the responsibility will always lie in the hands of the practitioner to initiate and facilitate a reciprocal relationship. Roter (2000, p. 7) suggests the relationship should be characterised as an "optimal integration and synthesis of both the biomedical and life-world perspectives". Such a reciprocal relationship is characterised by many as a patient-centered relationship or as relationship-centred medicine (Roter, 2000). Patient-centred care is concerned with how the patient is viewed. The patient should be viewed as a unique being and as a respected, autonomous individual. Not only should a MP be able to consider objective information such as visual symptoms of a disease, but also base the plan of care on the social and emotional needs of the individual.

A similar concept used by researchers is relationship-centred medicine, which is theoretically very similar to patient-centred care and could even be used interchangeably. Relationship-centred medicine describes the dynamics of the

relationship that the practitioner should focus on when managing the relationship, whereas patient-centred care describes how the patient should be viewed and treated in the relationship (Roter, 2000).

Studies have shown that patient-centredness has the potential to lead to crucial healthcare outcomes such as satisfaction, enablement, improved physiological status, and reduction in symptoms (Roter, 2000; Stewart, 1995). Studies that focussed on relationship-centered medicine found additional outcomes that could be reached namely, reduction in stress and anxiety (Stewart, 1995). Applying the principles of these approaches thus has the potential to lead to improved attitudinal, emotional, and physiological outcomes (Roter, 2000).

Patient-centredness addresses the social, physical and emotional needs of patients and therefore is expected to result in socio-psychological outcomes namely, dignity, patient satisfaction, trust and empowerment. Patient-centredness can also calm the patient and make them feel in control of their illness which could indirectly lead to an improved health status.

This study defines patient-centredness as *displaying compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient* (Fourie, 2016).

2.5.1.2.2 Communicating effectively

While patient-centredness and relationship-centered medicine help to explain the socio-emotional aspects of the relationship, it is also necessary to shed light on the instrumental aspects of the patient-practitioner relationship. Instrumental transactions specifically focus on the quality of communication between practitioner and patient (Patterson et al., 2000). The patient may be put at the centre of consultation and valued as an individual, but the accuracy and comprehensiveness of information shared might not necessarily be at odds.

Effective communication is considered a valuable competency especially for practitioners in Southern African. Experts agreed that overcoming language barriers and having expertise in cross-cultural communication is an important principle of family medicine in sub-Saharan Africa (Mash, Moosa & Maeseneer, 2008). It is widely known that clear communication is required for the establishment of a good relationship.

Street, Gordon and Haidet (2007) suggested that successful communication is characterised by accuracy, clarity, conciseness, and effective organisation of information. Stein et al., (2005) adds to these elements with a more explicit focus on verbal techniques such as using open-ended questions, validating and reflecting upon statements, prioritising issues, using non-verbal cues, and summarising the conversation.

Cleary and McNeil (1988) stress the importance of clear communication when providing technical care. It is not only a determinant of the patient's attitude and level of understanding after consultation, but it largely determines the accuracy and time spent to make a diagnosis (Stein et al., 2005). With this in mind, one could argue that the quality of communication could place a ceiling effect on the quality of technical treatment.

Effective communication has been shown to be a determining factor of overall satisfaction as patients want to be informed about their illness and want to be asked relevant and important questions (Roter, 2001; Stein et al., 2005). Moreover, by disclosing relevant information regarding confidentiality and competence, communication can facilitate trustworthiness of the MP. Therefore, effective communication is expected to lead to patient satisfaction and trust. Effective communication also ensures that consultations are more cost and time efficient. It is therefore expected to lead to efficiency.

This study defines effective communication as *clear, easily understandable, and accurate articulation of a through verbal and on-verbal means. It includes listening, without interrupting and probing for the right information through open and closed ended questions* (adapted from Fourie, 2016).

2.5.2 CLINICAL PERFORMANCE

The treatment of patients comes with much responsibility. The skills required are delicate in the sense that precision and accurate decision-making is crucial. Put simply, the room for error is much smaller compared to most jobs. Hospitals and MPs can be held liable for poor performance, and the lives of the patients are at stake on a daily basis. Clinical competence, therefore, carries much importance considering the consequences of incompetence.

Clinical performance is an area that has *not* been overlooked by research. This study only has the capacity to contribute in terms of non-clinical outcomes and behaviours. To comprehensively define the performance construct, however, technical proficiency and its outcomes need to be included as it is not separate but integrated with the non-clinical elements of performance. The topic of technical/clinical care is complex and extensive. Therefore, it will be discussed from a higher-level perspective and not in extensive detail.

2.5.2.1 Clinical outcomes

Where patients have certain needs as indicated by Gruber and Frugone (2011), hospitals and other entities such as clinics have to function as an entity that strives to reach organisation level goals (Kringos, Boerma, Hutchinson, Van der Zee, & Groenewegen, 2010; Wilson, Pringle & Sheikh, 2001). The MP is required to display *clinical effectiveness* by obtaining relevant patient knowledge, accurately diagnosing the health issue, and effectively treating the health issue. These activities ought to be performed with clinical efficiency yet with the highest quality to ensure patient wellbeing. Moreover, decisions ought to be cost-effective, patient continuity ought to be achieved, and informational continuity ought to be achieved through effective administration.

Clinical effectiveness of care is closely linked to the bottom line of the primary care performance, and the MP plays an influential role by directly consulting, referring and treating patients. Clinical effectiveness in this study relates to the traditional construct of task performance, as "the proficiency with which incumbents perform activities that are formally recognised as part of their jobs; activities that contribute to the organisation's technical core either directly by implementing a part of its technological process, or indirectly by providing it with needed materials or services" (Borman & Motowidlo, 1993, p. 73).

2.5.2.1.1 Accurate diagnosis

Fundamental to the performance requirements of a MP is the accurate diagnosis of a health problem and an appropriate and cost-effective prescription of treatment. Moreover, the diagnosis should consider how the diagnosis influences the patient's daily living, and be validated by appropriate diagnostic tests.

Accurate diagnosis refers to *how often the MP accurately identifies a health problem after evaluating signs, symptoms and the patient's medical history* (Gruber & Frugone, 2011).

2.5.2.1.2 Effective treatment

A MP should be able to perform a set of clinical activities as specified by Mash, Cooper and Hugo (2006) that ought to lead to an extensive list of specific outcomes, which would not be worth mentioning for this study. Each of these outcomes, however, is known before treatment is performed. The appropriate question would be whether the treatment leads to the intended outcome.

Effective treatment in this study refers to *how often any action taken by the MP to treat a health issue results in success* (Gruber & Frugone, 2011).

2.5.2.1.3 *Quality*

Quality is an outcome that could apply to nearly any work. The standards of quality work may differ; however, the broad understanding of quality can quite easily be described. Bernardin and Beatty (1984, p. 243) defines quality as "The degree to which the process or result of carrying out an activity approaches perfection, in terms of either conforming to some ideal way of performing the activity or fulfilling the activity's intended purpose". The definition describes the process of completing an activity. The ideal process of an MP is arguably the application of patient-centredness, considering the holistic needs of patients, and effectively working with other professionals.

Quality in this study is described as *the extent to which the MP consistently addresses the bio-psycho-social-spiritual needs of patients by conducting patient-centred consultations and negotiating interprofessional treatment plans.*

2.5.2.1.4 Quantity

Primary care efficiency concerns the balance between the amount of resources and time used to treat patients and the quality of outcomes achieved (Kringos et al., 2010). Ideally, neither time nor resources nor patient outcomes should be compromised. Quantity as an output of job performance can be defined as "the amount produced, expressed in such terms as dollar value, the number of units, or number of completed activity cycles" (Bernadin & Russel, 1998, p. 243).

In this study, quantity is defined as *the extent to which the MP completes a high number of consultations, medical procedures, forensic administrative tasks and other routine tasks expected by management.*

2.5.2.1.5 Timeliness

Timeliness as an output of job performance can be defined as "the degree to which an activity is completed, or a result produced, at the earliest time desirable from the standpoints of both coordinating with the outputs of others and maximising the time available for other activities" (Bernadin & Russel, 1998, p. 243).

In adapting the above definition, the clinical setting, timeliness can be defined as *the extent to which the duration of routine tasks performed by the MP such as consultations, medical procedures, forensic administrative tasks take place in a short yet appropriate period-of-time.*

2.5.2.1.6 Cost effectiveness

Closely related to *timeliness* and *quantity* is allocative and productive efficiency. This refers to minimising patient's opportunity cost of time spent in treatment, maximising the patient's outcome, and minimising the cost per patient (Kringos et al., 2010).

Cost-effectiveness as an outcome of job performance can be defined as "the degree to which the use of the organisation's resources (e.g., human, monetary, technological, material) are maximised in the sense of getting the highest gain or reduction in loss from each unit or instance of use of a resource." (Bernadin & Russel, 1998, p. 243).

This study defines cost-effectiveness as *the extent to which the MP reaches maximum outcomes of care with the minimum yet appropriate amount of resources.*

2.5.2.1.7 Informational continuity

It is often expected from a MP to complete a sick/death certificate, forensic assessments in incidents related to drunken driving, intimate partner violence, or sexual assault. Other common tasks include certifying a patient under the mental health care act, writing appropriate referral letters, performing work assessment and complete disability grant forms (Mash, Couper, & Hugo, 2006).

The management of patient information is an important administrative function and could indirectly influence the quality of decisions made by the MP. Currently, many MPs and other practitioners are using medical software such as Acrendo Family Practice EMR and eClinical-Works to keep patient records (O-Net, 2011).

The outcome of this administrative function can be referred to as *informational continuity*. In summary, it can be described as an organised collection of each patient's medical information readily available to any health care provider caring for the patient (Kringos et al., 2010).

One could infer two elements of informational continuity. Firstly, all administrative tasks should lead to documents that are well-structured and organised, i.e. effective documentation. Secondly, all administrative tasks should result in documents that are accurate, clearly specified, and consist of all the necessary information, i.e. comprehensive documentation.

This study defines informational continuity as *the extent to which the MP has each patient's medical information readily available and the extent to which this information and any other forensic information is well organised, accurate, clearly specified, and consist of all the necessary details.*

2.5.2.1.8 Patient Continuity

Most literature discussing the quality of primary care emphasises the importance of continuity of care. Continuity is the extent to which there is consistency of seeing the same patients on repeated visits. Continuity supports efficiency and the quality of the patient-doctor relationship because it is about knowing your usual patients or families as opposed to spending time getting to know them and constantly establishing new relationships. Not only does this promote relationship building but the MP can be familiar with patient records and make informed and accurate decisions regarding treatment (Kringos et al., 2010).

This study defines continuity as *the extent to which the MP consistently sees the same patients or families on repeated visits.*

2.5.2.2 Clinical competencies

In this study, clinical competence refers to a broad cluster of behaviours that describe task performance and can be linked with organisational objectives of the primary care

institution. The primary stakeholder in this instance is the organisation (healthcare facility). The organisation requires the MP to do his/her work in an efficient, accurate, and effective manner while maintaining the expected level of quality and professionalism. Competencies related to this category include technical competence, management, integrated reasoning, and professionalism.

2.5.2.2.1 Technical competence

The application of clinical procedures is probably the most important area of competence as it is a critical requirement for successful treatment. A clinical skill can be described as a practical procedure that would be performed as part of the clinical management of a patient (Mash, Cooper & Hugo, 2006). In Southern Africa, MPs require a strong and broad range of competencies as many hospitals are short of sufficient medical resources and medical staff. This idea has been highlighted in multiple consensus seeking studies (Mash, Couper, & Hugo, 2006; Mash, Moosa, & De Maeseneer, 2008).

Mash, Couper, and Hugo, (2006) identified various categories of skills that MPs should be able to perform. Most basic yet important categories are considered examination which includes examining all body systems, and the ability to perform common side-room tests like performing a pregnancy test or taking an intravenous blood sample. MPs also have to be practically competent in the following areas: adult health (general, musculoskeletal, abdomen, chest, and urology), eyes, ear, nose and throat, skin, new-born, pregnancy, women's health, anaesthetics, and child health.

Many practical tasks also require the use of different tools and technology. Depending on the availability of resources, one could be expected to operate medical oxygen masks, ophthalmoscopes, resuscitation accessories, surgical clamps, and technology such as medical software (O-Net, 2014).

For this study, all procedural tasks that require sensitive and systematic psychomotor functioning, and analytical thinking will be classified under the competency of *technical competence*.

The competency can be sub-divided into three domains namely, *examination*, *decision-making*, and *practical task application*. Examination entails inspecting bodily systems and interpreting patient data. Bodily examinations may include the

examination of a new-born or pregnant woman, while non-bodily examinations may include the examination of flow charts for chronic care, an electrocardiogram, or antenatal growth chart. Effective decision-making requires one to recognise key health issues, consider alternatives, make a diagnosis, and determine the appropriate action. Effective decision making usually leads to the appropriate choice of treatment which will often entail applying a practical procedure such as injecting patients, taking bodily samples, or performing minor surgery (Mash, Couper, & Hugo, 2006).

Superior levels of clinical competence should lead to enhanced effectiveness, efficiency, improved health status of patients and continuity.

2.5.2.2.2 Management

MPs are typically involved in planning, organising and executing care plans, and in managing basic administration. MPs therefore require the competency of management. Moreover, MPs could be expected to participate in activities necessary for the effective functioning of the organisation such as quality process evaluation and the improvement of systems. MPs can also be expected to serve in administration and leadership roles, which might entail participating and managing committees and meetings, participate in the implementation of change, and plan relevant elements of healthcare delivery such as compiling duty roosters (HPCSA, 2014).

Competent administration requires the MP to organise mass information in a structured and planned manner, use relevant software programs, and use the appropriate language when writing reports. As implied by Mash, Couper, and Hugo (2006) it is important for MPs to perform many administrative tasks with minimal assistance. Concerning the inclusion of records, it is essential to do so effectively, i.e. accurately and within a rather short period (O-Net, 2011).

In addition to administration, a MP has to act as the manager of a care plan, which is especially important when managing chronic illness. This has become an important area of competence with the increase in chronic illness and elderly patients. It seems that South African educational institutions and hospitals are required to pay special attention towards developing this area among students and staff given recent statistics that point to poorly coordinated care in cases of chronic illness (Myburgh, 2014). Pruitt and Epping (2005) stress the importance of adapting training models to accommodate

the competency of managing chronic illness as it requires different competencies when compared to traditional diagnosis and treatment of acute illness.

In cases of chronic care, it is important for MPs to establish the outcomes of care (Clark & Gong, 2000). Outcomes tend to vary between cases, i.e. different individuals and types of diseases. The desired outcomes also vary between patient, and MP. Patients prefer fewer objective outcomes such as quality of life, for example, the degree of disruption of normal activities. MPs, on the other hand, prefer measuring clinical outcomes such as blood pressure, pulmonary functioning, or the need for medication. What is interesting is the low correlation that was found between objective clinical outcomes and patient quality of life outcomes (Clark & Gong, 2000). This discrepancy is clarified by suggesting that congruence between patient and MP goals (i.e. outcomes) should be found. If the goals of the care plan reflect patient preferences, patients are more likely to follow recommendations.

Management in this study is defined as *planning organising and monitoring a care plan, partaking in decision-making and maintaining administrative information*.

2.5.2.2.3 Integrated reasoning

It can be argued that "professional competence is more than factual knowledge and the ability to solve problems with clear-cut solutions: it is defined by the ability to manage ambiguous problems, tolerate uncertainty, and make decisions with limited information" (Epstein & Hundert, 2002, p. 227). With unpredictable and complex issues that MPs were not necessarily taught about in training, there is a need to scramble together (integrate) what they have in a unique way in order to readily solve these challenging problems.

The idea of integration exists in existing frameworks of performance – acknowledging that competencies do not function in isolation but in an integrative manner. On closer inspection, one realises that within each role, there is a cluster of competencies that come together to make-up a respective role. The Canmeds framework and Physician Competency Framework explicitly acknowledges the importance of integration with the inclusion of a central role namely, *medical expert*. This central role is surrounded by six other roles and is partly described as being able to integrate the other six roles in the framework (Frank, 2015; HPCSA, 2014).

Expert clinical reasoning usually involves working with interpretations that are elaborated into branching networks of concepts. These networks help professionals to initiate a process of problem-solving from minimal information and use subsequent information to refine their understanding of the problem. Integrated reasoning is therefore seen as the use of expert scientific, clinical, and humanistic judgement to engage in clinical reasoning (Epstein & Hundert, 2002).

Integrated reasoning can be considered as the building block of clinical competence. Together with competencies discussed in this section, integrated reasoning should lead to two main outcomes namely, efficiency and effectiveness. Because integrated reasoning manifests wherever complex and novel problems appear, it can lead to any other outcomes in this study, for example, solving a problem to improve patient safety or ensure patient dignity– however, given that it is mostly discussed in the context of clinical effectiveness it will be linked with effectiveness and efficiency.

Integrated reasoning in this study is defined as *managing ambiguous problems, tolerating uncertainty, and making decisions with limited information*.

2.5.2.2.4 Professionalism

Where integrated reasoning can be viewed as the central component of attaining technical proficiency, professionalism can be viewed as the compass that directs the conduct of the MP. "Medical professionalism is a belief system in which group members ("professionals") declare ("profess") to each other and the public the shared competency standards and ethical values they promise to uphold in their work and what the public and individual patients can and should expect from medical professionals" (Mackenzie, 2017, p. 1).

Gordon et al. (2015) refer to four important behavioural components of professionalism. These include subscription to standards, monitoring of compliance, intervening when deviation is detected, and allowing for deviation only if appropriate and after the consultation has taken place.

The physician competency framework specifies that a professional exhibit and promotes appropriate professional behaviour, including honesty, integrity, commitment, compassion, respect for life, accessibility and altruism (HPCSA, 2014).

In addition, literature refers to the following behaviours that are essential to performing professionally: a MP should do checks, be conscious of time, be respectful, check and compare history, follow code of conducts and ethics (Gruber & Frugone, 2011); provide ethical, legal, professional, and scientifically sound healthcare (Mash et al., 2016); be aware of legal/ethical implications of actions, treats patients in terms of an appropriate clinical route rather than bowing to market pressures; demonstrate enthusiasm for the job; appreciate the value of the contribution of others; demonstrate respect and care for those whom society rejects (Patterson et al., 2000).

In this study, professionalism is defined as *applying specialist and detailed expertise to all patients, treating all patients, colleagues and other people with respect and dignity, being punctual and accessible while on duty and displaying integrity and complying with ethical and legal standards*.

2.5.3 PEER INTERACTION

In the primary care context, MPs typically function interdependently in interprofessional healthcare teams with nurses, occupational therapists and other healthcare staff.

The Department of Health emphasised the importance of this category by describing the need to "strengthen relationships, build trust and confidence and meaningful and effective communication in all directions between clinical staff and patients, between members of the multi-disciplinary teams" (Western Cape Government, p.80, 2014).

2.5.3.1 Peer outcomes

The current world of work can be characterised by increased complexity, which in turn demands work teams to adapt to change. This is not an exception among MPs. Changes such as the increase in chronic illness and a lack of resources among certain hospitals require flexible team strategies. Effective collaboration is therefore required to successfully serve patient needs within complex working environments. People often collaborate to make a complex diagnosis (usually in smaller units or partnerships), and to treat an illness that needs special attention and/or long-term care. It is important to consider the common outcomes of effective collaboration.

Regrettably, no distinct set of outcomes were found that relates to effective peer interaction of the MP. Most performance outcomes described in literature explain unit

or group performance instead of individual performance. It might therefore be most appropriate to assess literature for generic peer outcomes that may indicate effective peer interaction. These outcomes include *cohesion* and *appreciation by peers*. It is expected that these outcomes will be indicative of a MP that effectively coordinates, motivates and treats his/her co-workers with respect. The outcome of appreciation should reflect the good conduct of the MP whereas cohesion might reflect the functional and motivation influence the MP has on the team.

2.5.3.1.1 Cohesion

Healthcare teams are expected to function efficiently. This requires every member to be aware of the team goals and remain engaged. This is a typical outcome of high performing teams in various contexts (Rapisarda, 2002). The MP often has to assume the leadership position when functioning in an interprofessional team, and should have the capacity to motivate and work with a team in a manner that facilitates group cohesion (Sanko, 2015). Positive teamwork and leadership behaviours can therefore be expected to lead to a higher level of cohesion among co-workers (Rapisarda, 2002). Cohesion is also expressed by Bernadin and Russel (1998) in saying that an individual should be able to promote feelings of cooperativeness among co-workers. Cohesion consists of feelings of unity and a motivation to work together towards a common goal (Carless & Paola, 2000).

This study defines cohesion as *the extent to which colleagues willingly work together to achieve team goals as a result of their interactions with the MP*.

2.5.3.1.2 Peer appreciation

Similar to the notion of patient satisfaction, the outcome of *appreciation by peers* can provide a clear indication of how the MP generally treats his/her co-workers (Sanko, 2015). Bernadin and Russel (1998) also emphasise this outcome by arguing that a positive interpersonal impact should be made across all jobs. Appreciation or satisfaction is a function of whether peers feel understood in terms of their profession, whether the MP made a significant contribution to achieve goals, and whether the MP communicated satisfactorily with others.

Peer appreciation in this study is defined as *the extent to which peers feel understood by the MP and perceives the MP as a valuable team/group member.*

2.5.3.2 Peer competencies

The MP plays a focal role in creating positive and effective team environment. Poor teamwork can affect the performance of peers and in turn lead to poor patient outcomes. Moreover, in a diverse and resources constrained environment, there are bound to be interpersonal conflict. In times like these, the MP should be able to manage his/her emotions and appropriately deal with conflict in order to maintain focus on the task at hand. MPs should therefore not only focus on the needs of the patient or perfecting their clinical craft, but should behave in a manner that is conducive to optimal team functioning. Two competencies are discussed in this light namely, *working with people* and *clinical leadership*.

2.5.3.2.1 Working with people

In this study, *working with people* is used interchangeably with *collaboration*. The concept of collaboration has been defined as a dynamic process characterised by sharing, partnership, interdependency, and power (D'Amour et al., 2005).

Firstly, sharing requires individuals to take on shared responsibilities, partake in shared decision-making, identify with shared values, and contribute towards collective planning and the implementation of interventions (D'Amour et al., 2005). Secondly, partnership requires individuals to engage in open and honest communication, and show mutual trust and respect. Partnership requires being aware of the contributions that others make, and being aware of a common set of goals that the team is working towards (D'Amour et al., 2005). Cases with high complexity often require collaboration of a wide variety of expertise. This implies that professionals have to become interdependent, i.e. mutually dependent so that patient needs can be attended to. This could allow for individual contributions to be maximised through the synergy in the team (D'Amour et al., 2005). Thirdly, power should be shared throughout the team and recognised by all members. It is important that power is based on knowledge and expertise instead of titles (D'Amour et al., 2005). Lastly, the professional should be able to recognise and partake in the different parts of the collaboration process. Important steps include negotiation, compromise in decision-making, and shared planning and intervention. The presence and nature of these steps may vary across different teams.

Working with people also relates with the management competency. Most successful interventions in chronic disease management entail the delegation of responsibility by the primary care practitioner to team members for ensuring that patients receive proved clinical and self-management support services (Holman & Lorig, 2004). In a team-based setting of managing care, the MP should be able to develop and implement formal and well-written plans to provide clear direction for all members. This could significantly improve the functioning of the team given the complexities of interprofessional care.

Another important dimension of working with people is conflict management. Given the complexity of healthcare problems, professionals need to work in teams, and with teamwork, conflict is inevitable (Brown et al., 2011). Conflict can take place between the MP and colleagues, patients, and family members of patients, and may lead to litigation or violence. Moreover, unresolved or destructive conflicts can have an adverse impact on important primary care outcomes such as on effectiveness, morale, and the quality of patient care (Andrew, 1999). Sources of conflict include role boundary issues, misunderstanding of others' scope of practice, and a lack of accountability (Brown et al., 2011).

Solving conflict requires open and direct communication, a willingness to find solutions, respect, and humility (Andrew, 1999). The Canmeds (2015) framework requires physicians to work with physicians and other colleagues to promote understanding, manage differences, and resolve conflicts (Frank, 2015).

This study will adopt the same definition as Fourie (2016) which defines working with people as *showing respect for the views and contributions of other team members, collaborating with healthcare workers from other medical professions and viewing yourself as equal to others and further listening, supporting, caring and showing appreciation for others.*

2.5.3.2.2 Clinical Leadership

Swanwick and McKimm (2011) suggests that the role of medical practitioners as leaders has become increasingly important. Fourie (2016) confirmed this stance with overwhelming feedback from subject matter experts regarding the importance of leadership.

The main components of clinical leadership include mentorship, teaching, stewardship and motivating others. Experts insist that teaching is a defining characteristic of being an effective leader in hospitals (Fourie, 2016). Experienced MPs in particular ought to be the mentor and teacher for other medical staff in the healthcare team.

In short, the definition from Fourie (2016) will be used in describing clinical leadership as *taking the lead and delegating activities to team members in a calm way and taking responsibility above and beyond one's duties and standing up to do the right thing.*

2.5.4 PERSONAL WELLBEING

MPs can be exposed to long hours, large workloads, as well as physical and psychological trauma of others. The negative results may include burnout, moral distress and compassion fatigue. The personal wellbeing of the MP is therefore important to avoid the negative effects on mood, behaviour, physical health, and patient care (HPCSA, 2014).

2.5.4.1 Personal outcomes

Managing personal well-being and maintaining professional competence is of utmost importance for MPs as poor wellbeing and incompetence could lead to major health related consequences for the MP and the patient (Wallace, Lemaire & Ghali, 2009). Many would agree that professional and personal self-management has numerous implications. A MP who is able to look after himself/herself is likely to be more competent in the different areas of practice. Higher levels of competence would then lead to better health outcomes. Indicators of effective self-management and lifelong learning include *job satisfaction* and *perceived competence.*

2.5.4.1.1 Job Satisfaction

Burnout and other stress related outcomes have become quite common among South African health professionals and it is therefore important to identify coping strategies that could be implemented by the individual (Peltzer, Mashego, & Mabeba, 2003). It is suggested that job satisfaction is a very strong indicator of coping, and positive coping behaviours are more likely to lead to improved quality of life (Wallace, Lemaire & Ghali, 2009).

Similar to the definition used by Wallace, Lemaire and Ghali (2009), this study defines job satisfaction as *the extent to which a MP experiences a state of happiness, comfort and health*.

2.5.4.1.2 Perceived competence

Numerous frameworks express the importance of MPs to engage in continuous professional development (Frank, 2015; Mash et al., 2016). A MP needs to keep up with the latest trends in medicine, ensure that they have the necessary skills, and be confident to provide quality care in the primary care setting. A potential outcome of successful lifelong learning would be *perceived competence*.

Perceived competence is defined as *the extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice without the need of supervision.*

2.5.4.2 Personal competencies

It is believed that in the current context a MP should be able to manage themselves through self-care activities, self-development and coping strategies. These are important as a MP is required to work long hours and make difficult decisions.

2.5.4.2.1 Self-care

With regards to self-care, it is recommended to spend quality time with patients, relatives, and staff. Furthermore, it is essential to seek help from others in order to improve one's self-esteem, professional status, and intellectual stimulation (Arnetz, 2001).

With regards to one's work context, it is often necessary to make a successful attitudinal adjustment in the face of ongoing changes and acquire knowledge about such anticipated changes in order to be prepared (Peltzer, Mashego, & Mabeba, 2003). It is also necessary to be familiar with the mission and vision statements of the department and the hospital. Other areas that are especially important for intrinsic satisfaction would include engaging in participatory leadership, developing professional skills. Regarding physical wellbeing, it is essential to make time for exercise and socialising activities (Arnetz, 2001).

Self-care is defined as *being aware of one's inner state and implementing the necessary strategies to achieve emotional and physical well-being for oneself* (Fourie, 2016).

2.5.4.2.2 Lifelong learning

Learning skills and knowledge to perform one's job better is considered a key componency of job performance (Myburg, 2013). Personal learning can be defined as the individual's perceptions of how much they have learned and developed since they started working in primary healthcare.

MPs who can adopt a positive coping strategy would be able to organise their work better, delegate job duties and be more realistic as to what it is possible to accomplish within available time and resources (Arnetz, 2001).

The adapted CanMeds competency framework comprehensively defines this competency under the *Scholar* role. Some behavioural indicators of the competency include using appropriate strategies and utilising opportunities for continued professional development and lifelong learning. A unique requirement of this competency for South African physicians is to also know the requirements of the regulations regarding continuous professional development (CPD), as specified by the Health Professions Council of South Africa (HPCSA, 2014).

It is expected that perceived competence will result if a MP effectively applies the competency of lifelong learning.

Lifelong learning is defined as *reflecting on work that was done, identifying knowledge and skill gaps and taking the necessary action to improve one's knowledge or clinical skills on a continuous basis to remain competent* (Fourie, 2016).

2.5.4.2.3 Coping with pressure

It is widely known that MPs need to be calm under pressure. Coping under pressure requires one to be aware of one's limitations, be willing to ask for help, and actively delegate tasks (Fourie, 2016). This is important especially in emergencies, as tasks need to be prioritised effectively (Fourie, 2016; Patterson et al., 2000).

Coping with pressure is defined as *remaining calm while working under stressful conditions and to be able to take control of the situation to remain effective; prioritising activities and delegating tasks to other healthcare professionals* (Fourie, 2016).

2.5.5 COMMUNITY INVOLVEMENT

The roles of the future primary care doctor have a central theme of community involvement. The ability to work with community members is therefore key to being a primary care doctor (Malan, Cooke & Mash, 2015).

2.5.5.1 Community outcomes

Many communities in South Africa have widespread health issues that are often rooted in the physical environment, behaviours and socio-economic circumstances. A MP has the opportunity to alleviate these circumstances by making an impact on the attitudes and behaviours of community members in a manner that will serve the health needs of the community (National Planning Commission, 2013).

2.5.5.1.1 Sphere of influence

A MP has the potential to influence the attitudes and behaviours of community members and patients. MPs could be part of or be leading an educational and/or preventative initiative that promotes healthy lifestyle changes. They could also be broadening access to healthcare by doing frequent home visits (Malan, Cooke & Mash, 2015).

In order to have a sustainable impact in the community, a MP needs to be integrated into the most critical networks of the community. This would allow maximum influence where they can use their authority and expertise. This notion is reflected by the roles of the primary doctor framework and the physician competency framework which suggest that the MP should maintain appropriate professional relationships with communities, and help develop a network of stakeholders and resources within the community (HPCSA, 2014; Malan, Cooke & Mash, 2015).

In this study, *s*phere of influence is defined as *the extent to which the MP influences patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy relations between MPs and community stakeholders.*

2.5.5.1.2 Health promotion

Beyond having established relationships with community members, the MP should ensure that the relationships and efforts lead to positive health outcomes by effectively promoting better decision making (Malan, Cooke & Mash, 2015).

In this study, health promotion is defined as *the extent to which patients, family members and a community make better life decisions due to their interactions with the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc.*

2.5.5.2 Community competencies

For a MP to have a significant impact on a community requires learning from and about the community, building relationships and trust with community members, and being able to identify the most prominent community needs. Two competencies namely, *cultural competence* and *health advocacy* is expected to enhance community impact.

The MP, should be able to think about and advocate for the health needs of the local community. The primary care doctor should exhibit a community-orientated mindset that supports the ward-based outreach teams, understands the community's health needs and social determinants of health in the community, and thinks about equity and the population at risk.

2.5.5.2.1 Health advocacy

Community health advocacy is a broad integrative competency that overlaps with competencies such as management and teamwork. A MP should be able to assist the team in solving problems across levels of care within the community network of resources and organisations (HPCSA, 2014). Other sub-competencies include being able to seek and synthesise appropriate information from relevant sources, demonstrate the competence to work in home and community-based care settings, recognise and respond to competing interests within the community being served (HPCSA, 2014; Malan, Cooke & Mash, 2015).

This study defined health advocacy as *responsibly using one's expertise and influencing other to advance the health and well-being of individuals, communities, and populations*

2.5.5.2.2 Cultural competence

With cultural diversity in South Africa, patient and communities have different needs, values and traditional medicinal practices. Cultural assumptions and expectations shape the doctor-patient relationship and may become an obstacle to adequate care. A MP needs to be sensitive to cultural differences in order to efficiently work with patients and communities. Cultural competence refers to a set of congruent behaviours and attitudes of a MP that enables them to work effectively in cross-cultural situations (de Beer & Chipps, 2014; Levin, 2011). It is the extent to which the MP can deliver effective services to racially, ethnically, and culturally diverse patient populations (Fernandez et al., 2004). Cultural competence has been shown to be an important determinant, independent from language proficiency or effective communication (Levin, 2011).

Cultural competence also plays an active role in healthcare teams. The physician competency framework specifies that a medical practitioner should be able to recognise and respect – irrespective of profession, status, age, gender, race, class or beliefs – the diversity of roles, responsibilities and competencies of other team members. Moreover, they should appreciate diversity, and demonstrate the ability to adapt (HPCSA, 2014).

This study defines cultural competence as *showing cultural sensitivity towards colleagues, patients and communities from different backgrounds. It is the extent to which the MP can deliver effective services to racially, ethnically, and culturally diverse patient populations.* For ease of reference, all competencies outcomes are summarised in the following section.

2.6 SUMMARY OF LATENT VARIABLES

Table 2.7 lists all outcomes and their definitions as discussed in Chapter 2

Table 2.7

Summary of outcomes identified in literature

Outcome	Definition
Appreciation by peers	The extent to which peers from various professions feel understood and appreciated by the MP and perceives the MP as a valuable team/group member.
Accurate diagnosis	How often the MP accurately identifies a health problem. An accurate diagnosis takes cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient.
Adherence	The extent to which patients' behaviour, taking of medication, diet, or lifestyle, corresponds with the agreed-upon recommendations of the MP.
Cohesion	The extent to which colleagues willingly collaborate together to achieve team goals.
Cost effectiveness	The extent to which the MP reaches maximum outcomes of care with the minimum yet appropriate amount of resources.
Dignity	The extent to which patients are shown respect and feel respected in terms of their personal needs and standards as a result of their interaction with the MP.
Effective treatment Enablement	How often any action taken by the MP to manage/treat a patient results in the desired outcome. The extent to which patients are capable of understanding and coping better with their health issue(s).
Health promotion	The extent to which patients, family members and a community make better life decisions due to their interactions with the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc.
Informational continuity	The extent to which the MP has each patient's medical information readily available and the extent to which this information and any other forensic information is well organised, accurate, clearly specified, and consist of all the necessary details.
Job satisfaction	The extent to which a MP experiences a state of happiness, comfort and health.
Patient continuity	The extent to which the MP consistently sees the same patients or families on repeated visits.
Perceived competence	The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice without the need of supervision.
Quality	The extent to which the MP consistently addresses the bio-psycho-social-spiritual needs of patients by conducting patient-centred consultations and negotiating interprofessional treatment plans.
Quantity	The extent to which the MP completes a high number of consultations, medical procedures, administrative and other routine tasks.
Safety	The extent to which patients experience freedom from accidental or preventable injuries while under the care of the MP.
Satisfaction	The extent to which the expectations of patients are met by the MP in terms of warmth, sensitivity, attention to psychological problems, provision of sufficient time, and respect of the relationship.
Sphere of influence	The extent to which the MP influences patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy relations between MPs and community stakeholders.
Timeliness	The extent to which the durations of routine tasks performed by the MP take place in a short, yet appropriate period-of time.
Trust	The extent to which patients believe in the good intent, competence, honesty and confidentiality of their MP. It is the extent to which patients are comfortable and open up towards the MP.

Table 2.8 lists all competencies and their definitions as discussed in Chapter 2.

Table 2.8

Summary of competencies identified in literature

Competency	Definition
Communicating effectively	Clearly articulates the message one wants to deliver, through one's words, writing and body language by using appropriate language or diagrams which the audience will understand; listening, without interrupting others; giving the patient the opportunity to communicate their 'story'; probing for the right information through respectively open and closed ended questions; attending to the words, writing and body language of other to comprehend the message they want to deliver.
Coping with pressure	Remaining calm while working under stressful conditions and to be able to take control of the situation to remain effective; prioritising activities and delegate tasks to other healthcare professionals.
Medical professionalism	Applying specialist and detailed expertise to all patients; treating all patients, colleagues and other people with respect and dignity; being punctual and accessible while on duty; displaying integrity, and complying with ethical and legal standards.
Patient-centred care	Displaying compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient.
Working with people	Showing respect for the views and contributions of other team members; collaborating with healthcare workers from other medical professions and viewing yourself as equal to others; listens, supports, cares and appreciates others; consults others and shares information and expertise with them; builds team spirit and reconciles conflict; adapts to the team and fit in well.
Lifelong learning	Reflecting on work that was done, identifying knowledge and skill gaps and taking the necessary action to improve one's knowledge or clinical skills on a continuous basis to remain competent.
Self-care	Being aware of one's inner state and implementing the necessary strategies to achieve emotional and physical well-being for oneself.
Management	Planning organising and monitoring a care plan, partaking in decision-making and maintaining administrative information.
Integrated reasoning	Managing ambiguous problems, tolerating uncertainty, and making decisions with limited information.
Technical competence	Completion of procedural tasks that require sensitive and systematic psychomotor functioning, and analytical thinking.
Clinical leadership	Taking the lead and delegating activities to team members in a calm way; taking responsibility above and beyond one's duties and standing up to do the right thing.
Health advocacy	Responsibly use of one's expertise and influence to advance the health and well-being of individuals, communities, and populations.
Cultural competence	Showing cultural sensitivity towards colleagues, patients and communities from different backgrounds. It is the extent to which the MP can deliver effective services to racially, ethnically, and culturally diverse patient populations.

2.7 PROPOSED THEORETICAL PARTIAL COMPETENCY MODEL

All latent outcome and competency variables as discussed in Chapter 2 are structurally displayed in Figure 2.6.
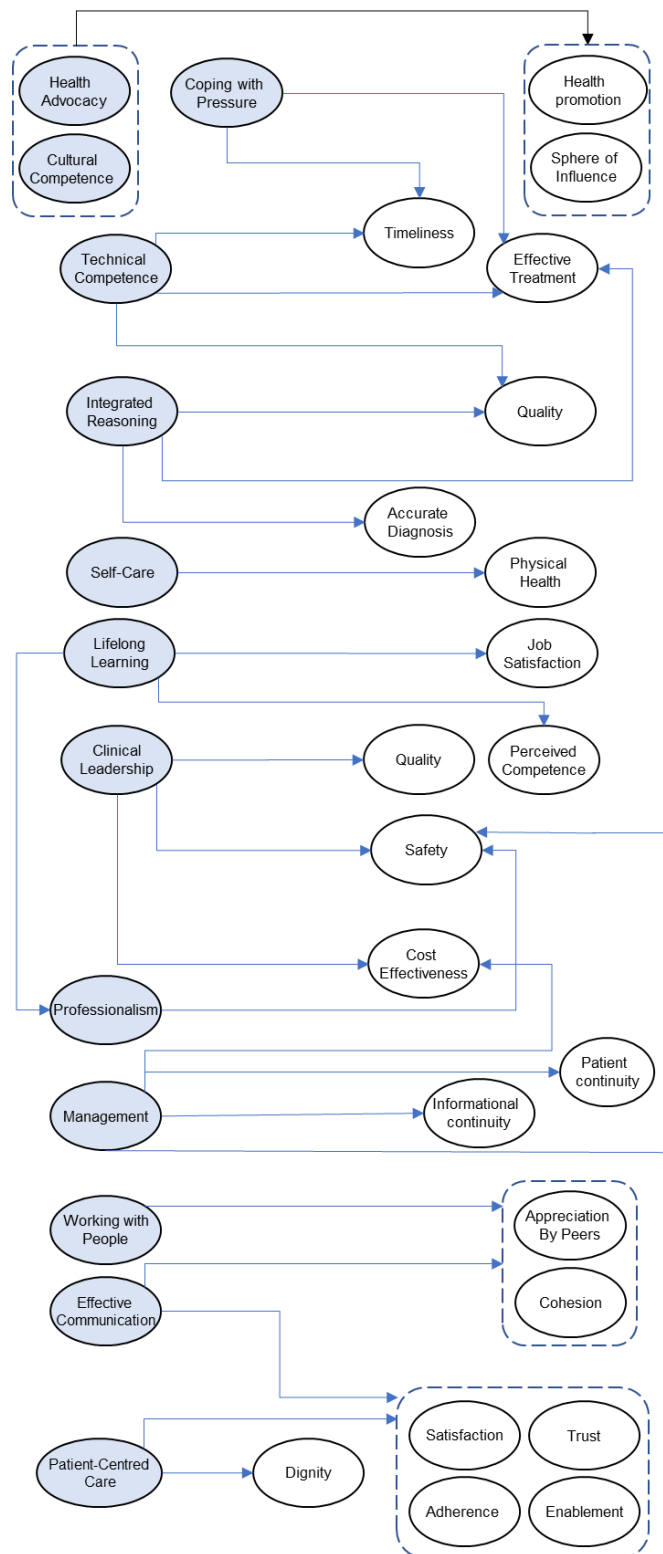
Figure 2.6 Theoretical partial competency model.

*White circles resemble outcomes while grey circles resemble competencies. *Arrows indicate causal relationships between variables*Dotted lines serve to group outcomes together that share the same relationship with certain competencies.

The empirical and theoretical links that were discussed throughout the chapter are displayed in the form of arrows linking the variables. Important to note is that this model is primarily based on the literature review. Based on the findings of this study, a modified theoretical model will be proposed in Chapter 4.

2.8 CONCLUSION

Considering the arguments presented in this chapter, it seems that existing models and frameworks of MP performance lack an explanation of individual performance outcomes. Moreover, there is no clear alignment with multiple stakeholders. A comprehensive list of performance outcomes was therefore not be identified from a single source, but from various sources.

An attempt was made in this chapter to identify a comprehensive set of outcomes to propose a partial competency model that explains MP performance in terms of competencies and outcomes. The variables identified were grouped and displayed in a theoretical model under Figure 2.6. The outcomes were put together by the researcher using various sources. For the sake of credibility, it was considered highly important that subject matter experts (SME) view all outcomes and determine whether the identified list of outcomes will suffice in explaining MP performance. Moreover, the manner in which these outcomes have been defined should be assessed by SMEs. It is important that the outcomes are clear, accurate and suitable to the South African context.

Only after the list of outcomes have been established can a South African medical practitioner outcome questionnaire be developed. Chapter 3 will commence by outlining the steps required to establish a list of outcomes and develop a South African medical practitioner outcome questionnaire.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

In Chapter 1, the need for a South African Medical Practitioner competency model was argued in the context of South African healthcare. In Chapter 2, relevant literature was explored to conceptualise the competencies and performance outcomes that form part of MP performance.

The purpose of Chapter 3 is to discuss the philosophical stance of the methodology and to outline the steps required to establish the conceptualisation of the outcome variables and develop items for the South African Medical Practitioner Outcome Questionnaire (SAMPOQ).

A mixed methods approach was followed by obtaining feedback from subject matter experts (SME's) to ascertain the credibility of the outcomes and the content of the SAMPOQ. Firstly, a Delphi technique was applied to establish a list of outcomes. Secondly, content validity ratings were obtained for draft items, and thirdly, open-ended comments were grouped into notable themes through thematic analysis.

3.2 PHILOSOPHICAL STANCE

Before describing the practical methods of data collection, the researcher ought to assert the philosophical stance and the underlying approach of the study.

What distinguishes humans from other species is our inherent curiosity to make sense of the world around us and attribute meaning to what we do. By observing and interpreting isolated phenomena in its own right can become overwhelming. Therefore, we connect seemingly related behaviours and ascribe meaning to it. This process leaves us with subjective constructs that we use to communicate with each other. Constructs are abstract and therefore not observable, however, through research they can be explained in a concrete and systematic way (Babbie & Mouton, 2004).

This study is built on the nomothetic premise that subjective constructs are governed by certain underlying laws of behaviour. In this sense, while subjective constructs are based on the perceptions of individuals, they are considered generalisable and can, therefore, be studied empirically. Generalisability does not imply a complete loss of individuality. However, subjective constructs are seen to manifest similarly in most people, instead of being exclusive to each individual.

It is assumed that abstracts can be deconstructed, operationalised and quantified and therefore measured through psychometric instruments. This study, therefore, takes on a positivist stance in explaining human behaviour by moving towards an instrument that can measure the latent outcome variables of MP performance.

Ideally, the performance of MPs will be empirically measured. However, this study explores novel constructs that have not been crystallised to the extent where they can be measured. Therefore, before the constructs can be measured, they ought to be explored by examining how people define and perceive them. This could inform the content and structure of the constructs. A phenomenological approach was therefore adopted in exploring the performance outcomes of MPs.

Phenomenology describes how we engage with the phenomena around us on a first-hand basis (Babbie & Mouton, 2004). How does this thinking relate to this study? The answer lies in the perceptions of experts. While literature from Chapter 2 defined the various outcomes, it is essential to capture the perceptions that experts carry over these constructs. Exploring the nature of constructs demands rich information that could be analysed for meaning. This warrants a predominantly qualitative approach to conducting research.

Babbie and Mouton (2004) suggest that quantitative research allows the researcher to quantify human behaviour, whereas a qualitative research design is used for exploratory purposes. Guba and Lincoln (2005) further argue that qualitative research is a tool through which phenomena is deciphered through the lens of those who study it.

By applying an exploratory approach, a firm grip can be held over the performance construct. Thereafter the conceptual elements can be operationalised into items which would elicit responses associated with the constructs, which would, in turn, provide a quantified expression of the construct. Given the novelty of this study, the process of defining and measuring the latent outcome variables still lies at its infant stages. It is for this reason that this study will explore the latent outcome variables thoroughly through a mixed exploratory methods approach. Various information was sought from subject matter experts; therefore, the data collection methods were tailored to the needs of the study to best define the latent outcome variable.

3.3 QUALITY OF RESEARCH

Qualitative research can easily be criticised for being lenient and open for interpretation when making important decisions over the data (Braun & Clarke, 2006). It is therefore vital to stipulate clear criteria of decision-making, interpretation and overall quality assurance. Generally, it is expected of researchers to put measures in place to ensure valid, reliable, and objective research (Brinkmann, 2007). This is considered easier with quantitative research where testable hypotheses are deduced and statistically tested. Qualitative research, on the other hand, follows more of an open-ended and iterative process in 'testing' the research hypothesis and cannot always be judged by its validity, reliability and objectivity (Brinkmann, 2007; Schurink, 2009). Therefore, Lincoln and Guba (2005) suggested four criteria of proper qualitative research. These criteria include credibility, transferability, dependability and confirmability.

Credibility refers to the extent to which the researcher accurately portrays the views and opinions of participants. It is considered the most important criterion according to Schurink (2009). Credibility was particularly important in the Delphi phase of the current study. Credibility was ensured in the second phase of the Delphi, where all direct quotes of SMEs were made visible to other SMEs. Similarly, when reporting the results of the study, unedited quotes were used to support findings. Also, the final list of outcomes and items were circulated among SMEs for final confirmation.

Transferability refers to the extent to which information can be translated from one context to another. Transferability in the current study was upheld by setting strict and meaningful participation requirements for SMEs (Cohen & Crabtree, 2008).

Dependability describes the rigour of the study. Dependable research is systematic, logical, well documented and audited (Schurink, 2009). The current study ensured dependability through detailed planning and specific predetermined criteria of decision-making. For example, with phase one and two, the decision-making criteria of including and excluding outcomes and items were made clear. The criteria of what can be considered a good item in the content validity phase was also specified and justified.

Lastly, *confirmability* refers to the extent to which the research findings can be confirmed through the collected data (Guba & Lincoln, 2005). In the current study, confirmability was ensured by thoroughly organising and keeping track of all documentation throughout the research process. All raw responses from each individual were documented before integration, all steps of data integration were tracked, and all decisions regarding the inclusion, changes and removal content were recorded.

3.4 RESEARCH DESIGN

As discussed in the previous section, an exploratory approach was followed by making use of mixed-methods to satisfy the needs of this study.

The overarching research question in this study was *what are the performance outcomes that explain MP performance?*

More specifically, the following research initiating questions were asked to explicate the connotative and denotative meaning of the medical practitioner performance outcomes to allow the development of the South African Medical Practitioner Outcome Questionnaire (SAMPOQ):

1) How are the latent performance outcome variables defined?

2) What are the indicators that signify whether an outcome has occurred?

In an attempt to answer these questions, consensus was sought from experts regarding the inclusion and conceptualisation of the outcomes that were identified in literature. This constituted the Delphi phase. Additional information was obtained regarding the behaviours required to achieve each outcome and the typical signs that indicate whether an outcome has been reached.

Secondly, as a means of obtaining content validity, experts were asked to rate and provide feedback of the draft items developed after the Delphi phase. This constituted the content validity phase. The content validity ratings were obtained for three forms of the SAMPOQ namely, the Self-Rating form (Form-S), Other-Rating form (Form-O), and Patient-Rating form (Form-P). Proper development and refinement of the SAMPOQ could minimise extraneous variance if future research were to statistically validate the SAMPOQ. The final SAMPOQ was distributed to two subject matter experts for final triangulation. Lastly, open-ended comments across all steps were categorised through thematic analysis to discuss some notable emerging themes.

The main steps of the data collection process are outlined below in Figure 3.1.
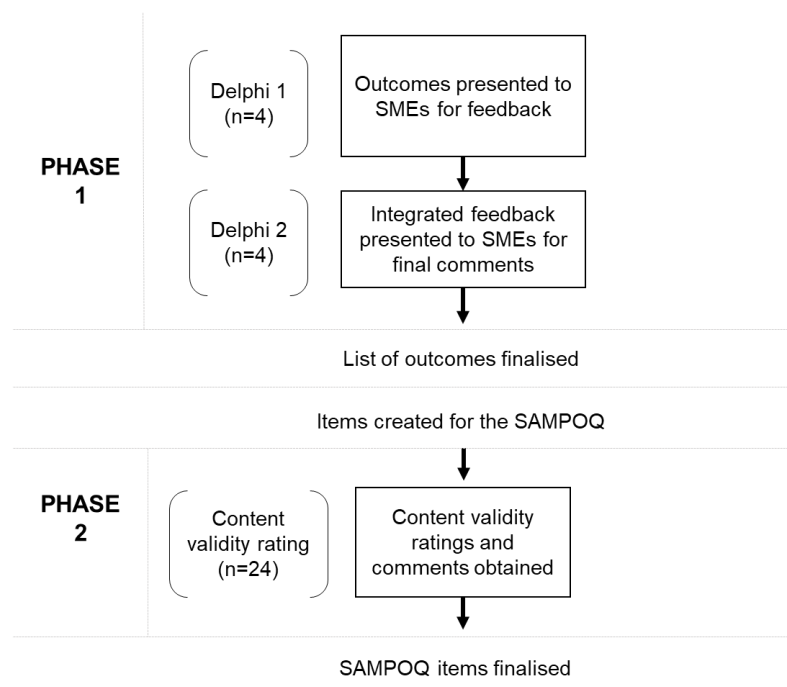
Figure 3.1

Data collection process

3.5 TARGET POPULATION

The SAMPOQ intends to measure the performance outcomes of South African medical practitioners in South African primary care institutions. For this study, the term medical practitioner (MP) refers both to general practitioners (GP) and family physicians in primary care. GPs can be defined as doctors who diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population (O-Net, 2011). Family physicians fulfil a similar role and have undergone specialist training to provide care for patients with various health issues from all genders and ages. Both categorisations may act as the first point of contact in a healthcare institution; they play a pivotal role in an interdisciplinary healthcare team and play a key role in community health and health promotion. The MPs under discussion include those who work in either public or private facilities. They are also assumed to be registered with the HPCSA under the Medical and Dental board (HPCSA, 2014).

3.6 SUBJECT MATTER EXPERTS

Ideally, subject matter experts (SME) from across South Africa would have been used to comprehensively represent the views of experts from different South African contexts. However, due to constraints in time and resources, convenience sampling was used to access participants who are both accessible and willing to participate.

3.6.1 Sample size

The first phase of data collection consisted of the Delphi phase, which constituted as qualitative research; therefore, the sample size was not dependent on the total population size, and therefore the feasibility of the study and the quality of SMEs was of more concern than the statistical power (Okoli & Pawlowski, 2004). It has been suggested that the number of experts used in a Delphi study should be dependent on the number of people required to constitute a representative pooling of judgments and the information processing capability of the research team (Hsu & Standford, 2007). However, what constitutes an optimal number of subjects in a Delphi study never reaches a consensus in the literature. Some suggest that ten to fifteen subjects could be sufficient if the background of the Delphi subjects is homogeneous while others suggest that a suitable minimum panel size is seven (Okoli & Pawlowski, 2004). Panel sizes have however ranged from four to 3000 (Hsu & Standford, 2007). Considering that this study required feedback from a homogenous group of participants who are

also highly and specifically qualified, it was decided that a realistic sample size of eight SMEs would be ideal whereas the minimum SMEs were set at four. i.e. with less than four participants the study would not have commenced.

As for phase two of the data collection namely, the content validity phase, a target of eight participants per form was required, therefore making up a total of 24 participants for the content validity ratings. Although the content validity phase collected quantitative data, the sample size was also not dependent on the total population size as it did not measure a generalisable construct, but instead obtained critical feedback towards draft items of the SAMPOQ. The sample was however sensitive to the minimum required sample size in order to apply cut-off values for content validity ratings (CVR). The use of the cut-off values demanded a minimum of five participants per form (Wilson, Pan & Schumsky, 2012).

3.6.2 Requirements to participate as subject matter experts

In order to sufficiently respond to questions in the Delphi-phase, SMEs were required to understand the roles and responsibilities of MPs in primary care. Respondents were also required to understand the context in which MPs operate as well as the social and systemic issues that MPs face. More importantly, SMEs required some insight with regards to the future roles of MPs. The researcher was therefore of the opinion that participants should have extensive experience in a primary care setting and academic and educational insights. This is primarily why university staff members were approached.

Participants were required to have at least 10 years experience as a medical practitioner in a primary care setting. Participants at the time had to be registered as a general medical practitioner or family physician with the HPCSA. Lastly, participants had to be a lecturer (full-time, part-time or assisting) or researcher in a field that relates to primary healthcare or family medicine.

The criteria for content validity ratings were less strict. The goal was to obtain feedback from junior MPs too as they would essentially have to rate themselves using Form-S. In this light, it was important to obtain face validity from potential future users of the SAMPOQ.

To participate in the content validity rating for Form-S, participants were required to have at least two years experience as a medical practitioner in a primary care setting. This included community service and internship experience. Participants were also required to be registered as a medical practitioner with the HPCSA as a GP or family physician.

Interprofessional; also referred to as allied workers were required to complete Form-O. Respondents had to be registered with the HPCSA and had to have worked with MPs in a primary care setting for more than two years. Examples of respondents include registered nurses, occupational therapists and physiotherapists.

As for Form-P in the Content-Validity phase, respondents did not require insight into the role requirements of MPs per se, as the content represented the views of patients. Instead, this particular group was required to have a keen understanding of item development and content validity. In this light, industrial psychologists or psychometrists registered with the HPCSA; preferably with experience in the healthcare industry and in using psychometric assessments were invited to participate.

3.7 DELPHI TECHNIQUE

The first phase of data collection consisted of a Delphi technique. The aim was to reach consensus between experts regarding the inclusion and conceptualisation of the outcomes. A high level of consensus would mean that experts agree with the outcomes included in the theoretical competency model, and with the outcomes measured by the SAMPOQ. With this added credibility, the questionnaire could be developed with much more confidence.

A Delphi technique can be defined as a method of creating a structured process of communication between experts with the aim of clarifying certain unknown or unclear issues (Okoli & Pawlowski, 2004). The iterative process usually consists of three rounds where a panel completes questionnaires that are revised and edited by the researcher. Responses are edited in such a way that the next round of questionnaires could have a higher level of consensus among experts.

Many researchers appear to have designed their techniques according to the needs of their study (Mash et al., 2008; Mash et al., 2006; Okoli & Pawlowski, 2004). The

manner in which the Delphi technique is tailored to the needs of the study is discussed below.

Before the Delphi survey was distributed, it was assessed by two SMEs who gave open-ended feedback of the structure and face validity of the survey. The two SMEs who participated in this part of the research both had more than 12 years experience as MPs. Feedback regarding appropriate terminology was integrated to improve the content of the Delphi survey.

3.7.1 Delphi survey design and analysis

The outcomes and their respective definitions as discussed in Chapter 2 were displayed to SMEs in the first Delphi questionnaire (Delphi 1).

With each outcome, the primary objective was to reach consensus over a) its inclusion and b) its definition. This was the most important focus of Delphi 1 and Delphi 2 as it would result in the final list of outcomes.

For each outcome, additional information was obtained regarding c) its importance, d) the behaviours required to achieve the outcome, and e) observable signs of the outcome. Respondents were also asked if any outcomes should have been added to the list.

The rationale and analysis of each objective are explained below:

a) Inclusion

To determine which outcomes ought to be included in the final list, participants were asked alongside each outcome: "Should the outcome be included in the final list?", also, "Can the behaviour of a MP facilitate/promote this outcome?" These were the primary items that determined consensus. It was expected that answers would indicate whether MPs should be held accountable for these outcomes and whether they have significant influence over the outcomes.

These questions required yes or no answers which were scored as 1 or 0. The total number of 'yes' responses were divided by the total number of responses to provide a percentage of agreement between 0-100 percent. The levels of consensus were calculated for Delphi 1 and Delphi 2.

Previous Delphi techniques involving similar sample groups emphasised the need to state a predetermined level of consensus (Mash et al., 2008; Mash et al., 2006). This study aimed for a 100% level of consensus regarding the inclusion of outcomes. Therefore, all respondents had to agree that the outcome is a result of MP behaviour.

b) Definition

To establish and refine the definitions of the outcomes, participants were asked alongside each outcome: "Would you suggest any changes or additions to the description of the outcome?"

Consensus regarding the conceptualisation of the outcomes was particularly important as the definition of the outcome would determine the items used to measure it. If the definition was a misrepresentation of the South African context, then the items would not be well received and would be less accurate in measuring the performance construct.

The researcher assessed comments made by SMEs in Delphi 1 to propose a new definition in Delphi 2, with the objective of reaching full consensus among SMEs. The level of consensus was calculated by dividing the total number of participants who agreed with the proposed definition by the total number who participated. This would express the level of consensus as a percentage from 0 to 100.

There is no clear statistical cut-off value when it comes to the level of consensus. Therefore, the researcher considered the cut-off value of 70% which was used in similar studies (Mash et al., 2008; Mash et al., 2006). Therefore, the aim was to reach at least 70% consensus for each outcome by the end of Delphi 2. This meant that at least 3 of the 4 experts had to agree to the definition of the outcome for it to be considered satisfactory.

If an outcome reached 100% on both the inclusion and the definition item, it was removed from Delphi 2. If an outcome had any suggestion regarding its definition, the researcher carefully applied the suggestion and presented the new definition in Delphi 2.

c) Importance

To assess the importance of the outcomes, participants were asked alongside each outcome: "How important is this outcome?" Under the instructions of Delphi 1, it was described to participants that the level of importance depends on the time spent to reach the outcome, the frequency at which it should be reached, the level of effort put in to reach the outcome, and the consequences of not reaching the outcome (Cascio & Ramos, 1986; Vagias, 2006). Responses were rated on a Likert scale. Response options included 1-None, 2-Low, 3-Slightly, 4-Neutral, 5-Moderately, 6-Very and 7-Extremely.

The relative importance of the outcomes was indicated on a 7-point scale. The overall importance of each outcome was merely transferred to a percentage that ranged between 0 to 100 percent.

The percentages showed the relative levels of importance of each outcome, and could be used to guide future research in assigning weights to certain outcomes. The levels of importance could also roughly indicate whether the outcomes were deemed important.

d) Behaviours required to achieve the outcome

To determine which competencies are required to reach each outcome, participants were asked alongside each outcome: "Can the behaviour of a MP facilitate/promote this outcome? If yes, please describe the behaviour(s)".

SMEs were presented with the list of competencies discussed in Chapter 2. They were specifically asked to consider these competencies when responding to this question. It was expected that answers would provide useful information on how certain competency latent variables map onto the latent outcome variables. It could also provide insight into the importance of certain competencies. For example, if SMEs did not mention a competency like *effective communication*, then it would appear less critical than other competencies that were frequently mentioned.

If a participant explicitly mentioned a competency or described a behaviour associated with the competency, one mark would be allocated in the cell between the competency and the outcome. The maximum per cell is, therefore, four as there were four

participants. Participants could describe or mention multiple competencies or behaviours. Table 3.1 below serves as an example where *Competency 1* was mentioned by all four SMEs as necessary to achieve *Outcome 2*; therefore, the number 4 was indicated in the cell. *Competency 2*, however, was not mentioned by one SMEs to achieve *Outcome 2*; therefore a 0 was indicated in the cell.

Table 3.1

Example of linking competencies with outcomes

Outcome	Competency			
	{Competency 1}	*{Competency 2}*	*{Competency 3}*	*{Competency x..}*
{Outcome 1}	*0*	*2*	*4*	*…*
{Outcome 2}	*4*	*0*	*1*	*…*
{Outcome x..}	*…*	*…*	*…*	*…*

e) Observable signs

To operationalise the outcomes, i.e. to develop items, participants were asked: "How can one observe or know that the outcome has taken place?". Responses to the item were considered when initial items of the SAMPOQ were created.

f) Additional outcomes

To ensure that all relevant variables are included as part of the overarching performance construct, the survey assessed whether there are any outcomes and/or performance domains that were not included.

Additional outcomes suggested were only presented in Delphi 2 if they were considered appropriate by the researcher. The appropriateness of the suggested outcomes was judged based on whether the variable could truly be defined as an outcome, i.e. a result of individual MP behaviour.

All items discussed above are displayed in Table 3.2 as they were presented in Delphi 1. Refer to Appendix B for the full questionnaire.

Table 3.2

Template of Delphi 1 questionnaire

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
{Name of outcome – Description of outcome}	*1 – Remove,* *2 – Include but change,* *3 – Include as is*	*{suggestion from respondent}*	*1 – None,* *2 – Low,* *3 – Slightly,* *4 – Neutral,* *5 – Moderately,* *6 – Very,* *7 – Extremely*	*{Y/N. Description of behaviour}*	*{Description of signs or indicators}*

To ensure the face validity of the Delphi questionnaire, a draft questionnaire was sent to two SMEs to assess the content and structure of the questionnaire. They were extensively briefed on the context and purpose of the study to clarify the scope and possible future uses of the SAMPOQ and medical practitioner competency model. It was emphasised that the content ought to be understandable to medical practitioners especially with regards to the terminology used. Valuable feedback was received regarding language use and areas that were difficult to understand. One expert also suggested that for the question that asks "which behaviours are required to reach this outcome?" that a list of options be provided to better define the scope of behaviours. As such, the list of competencies discussed in Chapter 2 was attached along with an explanation and visual illustration of what a competency is and how it is different from an outcome.

3.7.2 Delphi process and survey distribution

After institutional permission was granted, staff members were invited to participate in the study electronically. The invitation was sent as an email. The email consisted of a formal invitation that briefly explained what the research is about, what will be required and how long it will take. Both the consent form in PDF format and Delphi 1 form in Word format was attached to the email. If the participant chose to participate, they had to sign and return the consent form before they completed the Delphi 1 form. The email addresses of participants were known to the researcher; therefore, full anonymity was not maintained. This concern was handled with sensitivity as it was made clear in the consent form, and participants were assured that their identities would not be revealed

to anyone else besides the researcher. Where comments are displayed, the name of the respondent is replaced by a random number for example 'Respondent 1'. An example of the consent form can be found in Appendix A.

The invitation was sent to approximately 20 candidates, and four respondents chose to participate. After receiving the consent forms, participants were given ten days to complete the form.

After Delphi 1 was completed, the feedback was integrated by the researcher to finalise the Delhi 2 form that would be redistributed. After Delphi 2 was sent to participants, they had seven days to complete and return the form.

In Delphi 2, respondents were presented with the original outcomes, comments made by them, integrated suggestions by the researcher, and a column where respondents could agree or disagree with the researcher and make comments. The items of Delphi 2 are displayed below in Table 3.3. Refer to Appendix C for the full questionnaire. Feedback provided in the second round was integrated and used as the final attempt in conceptualising list of outcomes.

Table 3.3

Template of Delphi 2 questionnaire

Outcome – Description	Comment 1	Comment 2	Comment 3	Suggestion by researcher	Response
{Name of outcome – Description of outcome as displayed in Delphi 1}	*{Comment from respondent}*	*{Comment from respondent}*	*{Comment from respondent}*	*{Suggested description from researcher after considering comments}*	*{New response in Delphi 2. Agree/Disagree and comment}*

3.8 CONTENT VALIDITY

After Delphi 1 and Delphi 2, the list of outcomes and their definitions were finalised. Based on the definitions and other feedback provided, items were developed to measure each outcome using a self-rating, other-rating and patient-rating form.

The second phase of data collection served to obtain acceptable levels of content validity of these items. Where the previous step focussed on the inclusion and conceptualisation of the outcomes, this phase focused on the items designed to measure the outcomes.

Content validity refers to ''...the degree to which an instrument has an appropriate sample of items for the construct being measured'' (Polit & Beck, 2004, p. 423), and ''...whether or not the items sampled for inclusion on the tool adequately represent the domain of content addressed by the instrument'' (Waltz, Strickland, & Lenz, 2005, p. 155). Content validity requires input from SMEs to evaluate whether items are essential in eliciting a response over the defined outcome. In the current study, items should be clearly aligned with their associated latent outcome variables and comprehensively measure the latent outcome variables that comprise of the performance construct.

3.8.1 Content validity survey design

The final list of outcomes derived from the Delphi technique was carefully described in denotative terms and operationalised to create items that accurately and comprehensively measure each latent outcome variable.

Participants in the content validity phase received a document with the name of each outcome, a description thereof and a set of items next to each outcome. Participants were required to rate each item on a 3-point scale ranging from '3 - essential', '2 - useful but not necessary', to '1 - not necessary'. As part of the instructions, the detailed meaning of an *essential* item coupled with an example was described to SMEs. The full list of instructions is in Appendix E where Form-S is displayed as an example.

If SMEs did not consider an item as "essential", they were required to motivate the reason why. Additionally, participants were free to make any other comments or suggestions that came to mind. Table 3.4 illustrates how the items were presented to SMEs.

Table 3.4

Template from the content validity questionnaire

OUTCOME – Description	ITEMS	1-Not necessary	2-Useful, not essential	3-Essential	Comment
{Name of outcome – Description)	Item 1				
	Item 2				
	Item 3				
	Item 4				

3.8.2 Content validity data analysis

Responses on the 3-point scale were captured and used to calculate the content validity ratio (CVR) (Lawshe, 1975, p. 567). The formula is as follows:

CVR = (ne – N/2)/(N/2) where:

CVR = content validity ratio;

Ne = number of participants indicating "essential";

N = total number of participants;

The formula produces a CVR value for each of the items, which ranges from +1 to -1. Values larger than zero indicate that at least half the participants rated the item as essential. Values larger than zero according to Lawshe (1975) can be considered to have at least some content validity. The critical cut-off values derived from Wilson, Pan and Schumsky (2012) are shown in Table 3.5. These values were used to assess whether an item is content valid or not. In the case of having 8 participants, an item required a CVR of larger than .582 to be considered content valid.

Table 3.5

Critical cut-off values

Number of participants:	Cut-off value for .05 level of significance (one-tailed):
5	.736
6	.672
7	.622
8	.582

Items below the critical cut-off value should be removed to ensure the remaining items all accurately reflect the latent outcome variables. Note that the researcher did not remove all items that fell below the critical cut-off value. In the case where an item's CVR fell between 0, and the cut-off value (e.g. .25) and participants provided feedback to improve the item, then it was improved instead of being removed. If an item received very poor CVR rating for example below zero, then it was removed and replaced with an alternative item if necessary.

If a latent outcome variable had too little items remaining after removing items, then the researcher considered feedback from the participants and created new items so

that each latent outcome variable had enough items to represent the outcome in terms of the definition comprehensively.

To assess the overall content validity of the SAMPOQ, the Scale Content Validity Index (S-CVI) was calculated for the items before and after removing poor items (Polit & Beck, 2006). The S-CVI is merely the average of the CVRs. It has been suggested that if the S-CVI is higher than .80**,** then the overall content validity can be considered satisfactory (Polit & Beck, 2006).

The S-CVI was also calculated for each form (Form-S, Form-O, and Form-P) and each outcome before and after removing poor items.

If the S-CVI for the entire SAMPOQ were lower than .80, the researcher would have extensively assessed the written feedback and considered adding and/or editing the content of the items.

After revision, the CVR of the SAMPOQ was not rated by participants for a second time. Therefore, the findings cannot be interpreted as a conclusion or claim of content validity. If the overall S-CVI falls below .80, and numerous new items were added, then it is recommended to future research to obtain content validity ratings again before statistically validating the SAMPOQ.

3.8.3 Content validity survey distribution

After institutional permission was granted, staff from SU were invited to participate in the study electronically. The researcher contacted all candidates via email. The invitation email consisted of a brief background of the overall research as well as an electronic link to the questionnaire. The content validity survey was designed on the CheckBox platform. Before participants completed the questionnaire, they were required to read and sign the electronic consent form, after which they were redirected to the questionnaire. All responses in the content validity phase were completely anonymous.

3.9 THEMATIC ANALYSIS

Across the Delphi and content validity phases, respondents could provide open-ended comments. In the Delhi 1 form, for example, respondents were provided with much space to comment and were welcomed to provide overall feedback in the end that

could be beneficial to the study. With the content validity rating, participants were provided with space to comment next to each item. Respondents were encouraged to make suggestions and comments especially if an item was flawed or unfeasible. The researcher expected that some common themes resembling concerns or suggestions would emerge from the comments and considered it potentially valuable to present the themes with supporting quotes.

An approach similar to thematic analysis was applied to create notable themes. Thematic analysis can be used to make sense of content that is unstructured and seems unrelated on face value. It can be used to assess open-ended text to gain insight into a particular group (Boyatzis, 1998; Howitt & Cramer, 2007). The process of thematic analysis entails encoding qualitative information to discover patterns and meaningful categories (Boyatzis, 1998). Important to note is that the researcher does not impose the categories or themes before the data is analysed.

3.10 QUESTIONNAIRE DEVELOPMENT

The SAMPOQ was designed to measure outcomes that partially describe the performance of MPs. The term partially is used, as this study defines performance in terms of outcomes and competencies. Carefully developed items would indicate the extent to which the individual has accomplished the defined outcomes.

The SAMPOQ consists of multi-rater assessments of the latent outcome variables. This enables the future development and empirical testing of a comprehensive medical practitioner competency structural model and offers an instrument that can provide feedback on medical practitioner performance.

When developing the first draft of items, the following was used as criteria for good items: Specifically, (a) Does the item assess the outcome described in the definition of the dimension it relates to, or is it better suited to another dimension? (b) Is the item clear and unambiguous? (c) Is the language of the item clear enough to understand among those who are not familiar with the outcomes? (d) Can the outcome be realised or observed by others? (e) Does each item assess only one construct? (f) Does the item assess a unique construct which is not measured by any other listed for a specific dimension? If there is duplication, which is the stronger item? (Worthington & Whittaker, 2006).

Lastly, in the initial development, items were stated as neutral claims to which the respondent can respond to by indicating the extent to which they agree with the statement. Such items are scored on a Likert scale as follows: 1 – Strongly disagree, 2 – Disagree, 3 – Neither agree nor disagree, 4 – Agree, 5 – Strongly agree.

Other items are defined in terms of how often a phenomenon occurs. Such items were therefore defined in terms of frequency and were rated on a different scale namely: 1 – Never, 2 – Rarely, 3 – Sometimes, 4 – Often, 5 – Always.

The final forms of the SAMPOQ are in Appendix F (Form-S), Appendix G (Form-O), and Appendix H (Form-P).

3.11 TRIANGULATION

Considering the novelty of the SAMPOQ and the manner in which the Delphi questionnaire was tailored to the needs of the study, it was highly important to maintain the epistemic integrity of the study. With such novelty to the study, the researcher had to be cautious in not over lending his personal lens of interpretation to guide and interpret the study. This could potentially put the credibility of the findings at risk. As a measure of ensuring a high level of epistemic integrity, a sub-phase of triangulation was included in the research process.

Triangulation is an approach that combines data or methods in order to strengthen a study and improve the reliability and validity thereof (Golafshani, 2003). The approach serves to achieve a high level of generalisability in the findings of the research (Lewis & Ritchie, 2003). Regardless of whether the findings are valid and reliable, it was vital that it be interpretable and meaningful to the outside world. As such, the list of outcomes and final SAMPOQ were circulated to SMEs. The SMEs referred to did not participate in the content validity phase. They were asked to provide feedback on the face validity and perceived credibility of the SAMPOQ. Valuable feedback was obtained and is discussed in Chapter 4.

3.12 ETHICAL CONSIDERATIONS

Responsibility was placed on the researcher to ensure this study had no adverse effect on the dignity, rights, safety and wellbeing of the research participants.

This study was considered low risk. Besides setting time aside to complete the surveys, participants were not exposed to the risk of any harm. Regarding anonymity, SMEs in the content validity phase were assured that their responses would stay anonymous as the online CheckBox platform was used to assign random numbers to each completed survey. Therefore, no identifying information could be made known to the researcher or others. Participants could also stop from participating at any time without consequences.

Regarding the SMEs in the Delphi phase, anonymity was compromised as the identities of participants were made known to the researcher as the survey was returned through email. This was made known to participants, and the compromise was minimised by replacing the names of participants with random numbers to ensure that other participants in Delphi 2 could not link the feedback to the respondents. Also, all information provided by participants were kept confidential. Lastly, when quoting open-ended comments in Chapter 4, random numbers were assigned to respondents.

CHAPTER 4: RESULTS

4.1 INTRODUCTION

In Chapter 1, the need for a South African Medical Practitioner competency model was argued in the context of South African healthcare. In Chapter 2, relevant literature was explored to conceptualise the competencies and performance outcomes that form part of MP performance. Chapter 3 discussed the philosophical stance of the methodology and justified the data collection methods used to establish the outcome variables and develop items for the South African Medical Practitioner Outcome Questionnaire (SAMPOQ).

As outlined in Chapter 3, a mixed methods approach was followed by obtaining feedback from subject matter experts (SMEs) to ascertain the credibility of the outcomes and the content of the SAMPOQ.

Chapter 4 serves to report and interpret the findings from the data. Firstly, the composition of the samples is discussed. Secondly, feedback obtained from the Delphi phase is reported and interpreted. Thirdly, the content validity ratios across all items, outcomes and forms are reported. Lastly, the revised list of outcomes and items of the SAMPOQ is proposed at the end of the chapter.

4.2 COMPOSITION OF SAMPLE

The description of the research sample is discussed to allow for meaningful comparison of results with other similar studies. All the participants who participated met the minimum requirements as stipulated in Chapter 3 and provided feedback that can be considered credible and valuable to the findings of the study.

The tables below summarise the sample distributions for the Delphi phase, and content validity phase according to race, gender, registration category, and the current institution of practice (public or private).

Table 4.1.1 describes the distribution of gender among the Delphi phase participants. It should be noted that all SMEs who agreed to participate in the Delphi phase were male.

Table 4.1.1

Delphi sample distribution – Gender

	Frequency	Percent
Male	4	100
Female	0	0
Total	4	100

Table 4.1.2 describes the distribution of race among the Delphi phase participants. It should be noted that three of the four SMEs were white and one was Indian.

Table 4.1.2

Delphi sample distribution – Race

	Frequency	Percent
White	3	75
Indian	1	25
Total	4	100

Table 4.1.3 describes the distribution of registration categories among the Delphi phase participants. Three of the four participants were family physicians, and one was a medical practitioner.

Table 4.1.3

Delphi sample distribution – Registration category

	Frequency	Percent
Family physician	3	75
Medical officer	1	2
Total	4	100

Table 4.1.4 describes the distribution of institution type among the Delphi phase participants. There was an equal mixture of those who practised in private and public institutions.

Table 4.1.4

Delphi sample distribution – Institution (Public/Private)

	Frequency	Percent
Public	1	25
Private	1	25
Both	2	50
Total	4	100

Table 4.1.5 describes the distribution of gender among the content validity phase participants. The majority of participants were female (62.5%) while the remainder were male (37.5%).

Table 4.1.5

Content validity rating sample – Gender

	Frequency	Percent
Male	9	37.5
Female	15	62.5
Total	24	100

Table 4.1.6 describes the distribution of race among the content validity phase participants. It should be noted that an overwhelming majority of participants were white (87.5%) while the remainder was Indian (8%) and coloured (4%).

Table 4.1.6

Content validity raring sample – Race

	Frequency	Percent
White	21	87.5
Indian	2	8
Colored	1	4
Total	24	100

Table 4.1.7 describes the distribution of registration category among the content validity phase participants. It should be noted that participants from 11 different registration categories participated.

Table 4.1.7

Content validity sample distribution – Registration category

	Frequency	Percent
Medical practitioner:		
Orthopedic surgeon	1	4
General medical practitioner	4	17
Family physician	5	21
Psychology:		
Industrial Psychologist	6	25
Psychometrist	2	8
Allied/Interprofessional:		
Nurse	4	17
Dietician	1	4
Physiotherapist	1	4
Total	24	100

Table 4.1.8 describes the distribution of institution type among the content validity phase participants. Participants practised in both public and private institutions while six of the participants do not currently work in a healthcare facility. These include psychometrists and industrial psychologists who completed Form-P of the SAMPOQ.

Table 4.1.8

Content validity sample distribution – Institution (Public/Private)

	Frequency	Percent
Public	8	33
Private	7	29
Both	3	13
Does not currently work in healthcare facility	6	25
Total	24	100

4.3 DELPHI RESULTS

Feedback regarding the outcomes was obtained from four subject matter experts (SME). This section reports on the extent to which experts agreed to the proposed outcomes and their definitions. Thereafter, all changes in the definitions of outcomes are illustrated and supported with quotes from SMEs. Also, linkages between competencies and outcomes are illustrated, and emerging themes from the open-ended comments are discussed.

4.3.1 Consensus

Table 4.2 illustrates the levels of consensus achieved after the two Delphi rounds which together constitute phase one of data collection.

Columns three and four show the percentage of agreement after Delphi 1. A score of 100% in column three indicates that all experts agreed that the outcome is a result of MP behaviour and that it should be included in the final list of outcomes whereas 100% in column four indicates that all experts agreed over the proposed definition of the outcome. Columns five and six show the levels of consensus after Delphi 2, i.e. after the researcher integrated feedback to reach consensus. If an outcome reached 100% consensus on both criteria, then it was removed from Delphi 2.

Table 4.2

Summary of consensus over definitions and inclusion of outcomes

		DELPHI 1		DELPHI 2	
#	Outcome	Inclusion %	Definition %	Inclusion %	Definition %
1	Appreciation by peers	100%	100%	-	-
2	Cohesion	100%	100%	-	-
3	Cost-effectiveness	100%	100%	-	-
4	Dignity	100%	100%	-	-
5	Effective treatment	100%	100%	-	-
6	Quality	100%	100%	-	-
7	Safety	100%	100%	-	-
8	Timeliness	100%	100%	-	-
9	Trust	100%	100%	-	-
10	Enablement	100%	75%	100%	100%
11	Adherence potential (Adherence)	100%	50%	100%	100%
12	Perceived competence	100%	50%	100%	100%
13	Quantity	100%	25%	100%	100%
14	Satisfaction	100%	50%	100%	100%
15	Job satisfaction	100%	75%	100%	75%
16	Sphere of influence	100%	75%	100%	75%

Table 4.2

Summary of consensus over definitions and inclusion of outcomes (continued)

#	Outcome	DELPHI 1		DELPHI 2	
		Inclusion %	Definition %	Inclusion %	Definition %
17	Health changing motivation (Health promotion)	100%	75%	100%	50%
18	Accurate diagnosis	100%	25%	100%	50%
19	Physical health (N)	-	-	100%	50%
20	Continuity (R)	75%	50%	75%	0%
21	Informational continuity (R)	75%	50%	0%	0%
22	Personal growth (N) (R)	-	-	100%	0%
23	Respect (N) (R)	-	-	100%	0%

*If the name of the outcome changed in the process, then the original name as presented in Delphi 1 is displayed in brackets.

*(R) indicates that the outcome was removed from the list.

*(N) indicates a newly suggested outcome from Delphi 1.

Outcomes 1-9 reached full consensus on both criteria in Delphi 1. All SMEs, therefore, agreed with the definitions of these outcomes and that they should be included in the final list of outcomes.

In Delphi 1, outcomes 10-14 received lower levels of consensus over the proposed definitions, however, after integrating feedback from SMEs, a 100% level of agreement was reached over the definitions of these outcomes. The Delphi process was therefore useful in reaching consensus over these outcomes.

Outcomes 15 and 16 did not receive 100% consensus over its definitions, however, reached a satisfactory level of 75% consensus and reached 100% agreement regarding its inclusion.

The Delphi process was less successful in reaching consensus over the definitions of outcomes 17 and 18 which concluded at 50%. These outcomes were not removed as all SMEs agreed that they are included in the final list. Moreover, it should be noted that the disagreement related to the wording of the definition and not the content or meaning of the outcomes. Feedback from Delphi 2 was considered and used to improve the final definitions of these outcomes.

Outcomes 20 and 21 were removed because of a lack of agreement over its inclusion, and a seemingly lack of influence a MP has over these outcomes. SMEs argued that *informational continuity* and *patient continuity* are important however too far outside the control of the MP. This is further discussed in the following section.

Outcomes 19, 22, and 23 were newly proposed outcomes from Delphi 1. Outcomes 22 and 23 namely, *personal growth* and *respect* were considered however not included due to overlap with other variables. This is further discussed in the following section. Outcome 19 namely, *personal health* was included as it met the criteria of a new outcome and was well received by SMEs in Delphi 2.

In summary, from the 20 outcomes presented in Delphi 1, 18 were included in the final list for item development. Of the three newly proposed outcomes, one was included, therefore making a total final list of 19 outcome variables to be measured by the SAMPOQ. All 19 outcomes reached a 100% consensus over their inclusion. Regarding the definitions of the outcomes, 16 of the final 19 outcomes reached a satisfactory level of 75% and above, and three outcomes concluded with 50% agreement. A total of nine outcomes did not change in their definition whereas the ten others were altered based on the feedback from SMEs.

The following section displays key comments from SMEs and illustrates how the definitions of outcomes changed between Delphi 1 and Delphi 2. The following section only includes outcomes 10-23 as these are outcomes that changed in the Delphi process.

4.3.2 Conceptualisation

The following section addresses changes made to the definitions of the outcomes throughout the Delphi process and specifically elaborates on why certain outcomes were removed and added.

4.3.2.1 Changes in conceptualisations of outcomes

Table 4.3 compares the conceptualisation of outcomes before and after Delphi 1 and Delphi 2. Column one shows the original outcome. Column two shows expert comments toward the proposed outcome. This is followed by column three which included suggestions by the researchers in response to the comments. Column four shows comments by experts in response to the suggestion by the researcher. Column five shows the outcome and definition after considering expert comments from Delphi 2. Note that outcomes that reached 100% consensus on al criteria are not displayed in the table below.

Table 4.3

Changes in conceptualisation of outcomes before and after Delphi rounds one and two

Original Outcome & Description	Delphi 1 Comments	Suggestion by Researcher	Delphi 2 comments	Final suggestion
Enablement - The extent to which patients are capable of understanding and coping with their health issue(s).	*The extent to which patients are capable of understanding and coping **better** with their health issue(s) (R4).*	**Enablement** - *The extent to which patients are capable of understanding and coping **better** with their health issue(s).*	All in agreement	**Enablement** - The extent to which patients are capable of understanding and coping **better** with their health issue(s).

Table 4.3

Changes in conceptualisation of outcomes before and after Delphi rounds one and two (continued)

Original Outcome & Description	Delphi 1 Comments	Suggestion by Researcher	Delphi 2 comments	Final suggestion
Adherence - The extent to which patients' behaviour, taking of medication and implementing dietary or lifestyle changes, corresponds with the advice of the MP.	*The extent to which the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, can correspond* **with the negotiated plan between patient and the MP** *(R1). The extent to which the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, may correspond with the* **steps agreed upon between the patient and the MP**. *(R4).*	**Adherence** – *The extent to which patients' behaviour, taking of medication and implementing dietary or lifestyle changes, correspond with* **the negotiated plan between patient and the MP.**	All in agreement	**Adherence potential** - The potential that the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, may correspond with **the negotiated plan between patient and the MP.**
Perceived Competence - The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice without the need of supervision.	*Would rather put this under clinical The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and recognizes when to consult (R2).* *Needs to include a qualifying statement that perceived competence may miss unconscious incompetence (when you are unaware that you do not know) (R4).*	**Perceived Competence** - *The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and recognizes when to consult.*	All in agreement	**Perceived Competence** - The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and recognizes when to consult.

Table 4.3

Changes in conceptualisation of outcomes before and after Delphi rounds one and two (continued)

Original Outcome & Description	Delphi 1 Comments	Suggestion by Researcher	Delphi 2 comments	Final suggestion
Quantity - The extent to which the MP completes a high number of consultations, medical procedures, administrative and other routine tasks.	*The extent to which the MP completes a relevant number of consultations, medical procedures, administrative and other routine tasks (R1).* *Add … completes a high number of "good quality" (R3).* *The extent to which the MP completes an appropriate high number of consultations, medical procedures, administrative and other routine tasks (R4).*	**Quantity** - *The extent to which the MP completes an appropriate number of quality consultations, medical procedures, administrative and other routine tasks*	All in agreement	**Quantity** - The extent to which the MP completes an appropriate number of quality consultations, medical procedures, administrative and other routine tasks
Patient satisfaction - The extent to which the expectations of patients are met by the MP in terms of warmth, sensitivity, and attention to psycho-social-spiritual well-being.	*The extent to which the **concerns** and expectations of patients are met by the MP in terms of warmth, sensitivity, and attention to psycho-social-spiritual well-being* (R1). *The extent to which the expectations of patients are met by the MP in terms of warmth, sensitivity, **time**, and attention to **bio**-psycho-social-spiritual well-being* (R4).	**Patient satisfaction** - *The extent to which the **concerns** and expectations of patients are met by the MP in terms of warmth, sensitivity, **time**, and attention to **bio**-psycho-social-spiritual well-being.*	All in agreement	**Patient satisfaction** - The extent to which the **concerns** and expectations of patients are met by the MP in terms of warmth, sensitivity, **time**, and attention to **bio**-psycho-social-spiritual well-being.
Job satisfaction - The extent to which the MP experiences a state of happiness, comfort, wellness and health.	*The extent to which the MP experiences a state of contentment, comfort, wellness and health (R3).*	**Job satisfaction** - *The extent to which the MP experiences a state of contentment, comfort, wellness and health.*	*Would prefer the term "Well Being" to Contentment.* *But Contentment is preferred to "Happiness" (R2).*	**Job satisfaction** - The extent to which the MP experiences a state of contentment and comfort in their work.

Table 4.3

Changes in conceptualisation of outcomes before and after Delphi rounds one and two (continued)

Original Outcome & Description	Delphi 1 Comments	Suggestion by Researcher	Delphi 2 comments	Final suggestion
Sphere of influence - The extent to which the MP influences patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks …	*The extent to which the MP works with patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy relations between MPs and community stakeholders (R1).*	**Sphere of influence** - *The extent to which the MP works with patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy …*	*The extent to which the MP collaborate with patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy relations between MPs and community stakeholders (R2).*	**Sphere of influence** - The extent to which the MP collaborates with patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy relations between MPs and community stakeholders.
Health promotion – The extent to which patients, family members and a community are able to make better life decisions due to their interactions with the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc.	*[NOTE: There is a difference between health education (one-on-one) and health promotion (campaigns)) (R1). Health promotion – The extent to which patients, family members and a community make better life decisions due to efforts initiated/supported by or involving the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc. (R4).*	**Behavioural impact** - *The extent to which patients, family members and a community are motivated to make better life decisions due to efforts involving the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc.*	*Health changing behavioural [the phrase often used] - The extent to which patients, family members and a community change health behaviour due to efforts involving the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc (R1). What about lifestyle education or health education? Behavioural impact could also work, although impact implies long-term changes; behavioural influence is probably more realistic (R4).*	**Health changing motivation** - The extent to which patients, family members and community members are motivated to adopt healthier behaviours due to efforts involving the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc.

Table 4.3

Changes in conceptualisation of outcomes before and after Delphi rounds one and two (continued)

Original Outcome & Description	Delphi 1 Comments	Suggestion by Researcher	Delphi 2 comments	Final suggestion
Accurate diagnosis - How often the MP accurately identifies a health problem. An accurate diagnosis takes cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient.	*How often the MP accurately identifies a health problem. An accurate assessment takes cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient (R1)* *… provided that the context and level of care enables the MP to have all relevant information available, which are required to make a diagnosis (R2). How often the MP adequately "Assesses" the Health Problem. This will include an accurate clinical diagnosis and take cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient. (R3).*	**Accurate diagnosis** - *How often the MP accurately assesses a health problem in a context that enables the MP to have all relevant information available required to make a diagnosis. An accurate assessment includes an accurate clinical diagnosis and takes cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient.*	*How often the MP accurately assesses a health problem in a context that enables the MP to have relevant information available required to make a diagnosis. An accurate assessment includes an correct clinical diagnosis and takes cognisance of how the health problem and the patient's personal and environmental factors impact on his/her functioning (R1). How often the MP accurately Diagnoses a health Problem in a context that enables the MP to have all the relevant information available required to make a Holistic and accurate Assessment. (R2).*	**Accurate diagnosis** - How often the MP accurately assesses a health problem. An accurate assessment includes correct clinical diagnosis and takes cognisance of how the health problem and the patient's personal and environmental factors influence his/her functioning. [The MP's capacity to accurately diagnose is influenced by his/her access to relevant information].
Physical health – maintaining own physical health through regular exercise and good nutrition and sober habits	*[This was a newly suggested outcome from Delphi 1]*	-	*Maintaining over-all health and wellbeing through exercise, rest, good nutrition and psycho-spiritual support as needed (R1) Personal health – maintaining own health through regular exercise, good nutrition sober habits, healthy social interaction and spiritual self-care (R3).*	**Physical health -** The extent to which the MP maintains physical health through regular exercise, good nutrition and sober habits.

Table 4.3

Changes in conceptualisation of outcomes before and after Delphi rounds one and two (continued)

Original Outcome & Description	Delphi 1 Comments	Suggestion by Researcher	Delphi 2 comments	Final suggestion
Continuity of care - The extent to which the MP consistently sees the same patients or families on repeated visits.	*This is a huge challenge in state health and the individual MP often do not have control over this (R1).* *The MP rarely has control over this (R2).* *The extent to which the MP makes an attempt to follow up his own patients (R3).*	Remove outcome Lack of control by MP	*I agree that it is NB to keep this although it is most often not in the control of the MP – but the system can change. The extent to which the MP makes an attempt to follow up their own patients (R1). I do not think we should remove the statement, as it is a desirable trait to strive for continuity, even if the continuity of care is achieved within a team or facility. Suggest you qualify statement to comment 2's suggestion (R4). I like comment two, I think it is an essential part of good primary care and we should at least strive to attain it (R3).*	**Removed**
Informational continuity - The extent to which the MP has each patient's medical information readily available, and the extent to which this information and any other information is well organised, accurate, and clearly specified.	*This is often a huge challenge in state health where many doctors share patient care. Medical records are often poorly kept due to admin reasons e.g. poor filing, lack of stationary. Poor record keeping is then not the fault of the individual practitioner (R1). … including in mind the contextual factors which may impede on the time available for detailed note including (R2).*	Remove the outcome	*I think it still is an important outcome; can I try to rephrase it? The extent to which the MP makes relevant clinical notes on consultations and procedures (R3).*	**Removed**

Table 4.3

Changes in conceptualisation of outcomes before and after Delphi rounds one and two (continued)

Original Outcome & Description	Delphi 1 Comments	Suggestion by Researcher	Delphi 2 comments	Final suggestion
Personal growth – working towards continuous personal growth including willingness to seek professional help where relevant.	*[This was a newly suggested outcome from Delphi 1]*	-	All in agreement	**Not included**.
Respect – The extent to which patients report and show that they were treated in a culturally appropriate manner (respect for different cultures, world views and religions)	*[This was a newly suggested outcome from Delphi 1]*	-	*The extent to which patients report and show that they were respected and treated in a culturally appropriate manner (respect for different cultures, world views and religions) (R3)* *Respect – The extent to which patients report that they were treated in a culturally appropriate and dignified manner (respect for different cultures, worldviews and religions) (R4).*	**Not included.**

4.3.2.2 Outcomes removed and included

Three newly suggested outcomes from the Delphi process were considered; however two were removed namely, *respect* and *personal growth* and one was included namely, *physical health*. Moreover, from the original list of outcomes identified in the literature, two outcomes were removed after considering SME feedback namely, *patient continuity* and *informational continuity*. Table 4.4 indicates all outcomes identified in Chapter 2 in the second column, all the newly suggested outcomes in the third column, and the final list of outcomes in the fourth column. The above decisions are discussed in further detail below. Before doing so, it is essential to refer back to the criteria stated in Chapter 3 that applies when considering a newly proposed outcome. It was stated that a newly proposed outcome should be a clear result of MP behaviour, i.e. it should constitute as an outcome and not a competency. Moreover, the outcome should not overlap any other variables already included.

Table 4.4

Summary of outcomes

All outcomes explored	Outcomes identified in Chapter 2	Outcomes suggested from Delphi phase	Outcomes included in final list
Appreciation by peers	X	-	X
Accurate diagnosis	X	-	X
Adherence	X	-	X
Cohesion	X	-	X
Cost effectiveness	X	-	X
Dignity	X	-	X
Effective treatment	X	-	X
Enablement	X	-	X
Health promotion	X	-	X
Informational continuity	X	-	-
Job satisfaction	X	-	X
Patient continuity	X	-	-
Perceived competence	X	-	X
Quality	X	-	X
Quantity	X	-	X
Safety	X	-	X
Satisfaction	X	-	X
Sphere of influence	X	-	X
Timeliness	X	-	X
Trust	X	-	X

Table 4.4

Summary of outcomes (continued)

All outcomes explored	Outcomes identified in Chapter 2	Outcomes suggested from Delphi phase	Outcomes included in final list
Physical health	-	X	X
Respect	-	X	-
Personal growth	-	X	-

Patient continuity

SMEs asserted that the healthcare facility influences continuity. The outcome was deemed highly important, and SMEs preferred to keep the outcome if the clause "makes an attempt" to achieve continuity be added. These comments reflect behaviour, i.e. 'making an effort to achieve continuity". It would therefore not constitute an outcome. The element on how to achieve continuity should rather be integrated into the *management* competency. The MP seemingly does not have adequate control over patient continuity.

This stance is supported by the following comments from SMEs: "This is a huge challenge in state health and the individual MP often do not have control over this" (Respondent 1), "The MP rarely has control over this" (Respondent 2)", and "The extent to which the MP makes an attempt to follow up his own patients (Respondent 3)".

In Delphi 2, it was suggested by the researcher that the outcome is removed. The following comments were made in response: "I agree that it is NB to keep this although it is most often not in the control of the MP – but the system can change (Respondent 1)", "I do not think we should remove the statement, as it is a desirable trait to strive for continuity, even if the continuity of care is achieved within a team or facility. I suggest you qualify the statement to comment 2's suggestion (Respondent 4).", I think it is an essential part of good primary care and we should at least strive to attain it (Respondent 3).

Informational continuity

In response, SMEs gave similar feedback toward the outcome of *informational continuity*. It was mentioned that "This is often a huge challenge in state health where many doctors share patient care. Medical records are often poorly kept due to admin reasons, e.g. poor filing, lack of stationary. Poor record keeping is then not the fault of the individual practitioner" (Respondent 1) and "… keep in mind the contextual factors which may impede on the time available for detailed note including" (Respondent 2).

It was therefore decided to remove the outcome. Elements related to effective note taking and record keeping should instead be the focus under the *management* competency, as *informational continuity* (the outcome) is largely determined by the system, not the MP.

Respect

The suggested outcome namely, *respect* can be regarded as highly important. However, the researcher recognised considerable overlap between the outcomes *respect* and *dignity*. The proposed definition of *respect* was *the extent to which patients report and show that they were treated in a culturally appropriate manner (respect for different cultures, worldviews and religions)*, whereas the agreed upon definition of *dignity* is *the extent to which patients feel respected and well treated in terms of their personal needs.* The overlap exists where both outcomes address the feeling of being respected. A unique feature of the *respect* definition is that it addresses aspects of culture, worldviews and religion. Realistically speaking, this list could be much more extensive as patients could expect respect on multiple grounds. Patients might expect respect for their gender identity, sexual orientation, language, and various other socio-demographic characteristics. The *dignity* definition is preferred as it supersedes the idea of addressing an extensive list of socio-demographic characteristics. It is almost certain that if a patient is respected regardless of their religion, culture, worldview or any other characteristic, that they would feel dignified. Lastly, on an item level when measuring *dignity*, patients will be asked whether they felt respected by the MP. Therefore, the element of respect is not lost.

Personal growth

The outcome namely, *personal growth* was proposed in Delphi 1. The SME who suggested the outcome defined it as *working towards continuous personal growth*

including willingness to seek professional help where relevant. Although growth can be stated as a perceived outcome, it was described as something that manifests in behaviour. It describes the act of *working toward personal growth* and *seeking help*. It, therefore, reflects a competency more so than an outcome. Moreover, when considering the definition, a great deal of overlap exists with the competency *lifelong learning*, which is defined as *reflecting on work that was done, identifying knowledge and skill gaps and taking the necessary action to improve one's knowledge or clinical skills on a continuous basis to remain competent*. Lastly, the agreed upon outcome; namely, *perceived competence* is arguably more appropriate in describing the achievement of professional growth and will on item level also address the concept of growth.

Physical health

Physical health is *the extent to which the MP maintains physical health through regular exercise, good nutrition and sober habits*. In Chapter 2 it was found that Job satisfaction is a good indicator of self-care among MPs and was considered sufficient in reflecting the positive state of the MP. After the suggestion of *physical health* was made, the concept was further investigated in literature, and it was found that it could add unique value to the list of outcomes.

The culture of medicine promotes the belief that physicians are never ill. There might be a perception that doctors are typically very independent, competitive, and achievement-oriented, and they often view attention to their own needs as a sign of weakness (Wiskar, 2012).

As discussed, *self-care* is now considered a core competency by the Physician Competency Framework, as physicians are expected to demonstrate a commitment to physician health and sustainable practice (HPCSA, 2014).

The physical health of MPs in itself is highly important as it directly impacts the health of the larger population, and numerous studies have established a link between the health behaviours of physicians and their interactions with patients (Frank et al., 2010).

The outcome was included as it meets the criteria of being defined as an outcome. It is essentially a positive current state that the MP experiences as a result of self-care. Lastly, all SMEs agreed to its inclusion in Delphi 2. After considering input from SMEs

regarding its definition, it was defined as *the extent to which the MP maintains physical health through regular exercise, good nutrition and sober habits.*

4.3.2.3 Outcomes altered after the Delphi process

To ensure credibility and face validity of the final list of outcomes, a step of triangulation was implemented after the Delphi process where two SMEs were asked to review the final list. This resulted in feedback which led to additional changes in certain outcomes namely, *adherence potential* and *health changing motivation*. The two changes are discussed in detail below.

Adherence potential

Initially, the outcome was referred to as *adherence*, *the extent to which patients' behaviour, taking of medication and implementing dietary or lifestyle changes, corresponds with the advice of the MP*. This is a commonly used outcome in research and is regarded as highly important for the health of patients and ensuring efficiency in healthcare facilities as proper adherence prevents unnecessary return visits (Cohen, Christensen, & Feldman, 2012; Zolnierek & DiMatteo, 2009). It is clear that adherence is essential, however, upon final inspection, it was suggested that *adherence* in its own right is largely determined by the personal circumstances and choices made by the patient. Moreover, there is the practical challenge of measuring adherence among patients who leave the hospital. The measurement of adherence would require keeping track of all patients. It was therefore suggested that the outcome is changed to *adherence potential*, to better reflect the psychological state of the patient and the likelihood of adherence. This, in turn, could be measured right after a consultation and would better reflect the performance of the MP.

The outcome is now defined as *adherence potential - the potential that the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, may correspond with the negotiated plan between patient and the MP.*

Health changing motivation

For the same reasons as discussed above, the outcome that was initially *health promotion* and *behavioural impact* was changed to *health changing motivation*. The outcome is built on the premise that the MP has a positive influence on community members. The outcome was initially defined *as the extent to which patients, family*

members and a community are able to make better life decisions due to their interactions with the MP. Once again, the outcome was defined in terms of the behaviour of patients and community members. Practically, it would require the tracking of patients, and the success of the outcome would be dependent on external factors. For this reason, the outcome was changed to *health changing motivation - the extent to which patients, family members and community members are motivated to adopt healthier behaviours due to efforts involving the MP.*

4.3.3 Linkages between competencies and outcomes

In Delphi 1, participants were asked to describe the behaviour(s) required to achieve each outcome respectively. To maintain consistency, participants were presented with the competencies discussed in Chapter 2 to use a frame of reference when answering this question. If a participant explicitly mentioned a competency or described a behaviour associated with the competency, one mark was allocated in the cell between the competency and the outcome. As seen in Table 4.5, the maximum number of marks per cell was, therefore, four as there were four participants. The bottom row shows the percentage of times each competency was mentioned.

There are 13 competencies displayed in the top row including Effective communication (Comm), Patient centred care (PCC), Cultural competence (CC), Working with people (WWP), Clinical Leadership (CL), Management (Man), Health advocacy (HA), Medical professionalism (MP), Technical competence (TC), Integrated reasoning (IR), Self-care (SC), Lifelong learning (LL), and Coping with pressure (Cope).

Table 4.5

Linkages between outcomes and competencies

OUTCOMES	COMPETENCIES												
	Comm	PCC	CC	WWP	CL	Man	HA	MP	TC	IR	SC	LL	Cope
Satisfaction	3	4	1										
Dignity	1	3	1					3					
Trust	2	3	1					3					
Safety	1	1				2		2					1
Enablement	3	1	1	1									
Adherence potential	3	3	2										
Accurate diagnosis	1	1	1			1		1	1	1			
Effective treatment						1		2				1	
Quality	1	3		3				2		1		1	
Quantity				2	1			1	1	1			1
Timeliness				2	1			1		1			1
Cost-effectiveness				1	1	2		2		1			
Appreciation by peers	1		1	2	2			1					
Cohesion	1		1	3									1
Health changing motivation	1	1	1		2		2						
Sphere of influence	1		1	3	1		3			1			
Job satisfaction			2								4	1	1
Perceived competence				1				1	1	1		2	1
Physical health											4		
	14%	**14%**	**9%**	**13%**	**6%**	**4%**	**4%**	**14%**	**2%**	**5%**	**6%**	**4%**	**4%**

Table 4.5 shows that the following competencies scored the highest frequency rating namely, *effective communication* (14%), *patient-centred care* (14%), *medical professionalism* (14%) and *working with people* (13%). These competencies were, therefore, most frequently mentioned by SMEs. This comes as no surprise given that the majority of outcomes relate to the doctor-patient relationship and require interpersonal competencies. This view is corroborated by the low percentage at which *technical competence* (2%) was mentioned. Therefore, the list of outcomes discussed arguably reflect non-clinical performance more than clinical performance.

A positive observation from the above table is that each of the competencies was mentioned no less than three times by SMEs. It can therefore be inferred that all of the above competencies will be meaningful in explaining MP performance when presented in a theoretical competency model. Moreover, the newly proposed competencies additional to Fourie (2016), were referred to multiple times which confirms their value

in explaining MP performance. These outcomes include *integrated reasoning* (5%), *cultural competence* (8%), and *technical competence* (2%).

The above linkages might prove useful when theorising causal relationships between variables. For example, when asking the question 'which competencies are required to achieve patient *enablement*, the above table would suggest that *effective communication*, *patient centred-care*, *cultural competence* and *working with people* are required to achieve the outcome.

4.3.4 Perceived importance of outcomes

To ensure that all outcomes were considered at least moderately important, SMEs were asked to rate each outcome on a 7-point scale of importance. Responses of importance ranged from 1- 7 with: 1-None, 2-Low, 3-Slightly, 4-Neutral, 5-Moderately, 6-Very and 7-Extremely.

The concept of importance was described to SMEs. The level of importance depended on the time spent to reach the outcome, the frequency at which it should be reached, the level of effort put in to reach the outcome, and the consequences of not reaching the outcome (Cascio & Ramos, 1986; Vagias, 2006).

The overall importance of each outcome was merely calculated by transferring the summed ratings to a percentage that range between 0 to 100 percent. An outcome with 100 percent therefore means that all SMEs rated the outcome as 7 (extremely important), whereas an outcome with 0 percent would mean that all SMEs rated the outcome as 1 (not important). Table 4.6 shows all outcomes with their percentages.

Table 4.6

Importance of outcomes

Outcome	Percentage
Satisfaction	92
Dignity	92
Trust	92
Cohesion	92
Physical health	92
Safety	92
Quality	88
Health changing motivation	88
Enablement	83
Adherence potential	83
Accurate diagnosis	83
Cost-effectiveness	83
Appreciation by peers	83
Perceived competence	83
Sphere of influence	79
Job satisfaction	75
Effective treatment	71
Timeliness	71
Quantity	54

The most important outcomes according to SMEs include *satisfaction*, *dignity*, *trust*, *physical health*, *safety* and *cohesion*. The percentage of 92 implies that at least two SMEs gave a rating of 7 (extremely important) to these outcomes. From the table it can be seen that patient outcomes were generally considered more important than other outcomes.

Fortunately, all outcomes were rated relatively high. For example, the second lowest percentage of 71 meant that on average SMEs rated the outcomes *effective treatment* and *timeliness* as moderately important. The only outcome that stood out in terms of its low rating was *quantity* with a percentage of 54. This meant that on average, SMEs rated this outcome as either 4 (neutral) or 3 (slightly important). The lower ratings are reflected by comments made by SMEs who emphasised that a focus over output or quantity can have adverse effects on the quality of care. This notion is further discussed under heading 4.3.5.3.

4.3.5 Emerging themes from Delphi phase

All open-ended comments were categorised into notable themes. An overarching theme of all open-ended comments reflects the context in which MPs work and prominent challenges that MPs face in achieving certain outcomes. These themes are discussed below with supporting quotes from SMEs.

4.3.5.1 Socio-demographic characteristics of patients

SMEs highlighted certain patient characteristics and circumstances that may challenge MPs in achieving certain outcomes. For example, when attempting to achieve *patient adherence* and *dignity*, there may be language barriers, cultural differences, different worldviews, different sexual identities or orientations, and immigration-related issues.

In Delphi 1, respondent 2 suggested that "a translator might be required" to explain the treatment plan for adherence to be achieved. Respondent 4 also suggested that adherence can be achieved "by asking the patient about other medications provided by doctors or natural healers".

Regarding the achievement of *patient dignity*, respondent 3 suggested that "the MP should strive to be culturally sensitive and socially accountable, especially when dealing with patients from at-risk populations (immigrants) and persons with different worldviews (religion, sexual orientation, beliefs)".

Mosadeghrad (2014) conducted exploratory in-depth individual interviews with physicians to better understand the factors influencing the quality of medical service with the objective of formulating better strategies for quality assurance in medical services. One of the primary themes included the socio-demographic characteristics of patients. The study found such factors can limit the quality of medical services and could in effect demand higher levels of supportive leadership, proper planning, education and training and effective management of resources.

4.3.5.2 Administrative and managerial support

Experts also referred to the potential influence of the organisational context, i.e. the enabling and supporting factors of the healthcare facility on the achievement of specific outcomes.

With the proposed outcome of *patient continuity,* for example, respondents suggested that the MP cannot control continuity as the system often determines it. Regardless, experts believed that the system can change and that MPs should still support continuity. Respondents went as far as suggesting that the outcome remains under the list of outcomes under the condition that the clause "makes an attempt to achieve continuity" be added. This, in turn, would define continuity as a behaviour and not an outcome. It was therefore removed.

Further examples of comments include "in the state sector the MP sometimes cannot control access to the patient's records, but should make an attempt to access this information – for example by calling medical records or trying to access electronic records" (Respondent 1), and "this is a huge challenge in state health, and the individual MP often do not have control over this" (Respondent 4).

Similar comments were made about the outcome namely, *informational continuity* where it was mentioned that "this is often a huge challenge in state health where many doctors share patient care. Medical records are often poorly kept due to admin reasons, e.g. poor filing, lack of stationary. Poor record keeping is then not the fault of the individual practitioner" (Respondent 3).

The restricting effect of organisational and systemic factors have been studied extensively. It was found that organisational and systemic factors have significant effects on performance after the effects of physician factors are controlled; and that organisational and systemic factors have varying effects across different dimensions of clinical performance (Wenghofer, Williams & Klass, 2009).

4.3.5.3 Outcomes versus outputs

This theme is different from the above as it does not emphasise external challenges or contextual factors but rather highlights the overall mindset or approach to performance. Comments made in relation to the outcome namely, *quantity* and *timeliness,* primarily contributed to this theme.

For example, respondent 2 and respondent 4 commented: "…the MP may choose to help carry the workload and 'push the queue' – however, issues of quality should also be considered" and "quantity can often result that no issues are resolved, and patients are only recycled through the system – thus taking more time in the long run."

The most compelling statement was made by respondent 4 who said that "the number of patients seen is unethical and a sin which is also the current practice. An outcomes-based approach should be better by focussing on how many issues were resolved".

Due to such views put forth by SMEs, quantity was redefined to include the clause "appropriate number of quality consultations" instead of "high number of tasks".

4.4 CONTENT VALIDITY RESULTS

The following section discusses the content validity of items and changes in the proposed questionnaire. Respondents provided content validity ratings of each item on a scale ranging from 3-Essential, 2-Useful but not essential, and 1-Not necessary.

4.4.1 Content Validity Ratio

Table 4.7 shows the Content Validity Ratio (CVR) for each item of the Self-rating form (Form-S).

The second column shows the proposed initially items. Column three shows the obtained content validity ratio (CVR) of the item which ranges from -1 to +1. The CVR reflects the portion of SMEs who consider the item to be essential in measuring the respective outcome. For example, a CVR of .75 would indicate that 7 out of the 8 SMEs rated the item as essential. A CVR of .00, on the other hand, would mean that only half of the SMEs rated the item as essential.

The fourth column shows the action that was taken in response to the CVR rating and the comments from SMEs. Based on the CVR rating and feedback from SMEs, items were either included, removed or changed. Lastly, the fifth column shows the final proposed item.

Where too many items were removed, the researcher proposed new items to ensure that each outcome can be measured comprehensively. Important to note is that if constructive feedback was provided over an item in one form, then the researcher also considered the feedback when taking action over similar items in other forms. For example, if respondents in Form-S suggested that the term *kindness* is used instead of *warmth*, then the change would apply to Form-P and Form-O to maintain consistency in wording.

Table 4.7

CVR and proposed changes to items of Form-S (Self-rating form)

Item #	Original item	CVR	Action	Proposed item
Patient satisfaction				
SAT1	My patients are at ease during consultations.	.75	include	My patients are at ease during consultations.
SAT2	I treat my patients with sensitivity.	.75	include	I treat my patients with sensitivity.
SAT3	I check whether my patients' expectations are met.	.50	include	I check whether my patients' expectations are met.
SAT4	Patients ask to see me on return visits	-.50	remove	-
SAT5	I check whether my patients' concerns are met.	.75	change	I check whether my patients' concerns are addressed.
SAT6	I treat my patients with warmth.	0	change	I treat my patients with kindness
Dignity				
DIG1	My patients will say that I treat them with respect.	1	include	My patients will say that I treat them with respect.
DIG2	My patients' physical examinations are conducted in privacy.	.50	include	My patients' physical examinations are conducted in privacy.
DIG3	My patients will leave the hospital with a sense of self-worth and confidence in themselves.	.50	include	My patients will leave the hospital with a sense of self-worth and confidence in themselves.
Trust				
TR1	My patients are assured that their personal information is kept confidential.	1	include	My patients are assured that their personal information is kept confidential.
TR2	My patients are comfortable to open up and disclose information about / relevant to their health problem.	.75	include	My patients are comfortable to open up and disclose information about / relevant to their health problem.
TR3	I believe my patients have confidence in my abilities.	.50	include	I believe my patients have confidence in my abilities.
TR4	My patients actively participate during consultations.	.25	remove	-
TR14	-		new	I obtain trust from my patients
Safety				
SAF1	My patients will confirm that they feel safe when under my care.	.50	include	My patients will confirm that they feel safe when under my care.
SAF2	I effectively prevent accidents and injuries.	.25	remove	-

Table 4.7

CVR and proposed changes to items of Form-S (Self-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Enablement				
EN1	My patients understand their medical conditions.	0	change	My patients better understand their health issue after consulting with me.
EN2	My patients are able to keep themselves healthy.	0	change	I ensure that my patients are able to keep themselves healthy.
EN3	My patients who return for a follow-up visit are coping well with their health problem.	0	remove	-
EN4	My patients appear to feel hopeful after a consultation.	.25	include	My patients appear to feel hopeful after a consultation.
EN5	My patients are equal partners in deciding their treatment plan.	0	change	My patients are appropriately involved in deciding the treatment plan.
Adherence potential				
AD1	My patients follow the plan that we have put together.	-.25	remove	-
AD2	A pill count would show that my patients take their medicine.	-.50	remove	-
AD3	My patients are aware of the side-effects of any prescribed medication.	-.25	change	My patients are made aware of the most important side effect(s) of their prescribed medication.
AD4	My patients agree to the goals of treatment.	.50	include	My patients agree to the goals of treatment.
AD5	My patients agree to the action plans set out to improve their health.	.25	include	My patients agree to the action plans set out to improve their health.
AD6	Family members of my minor, elder and disabled patients know how to manage the patient's illness from home.	.25	change	I ensure that family members and/or care givers of my minor, elder and disabled patients know how to manage the patient's illness from home.
AD19	-	-	new	I ensure that my patients are motivated to follow the treatment plan.
AD20	-	-	new	I ensure that my patients understand the treatment plan.
Accurate diagnosis				
ACD1	My diagnoses describe the influence of the health problem on the personal and environmental context of my patients.	0	change	My diagnoses describe the potential influence of the health problem on the daily functioning of my patients.
ACD2	A folder audit would show that I make accurate diagnoses.	0	change	I make accurate diagnoses.
ACD3	I select the appropriate diagnostic tests.	.25	include	I select the appropriate diagnostic tests.

Table 4.7

CVR and proposed changes to items of Form-S (Self-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
ACD7	-	-	new	My diagnoses describe the potential influence of the health problem on the quality of life of my patients.
ACD8	-	-	new	I am questioned about the accuracy of my diagnoses (-)
Effective treatment				
ET1	The treatments I provide lead to the intended outcomes. For example, pain relief and improved movement.	.25	include	The treatments I provide lead to the intended outcomes. For example, pain relief and improved movement.
ET2	A folder audit would show that my treatments are consistent with the standard guidelines of treatment.	.25	change	My treatments are consistent with the standard guidelines of treatment.
ET3	I effectively resolve issues to avoid return visits.	.50	Include	I effectively resolve issues to avoid return visits.
Quality				
Q1	My work is of high quality.	.50	include	My work is of high quality.
Q2	I consistently address the biopsychosocial-spiritual needs of patients.	-.25	remove	-
Q3	I consistently conduct patient-centred consultations.	.25	include	I consistently conduct patient-centred consultations.
Q4	I consistently negotiate interprofessional treatment plans.	.25	change	I negotiate interprofessional treatment plans when applicable.
Q5	I implement changes in my workplace to improve patient care. For example, improving the administration process to reduce waiting time and information retention.	.50	include	I implement changes in my workplace to improve patient care. For example, improving the administration process to reduce waiting time and information retention.
Q11	-	-	new	I am questioned about the quality of my work (-).
Timeliness				
T1	I perform any routine tasks in a short yet appropriate amount of time.	.75	include	I perform any routine tasks in a short yet appropriate amount of time.
T2	I use my time productively when on duty.	.75	include	I use my time productively when on duty.

Table 4.7

CVR and proposed changes to items of Form-S (Self-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Quantity				
QNT1	I complete an appropriate number of quality consultations and medical procedures in a workday.	.75	include	I complete an appropriate number of quality consultations and medical procedures in a workday.
QNT2	I complete an appropriate number of administrative and other routine tasks in a workday.	0	include	I complete an appropriate number of administrative and other routine tasks in a workday.
Cost effectiveness				
CST1	I write cost effective prescriptions.	.75	include	I write cost effective prescriptions.
CST2	My referral decisions are appropriate.	1	include	My referral decisions are appropriate.
CST3	My patients make avoidable return visits (-).	-.50	remove	-
CST4	My decisions lead to cost effective use of hospital resources.	.25	include	My decisions lead to cost effective use of hospital resources.
Cohesion				
CO1	Tasks are appropriately assigned in my interprofessional team.	.25	change	I ensure that tasks are appropriately assigned in my interprofessional team.
CO2	My team members complain that they do work that should be done by someone else (-).	-.50	remove	-
CO3	I do certain tasks that should be done by others (-).	-.50	remove	-
CO4	My team members willingly work together to achieve team goals.	.50	include	My team members willingly work together to achieve team goals.
CO5	There is a sense of pride and unity in my interprofessional team.	.25	include	There is a sense of pride and unity in my interprofessional team.
Appreciation by peers				
APPR1	My colleagues would say that I understand and respect their role and profession.	.25	include	My colleagues would say that I understand and respect their role and profession.
APPR2	My colleagues would say that I make contributions in achieving team goals.	.25	include	My colleagues would say that I make contributions in achieving team goals.
APPR3	I have a positive influence on the motivation and performance of my colleagues.	.5	include	I have a positive influence on the motivation and performance of my colleagues.

Table 4.7

CVR and proposed changes to items of Form-S (Self-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Health changing motivation				
HCM1	I influence the attitudes and lifestyle choices of community members.	0	include	I influence the attitudes and lifestyle choices of community members.
HCM2	As a result of my actions, I see community members adopt healthier habits.	-.5	remove	-
HCM3	As a result of my actions, I see community members making better life decisions.	-.25	remove	-
HCM10	-	-	new	I encourage patients to set an example of healthy behaviour in their homes and communities.
HCM11	-	-	new	I motivate patients to adopt healthier habits.
Sphere of influence				
SOI1	I have strong relationships with healthcare providers in the community where I serve.	0	include	I have strong relationships with healthcare providers in the community where I serve.
SOI2	I have strong relationships with stakeholders in the community where I serve.	-.75	remove	-
SOI3	I have a positive impact on a socio-economically disadvantaged population.	-.25	remove	-
Job satisfaction				
JS1	I experience my present work as rewarding.	.75	include	I experience my present work as rewarding.
JS2	I feel a sense of belonging in the community where I practice.	.75	include	I feel a sense of belonging in the community where I practice.
JS3	I feel a strong connection to my patients.	.50	include	I feel a strong connection to my patients.
JS4	Managerial and administrative work is a burden to me (-).	-.50	remove	-
JS5	In my profession, I am content and peaceful.	.75	include	In my profession, I am content and peaceful.

Table 4.7

CVR and proposed changes to items of Form-S (Self-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Perceived competence				
PC1	I am able to perform all clinical procedures that my work demands.	.75	include	I am able to perform all clinical procedures that my work demands.
PC2	I am competent in all non-clinical aspects of my performance.	.50	include	I am competent in all non-clinical aspects of my performance.
PC3	I know when to consult with my colleagues.	.50	include	I know when to consult with my colleagues.
PC4	I have grown more mature as a Medical Professional.	.75	include	I have grown more mature as a Medical Professional.
PC5	I have experienced personal development as a Medical Professional.	.75	include	I have experienced personal development as a Medical Professional.
Physical health				
PH1	I consider myself to be healthy.	.50	include	I consider myself to be healthy.
PH2	I eat healthily.	.25	include	I eat healthily.
PH3	I have sober habits.	.75	include	I have sober habits.
PH4	I do physical exercise.	.25	include	I do physical exercise.
PH5	I get enough rest.	0	remove	-

In summary, 44 of the 79 originally proposed items in Form-S were included and remained unchanged. A total of 23 items were removed due to low CVR ratings and compelling feedback from SMEs. A total of 16 new items were added based on constructive feedback and the need to comprehensively measure each outcome. A total of 12 items were changed after considering suggestions from SMEs relating to language and more appropriate choice of wording.

In Table 4.8, the CVR results Form-O (Other-rating) are displayed.

Table 4.8

CVR and proposed changes to items of Form-O (Other-rating form)

Item #	Original item	CVR	Action	Proposed item
Patient satisfaction				
SAT7	The MP puts his/her patients at ease.	1	include	The MP puts his/her patients at ease.
SAT8	The MP treats patients with warmth.	1	change	The MP treats patients with kindness.
SAT9	The MP ensures patients expectations are met.	.75	include	The MP ensures patients' expectations are met.
SAT10	The MP ensures patients concerns are met.	.75	change	The MP ensures patients' concerns are addressed.
SAT11	The MP treats patients with sensitivity.	1	include	The MP treats patients with sensitivity.
Dignity				
DIG4	The MP treats patients with respect.	1	include	The MP treats patients with respect.
DIG5	The MP ensures that physical examinations are conducted in privacy.	1	include	The MP ensures that physical examinations are conducted in privacy.
DIG6	The MP ensures that patients leave the hospital with a sense of self-worth and confidence.	.75	include	The MP ensures that patients leave the hospital with a sense of self-worth and confidence.
Trust				
TR5	The MP assures patients that their personal information is kept confidential.	.50	change	The MP ensures that patients' personal information is kept confidential.
TR6	Patients are comfortable to open up and disclose information to the MP about / relevant to their health problem.	.75	include	Patients are comfortable to open up and disclose information to the MP about / relevant to their health problem.
TR7	The MP obtains trust from patients.	.75	change	The MP is trusted by his/her patients.
Safety				
SAF3	The MP ensures patient safety.	.75	include	The MP ensures patient safety.
SAF4	The MP effectively prevents accidents and injuries.	.5	remove	-

Table 4.8

CVR and proposed changes to items of Form-O (Other-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Enablement				
EN6	Patients of the MP understand their health issue.	1	change	The MP helps his/her patients to better understand their health issue.
EN7	Patients of the MP are enabled to keep themselves healthy.	1	change	The MP's patients are better equipped by the MP to keep themselves healthy.
EN8	Patients of the MP who return for a follow-up visit are coping well with their health issue.	.75	remove	-
EN9	Patients of the MP appear to feel hopeful after a consultation.	.75	change	The MP's patients appear to feel hopeful after a consultation.
EN10	The MP involves patients as equal partners in deciding their treatment plan.	.75	change	The MP appropriately involves his/her patients in deciding the treatment plan.
Adherence potential				
AD7	Patients of the MP follow the agreed upon plan to get better.	1	remove	-
AD8	A pill count would show that the MPs patients take their medication.	0	remove	-
AD9	Patients of the MP are aware of the side-effects of any prescribed medication.	1	change	The MP's patients are made aware of the most important side-effects of their prescribed medication.
AD10	The MP obtains agreement from patients regarding the goals of treatment.	1	include	The MP obtains agreement from patients regarding the goals of treatment.
AD11	The MP obtains agreement from patients regarding the action plans to improve their health.	1	include	The MP obtains agreement from patients regarding the action plans to improve their health.
AD12	The MP ensures that family members of minor, elder and disabled patients know how to manage the patient's illness from home.	1	change	The MP ensures that family members and/or care givers of minor, elder and disabled patients know how to manage the patient's illness from home.
AD21	-	-	new	The MP ensures that his/her patients are motivated to follow their treatment plan.
AD22	-	-	new	The MP ensures that his/her patients understand their treatment plan.

Table 4.8

CVR and proposed changes to items of Form-O (Other-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Accurate diagnosis				
ACD4	The MPs diagnoses describe how the health problem influences the personal and environmental context of patients.	1	change	The MPs diagnoses describe how the health problem influences the daily functioning of patients.
ACD5	The MPs diagnoses are accurate and proven by the appropriate diagnostic tests.	.75	change	The MPs diagnoses are proven by the appropriate diagnostic tests.
ACD6	I trust that the MP will make accurate diagnoses.	1	include	I trust that the MP will make accurate diagnoses.
ACD9	-	-	new	The MPs diagnoses describe how the health problem influences the quality of life of patients.
ACD10	-	-	new	The accuracy of the MP's diagnoses is questioned by others (-).
Effective treatment				
ET5	Treatments provided by the MP lead to the intended outcomes. For example, pain relief and improved movement.	.75	include	Treatments provided by the MP lead to the intended outcomes. For example, pain relief and improved movement.
ET6	The MP selects the most effective treatments.	1	include	The MP selects the most effective treatments.
ET7	A folder audit would show that the MPs treatments are consistent with the standard guidelines of treatment	.25	change	The MPs treatments are consistent with the standard guidelines of treatment
Quality				
Q6	The MPs work is of high quality.	1	include	The MPs work is of high quality.
Q7	The MP consistently addresses the bio-psycho-social-spiritual needs of patients.	.75	remove	-
Q8	The MP consistently conducts patient-centred consultations.	.75	include	The MP consistently conducts patient-centred consultations.
Q9	The MP consistently negotiates interprofessional treatment plans.	.75	change	The MP negotiates interprofessional treatment plans where applicable.
Q10	The MP implements changes in his/her workplace to improve patient care.	.75	include	The MP implements changes in his/her workplace to improve patient care.
Q12			new	The quality of the MP's work is questioned by others

Table 4.8

CVR and proposed changes to items of Form-O (Other-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Timeliness				
T3	Time is used productively by the MP.	.75	include	Time is used productively by the MP.
T4	The MP completes routine tasks in a short yet appropriate amount of time.	.50	include	The MP completes routine tasks in a short yet appropriate amount of time.
Quantity				
QNT3	The MP completes an appropriate number of quality consultations and medical procedures in a workday.	.75	include	The MP completes an appropriate number of quality consultations and medical procedures in a workday.
QNT4	The MP completes an appropriate number of administrative and other routine tasks in a workday.	1	include	The MP completes an appropriate number of administrative and other routine tasks in a workday.
Cost effectiveness				
CST5	Cost effective prescriptions are written out by the MP.	.75	include	Cost effective prescriptions are written out by the MP.
CST6	Appropriate referral decisions are made by the MP.	1	include	Appropriate referral decisions are made by the MP.
CST7	Patients of the MP make avoidable return visits (-).	.50	remove	-
CST8	Decisions of the MP lead to cost effective use of hospital resources.	1	include	The MP's decisions lead to cost effective use of hospital resources.
Cohesion				
CO6	The MP ensures that tasks are appropriately assigned.	.50	include	The MP ensures that tasks are appropriately assigned.
CO7	Our team members complain that they do work that should be done by someone else (-).	0	remove	-
CO8	I do certain tasks that should be done by others (-).	0	remove	-
CO9	Team members willingly work together to achieve team goals when working with the MP.	1	include	Team members willingly work together to achieve team goals when working with the MP.
CO10	There is a sense of pride and unity when I work with the MP.	1	include	There is a sense of pride and unity when I work with the MP.

Table 4.8

CVR and proposed changes to items of Form-O (Other-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Appreciation by peers				
APPR4	The MP understands and respects my role and profession.	1	include	The MP understands and respects my role and profession.
APPR5	The MP makes contributions in achieving team goals.	1	include	The MP makes contributions in achieving team goals.
APPR6	The MP has a positive influence on my motivation and performance.	1	include	The MP has a positive influence on my motivation and performance.
Health changing motivation				
HCM4	The MP influenced the attitudes and lifestyle choices of community members.	.25	include	The MP influenced the attitudes and lifestyle choices of community members.
HCM5	Community members adopt healthier habits because of the MPs efforts.	.25	remove	-
HCM6	Community members make better life decisions because of the MPs efforts.	.25	remove	-
HCM12	-	-	new	The MP encourages patients to set an example of healthy behaviour in their homes and communities.
HCM13	-	-	new	The MP motivates patients to adopt healthier habits.
Sphere of influence				
SOI4	The MP has strong relationships with healthcare providers in the community where he/she serves.	1	include	The MP has strong relationships with healthcare providers in the community where he/she serves.
SOI5	The MP has strong relationships with stakeholders in the community where he/she serves.	.50	remove	-
SOI6	The MP has a positive impact on a socio-economically disadvantaged population.	.50	remove	-

Table 4.8

CVR and proposed changes to items of Form-O (Other-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Perceived competence				
PC6	The MP is able to perform all clinical procedures that his/her work demands.	1	include	The MP is able to perform all clinical procedures that his/her work demands.
PC7	The MP is competent in all non-clinical aspects of their performance.	1	include	The MP is competent in all non-clinical aspects of their performance.
PC8	The MP knows when to consult with his/her colleagues.	1	include	The MP knows when to consult with his/her colleagues.
PC9	The MP has grown more mature as a Medical Professional.	1	include	The MP has grown more mature as a Medical Professional.
Physical health				
PH6	I consider the MP to be healthy.	.25	include	I consider the MP to be healthy.

In summary, 36 of the 54 originally proposed items in Form-O were included and remained unchanged. A total of five items were removed due to low CVR ratings and compelling feedback from SMEs. Nine new items were added based on constructive feedback and the need to comprehensively measure each outcome. A total of 13 items were changed after considering suggestions from SMEs relating to language and more appropriate choice of wording.

The CVR results from Form-P (Patient-rating) form are displayed below in Table 4.9.

Table 4.9

CVR and proposed changes to items of Form-P (Patient-rating form)

Item #	Original item	CVR	Action	Proposed item
Patient satisfaction				
SAT12	I felt at ease during the consultation.	.75	include	I felt at ease during the consultation.
SAT13	The MP treated me with warmth.	.75	change	The MP treated me with kindness.
SAT14	If a return visit were necessary, I would prefer to see this MP.	.75	include	If a return visit were necessary, I would prefer to see this MP.
SAT15	Overall, I was satisfied with the consultation.	.75	include	Overall, I was satisfied with the consultation.
SAT16	The MP treated me with sensitivity.	.75	include	The MP treated me with sensitivity.
SAT17	My expectations for the consultation were met.	.75	include	My expectations for the consultation were met.
Dignity				
DIG7	I felt respected by the MP.	1	include	I felt respected by the MP.
DIG8	The physical examination took place in private.	.50	include	The physical examination took place in private.
DIG9	I felt good about myself when leaving the consultation.	0	include	I felt good about myself when leaving the consultation.
Trust				
TR8	I feel assured that my personal information will be kept confidential.	.25	include	I feel assured that my personal information will be kept confidential.
TR9	I was comfortable to open up towards the MP and disclose any relevant information.	1	include	I was comfortable to open up towards the MP and disclose any relevant information.
TR10	I have confidence in the abilities of the MP.	.75	include	I have confidence in the abilities of the MP.
TR11	The MP gave me his full attention.	.75	include	The MP gave me his full attention.
TR12	The MP had my interests at heart.	.5	remove	-
TR13	I experienced the MP as honest and authentic.	.5	remove	-
TR15	-	-	new	I trust that the MP gave me the best advice
Safety				
SAF5	I felt safe during the consultation.	.75	include	I felt safe during the consultation.
SAF6	I felt at ease when the MP performed physical examinations, tests or procedures.	1	include	I felt at ease when the MP performed physical examinations, tests or procedures.

Table 4.9

CVR and proposed changes to items of Form-P (Patient-rating form) (continued)

Item #	Original item	CVR	Action	Proposed item
Enablement				
EN11	I understand my health issue.	1	change	The MP helped me to better understand my health issue.
EN12	I am able to keep myself healthy thanks to the MP.	.75	change	I am better able to keep myself healthy thanks to the MP
EN13	I am coping well with my health issue.	.25	change	I feel that I will be able to cope with my health issue thanks to the MP
EN14	I felt hopeful after leaving the consultation.	.75	include	I felt hopeful after leaving the consultation.
EN15	I was involved in deciding my treatment plan.	.50	include	I was involved in deciding my treatment plan.
Adherence potential				
AD13	I followed the treatment plan set out for me.	1	replace	-
AD14	I took my medicine as agreed with the MP.	.75	replace	-
AD15	I am aware of the side-effects of my prescribed medication.	.75	change	I was made aware of the most important side-effects of my prescribed medication.
AD16	I agreed with the goals of my treatment.	.75	include	I agreed with the goals of my treatment.
AD17	I agreed with the action plans set out to improve my health.	1	include	I agreed with the action plans set out to improve my health.
AD18	My family knows how to assist in managing my illness from home.	.75	change	My family and/or care giver knows how to assist in managing my illness from home.
AD23	-	-	new	I understand how to follow the treatment plan
AD24	-	-	new	I feel motivated to follow the treatment plan
Effective treatment				
ET7	There were no complications, unexpected pains or accidents when I was treated by the MP.	.50	change	There were no unexpected pains or accidents when I was treated by the MP.
Timeliness				
T5	The MP used the time we had together efficiently.	1	include	The MP used the time we had together efficiently.

Table 4.9

CVR and proposed changes to items of Form-P (Patient-rating form)

Item #	Original item	CVR	Action	Proposed item
Health changing motivation				
HCM7	The MP educated me to live healthily in the future.	.75	include	The MP educated me to live healthily in the future.
HCM8	The MP motivated me to adopt healthy habits.	.75	include	The MP motivated me to adopt healthy habits.
HCM9	The MP motivated me to educate my family and friends to stay healthy.	1	include	The MP motivated me to educate my family and friends to stay healthy.

In summary, 20 of the 33 originally proposed items in Form-P were included and remained unchanged. Four items were removed due to low CVR ratings and compelling feedback from SMEs. Three new items were added based on constructive feedback and the need to comprehensively measure each outcome. Seven items were changed after considering suggestions from SMEs relating to language and more appropriate choice of wording.

4.4.2 Summary of scale content validity ratios (S-CVR)

Table 4.10 shows the S-CVR scores before and after removing poor items. The S-CVR is the average CVR of all items that form part of a given scale. The S-CVR is displayed per outcome across all forms in the second and sixth columns; per outcome within each form in columns three to five and seven to nine; per rating form in the second last row; and per the entire SAMPOQ in the bottom row. If a certain outcome is not measured by one of the forms, then the cell is left open for example *accurate diagnosis* is not measured in Form-P. Columns two to five show the S-CVR scores before the removal of items and columns six to nine show S-CVR scores after the removal of items. The S-CVR scores are discussed in detail below per form.

Table 4.10

S-CVR scores before and after removal of items

	BEFORE REMOVAL				AFTER REMOVAL			
	Outcome	Form-S	Form-O	Form-P	Outcome	Form-S	Form-O	Form-P
Satisfaction	.66	.38	.90	.75	.73	.55	.90	.75
Dignity	.69	.67	.92	.50	.69	.67	.92	.50
Trust	.63	.63	.67	.63	.70	.75	.67	.69
Safety	.63	.38	.63	.88	.75	.50	.75	.88
Enablement	.52	.05	.85	.65	.54	.06	.88	.65
Adherence potential	.56	.00	.83	.83	.67	.19	1.00	.81
Accurate diagnosis	.50	.08	.92	-	.50	.08	.92	-
Effective treatment	.50	.33	.67	.50	.50	.33	.67	.50
Quality	.53	.25	.80	-	.59	.38	.81	-
Timeliness	.75	.75	.63	1.00	.75	.75	.63	1.00
Quantity	.63	.38	.63	-	.63	.38	.63	-
Cost effectiveness	.59	.38	.81	-	.79	.67	.92	-
Cohesion	.25	.00	.50	-	.58	.33	.83	-
Appreciation by peers	.67	.33	1.00	-	.67	.33	1.00	-
Health changing motivation	.28	-.25	.25	.83	.55	.00	.25	.83
Sphere of influence	.17	-.33	.67	-	.50	.00	1.00	-
Job satisfaction	.45	.45	-	-	.69	.69	-	-
Perceived competence	.81	.65	1.00	-	.81	.65	1.00	-
Physical health	.33	.35	.25	-	.33	.35	.25	-
Total S-CVR per form		.28	.76	.72		.43	.85	.72
Total SAMPOQ S-CVR	.54				.64			

Form-S

After removing poor items from Form-S, the S-CVR improved from .28 to .43. Despite the improvement, the S-CVR of Form-S performed poorer than the S-CVR of Form-P (.72) and Form-O (.85). This indicates that a smaller majority of respondents (between 5-6 from 8 SMEs) on average considered the remaining items as essential to measure the latent outcome variables.

It should be noted that SMEs who completed Form-S were registered GPs and family physicians. It is therefore assumed that participants rated the items cautiously because they are essentially the target group of the SAMPOQ.

Form-P

From Form-P, only three items were removed. In effect the S-CVR remained unchanged at .72 which can be considered satisfactory. This indicates that the majority of respondents (between 6-7 from 8 SMEs) on average considered the remaining items as essential to measure the latent outcome variables.

Form-O

After removing poor items from Form-O, the S-CVR improved from .76 to .85 which can be considered highly satisfactory. The S-CVR of Form-O is therefore the highest among the three forms. This indicates that an overwhelming majority of respondents (between 7-8 from 8 SMEs) on average considered the remaining items as essential to measure the latent outcome variables.

Total S-CVR of the SAMPOQ

After removing poor items, the overall S-CVR of the SAMPOQ improved from .54 to .64. Overall, this can be considered moderately satisfactory. In developing a new measurement scale, it is suggested that a S-CVR of .80 should be achieved (Polit & Beck, 2006).

Considering that the S-CVR fell below .80, and that numerous new items have been added, the total S-CVR of the SAMPOQ does not fully meet the requirement of a newly developed scale and could therefore benefit from an additional round of content validity ratings over certain outcomes from Form-S.

Lawshe (1975) considers any CVR with 0 or more to show at least some content validity. It should be noted that certain outcomes within Form-S came close to not showing a minimum level of content validity according to Lawshe's view. Potentially problematic outcomes in Form-S include *adherence potential* (.19), *enablement* (.06), *accurate diagnosis* (.08), *sphere of influence* (.00), and *health changing motivation* (.00). It is expected that if the new and improved items from these outcomes are rated in a follow-up round, that the overall S-CVR can move closer to .80. This would not require an additional round of Delphi feedback as these outcomes were already confirmed to be relevant and important in describing MP performance. The definitions should therefore remain unchanged.

4.4.3 Emerging themes from content validity phase

It is important to consider the reason for the poorer ratings among the above-mentioned outcomes. The primary reason seemingly relates to the belief that certain items cannot fully be the responsibility of the MP or the patient. For example, for the outcome *enablement*, in response to the item *my patients are able to keep themselves healthy*, respondents commented the following: "Some do not have sufficient knowledge to keep themselves healthy" (Respondent 2-S), and "Violence and sugar are epidemics prevalent …" (Respondent 6-S).

In response to the item *my patients who return for a follow-up visit are coping well with their health problem*, respondents commented the following: "Their problems are sometimes complex (Respondent 5-S)", and "Poverty and violence is beyond patients' control (Respondent 6-S)".

Another example is seen in response to items of the *adherence potential* outcome. In response to the item *My patients follow the plan that we have put together*, respondents commented the following: "It depends on their social support and insight. Circumstances change often, including transport, jobs and IPV" (Respondent 6-S), and "There may be good reasons they could not adhere."

In response to such comments, the items were changed and, in some cases, replaced with new items to ensure that the items better reflect the influence of the MP. For example, the item *my patients understand their medical conditions* was changed to *my patients better understand their health issue after the consultation* to put the focus on the change that occurred because of the MPs efforts. Also, where possible, items

were changed to reflect malleable psychological states instead of behaviours. It is argued that malleable psychological states better reflect the reaction of the individual towards the behaviour of the MP. For example, instead of using the item *I have been following my treatment plan*, the item *I am <u>motivated</u> to follow my treatment plan* is used. Although malleable psychological states are influenced by predetermined factors such as one's expectations of service in the case of *patient satisfaction* or trust propensity in the case of *trust*, they still provide a clearer picture of the MPs performance when compared to behavioural outcomes. The influence of behavioural outcomes relies on many other situational variables such as the patient's circumstances at home, and occurs after longer periods of time which poses challenges in terms of measuring the outcomes.

Other examples include the following: Instead of using the item *I fully understand my health issue*, the item *my MP helped me to better understand my health issue* was used. This also moves the focus towards the influence of the MP.

It should however be noted that, even with items that explicitly described the outcome as a result of MP behaviour for example *As a result of my actions, I see community members adopt healthier habits* and *I see community members making better life decisions because of my efforts*, respondents mentioned that "this is too complex, the industry is against health" (Respondent 3-S),   and "Poverty and violence overwhelms this" (Respondent 2-S).

4.5 PROPOSED OUTCOMES AND ITEMS

The table below summarises the list of outcomes and definitions, as well as items across all forms. The symbols (S), (P) and (O) are used in the numbering of the items to indicate whether the item originates from Form-S, Form-O or Form-P respectively.

Table 4.11

Proposed items of the SAMPOQ

Item # (form)	Proposed outcome and items
	Patient satisfaction - *The extent to which the concerns and expectations of patients are met by the MP in terms of warmth, sensitivity, time, and attention to bio-psycho-social-spiritual well-being.*
SAT1(S)	My patients are at ease during consultations.
SAT2(S)	I treat my patients with sensitivity.
SAT3(S)	I check whether my patients' expectations are met.
SAT4(S)	I check whether my patients' concerns are addressed.
SAT5(S)	I treat my patients with kindness
SAT6(O)	The MP puts his/her patients at ease.
SAT7(O)	The MP treats patients with kindness.
SAT8(O)	The MP ensures patients' expectations are met.
SAT9(O)	The MP ensures patients' concerns are addressed.
SAT10(O)	The MP treats patients with sensitivity.
SAT11(P)	I felt at ease during the consultation.
SAT12(P)	The MP treated me with kindness.
SAT13(P)	If a return visit were necessary, I would prefer to see this MP.
SAT14(P)	Overall, I was satisfied with the consultation.
SAT15(P)	The MP treated me with sensitivity.
SAT16(P)	My expectations for the consultation were met.
	Dignity - *The extent to which patients feel respected and well treated in terms of their personal needs.*
DIG1(S)	My patients will say that I treat them with respect.
DIG2(S)	My patients' physical examinations are conducted in privacy.
DIG3(S)	My patients will leave the hospital with a sense of self-worth and confidence in themselves.
DIG4(O)	The MP treats patients with respect.
DIG5(O)	The MP ensures that physical examinations are conducted in privacy.
DIG6(O)	The MP ensures that patients leave the hospital with a sense of self-worth and confidence.
DIG7(P)	I felt respected by the MP.
DIG8(P)	The physical examination took place in private.
DIG9(P)	I felt good about myself when leaving the consultation.
	Trust - *The extent to which patients believe in and experience the good intent, competence, honesty, and authenticity of their MP. A trusting patient feels comfortable, safe and opens up towards the MP.*
TR1(S)	My patients are assured that their personal information is kept confidential.
TR2(S)	My patients are comfortable to open up and disclose information about / relevant to their health problem.
TR3(S)	I believe my patients have confidence in my abilities.
TR4(S)	I obtain trust from my patients
TR5(O)	The MP ensures that patients' personal information is kept confidential.
TR6(O)	Patients are comfortable to open up and disclose information to the MP about / relevant to their health problem.
TR7(O)	The MP is trusted by his/her patients.
TR8(P)	I feel assured that my personal information will be kept confidential.
TR9(P)	I was comfortable to open up towards the MP and disclose any relevant information.
TR10(P)	I have confidence in the abilities of the MP.
TR11(P)	The MP gave me his full attention.
TR12(P)	I trust that the MP gave me the best advice

Table 4.11

Proposed items of the SAMPOQ (continued)

Item # (form)	Proposed outcome and items
	Safety - *The extent to which patients feels safe from accidental or preventable injuries while under the care of the MP.*
SAF1(S)	My patients will confirm that they feel safe when under my care.
SAF2(O)	The MP ensures patient safety.
SAF3(P)	I felt safe during the consultation.
SAF4(P)	I felt at ease when the MP performed physical examinations, tests or procedures.
	Enablement - *The extent to which patients are capable of understanding and coping better with their health issue(s).*
EN1(S)	My patients better understand their health issue after consulting with me.
EN2(S)	I ensure that my patients are able to keep themselves healthy.
EN3(S)	My patients appear to feel hopeful after a consultation.
EN4(S)	My patients are appropriately involved in deciding the treatment plan.
EN5(O)	The MP helps his/her patients to better understand their health issue.
EN6(O)	The MP's patients are better equipped by the MP to keep themselves healthy.
EN7(O)	The MP's patients appear to feel hopeful after a consultation.
EN8(O)	The MP appropriately involves his/her patients in deciding the treatment plan.
EN9(P)	The MP helped me to better understand my health issue.
EN10(P)	I am better able to keep myself healthy thanks to the MP
EN11(P)	I feel that I will be able to cope with my health issue thanks to the MP
EN12(P)	I felt hopeful after leaving the consultation.
EN13(P)	I was involved in deciding my treatment plan.
	Adherence potential - *The potential that the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, may correspond with the negotiated plan between patient and the MP.*
ADH1(S)	My patients are made aware of the most important side effect(s) of their prescribed medication.
ADH2(S)	My patients agree to the goals of treatment.
ADH3(S)	My patients agree to the action plans set out to improve their health.
ADH4(S)	I ensure that family members and/or care givers of my minor, elder and disabled patients know how to manage the patient's illness from home.
ADH5(S)	I ensure that my patients are motivated to follow the treatment plan.
ADH6(S)	I ensure that my patients understand the treatment plan.
ADH7(O)	The MP's patients are made aware of the most important side-effects of their prescribed medication.
ADH8(O)	The MP obtains agreement from patients regarding the goals of treatment.
ADH9(O)	The MP obtains agreement from patients regarding the action plans to improve their health.
ADH10(O)	The MP ensures that family members and/or care givers of minor, elder and disabled patients know how to manage the patient's illness from home.
ADH11(O)	The MP ensures that his/her patients are motivated to follow their treatment plan.
ADH12(O)	The MP ensures that his/her patients understand their treatment plan.
ADH13(P)	I was made aware of the most important side-effects of my prescribed medication.
ADH14(P)	I agreed with the goals of my treatment.
ADH15(P)	I agreed with the action plans set out to improve my health.
ADH16(P)	My family and/or care giver knows how to assist in managing my illness from home.

Table 4.11

Proposed items of the SAMPOQ (continued)

Item # (form)	Proposed outcome and items
ADH17(P)	I understand how to follow the treatment plan
ADH18(P)	I feel motivated to follow the treatment plan
	Accurate diagnosis - *How often the MP accurately assesses a health problem. An accurate assessment includes correct clinical diagnosis and takes cognisance of how the health problem and the patient's personal and environmental factors influence his/her functioning.*
AD1(S)	My diagnoses describe the potential influence of the health problem on the daily functioning of my patients.
AD2(S)	I make accurate diagnoses
AD3(S)	I select the appropriate diagnostic tests.
AD4(S)	My diagnoses describe the potential influence of the health problem on the quality of life of my patients.
AD5(S)	I am questioned about the accuracy of my diagnoses
AD6(O)	The MPs diagnoses describe how the health problem influences the daily functioning of patients.
AD7(O)	The MPs diagnoses are proven by the appropriate diagnostic tests.
AD8(O)	I trust that the MP will make accurate diagnoses.
AD9(O)	The MPs diagnoses describe how the health problem influences the quality of life of patients.
AD10(O)	The accuracy of the MP's diagnoses is questioned by others.
	Effective treatment - *How often any action taken by the MP to manage/treat a patient results in the desired outcome.*
ET1(S)	The treatments I provide lead to the intended outcomes. For example, pain relief and improved movement.
ET2(S)	My treatments are consistent with the standard guidelines of treatment.
ET3(S)	I effectively resolve issues to avoid return visits.
ET4(O)	Treatments provided by the MP lead to the intended outcomes. For example, pain relief and improved movement.
ET5(O)	The MP selects the most effective treatments.
ET6(O)	The MPs treatments are consistent with the standard guidelines of treatment
ET7(P)	There were no unexpected pains or accidents when I was treated by the MP.
	Quality - *The extent to which the MP consistently addresses the bio-psycho-social-spiritual needs of patients by conducting patient-centred consultations and negotiating interprofessional treatment plans.*
QL1(S)	My work is of high quality.
QL2(S)	I consistently conduct patient-centred consultations.
QL3(S)	I negotiate interprofessional treatment plans when applicable.
QL4(S)	I implement changes in my workplace to improve patient care. For example, improving the administration process to reduce waiting time and information retention.
QL5(S)	I am questioned about the quality of my work.
QL6(O)	The MPs work is of high quality.
QL7(O)	The MP consistently conducts patient-centred consultations.
QL8(O)	The MP negotiates interprofessional treatment plans where applicable.
QL9(O)	The MP implements changes in his/her workplace to improve patient care.
QL10(O)	The quality of the MP's work is questioned by others

Table 4.11

Proposed items of the SAMPOQ (continued)

Item # (form)	Proposed outcome and items
	Timeliness - *The extent to which the durations of routine tasks performed by the MP take place in a short, yet appropriate period-of time.*
TIM1(S)	I perform any routine tasks in a short yet appropriate amount of time.
TIM2(S)	I use my time productively when on duty.
TIM3(O)	Time is used productively by the MP.
TIM4(O)	The MP completes routine tasks in a short yet appropriate amount of time.
TIM5(P)	The MP used the time we had together efficiently.
	Quantity - *The extent to which the MP completes an appropriate number of quality consultations, medical procedures, administrative and other routine tasks.*
QNT1(S)	I complete an appropriate number of quality consultations and medical procedures in a workday.
QNT2(S)	I complete an appropriate number of administrative and other routine tasks in a workday.
QNT3(O)	The MP completes an appropriate number of quality consultations and medical procedures in a workday.
QNT4(O)	The MP completes an appropriate number of administrative and other routine tasks in a workday.
	Cost effectiveness - *The extent to which the MP reaches maximum outcomes of care with the minimum, yet appropriate, amount of budgeted financial resources.*
CST1(S)	I write cost effective prescriptions.
CST2(S)	My referral decisions are appropriate.
CST3(S)	My decisions lead to cost effective use of hospital resources.
CST4(O)	Cost effective prescriptions are written out by the MP.
CST5(O)	Appropriate referral decisions are made by the MP.
CST6(O)	The MP's decisions lead to cost effective use of hospital resources.
	Cohesion - *The extent to which colleagues show a willingness to collaborate and achieve team goals.*
COH1(S)	I ensure that tasks are appropriately assigned in my interprofessional team.
COH2(S)	My team members willingly work together to achieve team goals.
COH3(S)	There is a sense of pride and unity in my interprofessional team.
COH4(O)	The MP ensures that tasks are appropriately assigned.
COH5(O)	Team members willingly work together to achieve team goals when working with the MP.
COH6(O)	There is a sense of pride and unity when I work with the MP.
	Appreciation by peers - *The extent to which peers from various professions feel understood and appreciated by the MP and perceives the MP as a valuable team/group member.*
ABP1(S)	My colleagues would say that I understand and respect their role and profession.
ABP2(S)	My colleagues would say that I make contributions in achieving team goals.
ABP3(S)	I have a positive influence on the motivation and performance of my colleagues.
ABP4(O)	The MP understands and respects my role and profession.
ABP5(O)	The MP makes contributions in achieving team goals.
ABP6(O)	The MP has a positive influence on my motivation and performance.

Table 4.11

Proposed items of the SAMPOQ (continued)

Item # (form)	Proposed outcome and items
	Health changing motivation - *The extent to which patients, family members and community members are motivated to adopt healthier behaviours due to efforts involving the MP.*
HCM1(S)	I influence the attitudes and lifestyle choices of community members.
HCM2(S)	I encourage patients to set an example of healthy behaviour in their homes and communities.
HCM3(S)	I motivate patients to adopt healthier habits.
HCM4(O)	The MP influenced the attitudes and lifestyle choices of community members.
HCM5(O)	The MP encourages patients to set an example of healthy behaviour in their homes and communities.
HCM6(O)	The MP motivates patients to adopt healthier habits.
HCM7(P)	The MP educated me to live healthily in the future.
HCM8(P)	The MP motivated me to adopt healthy habits.
HCM9(P)	The MP motivated me to educate my family and friends to stay healthy.
	Sphere of influence - *The extent to which the MP maintains strong relationships with patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities.*
SOI1(S)	I have strong relationships with healthcare providers in the community where I serve.
SOI2(O)	The MP has strong relationships with healthcare providers in the community where he/she serves.
	Job satisfaction - *The extent to which the MP experiences a state of contentment and comfort in their work.*
JS1(S)	I experience my present work as rewarding.
JS2(S)	I feel a sense of belonging in the community where I practice.
JS3(S)	I feel a strong connection to my patients.
JS4(S)	In my profession, I am content and peaceful.
	Perceived competence - *The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and recognises when to consult.*
PC1(S)	I am able to perform all clinical procedures that my work demands.
PC2(S)	I am competent in all non-clinical aspects of my performance.
PC3(S)	I know when to consult with my colleagues.
PC4(S)	I have grown more mature as a Medical Professional.
PC5(S)	I have experienced personal development as a Medical Professional.
PC6(O)	The MP is able to perform all clinical procedures that his/her work demands.
PC7(O)	The MP is competent in all non-clinical aspects of their performance.
PC8(O)	The MP knows when to consult with his/her colleagues.
PC9(O)	The MP has grown more mature as a Medical Professional.
	Physical health – *The extent to which the MP maintains his/her physical health through regular exercise and good nutrition and sober habits.*
PH1(S)	I consider myself to be healthy.
PH2(S)	I eat healthily.
PH3(S)	I have sober habits.
PH4(S)	I do physical exercise.
PH5(O)	I consider the MP to be healthy.

4.6 MODIFIED THEORETICAL MEDICAL PRACTITIONER COMPETENCY MODEL

Based in the confirmed outcomes and proposed competencies, the theoretical structural proposed in Chapter 2 was modified. The model in Figure 4.1 constitutes the final proposed partial competency model.
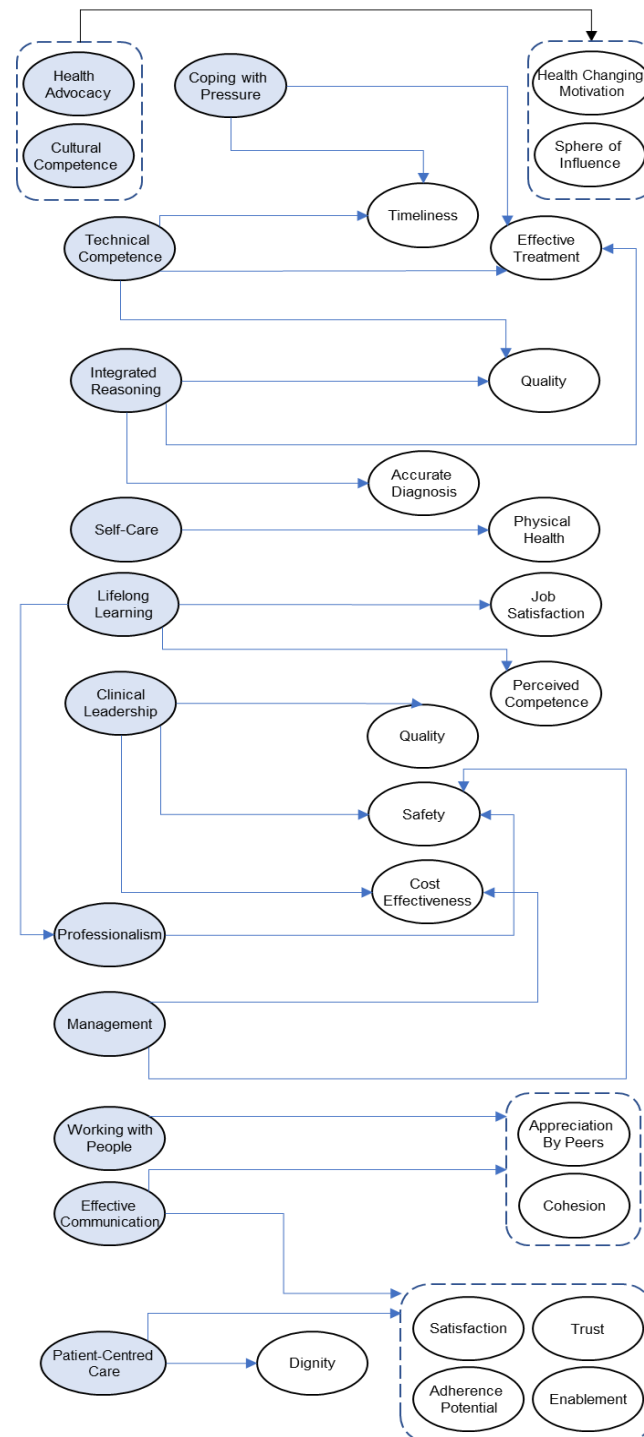
Figure 4.1 A modified theoretical medical practitioner competency model

*White circles resemble outcomes while grey circles resemble competencies. *Arrows indicate causal relationships between variables. *Dotted lines serve to group outcomes together that share the same relationship with certain competencies.

4.7 CONCLUSION

Chapter 4 concludes with a list of outcomes that partially describe MP performance as well as a South African medical practitioner outcome questionnaire that was designed to measure these outcomes using multi-rater forms. A modified theoretical competency model is also proposed that reflect findings from this study and other literature. It was found that all competencies can be linked with the existing outcomes, that all outcomes were rated as moderately to highly important. Important to note is that this proposed questionnaire cannot be used in practice in its current form. In this light, the conclusions, limitations and suggestions for future research discussed in Chapter 5 should be considered.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In Chapter 1, the history and current state of South African healthcare was discussed to point out that there is much room for improvement. Among all of the functions that could be utilised to improve the quality of care, the human resources function was believed to be among the most effective. It was therefore considered essential to propose the need for a comprehensive medical practitioner competency model. A comprehensive competency model would in effect serve as a detailed pathway in improving individual performance in a manner that is aligned with the vision of the Department of Health, as well as other institutions. It was considered most appropriate to first explore the outcomes of MP performance, as it closely relates to the needs of stakeholders, and would adequately inform the contents of the rest of the competency model. This study therefore primarily focussed on the performance outcomes of MP performance.

In Chapter 2, the conceptual framework that was used to define the performance construct was clarified first. This was considered an important step as there exists variations over the meaning of basic terms such as 'competency', 'outcome' and 'performance'. The researcher made his stance clear as to what is meant by such key terms in order to define the performance of MPs as clearly as possible. The literature review found that nearly all primary care performance frameworks and measurements are designed to explain unit or organisational level performance. The performance measures of individual practitioners primarily focussed on clinical performance relating to technical or procedural tasks. Some included patient reported outcomes pertaining to individual performance, however, none included the measurement of self-, peer- or community outcomes. Currently, there are no known instruments that measure the overall performance of an individual MP. In fact, the literature appears to be inconclusive as to what the complete set of performance outcomes are. It was established that although there are certain competency frameworks that describe MP behaviour in the form of competencies, there remains a need for clearly defining the expected performance outcomes of MPs, especially non-clinical ones.

This study explored the performance construct of MPs in the South African context. The primary focus was to identify a comprehensive list of performance outcomes. Outcomes were identified through an extensive literature review. To ensure the comprehensiveness of the outcomes, the literature review ensured that the needs of all primary stakeholders would be taken into account. By asking the question 'what do the patients, the general population, the co-worker, and the organisation expect from the MP in the working environment?' Equally important, the needs of the MP him/herself were explored too. The needs of multiple stakeholders were translated and refined into an extensive set of outcomes.

Chapter 3 outlined the most effective and feasible way to establish the final list of outcomes, and develop a set of items that could measure each outcome. Outcomes discussed in Chapter 2 were presented to SMEs for the purpose of confirming its importance and relevance using a Delphi Technique. This included two rounds of detailed feedback and consensus seeking. In the final phase of this research, items were created to measure each of the confirmed outcomes, and again presented to a larger group of inter professional SMEs for review. Items were rated, modified, and once again triangulated with experts to establish a proposed medical practitioner outcome questionnaire.

In addition, open-ended feedback from experts gave much insight into the conditions in which MPs work. This information specifically described certain elements which could prevent an MP from achieving important outcomes. This information would become useful for future research that pursues a similar path of defining and measuring MP performance, particularly research that explores the situational variables that influence MP performance.

The remainder of this chapter discusses the results and limitations of the study, as well as important considerations and suggestions that future researchers should take into account.

5.2 SUMMARY OF RESULTS

After exploring literature and relevant standards, 20 outcomes were identified that could be considered to be direct effects of MP performance. After the Delphi process, two outcomes were removed namely *patient continuity* and *informational continuity*,

and one was added namely *physical health*. The two outcomes were removed because of an apparent lack of influence the MP has over these outcomes. These outcomes however are highly important for organisational performance and should not be ignored. It was therefore suggested that the critical behaviours required to achieve continuity be integrated into the existing competencies, for example *management* or *clinical leadership*. As for the inclusion of the physical health of the MP, it was considered a unique value add as it could provide a clear indication of how well the MP is looking after him/herself i.e. successful *Self-Care*. It should also be noted that certain additional outcomes were suggested, however not included as they either overlapped with other outcomes for example *respect* versus *dignity*, or could not be considered an outcome, but rather a competency for example *personal growth*.

Eventually, 19 outcomes were defined and established for the purpose of being measured by the SAMPOQ. Roughly 45% of outcomes as identified in the literature remained the same, whereas others were altered to better reflect the needs of patients in the South African context. Following the Delphi technique, items were written based on the finalised definitions of outcomes as well as other feedback from experts.

Content validity ratings were obtained from separate groups of SMEs over the items of the SAMPOQ. Content validity ratios were examined and items were improved, removed, or new items were added. Before the removal of items, the S-CVR of the SAMPOQ was 0.54, and 0.64 after the removal of poor items. The poorest CVR scores came from the self-rating form as many ratings fell below 0. After removing poor items, the S-CVR for the self-rating rose from 0.28 to 0.43. It can be concluded that the SAMPOQ has achieved reasonable content validity, however, an additional round of rating is required due to numerous new items and certain outcomes that received poorer ratings.

In addition, open-ended feedback was categorised into notable themes that described certain challenges for MPs to reach certain performance outcomes. Categories relating to patients' demographics and characteristics, socio-economic circumstances, and systemic challenges relating to administration and management of healthcare facilities were discussed.

Lastly, based on the findings of empirical research and input from SMEs, a partial theoretical competency model was presented that serves to explain MP performance in terms of competencies and outcomes.

5.3 LIMITATIONS

Limitations of this study relate to the study sample, and the absence of statistical validation. Ideally, this study would have been based on a representative sample of the South African MP population, and would have applied more rigorous statistical methods to prove the reliability and validity of the SAMPOQ.

Firstly, the majority of participants were white, female, and from the Western-cape. The sample was therefore not adequately representative in terms of race, gender and location. An element such as location could potentially distort the views of experts as certain socio-economic challenges of the Western Cape could have been over emphasised and/or overlooked.

Secondly, this study did not statistically validate the SAMPOQ. The methods used served to establish the definitions of outcomes, and develop initial items. While there is some evidence of credibility and content validity, the proposed SAMPOQ cannot be used in practice before it is psychometrically evaluated.

In the pursuit of developing a comprehensive South African medical practitioner competency model, the limitations of this study should be considered and corrected in future research.

5.4 RECOMMENDATIONS FOR FUTURE RESEARCH

Future researchers are encouraged to finalise the content of the SAMPOQ by conducting an extra round of content validity ratings at least among new items and poorly rated outcomes. Thereafter, the SAMPOQ should be tested on a larger representative sample so that the findings are generalisable to the South African population. Future researchers should consider effective methods of obtaining data from different geographical locations, for example by contacting MPs at a national conference and/or liaising with hospitals in different provinces.

It is recommended that a sample of roughly 200 MPs, 200 patients, and 200 interprofessional staff members complete the respective forms of the SAMPOQ in order to perform item analysis, exploratory factor analysis, and confirmatory factor analysis. These statistical methods will assess whether items correlate as intended within each subscale, that items explain significant variance, that factors are distinct, and that the overarching performance construct shows construct validity.

In assessing the factor structure of the partial or full performance construct, future research should consider the possibility of defining certain outcome variables as second order variables for two reasons. Firstly, there is arguably a very large number of latent outcome and competency variables. A large number of latent variables can become overwhelming, and overly complex in terms of illustrating and communicating the performance construct. Secondly, certain latent outcome variables appear to have certain elements in common. For example, *timeliness* and *quantity* both serve the objective of efficiency, which could point towards a second-order variables namely, *clinical efficiency.* Similarly, the successful completion of core job tasks such as *accurate diagnosis* and *effective treatment*, could point towards a second-order variable namely, *clinical effectiveness*.

Another example relates to the patient experience. It is possible that there is a general factor that connects all attitudinal outcomes such as *dignity*, *safety*, and *satisfaction* which could be grouped as a second-order variable namely, positive *patient experience*. The same applies to *enablement* and *adherence potential*. It is likely that there is a general factor that serves an instrumental purpose. Such a second-order variable could be defined as *empowerment* to describe the extent to which patients are motivated and able to improve their own health when they leave the hospital.

Moreover, future research should investigate the impact of implementing the SAMPOQ in practice. The use of the SAMPOQ for human resources management purposes will likely cause mixed feelings in terms of accepting its implementation among medical staff. Other important aspects of its implementation will be its feasibility and effectiveness in identifying training needs or areas of improvement.

5.5 MANAGERIAL IMPLICATIONS

The emerging theme discussed under heading 4.3.5.3 warned about the negative consequences when outputs are emphasised over outcomes. This is arguably a trap that many businesses can fall into as it may provide an illusion of short-term success at the expense of medium to long-term consequences. In the context of primary care, when a patient is rushed through the system without properly addressing the problem, they may come back for unnecessary return visits and be 'recycled' into the system. This may produce overcrowded healthcare facilities and unnecessary use of hospital resources. It is highly recommended that management focus on the conduct and performance outcomes of MPs instead of outputs of performance. If management were to build their business model, remunerations structure, protocol and other systems around the objective of output (i.e. a high number of patients seen), then poor performance and claims of malpractice would be inevitable.

It is recommended that the implementation of the SAMPOQ in conjunction with the South African Medical Practitioner Competency Questionnaire (SAMPCQ) could assist in improving performance over the long-term (Fourie, 2016). Some might be sceptical of the idea of measuring performance in hospitals. It could be costly, somewhat unfeasible, and inconvenient to medical staff. The Department of Health however requires a way of improving the management of medical staff. The implementation of the SAMPOQ and SAMPCQ could serve as a proactive means of improving performance, and could even be used to combat the occurrence of medical negligence claims. This is said in light of the high number of medical negligence claims. The Gauteng Department of Health alone has paid out more than R1bn to settle 185 medical negligence cases since January 2015 (Raborife, 2017).

5.6 CONCLUSION

Centuries ago, hospitals were alms-houses for the poor. The term "hospital" originates from the Latin word 'hospes', which signifies a safe place for strangers or foreigners. In this context, the stranger or foreigner is considered a guest. The noun derived from hospital is 'hospitium', which signifies the relationship between guest and host. It describes hospitality, friendliness, and hospitable reception (Marchant & Charles, 2009).

Practitioners, policy makers and managers ought to reflect on the original meaning of the hospital. It exits to create a safe place for patients to heal and return to their daily lives. The primary responsibility does not lie with the physician as many physicians are ready to help others, and have worked hard to craft their skill. The terrain in front of them needs to be prepared properly and it is the duty of researchers, managers, educators and policy makers to do so. Let us put in place a platform that enables health professionals to thrive and deliver the best possible care to patients of South Africa. The researcher opines that the thorough development of a comprehensive medical practitioner competency model across numerous studies will form a large part of this platform.

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APPENDIX A:

DELPHI CONSENT FORM

The Development of a South African Medical Practitioner Outcome Questionnaire

You are asked to participate in a Master's research study conducted by Mr. Zander Nel, under the supervision of Mrs Michelle Visser, from the Department of Industrial Psychology at Stellenbosch University. The research will contribute to the Master's thesis of Mr. Nel. You were selected as a possible participant in this study because of your position as a lecturer or researcher and registered medical practitioner.

1. PURPOSE OF THE STUDY

The purpose of this study is to confirm the relevant and important outcomes of medical practitioner performance in the South African primary care context. The findings will be integrated with existing theory to develop the South African Medical Practitioner Outcome Questionnaire.

The long-term objective of the study is to develop and test a medical practitioner competency model which will consist of person characteristics, situational variables, and competencies that comprehensively describes medical practitioner performance. This model can be used to aid important Human Resources functions such as training, selection, performance management and quality assurance.

2. PROCEDURES

After reading this form, you will be able to accept or not accept to participate in this study.

If you volunteer to participate in this study, you will be asked to do the following:

   a) Complete this consent form and return via email to zandernel.ip@gmail.com
   b) Open the attachment that you have received under the name "Delphi 1"
   c) Complete the Delphi 1 form within 2 weeks and return to zandernel.ip@gmail.com
   d) Complete the Delphi 2 form within 1 week and return to zandernel.ip@gmail.com

Responses from the first questionnaire (Delphi 1) will be integrated by the researcher to prepare the content of the second questionnaire (Delphi 2).

The aim is to reach consensus among participants as to which outcomes are relevant and important for successful medical practitioner performance. Participants may also alter the descriptions of the outcomes.

2 weeks will pass before the second round of questionnaires are sent to participants

The duration of one questionnaire should be more or less 60 minutes

3. POTENTIAL RISKS AND DISCOMFORTS

Discomfort includes setting aside time to participate.

A risk coupled with your participation in this study includes the forfeiting of your anonymity to the researcher. Because you are required to reply via email, the researcher will be able to link your response to your identity (please see section 6 for further discussion).

Participants should note that information gathered will be kept secured on a password protected computer and the participant's position within his/her work institution will not be affected.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There are no direct benefits to the participants in the study.

Long term benefits may include improved understanding of medical practitioner performance. The end product of this research is to have a validated structural model that portrays performance in the form of person characteristics, situational variables, competencies and performance outcomes. This model can be used to aid important Human Resources functions such as training, selection, performance management and quality assurance.

5. PAYMENT FOR PARTICIPATION

Participants will not be receiving remuneration for their participation in this research study.

6. CONFIDENTIALITY

Because you are required to submit your responses over email, the researcher will be able to link your responses to your email address. Therefore, anonymity will be forfeited. The researcher will however not refer to any identifying information when analysing and reporting on the results. If the results of the study are published, the confidentiality of the participants will be protected by replacing their real names with the word 'participant' and a number (ex: Participant 1).

The researcher will ensure that other participants cannot identify you. Each participant will be sent an individual email and not be able to see the email addresses of other participants. Also, in the second round where the responses have been integrated, identity will be protected by replacing participants' real names with the word 'participant' and a number (ex: Participant 1).

Should you give information related to a very specific incident which might lead to the disclosure of any organization or person, the researcher will only report back on the general behaviour described, and not disclose specific information related to the incident.

The results of this study will be published in a completed Master's thesis (note that only the integrated findings will be published and not the actual responses). Confidentiality of all respondents will be maintained, unless otherwise agreed on in writing.

7. PARTICIPATION AND WITHDRAWAL

You can choose to participate in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact,

Principal Investigator

Mr Zander Nel

084 299 25 83 / zandernel.ip@gmail.com

Supervisor

Ms Michelle Visser

021 808 2961 / mvis@sun.ac.za

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development at Stellenbosch University.

I hereby consent voluntarily to participate in this study under the stipulated conditions. I have received an electronic copy of this form.

☐ Yes ☐No

I consent to the researcher anonymously quoting statements made by me in the thesis by referring to my identity code [e.g. participant/interviewee 7].

☐ Yes ☐No

………………………………………………

Signature of participant

APPENDIX B:

DELPHI 1 QUESTIONNAIRE

STELLENBOSCH UNIVERSITY

THE PERFORMANCE OUTCOMES OF MEDICAL DOCTORS
DELPHI QUESTIONNAIRE

Subject matter expert (SME) information

Race _____

Gender _____

Job title _____

Date (*day/month/year*) _____

Hospital/Institution _____

Period of position (e.g. 1999-2017) _____

INTRODUCTION

In this questionnaire, you will be presented with *outcomes* of medical doctor (MP) performance and descriptions thereof.

In this research study, *outcomes* are defined as <u>positive consequences or results of medical doctor behaviour</u>. *Outcomes* describe the extent to which a MP is successful in his/her mission.

Outcomes should not be confused with competencies or behaviours *(see Table 1 in Appendix A for a list of competencies identified in a related study)*.

Competencies are made out of clusters of behaviour performed by the MP, whereas *outcomes* manifest separately in the patient (e.g. patient satisfaction), a colleague (e.g. peer satisfaction), or in the MP him-/her self (e.g. perceived wellness) *(see Figures 1 & 2 in Appendix A).*

PURPOSE

The outcomes presented in this questionnaire were extracted from literature and certain healthcare performance standards.
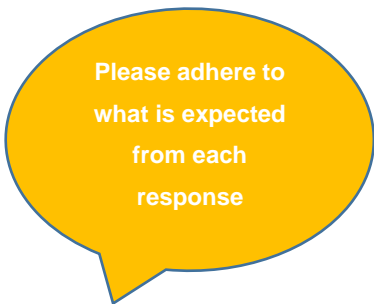
The purpose of this questionnaire is to reach consensus between experts as to which outcomes are important and relevant for medical doctor performance. This questionnaire also gives experts an opportunity to alter the descriptions of the outcomes presented.

<u>**Note**</u>: the term *Medical Doctor* **(MP) in this questionnaire refers to a General Practitioner (Medical Officer) or Family Physician** who acts as the <u>first point of contact</u> in a healthcare facility. It excludes other specialists or GPs working at private practices.

INSTRUCTIONS

Each outcome is categorised within a domain for example *patient interaction*, *peer interaction* or *community interaction*.

For each outcome, five separate responses are required:

> **Please adhere to what is expected from each response**

1. ***Would you include this outcome in the final list? If "1 - Remove", please motivate.*** If there were to be <u>final list</u> that effectively and comprehensively describes MP performance, i.e. outcomes to which MPs will be held accountable, would you include the outcome? If you opt to remove it, please motivate.

2. ***Any extensions or changes to the description of the outcome?*** Responses should add to or alter the description with the aim of having a more appropriate and accurate description of the outcome.

3. ***How important is this outcome? Indicate on a scale from 1-7.*** The level of importance depends on the <u>time</u> a MP spends to reach the outcome, the <u>frequency</u> at which it should be reached, the level of <u>effort</u> it takes to reach the outcome, and the <u>consequences</u> of not reaching the outcome. You are required to highlight the appropriate option.

4. ***Can the behaviour of a MP facilitate/promote this outcome? (indicate yes/no) If yes, please describe the behaviour(s).*** Responses should indicate whether the outcome is primarily a consequence of the medical doctor's behaviour and which behaviours specifically. Note that *behaviour* may include non-visible acts such as analysing or reflecting as well as visible behaviour such as communication or motivating others. See Appendix A, Table 1 for examples of competencies that may lead to the outcomes in this questionnaire.

5. ***How can one observe or know that the outcome has taken place?*** Responses should indicate whether there are any observable signs that the outcome has taken place. For example: a sign of *patient satisfaction* might be that the patient smiles, thanks to the doctor, and chooses the doctor for a return visit instead of changing doctors.

At the end of each category, you may suggest additional outcomes.

EXAMPLE

In column 2, if you feel the outcome should be included but altered, you will highlight the option **2 – Keep but change.**

In column 3, you can make a suggestion regarding the description of the outcome, for example: **"***The extent to which the MP positively influences his/her colleagues in the healthcare team.***"** In this example, the description was shortened to be more concise.

In column 4, if you consider the outcome to be Very important, you will highlight option ***6 – Very***.

In column 5, if you consider the outcome to be a result of MP behaviour, you will indicate "*Yes*", followed by a description of the behaviour(s) for example: *"A doctor can treat their colleagues with respect and engage in constructive discussions…"*

In column 6, you should describe observable signs that the outcome has taken place for example: *"Colleagues might: thank the doctor, refer other colleagues to seek his/her advice…".*

Name and description of the category of the outcome(s).

PEERS - Outcomes that should result from the Medical Doctor's interaction with colleagues both intra- and interprofessional

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Interpersonal Impact - *The extent to which the MP has an overall positive impact and healthy relationships on his/her colleagues in the healthcare team, both intra- and interprofessionally.*	1 – Remove, **2 – Keep but change,** 3 – Keep as is	**"***The extent to which the MP positively influences his/her colleagues in the healthcare team.***"**	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, **6 – Very,** 7 – Extremely	"Yes. A doctor can treat their colleagues with respect and engage in constructive discussions. A doctor can also show empathy during difficult situations and offer advice."	"Colleagues might: thank the doctor, refer other colleagues to seek his/her advice, and return the favour by offering their advice and support."

The name of the outcome is displayed in bold, followed by the description.

Responses required

START OF QUESTIONNAIRE. ENJOY!

PATIENT INTERACTION - Outcomes that should result from the Medical Doctor's interaction with the patient.

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Patient satisfaction - *The extent to which the expectations of patients are met by the MP in terms of warmth, sensitivity, and attention to psycho-social-spiritual well-being.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Patient Enablement - *The extent to which patients are capable of understanding and coping with their health issue(s).*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Adherence of patient - *The extent to which patients' behaviour, taking of medication and implementing dietary or lifestyle changes, corresponds with the advice of the MP.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

PATIENT INTERACTION - Outcomes that should result from the Medical Doctor's interaction with the patient.

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Trust in MP - *The extent to which patients believe in and experience the good intent, competence, honesty, and authenticity of their MP. A trusting patient feels comfortable, safe and opens up towards the MP.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Dignity - *The extent to which patients feel respected and well treated in terms of their personal needs.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Safety - *The extent to which patients feels safe from accidental or preventable injuries while under the care of the MP.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

PATIENT INTERACTION (SUGGESTIONS) - Outcomes that should result from the Doctor's interaction with the patient

OUTCOME - *DESCRIPTION*	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

CLINICAL - Outcomes of primary care that the MP should contribute towards (e.g.: continuity or cost-effectiveness) and outcomes that result from the MP's clinical performance (e.g.: accurate diagnosis).

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Informational continuity - *The extent to which the MP has each patient's medical information readily available, and the extent to which this information and any other information is well organised, accurate, and clearly specified.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Accurate diagnosis - *How often the MP accurately identifies a health problem. An accurate diagnosis takes cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Effective treatment - *How often any action taken by the MP to manage/treat a patient results in the desired outcome.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

CLINICAL - Outcomes of primary care that the MP should contribute towards (e.g.: continuity or cost-effectiveness) and outcomes that result from the MP's clinical performance (e.g.: accurate diagnosis).

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Quantity - *The extent to which the MP completes a high number of consultations, medical procedures, administrative and other routine tasks.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Quality – *The extent to which the MP consistently addresses the bio-psycho-social-spiritual needs of patients by conducting patient-centred consultations and negotiating interprofessional treatment plans.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Timeliness - *The extent to which the durations of routine tasks performed by the MP (e.g. consultations, medical procedures, administrative tasks) take place in a short, yet appropriate period-of time.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

CLINICAL - Outcomes of primary care that the MP should contribute towards (e.g.: continuity or cost-effectiveness) and outcomes that result from the MP's clinical performance (e.g.: accurate diagnosis).

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Cost-effectiveness - *The extent to which the MP reaches maximum outcomes of care with the minimum, yet appropriate, amount of budgeted financial resources.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Patient continuity - *The extent to which the MP consistently sees the same patients or families on repeated visits.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

CLINICAL (SUGGESTIONS) - Important outcomes of primary care that the Doctor should contribute towards (e.g.: continuity) and important outcomes that result from the Doctor's clinical performance (e.g.: Accurate diagnosis)

OUTCOME - *DESCRIPTION*	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?

	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

PEERS - Outcomes that should result from the Doctor's interaction with other doctors/specialist and other health and social professions (i.e. both intra- and interprofessional)

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Cohesion - *The extent to which colleagues willingly collaborate together to achieve team goals.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Appreciation by peers - *The extent to which peers from various professions feel understood and appreciated by the MP and perceives the MP as a valuable team/group member.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

PEERS (<u>SUGGESTIONS</u>) - Outcomes that should result from the Medical Doctor's interaction with colleagues both intra- and interprofessional

OUTCOME - *DESCRIPTION*	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

COMMUNITY - Outcomes that should result from the Doctor's interaction with community members, leaders or other stakeholders.

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Sphere of influence - *The extent to which the MP influences patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy relations between MPs and community stakeholders.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Health promotion – *The extent to which patients, family members and a community make better life decisions due to their interactions with the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

COMMUNITY (SUGGESTIONS) - Outcomes that should result from the Doctor's interaction with community members, leaders or other stakeholders

OUTCOME - *DESCRIPTION*	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

SELF - Outcomes that should result from the Medical Doctor himself/herself.

OUTCOME - *DESCRIPTION*	Would you include this outcome in the final list? If "1 - Remove", please motivate.	Any extensions or changes to the description of the outcome?	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
Job satisfaction - *The extent to which the MP experiences a state of happiness, comfort, wellness and health.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
Perceived Competence - *The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice without the need of supervision.*	1 – Remove, 2 – Keep but change, 3 – Keep as is		1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

SELF (<u>SUGGESTIONS</u>) - Outcomes that should result from the Doctor himself/herself in the form of behaviours, attitudes, emotions or cognition

OUTCOME - *DESCRIPTION*	How important is this outcome? Indicate on a scale from 1-7	Can the behaviour of a MP facilitate/promote this outcome? If Yes, please describe the behaviour(s).	How can one observe or know that the outcome has taken place?
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		
{additional suggested outcome(s)}	1 – None, 2 – Low, 3 – Slightly, 4 – Neutral, 5 – Moderately, 6 – Very, 7 – Extremely		

GENERAL FEEDBACK

Would you like to make any other comment that you think could be helpful?
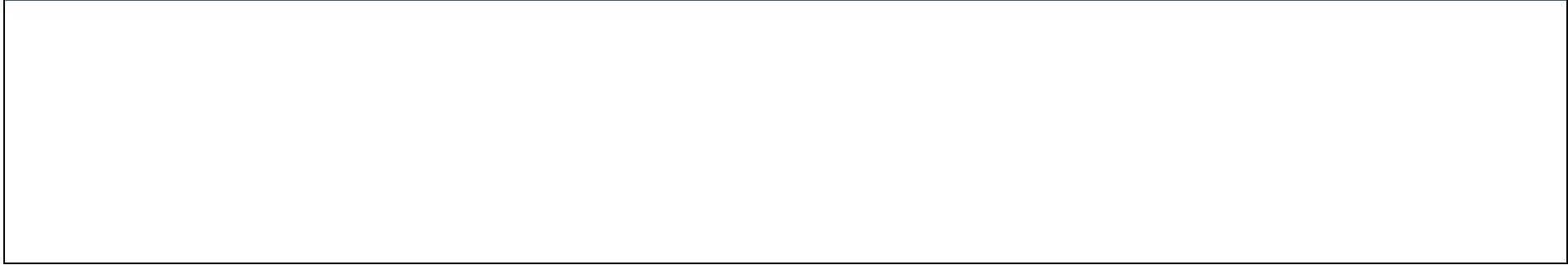
Thank you for your time and for the willingness to contribute to this study.

If you have any questions about this study, feel free to contact my supervisor, Mrs Michelle Visser at the Department of Industrial Psychology of Stellenbosch University, or Mr Nel. Contact details can be found in the consent form

APPENDIX C:

DELPHI 2 QUESTIONNAIRE

171

DELPHI 2

Delphi 2

Example & Instructions

The original outcome presented to you in Delphi 1

Comments made by SME's regarding the outcome and its description

Suggestion made by me in response to the comments

Please, indicate if you agree with my suggestion.

With certain outcomes I posed specific questions in yellow. Please respond to these questions as well

Outcome – Description	Comment 1	Comment 2	Comment 3	Suggestion by researcher	Y=Agree N=Disagree If 'N', please comment
Quantity - The extent to which the MD completes a high number of consultations, medical procedures, administrative and other routine tasks.	The extent to which the MD completes a **relevant** number of consultations, medical procedures, administrative and other routine tasks.	The extent to which the MD completes an **appropriate** number of consultations, medical procedures, administrative and other routine tasks.	Add ... completes a high number of "**good quality**".	*Suggested description:* **Quantity** - The extent to which the MD completes an **appropriate** number of **quality** consultations, medical procedures, administrative and other routine tasks.	

START OF DELPHI 2 QUESTIONNAIRE

ENJOY!

Note: At the end of this questionnaire there are 4 newly suggested outcomes which require responses as with Delphi 1.

RESPONSE REQUIRED only in right hand column

Outcome – Description	Comment 1	Comment 2	Comment 3	Suggestion by researcher	Y = Agree N = Disagree If 'N', please comment.
Adherence of patient - The extent to which patients' behaviour, taking of medication and implementing dietary or lifestyle changes, corresponds with the advice of the MP.	The extent to which patients' behaviour, taking of medication and implementing dietary or lifestyle changes, corresponds with the **negotiated plan between patient and the MP**.	The extent to which patients' behaviour, taking of medication and implementing dietary or lifestyle changes, corresponds with the **steps agreed upon between the pt and the MP.** [Note: the current statement is paternalistic – as if the MP is superior and correct].		*Suggested description:* **Adherence of patient** - The extent to which patients' behaviour, taking of medication and implementing dietary or lifestyle changes, corresponds with the **negotiated plan between patient and the MP.**	
Health promotion – The extent to which patients, family members and a community make better life decisions due to their interactions with the MP. Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc.	**Health promotion –** *The extent to which patients, family members and a community make better life decisions due **to efforts initiated/supported by or involving the MP.*** *Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc* **[NOTE: There is a difference between health education (one-**			*Response to Comment 1:* I acknowledge the difference between education and promotion. What I am trying to capture here is the outcome where people make better decisions because of the MP (whether it may be a campaign or one-on-one education). I think the name (Health Promotion) is misleading… **What about behavioural impact? Please comment.** *Suggested outcome & description:*	

	on-one) and health promotion (campaigns))			**Behavioural impact -** The extent to which patients, family members and a community make better life decisions due **to efforts involving the MP.** Examples include health promotion regarding hygiene, safe sex, responsible alcohol use, etc
Patient Enablement - The extent to which patients are capable of understanding and coping with their health issue.	The extent to which patients are capable of understanding and coping **better** with their health **issue(s).** [Note: understanding and coping are 2 different issues: the one is knowledge and the other living/emotionally deal with it]			*Suggested description:* **Patient Enablement** - The extent to which patients are capable of understanding and coping **better** with their health issue**(s).** *Side note:* The concern is noted. The outcome will be treated as 2 dimensional (cognitive and emotional) when items are created to measure it.
Job satisfaction - The extent to which the MP experiences a state of happiness, comfort, wellness and health.	The extent to which the MP experiences a state of **contentment**, comfort, wellness and health.			*Suggested description:* **Job satisfaction** - The extent to which the MP experiences a state of **contentment**, comfort, wellness and health.
Patient satisfaction - The extent to which the expectations of patients are met by the MP in terms of warmth, sensitivity, and attention to psycho-	The extent to which the **concerns** and expectations of patients are met by the MP in terms of warmth, sensitivity, and attention to psycho-social-spiritual well-being	The extent to which the expectations of patients are met by the MP in terms of warmth, sensitivity, **time,** and attention to **bio**-psycho-social-spiritual well-being		*Suggested description:* **Patient satisfaction** - The extent to which the **concerns** and expectations of patients are met by the MP in terms of warmth, sensitivity, **time,** and attention to **bio**-psycho-social-spiritual well-being.

social-spiritual well-being.					
Continuity of care - The extent to which the MP consistently sees the same patients or families on repeated visits.	This is a **huge challenge** in state health and the individual MP often do not have **control** over this.	The extent to which the MP **makes an attempt** to follow up his own patients.		*Response to comments:* This is a valid concern. Should Continuity of care rather be an outcome of institutional / organisational performance as opposed to individual MP performance? I would rather focus on the behaviour of 'making an attempt to achieve continuity' rather than focussing on continuity as an achieved outcome if it is easily influenced by the system/external factors. *Suggestion:* **Remove? Please comment.**	
Sphere of influence - The extent to which the MP influences patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy relations between MPs and community stakeholders.	The extent to which the MP **works with** patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with strong networks and healthy relations between MPs and community stakeholders.			*Suggested description:* **Sphere of influence -** The extent to which the MP **works with** patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities. This influence is associated with <u>strong networks and healthy relations</u> between MPs and community stakeholders.	

Accurate diagnosis - How often the MP accurately identifies a health problem. An accurate diagnosis takes cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient.	How often the MP accurately identifies a health problem. An accurate **assessment** takes cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient.	… **provided that the context and level of care enables the MP to have all relevant information available, which are required to make a diagnosis.**	How often the MP adequately "**Assesses**" the Health Problem. This will include an **accurate clinical diagnosis** and take cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient.	*Suggested description:* **Accurate diagnosis -** How often the MP accurately **assesses** a health problem **in a context that enables the MP to have all relevant information available required to make a diagnosis**. An accurate assessment includes an **accurate clinical diagnosis** and takes cognisance of how the health problem restricts activities and participation in the personal and environmental context of the patient.	
Quantity - The extent to which the MP completes a high number of consultations, medical procedures, administrative and other routine tasks.	The extent to which the MP completes a **relevant number** of consultations, medical procedures, administrative and other routine tasks	The extent to which the MP completes an **appropriate number** of consultations, medical procedures, administrative and other routine tasks	Add … completes a high number of "**good quality**"	*Suggested description:* **Quantity** - The extent to which the MP completes **an appropriate number of quality** consultations, medical procedures, administrative and other routine tasks	
Perceived Competence - The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice	**Would rather put this under clinical** The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and	Needs to include a qualifying statement that perceived competence **may miss unconscious incompetence** (when you are unaware that you do not know)		*Suggested description:* **Perceived Competence** - The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and **recognizes when to consult. [Perceived competence excludes unconscious incompetence].**	

without the need of supervision.	**recognizes when to consult.**			*Response to Comment 2:* I agree unconscious incompetence should be considered. This will be covered under the person characteristic namely, 'Self-awareness' which is not an outcome in the context of this study. In a 360 rating for example, "Perceived competence" will be compared with other-ratings of overall competence. Alignment between the two would show positive self-awareness whereas a discrepancy might should low self-awareness… *Response to Comment 1:* I understand that this could be moved to 'Clinical' being an outcome of clinical skill. I feel however that this is primarily a <u>result of</u> one's individual ability & willingness to manage one's self and learn. Perceived competence is concerned with the <u>individual's feeling of confidence</u> to do the job whereas the clinical category is more concerned with supporting organisational objectives (Continuity or Quality) and outcomes of clinical skill (accurate diagnosis etc.). I.e. it is an outcome that takes place within the individual; hence the category "Self"…	
Informational continuity - The extent	This is often a **huge challenge** in state health	… keeping in mind the **contextual factors**		*In response to comments:*	

| to which the MP has each patient's medical information readily available, and the extent to which this information and any other information is well organised, accurate, and clearly specified. | where many doctors share patient care. Medical records are often poorly kept due to admin reasons e.g. poor filing, lack of stationary. Poor record keeping is then not the fault of the individual practitioner. | **which may impede** on the time available for detailed note keeping. | | It is important that the outcomes are a result of individual MP behaviour. If Detailed record keeping can easily be influenced by others, then I would prefer to remove the outcome. It would be better to focus on a competency such as detailed note taking or organisational skills which focusses on the actual behaviour of record keeping, not the result (outcome) thereof.

Suggestion:

Remove the outcome | |

APPENDIX D:

CONTENT VALIDITY CONSENT FORM

STELLENBOSCH UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

The Development of a South African Medical Practitioner Outcome Questionnaire

You are asked to participate in a Master's research study conducted by Mr. Zander Nel, under the supervision of Mrs Michelle Visser, from the Department of Industrial Psychology at Stellenbosch University. The research will contribute to the Master's thesis of Mr. Nel. You were selected as a possible participant in this study because of your position as a lecturer or researcher and registered medical practitioner.

1. PURPOSE OF THE STUDY

The purpose of this study is to confirm the relevant and important performance outcomes of medical practitioners in the South African primary care context. The findings will be integrated with existing theory to develop the South African Medical Practitioner Outcome Questionnaire. The long-term objective of the study is to develop and test a medical practitioner competency model which will consist of person characteristics, situational variables, and competencies that are necessary for successful medical practitioner performance. This model could serve as a basis selecting and developing South African medical practitioners.

2. PROCEDURES

After reading this form, you will be able to accept or not accept to participate in this study by checking the box which would indicate consent to participate in the study.

If you volunteer to participate in this study, you will be asked to:

Open the link that you have received next to the name "Content Validity"

The link will direct you to an online questionnaire

You will be required to complete the questionnaire within 2 weeks

In this questionnaire you will find items of a draft questionnaire aimed to measure performance outcomes of medical practitioners

You will be required to rate the content validity of each item on a scale of 1-3 and also be required to provide brief feedback where applicable (all instructions can be found on the form)

The duration of one questionnaire should be more or less 60 minutes

3. POTENTIAL RISKS AND DISCOMFORTS

Other than the discomfort of having to set aside time to participate, the researchers anticipate no risk to the participants. Information gathered from the participant will be kept secured on a password protected computer and the participant's position within his/her work institution will not be affected.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There are no direct benefits to the participants in the study.

Long term benefits may include improved understanding of medical practitioner performance. The end product of this research is to have a validated structural model that portrays performance in the form of person characteristics, situational variables, competencies and performance outcomes. This model can be used to aid important Human Resources functions such as training, selection and performance management and quality assurance.

5. PAYMENT FOR PARTICIPATION

Participants will not be receiving remuneration for their participation in this research study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law.

You as the participant will not be required to provide your identity or particulars when responding to the questionnaire. A random number will be ascribed to each participant when completing the online survey, which ensures anonymity of responses. Your responses will be combined with all the other responses, and subsequently analysed to finalise the contents of the draft questionnaire.

This phase of the research is concerned with developing the draft questionnaire. Content-validity ratings and open-ended feedback will be used to improve the items that will be statistically validated on another sample. The researcher will therefore not quote any statements in the published Master's thesis.

The results of this study will be published in a completed Master's thesis. Confidentiality of all respondents will be maintained, unless otherwise agreed on in writing.

The aggregated data from the questionnaires will be kept secured on a password protected computer.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact,

Principal Investigator

Mr Zander Nel

084 299 25 83 / zandernel.ip@gmail.com

Supervisor

Ms Michelle Visser

021 808 2961 / mvis@sun.ac.za

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development at Stellenbosch University.

I hereby consent voluntarily to participate in this study under the stipulated conditions.

Yes   No

☐   ☐

APPENDIX E:

CONTENT VALIDITY RATING QUESTIONNAIRE

UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
jou kennisvennoot • your knowledge partner

CONTENT VALIDIDTY QUESTIONNAIRE

Subject matter expert (SME) information

Race …………..

Gender …………..

Job title …………….

Date (*day/month/year*) …………….

Hospital …………

Period of position (e.g. 1999-2017) ………….

INSTRUCTIONS

The purpose of this survey is <u>to examine items </u>of the *South African Medical Practitioner Outcome Questionnaire.*

Outcomes are defined as positive consequences or results of MD behaviour.
The survey includes **7 broad categories** of outcomes namely: a) Patient Satisfaction, b) Empowerment, c) Clinical Effectiveness, d) Clinical Efficiency, e) Interpersonal Influence, f) Community involvement, and g) MD Wellbeing.

In this context, **MD** refers to any *General Practitioner, Medical Officer* or *Family Physician* who act as the first point of care and works in a interprofessional team.

The end goal of this study is to use the self - and *other* -rating form with a *patient* -rating form to conduct a 360-degree performance appraisal.

This survey only consists of Self**-rating** items that the MD would respond to about their own performance.
**You are required to **rate the content validity of the items on a 3-point scale.

See an **example** below:

Essential items are clearly aligned with the description of the outcome and will be essential in eliciting a response associated with the outcome. In the example above, an essential item would give a clear indication of 'Customer Satisfaction'.

Useful but not essential items can somehow be related to the outcome, but will not be required to purely and comprehensively measure the outcome.

Unnecessary items do not measure the outcome at all.

If you rate an item as Useful but not essential, or Not necessary, please motivate your response in the 'Comments' column. Here, you can also make suggestions.

START OF QUESTIONNAIRE:

Patient satisfaction - *The extent to which the concerns and expectations of patients are met by the MP in terms of warmth, sensitivity, time, and attention to bio-psycho-social-spiritual well-being.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
SAT1	My patients are at ease during consultations.				
SAT2	I treat my patients with sensitivity.				
SAT3	I check whether my patients' expectations are met.				
SAT4	Patients ask to see me on return visits				
SAT5	I check whether my patients' concerns are met.				
SAT6	I treat my patients with warmth.				

Dignity - The extent to which patients feel respected and well treated in terms of their personal needs.

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
DIG1	My patients will say that I treat them with respect.				

| DIG2 | My patients' physical examinations are conducted in privacy. | | | | |
| DIG3 | My patients will leave the hospital with a sense of self-worth and confidence in themselves. | | | | |

Trust - *The extent to which patients believe in and experience the good intent, competence, honesty, and authenticity of their MP. A trusting patient feels comfortable, safe and opens up towards the MP.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
TR1	My patients are assured that their personal information is kept confidential.				
TR2	My patients are comfortable to open up and disclose information about / relevant to their health problem.				
TR3	I believe my patients have confidence in my abilities.				
TR4	My patients actively participate during consultations.				

Safety - *The extent to which patients feels safe from accidental or preventable injuries while under the care of the MP.*

My patients will confirm that they feel safe when under my care.

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
SAF1	My patients will confirm that they feel safe when under my care.				
SAF2	I effectively prevent accidents and injuries.				

Enablement - *The extent to which patients are capable of understanding and coping better with their health issue(s).*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
EN1	My patients understand their medical conditions.				
EN2	My patients are able to keep themselves healthy.				
EN3	My patients who return for a follow-up visit are coping well with their health problem.				
EN4	My patients appear to feel hopeful after a consultation.				
EN5	My patients are equal partners in deciding their treatment plan.				

Adherence potential - *The potential that the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, may correspond with the negotiated plan between patient and the MP.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
AD1	My patients follow the plan that we have put together.				
AD2	A pill count would show that my patients take their medicine.				
AD3	My patients are aware of the side-effects of any prescribed medication.				
AD4	My patients agree to the goals of treatment.				
AD5	My patients agree to the action plans set out to improve their health.				
AD6	Family members of my minor, elder and disabled patients know how to manage the patient's illness from home.				

Accurate diagnosis - *How often the MP accurately assesses a health problem. An accurate assessment includes correct clinical diagnosis and takes cognisance of how the health problem and the patient's personal and environmental factors influence his/her functioning.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
ACD1	My diagnoses describe the influence of the health problem on the personal and environmental context of my patients.				
ACD2	A folder audit would show that I make accurate diagnoses.				
ACD3	I select the appropriate diagnostic tests.				

Effective treatment - *How often any action taken by the MP to manage/treat a patient results in the desired outcome.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
ET1	The treatments I provide lead to the intended outcomes. For example, pain relief and improved movement.				
ET2	A folder audit would show that my treatments are consistent with the standard guidelines of treatment.				
ET3	I effectively resolve issues to avoid return visits.				

Quality - *The extent to which the MP consistently addresses the bio-psycho-social-spiritual needs of patients by conducting patient-centred consultations and negotiating interprofessional treatment plans.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
Q1	My work is of high quality.				
Q2	I consistently address the biopsychosocial-spiritual needs of patients.				
Q3	I consistently conduct patient-centred consultations.				
Q4	I consistently negotiate interprofessional treatment plans.				
Q5	I implement changes in my workplace to improve patient care. For example, improving the administration process to reduce waiting time and information retention.				

Timeliness - *The extent to which the durations of routine tasks performed by the MP take place in a short, yet appropriate period-of time.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
T1	I perform any routine tasks in a short yet appropriate amount of time.				
T2	I use my time productively when on duty.				

Quantity - *The extent to which the MP completes an appropriate number of quality consultations, medical procedures, administrative and other routine tasks.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
QNT1	I complete an appropriate number of quality consultations and medical procedures in a workday.				
QNT2	I complete an appropriate number of administrative and other routine tasks in a workday.				

Cost effectiveness - *The extent to which the MP reaches maximum outcomes of care with the minimum, yet appropriate, amount of budgeted financial resources.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
CST1	I write cost effective prescriptions.				
CST2	My referral decisions are appropriate.				
CST3	My patients make avoidable return visits (-).				
CST4	My decisions lead to cost effective use of hospital resources.				

Cohesion - *The extent to which colleagues show a willingness to collaborate and achieve team goals.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
CO1	Tasks are appropriately assigned in my interprofessional team.				
CO2	My team members complain that they do work that should be done by someone else (-).				
CO3	I do certain tasks that should be done by others (-).				
CO4	My team members willingly work together to achieve team goals.				
CO5	There is a sense of pride and unity in my interprofessional team.				

Appreciation by peers - *The extent to which peers from various professions feel understood and*

appreciated by the MP and perceives the MP as a valuable team/group member.

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
APPR1	My colleagues would say that I understand and respect their role and profession.				
APPR2	My colleagues would say that I make contributions in achieving team goals.				
APPR3	I have a positive influence on the motivation and performance of my colleagues.				

Health changing motivation - *The extent to which patients, family members and community members are*

motivated to adopt healthier behaviours due to efforts involving the MP.

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
HCM1	I influence the attitudes and lifestyle choices of community members.				
HCM2	As a result of my actions, I see community members adopt healthier habits.				
HCM3	As a result of my actions, I see community members making better life decisions.				

Sphere of influence - *The extent to which the MP maintains strong relationships with patients, community*

members, leaders, healthcare workers and other stakeholders to sustainably improve the health of

communities.

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
SOI1	I have strong relationships with healthcare providers in the community where I serve.				
SOI2	I have strong relationships with stakeholders in the community where I serve.				
SOI3	I have a positive impact on a socio-economically disadvantaged population.				

Job satisfaction - *The extent to which the MP experiences a state of contentment and comfort in their*

work.

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
JS1	I experience my present work as rewarding.				
JS2	I feel a sense of belonging in the community where I practice.				

JS3	I feel a strong connection to my patients.				
JS4	Managerial and administrative work is a burden to me (-).				
JS5	In my profession, I am content and peaceful.				

Perceived competence - *The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and recognises when to consult.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
PC1	I am able to perform all clinical procedures that my work demands.				
PC2	I am competent in all non-clinical aspects of my performance.				
PC3	I know when to consult with my colleagues.				
PC4	I have grown more mature as a Medical Professional.				
PC5	I have experienced personal development as a Medical Professional.				

Physical health – *The extent to which the MP maintains his/her physical health through regular exercise and good nutrition and sober habits.*

Item #	Item	Essential	Useful, but not essential	Unnecessary	Comment
PH1	I consider myself to be healthy.				
PH2	I eat healthily.				
PH3	I have sober habits.				
PH4	I do physical exercise.				
PH5	I get enough rest.				

APPENDIX F:
SAMPOQ FORM-S

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SOUTH AFRICAN MEDICAL PRACTITIONER OUTCOME QUESTIONNAIRE

(SAMPOQ – V1-2018)

[SELF ASSESSMENT FORM]

INSTRUCTIONS

INTRODUCTION

Performance is defined as observable behavioural actions and outcomes of medical practitioners. The behaviours are regarded as relevant because they are instrumental in achieving specific, desired outcomes. This questionnaire attempts to assess the level of performance by measuring the frequency by which medical practitioners reach outcomes required for effective medical practitioner performance.

Your ratings will form an overall performance rating on each of the medical practitioner outcome dimensions. This will assist in better understanding performance strengths and development areas. The goal is to provide initiatives to assist the medical practitioner in improving his/her development areas.

INSTRUCTIONS

In rating each dimension please read each item carefully and choose the appropriate response option (1-5) that best describes the standard of performance over the past 12 months.

EXAMPLE

KNOWLEDGE OF PATIENT

The performance outcome being measured is in bold and the definition of the outcome is given in italics.

In your response to item G1 you should indicate the level of performance over the past 12 month by choosing the specific response option that best describes the extent to which you are fully aware of your patients' medication intake. If, for example, you are only aware of some of the medications or only aware of some of your patients' medication, the response option 1 (never) or 2 (rarely) should be selected placing a cross on *Never* or *Rarely* block. If, however, you have a full or high awareness of the medication your patients take, option 4 (often) or 5 (always) should be selected by placing a cross on the appropriate option.

Item # (form)	Question	1	2	3	4	5
G1	I am fully aware of the medications that my patients are taking	Never	Rarely	Sometimes	Often	Always

START OF QUESTIONNAIRE:

Patient satisfaction - *The extent to which the concerns and expectations of patients are met by the MP in terms of warmth, sensitivity, time, and attention to bio-psycho-social-spiritual well-being.*

Item # (form)	Question	1	2	3	4	5
SAT1(S)	My patients are at ease during consultations.	Never	Rarely	Sometimes	Often	Always
SAT2(S)	I treat my patients with sensitivity.	Never	Rarely	Sometimes	Often	Always
SAT3(S)	I check whether my patients' expectations are met.	Never	Rarely	Sometimes	Often	Always
SAT4(S)	I check whether my patients' concerns are addressed.	Never	Rarely	Sometimes	Often	Always
SAT5(S)	I treat my patients with kindness	Never	Rarely	Sometimes	Often	Always

Dignity - *The extent to which patients feel respected and well treated in terms of their personal needs.*

Item # (form)	Question	1	2	3	4	5
DIG1(S)	My patients will say that I treat them with respect.	Never	Rarely	Sometimes	Often	Always
DIG2(S)	My patients' physical examinations are conducted in privacy.	Never	Rarely	Sometimes	Often	Always
DIG3(S)	My patients will leave the hospital with a sense of self-worth and confidence in themselves.	Never	Rarely	Sometimes	Often	Always

Trust - *The extent to which patients believe in and experience the good intent, competence, honesty, and authenticity of their MP. A trusting patient feels comfortable, safe and opens up towards the MP.*

Item # (form)	Question	1	2	3	4	5
TR1(S)	My patients are assured that their personal information is kept confidential.	Never	Rarely	Sometimes	Often	Always
TR2(S)	My patients are comfortable to open up and disclose information about / relevant to their health problem.	Never	Rarely	Sometimes	Often	Always
TR3(S)	I believe my patients have confidence in my abilities.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
TR4(S)	I obtain trust from my patients	Never	Rarely	Sometimes	Often	Always

Safety - *The extent to which patients feels safe from accidental or preventable injuries while under the care of the MP.*

Item # (form)	Question	1	2	3	4	5
SAF1(S)	My patients will confirm that they feel safe when under my care.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Enablement - *The extent to which patients are capable of understanding and coping better with their health issue(s).*

Item # (form)	Question	1	2	3	4	5
EN1(S)	My patients better understand their health issue after consulting with me.	Never	Rarely	Sometimes	Often	Always
EN2(S)	I ensure that my patients are able to keep themselves healthy.	Never	Rarely	Sometimes	Often	Always
EN3(S)	My patients appear to feel hopeful after a consultation.	Never	Rarely	Sometimes	Often	Always
EN4(S)	My patients are appropriately involved in deciding the treatment plan.	Never	Rarely	Sometimes	Often	Always

Adherence potential - *The potential that the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, may correspond with the negotiated plan between patient and the MP.*

Item # (form)	Question	1	2	3	4	5
ADH1(S)	My patients are made aware of the most important side effect(s) of their prescribed medication.	Never	Rarely	Sometimes	Often	Always
ADH2(S)	My patients agree to the goals of treatment.	Never	Rarely	Sometimes	Often	Always
ADH3(S)	My patients agree to the action plans set out to improve their health.	Never	Rarely	Sometimes	Often	Always
ADH4(S)	I ensure that family members and/or care givers of my minor, elder and disabled patients know how to manage the patient's illness from home.	Never	Rarely	Sometimes	Often	Always
ADH5(S)	I ensure that my patients are motivated to follow the treatment plan.	Never	Rarely	Sometimes	Often	Always

ADH6(S)	I ensure that my patients understand the treatment plan.	Never	Rarely	Sometimes	Often	Always

Accurate diagnosis - *How often the MP accurately assesses a health problem. An accurate assessment includes correct clinical diagnosis and takes cognisance of how the health problem and the patient's personal and environmental factors influence his/her functioning.*

Item # (form)	Question	1	2	3	4	5
AD1(S)	My diagnoses describe the potential influence of the health problem on the daily functioning of my patients.	Never	Rarely	Sometimes	Often	Always
AD2(S)	I make accurate diagnoses	Never	Rarely	Sometimes	Often	Always
AD3(S)	I select the appropriate diagnostic tests.	Never	Rarely	Sometimes	Often	Always
AD4(S)	My diagnoses describe the potential influence of the health problem on the quality of life of my patients.	Never	Rarely	Sometimes	Often	Always
AD5(S)	I am questioned about the accuracy of my diagnoses	Never	Rarely	Sometimes	Often	Always

Effective treatment - *How often any action taken by the MP to manage/treat a patient results in the desired outcome.*

Item # (form)	Question	1	2	3	4	5
ET1(S)	The treatments I provide lead to the intended outcomes. For example, pain relief and improved movement.	Never	Rarely	Sometimes	Often	Always
ET2(S)	My treatments are consistent with the standard guidelines of treatment.	Never	Rarely	Sometimes	Often	Always
ET3(S)	I effectively resolve issues to avoid return visits.	Never	Rarely	Sometimes	Often	Always

Quality - *The extent to which the MP consistently addresses the bio-psycho-social-spiritual needs of patients by conducting patient-centred consultations and negotiating interprofessional treatment plans.*

Item # (form)	Question	1	2	3	4	5
QL1(S)	My work is of high quality.	Never	Rarely	Sometimes	Often	Always
QL2(S)	I consistently conduct patient-centred consultations.	Never	Rarely	Sometimes	Often	Always
QL3(S)	I negotiate interprofessional treatment plans when applicable.	Never	Rarely	Sometimes	Often	Always
QL4(S)	I implement changes in my workplace to improve patient care. For example, improving the administration process to reduce waiting time and information retention.	Never	Rarely	Sometimes	Often	Always
QL5(S)	I am questioned about the quality of my work.	Never	Rarely	Sometimes	Often	Always

Timeliness - *The extent to which the durations of routine tasks performed by the MP take place in a short, yet appropriate period-of time.*

Item #(form)	Question	1	2	3	4	5
TIM1(S)	I perform any routine tasks in a short yet appropriate amount of time.	Never	Rarely	Sometimes	Often	Always
TIM2(S)	I use my time productively when on duty.	Never	Rarely	Sometimes	Often	Always

Quantity - *The extent to which the MP completes an appropriate number of quality consultations, medical procedures, administrative and other routine tasks.*

Item #(form)	Question	1	2	3	4	5
QNT1(S)	I complete an appropriate number of quality consultations and medical procedures in a workday.	Never	Rarely	Sometimes	Often	Always
QNT2(S)	I complete an appropriate number of administrative and other routine tasks in a workday.	Never	Rarely	Sometimes	Often	Always

Cost effectiveness - *The extent to which the MP reaches maximum outcomes of care with the minimum, yet appropriate, amount of budgeted financial resources.*

Item #(form)	Question	1	2	3	4	5
CST1(S)	I write cost effective prescriptions.	Never	Rarely	Sometimes	Often	Always
CST2(S)	My referral decisions are appropriate.	Never	Rarely	Sometimes	Often	Always
CST3(S)	My decisions lead to cost effective use of hospital resources.	Never	Rarely	Sometimes	Often	Always

Cohesion - *The extent to which colleagues show a willingness to collaborate and achieve team goals.*

Item #(form)	Question	1	2	3	4	5
COH1(S)	I ensure that tasks are appropriately assigned in my interprofessional team.	Never	Rarely	Sometimes	Often	Always
COH2(S)	My team members willingly work together to achieve team goals.	Never	Rarely	Sometimes	Often	Always
COH3(S)	There is a sense of pride and unity in my interprofessional team.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Appreciation by peers - *The extent to which peers from various professions feel understood and appreciated by the MP and perceives the MP as a valuable team/group member.*

Item #(form)	Question	1	2	3	4	5
ABP1(S)	My colleagues would say that I understand and respect their role and profession.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
ABP2(S)	My colleagues would say that I make contributions in achieving team goals.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

ABP3(S)	I have a positive influence on the motivation and performance of my colleagues.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Health changing motivation - *The extent to which patients, family members and community members are motivated to adopt healthier behaviours due to efforts involving the MP.*

Item # (form)	Question	1	2	3	4	5
HCM1(S)	I influence the attitudes and lifestyle choices of community members.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
HCM2(S)	I encourage patients to set an example of healthy behaviour in their homes and communities.	Never	Rarely	Sometimes	Often	Always
HCM3(S)	I motivate patients to adopt healthier habits.	Never	Rarely	Sometimes	Often	Always

Sphere of influence - *The extent to which the MP maintains strong relationships with patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities.*

Item # (form)	Question	1	2	3	4	5
SOI1(S)	I have strong relationships with healthcare providers in the community where I serve.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Job satisfaction - *The extent to which the MP experiences a state of contentment and comfort in their work.*

Item # (form)	Question	1	2	3	4	5
JS1(S)	I experience my present work as rewarding.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
JS2(S)	I feel a sense of belonging in the community where I practice.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
JS3(S)	I feel a strong connection to my patients.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
JS4(S)	In my profession, I am content and peaceful.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Perceived competence - *The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and recognises when to consult.*

Item # (form)	Question	1	2	3	4	5
PC1(S)	I am able to perform all clinical procedures that my work demands.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PC2(S)	I am competent in all non-clinical aspects of my performance.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PC3(S)	I know when to consult with my colleagues.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PC4(S)	I have grown more mature as a Medical Professional.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

PC5(S)	I have experienced personal development as a Medical Professional.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Physical health – *The extent to which the MP maintains his/her physical health through regular exercise and good nutrition and sober habits.*

Item # (form)	Question	1	2	3	4	5
PH1(S)	I consider myself to be healthy.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PH2(S)	I eat healthily.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PH3(S)	I have sober habits.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PH4(S)	I do physical exercise.	Never	Rarely	Sometimes	Often	Always

APPENDIX G:
SAMPOQ FORM-O

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SOUTH AFRICAN MEDICAL PRACTITIONER OUTCOME QUESTIONNAIRE

(SAMPOQ – V1-2018)

[OTHER ASSESSMENT FORM]

INSTRUCTIONS

INTRODUCTION

Performance is defined as observable behavioural actions and outcomes of medical practitioners. The behaviours are regarded as relevant because they are instrumental in achieving specific, desired outcomes. This questionnaire attempts to assess the level of performance by measuring the frequency by which medical practitioners reach outcomes required for effective medical practitioner performance.

You will be rating the performance outcomes of your co-worker. Your ratings will form an overall performance rating on each of the medical practitioner outcome dimensions. This will assist in better understanding performance strengths and development areas of the MP. The goal is to provide initiatives to assist the medical practitioner in improving his/her development areas.

INSTRUCTIONS

In rating each dimension please read each item carefully and choose the appropriate response option (1-5) that best describes the standard of performance over the past 12 months.

EXAMPLE

KNOWLEDGE OF PATIENT

The performance outcome being measured is in bold and the definition of the outcome is given in italics.

In your response to item G1 you should indicate the level of performance over the past 12 months by choosing the specific response option that best describes the extent to the MP is fully aware of his/her patients' medication intake. If, for example, they never have any awareness or if they only have some awareness, the response option 1 (never) or 2 (rarely) should be selected placing a cross on *Never* or *Rarely* block. If, however, the MP always has

full or high awareness of the medication your patients take, option 4 (often) or 5 (always) should be selected by placing a cross on the appropriate option.

Item # (form)	Question	1	2	3	4	5
G1	The MP is fully aware of the medications the his/her patients take	Never	Rarely	Sometimes	Often	Always

Patient satisfaction - *The extent to which the concerns and expectations of patients are met by the MP in terms of warmth, sensitivity, time, and attention to bio-psycho-social-spiritual well-being.*

Item # (form)	Question	1	2	3	4	5
SAT6(O)	The MP puts his/her patients at ease.	Never	Rarely	Sometimes	Often	Always
SAT7(O)	The MP treats patients with kindness.	Never	Rarely	Sometimes	Often	Always
SAT8(O)	The MP ensures patients' expectations are met.	Never	Rarely	Sometimes	Often	Always
SAT9(O)	The MP ensures patients' concerns are addressed.	Never	Rarely	Sometimes	Often	Always
SAT10(O)	The MP treats patients with sensitivity.	Never	Rarely	Sometimes	Often	Always

Dignity - *The extent to which patients feel respected and well treated in terms of their personal needs.*

Item # (form)	Question	1	2	3	4	5
DIG4(O)	The MP treats patients with respect.	Never	Rarely	Sometimes	Often	Always
DIG5(O)	The MP ensures that physical examinations are conducted in privacy.	Never	Rarely	Sometimes	Often	Always
DIG6(O)	The MP ensures that patients leave the hospital with a sense of self-worth and confidence.	Never	Rarely	Sometimes	Often	Always

Trust - *The extent to which patients believe in and experience the good intent, competence, honesty, and authenticity of their MP. A trusting patient feels comfortable, safe and opens up towards the MP.*

Item # (form)	Question	1	2	3	4	5
TR5(O)	The MP ensures that patients' personal information is kept confidential.	Never	Rarely	Sometimes	Often	Always
TR6(O)	Patients are comfortable to open up and disclose information to the MP about / relevant to their health problem.	Never	Rarely	Sometimes	Often	Always
TR7(O)	The MP is trusted by his/her patients.	Never	Rarely	Sometimes	Often	Always

Safety - *The extent to which patients feels safe from accidental or preventable injuries while under the care of the MP.*

Item # (form)	Question	1	2	3	4	5
SAF2(O)	The MP ensures patient safety.	Never	Rarely	Sometimes	Often	Always

Enablement - *The extent to which patients are capable of understanding and coping better with their health issue(s).*

Item # (form)	Question	1	2	3	4	5
EN5(O)	The MP helps his/her patients to better understand their health issue.	Never	Rarely	Sometimes	Often	Always
EN6(O)	The MP's patients are better equipped by the MP to keep themselves healthy.	Never	Rarely	Sometimes	Often	Always
EN7(O)	The MP's patients appear to feel hopeful after a consultation.	Never	Rarely	Sometimes	Often	Always
EN8(O)	The MP appropriately involves his/her patients in deciding the treatment plan.	Never	Rarely	Sometimes	Often	Always

Adherence potential - *The potential that the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, may correspond with the negotiated plan between patient and the MP.*

Item # (form)	Question	1	2	3	4	5
ADH7(O)	The MP's patients are made aware of the most important side-effects of their prescribed medication.	Never	Rarely	Sometimes	Often	Always
ADH8(O)	The MP obtains agreement from patients regarding the goals of treatment.	Never	Rarely	Sometimes	Often	Always
ADH9(O)	The MP obtains agreement from patients regarding the action plans to improve their health.	Never	Rarely	Sometimes	Often	Always
ADH10(O)	The MP ensures that family members and/or care givers of minor, elder and disabled patients know how to manage the patient's illness from home.	Never	Rarely	Sometimes	Often	Always
ADH11(O)	The MP ensures that his/her patients are motivated to follow their treatment plan.	Never	Rarely	Sometimes	Often	Always
ADH12(O)	The MP ensures that his/her patients understand their treatment plan.	Never	Rarely	Sometimes	Often	Always

Accurate diagnosis - *How often the MP accurately assesses a health problem. An accurate assessment includes correct clinical diagnosis and takes cognisance of how the health problem and the patient's personal and environmental factors influence his/her functioning.*

Item # (form)	Question	1	2	3	4	5
AD6(O)	The MPs diagnoses describe how the health problem influences the daily functioning of patients.	Never	Rarely	Sometimes	Often	Always
AD7(O)	The MPs diagnoses are proven by the appropriate diagnostic tests.	Never	Rarely	Sometimes	Often	Always
AD8(O)	I trust that the MP will make accurate diagnoses.	Never	Rarely	Sometimes	Often	Always

		Never	Rarely	Sometimes	Often	Always
AD9(O)	The MPs diagnoses describe how the health problem influences the quality of life of patients.	Never	Rarely	Sometimes	Often	Always
AD10(O)	The accuracy of the MP's diagnoses is questioned by others.	Never	Rarely	Sometimes	Often	Always

Effective treatment - *How often any action taken by the MP to manage/treat a patient results in the desired outcome.*

Item # (form)	Question	1	2	3	4	5
ET4(O)	Treatments provided by the MP lead to the intended outcomes. For example, pain relief and improved movement.	Never	Rarely	Sometimes	Often	Always
ET5(O)	The MP selects the most effective treatments.	Never	Rarely	Sometimes	Often	Always
ET6(O)	The MPs treatments are consistent with the standard guidelines of treatment	Never	Rarely	Sometimes	Often	Always

Quality - *The extent to which the MP consistently addresses the bio-psycho-social-spiritual needs of patients by conducting patient-centred consultations and negotiating interprofessional treatment plans.*

Item # (form)	Question	1	2	3	4	5
QL6(O)	The MPs work is of high quality.	Never	Rarely	Sometimes	Often	Always
QL7(O)	The MP consistently conducts patient-centred consultations.	Never	Rarely	Sometimes	Often	Always
QL8(O)	The MP negotiates interprofessional treatment plans where applicable.	Never	Rarely	Sometimes	Often	Always
QL9(O)	The MP implements changes in his/her workplace to improve patient care.	Never	Rarely	Sometimes	Often	Always
QL10(O)	The quality of the MP's work is questioned by others	Never	Rarely	Sometimes	Often	Always

Timeliness - *The extent to which the durations of routine tasks performed by the MP take place in a short, yet appropriate period-of time.*

Item # (form)	Question	1	2	3	4	5
TIM3(O)	Time is used productively by the MP.	Never	Rarely	Sometimes	Often	Always
TIM4(O)	The MP completes routine tasks in a short yet appropriate amount of time.	Never	Rarely	Sometimes	Often	Always

Quantity - *The extent to which the MP completes an appropriate number of quality consultations, medical procedures, administrative and other routine tasks.*

Item # (form)	Question	1	2	3	4	5
QNT3(O)	The MP completes an appropriate number of quality consultations and medical procedures in a workday.	Never	Rarely	Sometimes	Often	Always

| QNT4(O) | The MP completes an appropriate number of administrative and other routine tasks in a workday. | Never | Rarely | Sometimes | Often | Always |

Cost effectiveness - *The extent to which the MP reaches maximum outcomes of care with the minimum, yet appropriate, amount of budgeted financial resources.*

Item # (form)	Question	1	2	3	4	5
CST4(O)	Cost effective prescriptions are written out by the MP.	Never	Rarely	Sometimes	Often	Always
CST5(O)	Appropriate referral decisions are made by the MP.	Never	Rarely	Sometimes	Often	Always
CST6(O)	The MP's decisions lead to cost effective use of hospital resources.	Never	Rarely	Sometimes	Often	Always

Cohesion - *The extent to which colleagues show a willingness to collaborate and achieve team goals.*

Item # (form)	Question	1	2	3	4	5
COH4(O)	The MP ensures that tasks are appropriately assigned.	Never	Rarely	Sometimes	Often	Always
COH5(O)	Team members willingly work together to achieve team goals when working with the MP.	Never	Rarely	Sometimes	Often	Always
COH6(O)	There is a sense of pride and unity when I work with the MP.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Appreciation by peers - *The extent to which peers from various professions feel understood and appreciated by the MP and perceives the MP as a valuable team/group member.*

Item # (form)	Question	1	2	3	4	5
ABP4(O)	The MP understands and respects my role and profession.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
ABP5(O)	The MP makes contributions in achieving team goals.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
ABP6(O)	The MP has a positive influence on my motivation and performance.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Health changing motivation - *The extent to which patients, family members and community members are motivated to adopt healthier behaviours due to efforts involving the MP.*

Item # (form)	Question	1	2	3	4	5
HCM4(O)	The MP influenced the attitudes and lifestyle choices of community members.	Never	Rarely	Sometimes	Often	Always
HCM5(O)	The MP encourages patients to set an example of healthy behaviour in their homes and communities.	Never	Rarely	Sometimes	Often	Always
HCM6(O)	The MP motivates patients to adopt healthier habits.	Never	Rarely	Sometimes	Often	Always

Sphere of influence - *The extent to which the MP maintains strong relationships with patients, community members, leaders, healthcare workers and other stakeholders to sustainably improve the health of communities.*

Item # (form)	Question	1	2	3	4	5
SOI2(O)	The MP has strong relationships with healthcare providers in the community where he/she serves.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Perceived competence - *The extent to which the MP feels confident to apply learnt skills and knowledge independently in all critical areas of practice and recognises when to consult.*

Item # (form)	Question	1	2	3	4	5
PC6(O)	The MP is able to perform all clinical procedures that his/her work demands.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PC7(O)	The MP is competent in all non-clinical aspects of their performance.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PC8(O)	The MP knows when to consult with his/her colleagues.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
PC9(O)	The MP has grown more mature as a Medical Professional.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Physical health – *The extent to which the MP maintains his/her physical health through regular exercise and good nutrition and sober habits.*

Item # (form)	Question	1	2	3	4	5
PH5(O)	I consider the MP to be healthy.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

APPENDIX H:
SAMPOQ FORM-P

UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
jou kennisvennoot • your knowledge partner

SOUTH AFRICAN MEDICAL PRACTITIONER OUTCOME QUESTIONNAIRE

(SAMPOQ – V1-2018)

[PATIENT ASSESSMENT FORM]

INSTRUCTIONS

INTRODUCTION

Performance is defined as observable behavioural actions and outcomes of medical practitioners. The behaviours are regarded as relevant because they are instrumental in achieving specific, desired outcomes. This questionnaire attempts to assess the level of performance by measuring the frequency by which medical practitioners reach outcomes required for effective medical practitioner performance.

You will be rating the performance of the MP by reflecting on your experience with the MP. Your ratings will form an overall performance rating on each of the medical practitioner outcome dimensions. This will assist in better understanding performance strengths and development areas. The goal is to provide initiatives to assist the medical practitioner in improving his/her development areas.

INSTRUCTIONS

In rating each dimension please read each item carefully and choose the appropriate response option (1-5) that best describes your experience with the MP.

EXAMPLE

KNOWLEDGE OF PATIENT

The performance outcome being measured is in bold and the definition of the outcome is given in italics.

In your response to item G1 you should indicate the level of performance by choosing the specific response option that best describes the extent to which enquired about your medication intake. If, for example, the MP made no or little effort to enquire about your medication intake, then the response option 1 (strongly disagree) or 2 (disagree) should be selected placing a cross on the *Strongly disagree* or *Disagree* block. If, however, the MP made a clear

effort to understand what medication you take and why, 5 (strongly agree) should be selected by placing a cross on this option.

Item # (form)	Question	1	2	3	4	5
G1	The MP enquired about the medication I take	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Patient satisfaction - *The extent to which the concerns and expectations of patients are met by the MP in terms of warmth, sensitivity, time, and attention to bio-psycho-social-spiritual well-being.*

Item # (form)	Question	1	2	3	4	5
SAT11(P)	I felt at ease during the consultation.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
SAT12(P)	The MP treated me with kindness.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
SAT13(P)	If a return visit were necessary, I would prefer to see this MP.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
SAT14(P)	Overall, I was satisfied with the consultation.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
SAT15(P)	The MP treated me with sensitivity.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
SAT16(P)	My expectations for the consultation were met.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Dignity - *The extent to which patients feel respected and well treated in terms of their personal needs.*

Item # (form)	Question	1	2	3	4	5
DIG7(P)	I felt respected by the MP.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
DIG8(P)	The physical examination took place in private.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
DIG9(P)	I felt good about myself when leaving the consultation.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Trust - *The extent to which patients believe in and experience the good intent, competence, honesty, and authenticity of their MP. A trusting patient feels comfortable, safe and opens up towards the MP.*

Item # (form)	Question	1	2	3	4	5
TR8(P)	I feel assured that my personal information will be kept confidential.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
TR9(P)	I was comfortable to open up towards the MP and disclose any relevant information.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

TR10(P)	I have confidence in the abilities of the MP.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
TR11(P)	The MP gave me his full attention.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
TR12(P)	I trust that the MP gave me the best advice	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Safety - *The extent to which patients feels safe from accidental or preventable injuries while under the care of the MP.*

Item # (form)	Question	1	2	3	4	5
SAF3(P)	I felt safe during the consultation.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
SAF4(P)	I felt at ease when the MP performed physical examinations, tests or procedures.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Enablement - *The extent to which patients are capable of understanding and coping better with their health issue(s).*

Item # (form)	Question	1	2	3	4	5
EN9(P)	The MP helped me to better understand my health issue.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
EN10(P)	I am better able to keep myself healthy thanks to the MP	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
EN11(P)	I feel that I will be able to cope with my health issue thanks to the MP	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
EN12(P)	I felt hopeful after leaving the consultation.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
EN13(P)	I was involved in deciding my treatment plan.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Adherence potential - *The potential that the patients' behaviour, taking of medication and implementing dietary or lifestyle changes, may correspond with the negotiated plan between patient and the MP.*

Item # (form)	Question	1	2	3	4	5
ADH13(P)	I was made aware of the most important side-effects of my prescribed medication.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
ADH14(P)	I agreed with the goals of my treatment.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
ADH15(P)	I agreed with the action plans set out to improve my health.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
ADH16(P)	My family and/or care giver knows how to assist in managing my illness from home.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
ADH17(P)	I understand how to follow the treatment plan	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
ADH18(P)	I feel motivated to follow the treatment plan	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Effective treatment - *How often any action taken by the MP to manage/treat a patient results in the desired outcome.*

Item # (form)	Question	1	2	3	4	5
ET7(P)	There were no unexpected pains or accidents when I was treated by the MP.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Timeliness - *The extent to which the durations of routine tasks performed by the MP take place in a short, yet appropriate period-of time.*

Item # (form)	Question	1	2	3	4	5
TIM5(P)	The MP used the time we had together efficiently.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Health changing motivation - *The extent to which patients, family members and community members are motivated to adopt healthier behaviours due to efforts involving the MP.*

Item # (form)	Question	1	2	3	4	5
HCM7(P)	The MP educated me to live healthily in the future.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
HCM8(P)	The MP motivated me to adopt healthy habits.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
HCM9(P)	The MP motivated me to educate my family and friends to stay healthy.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree