

**ALIGNMENT OF CURRENT GRADUATE ATTRIBUTES REQUIRED OF
MEDICAL GRADUATES OF THE UNIVERSITY OF BOTSWANA TO THE
EXPRESSED NEEDS OF USERS OF THE BOTSWANA HEALTH SERVICE**

by

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DECLARATION

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ABSTRACT

Traditionally, the design of health professions curricula was often guided by traditions, values and priorities of academics. This, however, has led to a mismatch of graduates' competencies to patient and population needs, prompting a push for curricula design that aligns the goals of professional education with the needs of society. Unsurprisingly, needs assessment for curriculum design should include societal needs (expressed by the communities served and derived from health statistics). Others are perceived needs (identified by students/graduates), observed needs (identified by experts and academics) and organisation needs (identified by invested organisations).

This research aimed to determine the extent to which graduate attributes of the University of Botswana Bachelor Of Medicine, Bachelor of Surgery (MBBS) programme reflect expressed societal needs. There were two research objectives: Firstly, to determine the expressed needs of users of Botswana health service regarding care received from medical doctors. Secondly, to determine how the MBBS graduate attributes are aligned with the identified expressed needs.

There is substantial literature on organisational and observed needs, some data on perceived needs and societal needs derived from health statistics to inform the review of the MBBS curriculum. However, there is no documented evidence of expressed societal needs. This gap in the literature served as the rationale for this study.

An interpretivist research paradigm and qualitative approach were adopted. Interviews were conducted using the Critical Incident Technique and twelve participants described their good and bad consultation experiences with medical doctors. A purposive sample was selected through village development committees and patient advocacy groups.

Eleven themes were identified as expressed societal needs, which include being respectful, empowering, humble, focused, empathetic, unprejudiced, trustworthy, welcoming, humane, thorough and personal. On the contrary, a number of these identified themes do not align with the defined MBBS graduate attributes, including being focused, unprejudiced, trustworthy, welcoming and thorough. This research, even though limited in the context of this assignment, points to the importance of reconsidering the MBBS graduate attributes with a view to making changes that reflect expressed societal needs.

OPSOMMING

Die ontwerp van gesondheidsberoepes-curricula is in die verlede gebaseer op die tradisies, waardes en prioriteite van akademië. Dit het egter gelei tot onvoldoende belyning van die bevoegdheids van gegradueerde ten opsigte van die bevolking se behoeftes. Dit het gevolglik aanleiding gegee dat daar druk uitgeoefen word om curriculumontwikkeling in lyn te bring met die doel van professionele onderwys, naamlik om gemeenskapsbehoefes aan te spreek. Dit is dus nie onverwags dat 'n bepaling van gemeenskapsbehoefes (soos aangedui deur gemeenskappe wat bedien word en wat van gesondheidstatistieke afgelei word) deel moet uitmaak van curriculumontwikkeling nie. Ander behoeftes sluit in soos ervaar is deur studente/graduandi, waargenome behoeftes (soos geïdentifiseer deur kenners en akademië) en organisatoriese behoeftes (soos geïdentifiseer deur belanghebbende organisasies).

Die doel van hierdie navorsing was om te bepaal tot watter mate die eienskappe van die gegradueerde, soos vervat in die Universiteit van Botswana se Baccalaureus in Geneeskunde- en Baccalaureus in Chirurgie- (MBBS) program, die uitdruklike behoeftes van die gemeenskap weerspieël. Daar was twee doelwitte vir die navorsing gestel. Eerstens, om die uitdruklike behoeftes van verbruikers van gesondheidsdienste in Botswana te bepaal ten opsigte van die sorg wat ontvang is van medici. Tweedens, om te bepaal tot watter mate die eienskappe van die gegradueerde, soos vervat in die MBBS-program, bely is met die geïdentifiseerde uitdruklike behoeftes van die gemeenskap.

Daar is omvattende literatuur oor organisatoriese en waargenome behoeftes, sommige data oor ervaarde behoeftes en dié van gemeenskappe, soos afgelei is van gesondheidstatistieke, om die kurrikulumhersieningsproses toe te lig. Daar is egter geen dokumentêre bewys van die uitdruklike behoeftes van die gemeenskap nie. Hierdie gaping in die literatuur het as rasionaal gedien vir hierdie studie.

'n Interpretatiewe navorsingsparadigma en kwalitatiewe benadering is gevolg. Onderhoude is gevoer deur die Kritiese Incident Tegniek te gebruik. Twaalf deelnemers het hul goeie en slegte ervaringe met medici beskryf. 'n Doelgerigte steekproef is geselekteer deur gebruik te maak van gemeenskapontwikkelingskomitees en ouerkampvegtergroepe.

Elf temas is geïdentifiseer as uitdruklike behoeftes van die gemeenskap, wat insluit om respekterend, bemagtigend, nederig, gefokus, empaties, onbevooroordeeld, betrouenswaardig, verwelkomend, menslik, deeglik en persoonlik te wees. Daarteenoor bely 'n aantal van hierdie geïdentifiseerde temas nie met die gedefinieerde MBBS eienskappe van die gegradueerde nie. Dit sluit in om gefokus, onbevooroordeeld, betroubaar, verwelkomend en deeglik te wees. Hierdie navorsing, alhoewel beperk gegewe die konteks van die werkstuk, toon die belang aan om die MBBS eienskappe van die gegradueerde te heroorweeg deur veranderinge wat die uitdruklike behoeftes van gemeenskappe weerspieël.

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LIST OF ABBREVIATIONS

ACHAP	African Comprehensive HIV/AIDS Partnership
BCD	Botswana Council for the Disabled
BHPC	Botswana Health Professions Council
BONASO	Botswana Network of AIDS Service Organisations
BOSASNet	Botswana Substance Abuse Support Network
CAB	Cancer Association of Botswana
CanMEDS	Canadian Medical Education Directions for Specialists
CBE	Competency Based Education
CBME	Competency Based Medical Education
CIT	Critical Incident Technique
EHSP	Essential Health Service Package
HPCSA	Health Professions Council of South Africa
HPE	Health Professions Education
LOCAS	Liverpool Objective Clinical Assessment System
MBBS	Bachelor of Medicine, Bachelor of Surgery
Mini-CEX	Mini-clinical evaluation exercise
OSCE	Objective Structured Clinical Examination
PBL	Problem Based Learning
SDGs	Sustainable Development Goals
SDM	Shared-Decision Making
UB	University of Botswana
UBFoM	University of Botswana Faculty of Medicine
VDCs	Village Development Committees
WFME	World Federation for Medical Education

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⁴Such is the confidence that we have through Christ toward God.

⁵Not that we are sufficient in ourselves to claim anything as coming from us, but our sufficiency is from God,'

2 Corinthians 3:4-5 (ESV)

Medicine is an art whose magic and creative ability have long been recognised as residing in the interpersonal aspects of patient-physician relationship.

(Hall, Roter, & Rand, 1981)

1 ORIENTATION OF THE STUDY

1.1 Introduction

Educational reforms from reports such as Flexner, Welch-Rose, and Goldmark's (Flexner, 1910; The Committee for the Study of Nursing Education, 1923; Welch and Rose, 1915) and the discovery of the germ theory (Science Museum, 2017) transformed the education of health professionals and arguably led to health gains in the 20th century (Frenk et al., 2010). However, health challenges still exist today and health systems around the world are struggling to deal with such challenges. One of the reasons for failure to address the current health challenges is the mismatch of health professionals' competencies to patient and population needs (Frenk et al., 2010). As a result there has been a demand for the health education system to transform in order to better meet the evolving health needs of communities (Boelen and Wollard, 2010; Frenk et al., 2010; WHO, 2014b); suggesting a paradigm shift to competency-based education (CBE) (Frank et al. 2010).

For Botswana, this is significant because CBE emphasises context-specific training. Therefore, CBE offers medical schools an opportunity to develop curricula that are relevant, based on equity and partnership with communities. Botswana society has values and socio-cultural beliefs about illness, health and wellbeing. For instance, in contrast to the Western approach to health which is based on the biomedical model, African or Tswana culture takes a holistic approach to health which is deeply rooted in the Botho/Ubuntu ethic. In Botho/Ubuntu there is a link between an individual, society and the ancestors (Prinsloo, 2001). Therefore, an individual's health status is believed to be a result of a balance or imbalance between the individual and the social environment. Thus, medical care should focus on the whole person (that is, the person and his/her environment) instead of just the body of the person.

The focus is on a whole person because 'a person is a person through other persons' or 'I am, because you are' (Motho ke motho ka batho) where '*I am* is regarded as the *product* of his fellow men, ancestral spirits and supernatural forces, represented by *you are*' (Prinsloo, 2001, p.60). Therefore, a healer deals with a patient as a whole person with reference to interpersonal relationships ('motho ke motho ka batho'). Complete healing is not simply the recovery from physical symptoms, but also the social and psychological reintegration into the community (Ademuwagun, 1978). Since 'a person is a person through other persons', and an individual's survival depends on other people, it follows then that the community has a stake in an individual's health.

Consequently, many in African communities demand that they should be aware of a person's illness and be involved in any discussion about treatment (Metz and Gaie, 2010). Thus, individual privacy is not as weighty as in Western society. Additionally, in African traditional medicine Botho/Ubuntu enjoins the practitioner to provide health services on the basis of 'humanity-first' rather than for material gain (Mhame, Busia, and Kasilo, 2010).

In a nutshell, through CBE the University of Botswana (UB) Medical School can develop a curriculum that is context-specific; that is not only aligned with the goals of professional education but also with the needs of Botswana society.

1.2 Background

The University of Botswana's five-year Bachelor of Medicine and Bachelor of Surgery (MBBS) programme started in August 2009. As part of establishing a medical programme, UB in 2005 and 2006 entered into memoranda of agreement with the Harvard School of Public Health, Baylor College of Medicine and the University of Pennsylvania (2006) (University of Botswana Faculty of Medicine, 2007). In July 2006, Baylor College of Medicine seconded one of its most senior staff to the University of Botswana as Interim Founding Dean of the Medical School (University of Botswana Faculty of Medicine, 2007). He led the development of the MBBS programme and headed a Founding Dean's Planning Team.

The Founding Dean's Planning Team comprised experienced and influential individuals from the University of Botswana, the Ministries of Health and Local Government, the Baylor Botswana Children's Clinical Centre of Excellence, the African Comprehensive HIV/AIDS Partnerships (ACHAP), the University of Pennsylvania, superintendents of referral hospitals, medical officers and medical interns (Botswana interns trained outside the country) based at referral hospitals, as well as medical doctors in private practice.

The MBBS programme, which was approved by the University of Botswana Senate in 2007, was closely based on the undergraduate medical programme offered at Baylor College of Medicine at the time, with input and support from representatives of other partner schools of medicine. These partners were the University of Cape Town, University of KwaZulu-Natal, University of the Free State, University of Pretoria, University of Melbourne, Monash University, Baylor College of Medicine in Houston, Texas, Harvard School of Public Health and University of Pennsylvania Medical School (University of Botswana Faculty of Medicine, 2007). The MBBS curriculum is therefore based on the Western approach to health. It is also based on what academics in medical schools and health professionals think.

1.3 Problem statement

The first step in developing an outcome-based or competency-based curriculum should be a needs assessment (Association of Reproductive Health Professionals, 2002; Kiguli-Malwadde, E Olapade-Olaopa et al., 2014; Sherbino and Lockyer, 2011). The needs assessment for curriculum design should have the following components: perceived needs (identified by students/graduates), observed needs (identified by experts and academics), organisational needs (identified by invested organisations) and societal needs (expressed needs of service users and needs informed by health statistics) (Sherbino and Lockyer, 2011). The needs assessment in turn, informs the development of a competency framework or an overarching purpose of the curriculum.

A review of available documents on the UB Bachelor of Medicine, Bachelor of Surgery (MBBS) curriculum (University of Botswana Faculty of Medicine, 2007, 2012) showed that the development of the curriculum, including the graduate attributes in 2006/2007 (and subsequent modifications in 2009 and 2012), relied heavily on the observed needs (e.g. academics) and to a lesser degree on organisational needs (e.g. the Ministry of Health as service provider). Perceived needs could not be assessed or determined at the time because there were no medical students or graduates at/of the University of Botswana.

Having reviewed available documents on the UB MBBS programme and having had verbal communication with original curriculum designers, the researcher found no documented evidence that societal needs, specifically the expressed needs of service users of Botswana health service, were considered when the curriculum was developed. It is surprising that no societal needs analysis was done because in Africa one listens to the community. In Botswana, for instance, there is a traditional system called *Kgotla*; a meeting place for the tribe where discussions, frank consultation and policy making are expected to happen (Moumakwa, 2010; Serema, 2002). The *Kgotla* system is generally inclusive as both royals and ordinary people participate equally in decision-making. As such it is a platform for '*mmualebe o bua la gagwe*' (everyone regardless of social stratification has the right to say what they like or freely speak their minds).

The functioning of the *Kgotla* system is rooted in *merero* (consultation and consensus building). When there is an issue of interest to the tribe, the chief (*Kgosi*) who is the custodian of the *Kgotla* calls a meeting where the tribesmen and women meet. From the literature, the chiefs always took seriously the opinions expressed by the tribe and 'rarely did the chiefs go against the wishes of the people' (Tlou, 1998, p. 28). The chiefs knew that '*kgosi ke kgosi ka batho*' (a chief is a chief by people) (Mgadla, 1998).

Taking into account what has been described above, one would expect the communities to have been given an opportunity to express their healthcare needs when the UB MBBS curriculum was developed. After all, UB itself is an outcome of community mobilisation (Mokopakgosi, 2008).

Since the current UB MBBS graduate attributes reflect mainly the attributes needed on exit as seen or perceived by academics, government officials and medical doctors, there might, therefore, be a possibility that the graduate attributes are not optimally aligned with societal needs, especially how users of health and social services expect their doctors to act in addressing their health needs. Hence, the need – and focus of this research – to examine the adequacy of the alignment of graduate attributes with the healthcare needs expressed by society.

1.4 Research Aim and Objectives

This study focused on expressed societal needs and specifically sought to: “determine if the current attributes of the MBBS graduates reflect the expressed views of the users of the public health services in Botswana”.

The objectives of the study are:

1. To determine the expressed needs of service users regarding care received from medical doctors in Botswana.
2. To determine how the graduate attributes of the University of Botswana MBBS programme are aligned with the expressed needs determined in Objective 1.

1.5 Value of the study

The value of this research is two-fold: Firstly, it gives an overview of the needs expressed by users of Botswana public health service regarding the care they received. Secondly, it will inform the refinement of the current attributes required of UB medical school graduates and curricular reform. In fact, UBFoM is in the process of reviewing the current MBBS curriculum. The data generated are not only useful to the Faculty of Medicine but also to the UB Faculty of Health Sciences in the design of new programmes and review of existing ones. Thirdly, results of this study could feed into any review that the Botswana Health Professions Council (BHPC, an organisation tasked with accrediting training programmes and registering health professionals in Botswana) undertakes regarding competencies required of medical school graduates.

1.6 Botswana Health Service

Botswana health system is pluralistic, consisting of public, private for profit, private non-profit and traditional medicine practices. The public sector is the main provider of health care services, operating 98% of the health facilities. Healthcare delivery is decentralised with most services being delivered through primary healthcare facilities (Botswana Ministry of Health, 2011). Since the health service is dominated by the public sector and nearly all UB medical graduates work for the public health service it is important that the medical curriculum should reflect the needs of users of the service.

1.7 Concepts and terms

This section explains the meaning assigned to key concepts and terms used in this study. This is done in the context of the study aims and objectives.

Alignment

In health professions education, alignment is the extent to which and how well all components of the education system work together—such as professional standards, curricula, assessments, and instruction, community needs — to satisfy the needs and expectations of stakeholders (Case and Zucker, 2005). Stakeholders include academics, health professionals, health professional organisations, community, policy makers and students. This study investigated the alignment of the attributes of medical graduates to the expressed needs of the society. That is, the degree to which graduates attributes reflect the expressed healthcare needs of the society.

Competence

Competence refers to the array of abilities [knowledge, skills, and attitudes] that enable a health professional to successfully perform his/her work (Frank et al., 2010). Thus, competence describes what makes a health professional successful in his/her role. Competence is informed by the goals of professional education and the needs of society.

Competency

An observable ability of a health professional to integrated and apply an array of abilities [knowledge, skills, values, and attitude] to successfully perform tasks in a certain context (Frank, Snell, Cate, Holmboe, Carraccio, Swing, Harris, Glasgow, Campbell, Dath, R. Harden, et al. 2010). Since competencies are observable, they can be measured and assessed to ensure their acquisition.

Competency-based education

Is way of preparing health professionals for practice which is based on achieving graduate outcome abilities (Frank et al., 2010). In competency-based education the outcome abilities are grouped into competencies obtained from an analysis of societal and patient needs. Thus, the development of a competency-based medical education system requires initially assessment of societal and patients needs followed by identification of outcomes and competencies. Collectively identified competencies form a *competency framework* (Englander et al., 2013). Since competencies are relevant to an individual's job responsibilities and roles, they are arranged into *roles or domain of competence* in a competency framework (Englander et al., 2013). Together the roles provide insights into how well the student is progressing towards becoming a competent health professional.

Demographic data

Demographics are statistical data about the characteristic of a population. There two aspects of a population, namely static and dynamic. Static aspects include characteristics at a point in time such as composition by age, economic characteristics, marital status, race and sex while dynamic aspects include fertility, growth, migration and mortality. (Becker, 2008; Public Health Action Support Team (UK), 2017). Demographic data inform societal health needs.

Epidemiological data

Epidemiology is the study of how often diseases occur in different groups of people and why. Epidemiological information is used to plan and evaluate strategies to prevent illness and as a guide to the management of patients in whom disease has already developed (Coggon, Rose, and Barker, 2017). Like demographic data epidemiological data inform societal health and healthcare needs.

Graduate attributes

The term graduate attribute has a variety of meanings. The definition adopted for this study is that graduate attributes are "the qualities, skills and understandings a university community agrees its students should develop during their time with the institution' (Boud and Solomon, 2006, p. 212). This so because UB medical school graduate attributes mirror domains of competence found in common health professions competency frameworks and must be attained by every medical student. The attributes include both the disciplinary expertise and generic skills preparing graduates as professionals and agents of social good.

Grey literature

Materials and research that is either unpublished or has been published in non-commercial form. Examples include government reports, statistical documents, conference proceedings, pre-prints and post-prints of articles, theses and dissertations, research reports, maps, newsletters and fact sheets (University of New England, 2017). Grey literature can sometimes be more current and thus a source of up-to-date information. For example, newsletters and pamphlets produced by patient advocacy groups very often contain up-to-date information on needs of the groups they represent.

Medico-legal report

A legal document that is completed by a medical doctor or registered nurse, documenting injuries sustained by the victim in any circumstance where a legal investigation is to follow (Wilson, 2014, p.8). Information obtained from medico-legal report can be used to determine societal health needs.

Needs assessment

A systematic process of collecting and analysing information on the current conditions of a system or service (the way things currently are) and desired conditions (the way things should be) in order to address gaps in the system or services. In this study, for example, the researcher identified gaps in care received by users of the health services from medical doctors (Ratnapalan and Hilliard, 2002; University of Minnesota, 2017).

Needs

The differences or the basic gaps between the current and desired condition or performance (Watkins, Meiers, and Visser, 2012).

Outcome-based education

An education process which focuses and organises components of an educational system (curriculum, instruction and assessment) around identified knowledge, skills and values the graduate will attain by the end of their learning experiences (Spady, 1994; University of Western Australia Faculty of Health and Medical Sciences, 2014).

Patient/Health advocacy group

Advocacy is a set of actions an organisation undertakes to sensitise and influence decisions about a cause or policy (Shah and Garg, 2011). In this study, the term is used in the context of patient advocacy groups. These are organisations, usually non-profit, that focus on specific diseases or aspects of healthcare (Shah and Garg, 2011). They plead, lobby and argue in favour of changes that will improve the health and wellbeing of those affected. In addition, they educate and mobilise citizens, develop and promote policies they care about. It is done by imploring or arguing in favour of something. These groups are a good source of information about the healthcare needs of those they represent. Study participants for this study were identified through these organisations.

Service-Learning

It is a form of experiential education in which students ‘ (a) participate in an organised service activity that meets identified community needs, and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline and enhanced sense of personal values and civic responsibility’ (Bringle and Hatcher, 1995). Thus, students learn by providing service to the community.

Service user

Anyone who is a patient or other user of health and/or social services (University of Leeds School of Healthcare, 2017). In this study, the term referred to users of Botswana health service.

Social accountability (training institutions)

The obligation to direct institution’s education, research and service activities towards addressing the priority health concerns of the community, the region, and/or the nation they have a mandate to serve (Boelen and Heck, 1995). Thus, for medical school to be socially accountable it should first have an understanding of the health needs and priorities of the community it serves.

Social determinants of health

Social determinants of health are economic and social conditions that influence the health of people and communities. These conditions are shaped by the distribution of money, power and resources (Commission on Social Determinants of Health, 2008; WHO, 2014a). Social determinants of health inform societal health needs.

1.8 Overview of chapters

Chapter 1 is an overview of the research problem and outlines the research objectives. Chapter 2 provides a literature review on needs assessment in curriculum development and review in health professions education. Here the components of a needs assessment are presented coupled with a more detailed discussion on societal needs. The chapter ends by looking at data available in Botswana to inform curriculum review and how this links with the research question. Chapter 3 presents the research methodology used to collect qualitative data on expressed needs of users of the Botswana public health service. Chapter 4 presents the findings of the qualitative data. Chapter 5 discusses the findings of the qualitative data in the context of existing literature. Finally, Chapter 6 summarises the findings and provides a guide for future research in this area. Furthermore, implications and limitations of the study are discussed.

2 LITERATURE REVIEW

2.1 Introduction

A patient-doctor interaction is essentially personal in that patients have to bare themselves physically and emotionally (Bendapudi, Berry, Frey, Parish, and Rayburn, 2006). For this reason, society has certain expectations of medical doctors. Therefore, medical schools should pay particular attention to competencies that meet such expectations. Given that society has certain requirements and expectations of medical doctors, it is important to determine what these desired competencies are and how they will inform curriculum reform.

Several studies have been conducted internationally to identify desired competencies that most patients look for in their medical doctors. The results of these studies are reflected in professionalism frameworks (Irby and Hamstra, 2016) and in many common competency frameworks used in health professions education (HPE) around the world (Englander et al., 2013; Health Professions Council of South Africa, 2014). However, there is no explicit documented evidence of the expressed needs of users of Botswana health care service. In this regard, this study sought to fill the gap that exists in the Botswana HPE literature.

This literature review will firstly look at the health profession (HP) curriculum design process and then explore different components of needs assessment with an in-depth discussion of the societal needs analysis. Finally, the chapter will review data currently available in Botswana to inform curriculum review and link the discussion with the research questions.

2.2 Overview of health professions curriculum design

The first step in a scientifically-based curriculum development is a needs assessment (Association of Reproductive Health Professionals, 2002; Sherbino and Lockyer, 2011). The needs assessment, in turn, directs the objectives, instructional methods, learner assessment and evaluation components of the curriculum (Figure 1, p.11).



Figure 1. Systematic educational design process (Sherbino and Lockyer, 2011).

In the case of outcome-based curriculum needs assessment directs the formulation of the broad educational goal to communicate an overarching purpose of the curriculum, followed by the determination of more specific outcomes (Figure 2, p. 12). The outcomes are typically stated behaviourally, that is, they should be measurable. Once the outcomes have been determined, the next step is to develop material (content) to be included in the curriculum and stipulate ways the content will be delivered. The next step is to outline the learner assessment procedures to determine whether the outcomes have been attained. The final step is the evaluation of the implemented curriculum, in order to identify areas for improvement. Thus, the process is cyclic.

For competency-based curricula, needs assessment leads to the identification of desired outcomes and competencies (Figure 3, p. 13). Collectively, the competencies make up a framework (competency framework) that describes the qualities of a health professional (Englander, Cameron, Addams, Bull, and Jacobs, 2014). A competency framework begins with broad distinguishable areas of competence (Englander et al., 2014). These broad areas are called domains of competence in some frameworks while in others they are referred to as roles. For example, in Uganda the broad areas are called domains of competence while the Health Professions Council of South Africa refers to them as roles (See APPENDIX A. Examples of competency frameworks and professional standards for medical education, p. 96).

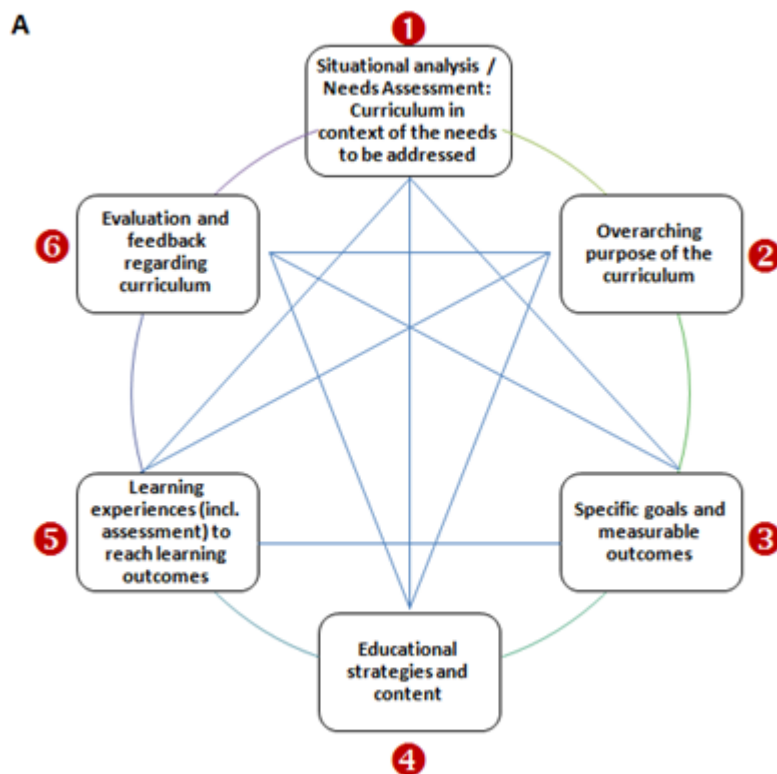


Figure 2. A Six-Steps Approach to Outcome-based Curriculum Development (Sherbino and Lockyer, 2011).

Once the competencies have been defined, they are translated into clinical practice by defining their performance level. This is done by stipulating the milestones or entrustable professional activities (EPA). Entrustable professional activities are day-to-day observable and measurable tasks or responsibilities individuals must be entrusted to perform without direct supervision once they have attained satisfactory competences (Englander, Cameron, Addams, Bull, and Jacobs, 2015). The next step is to develop a framework for assessing the competences, followed by the implementation and continuous evaluation of the programme to determine whether or not the desired outcomes have been reached and in case of a medical programme have produced competent doctors.

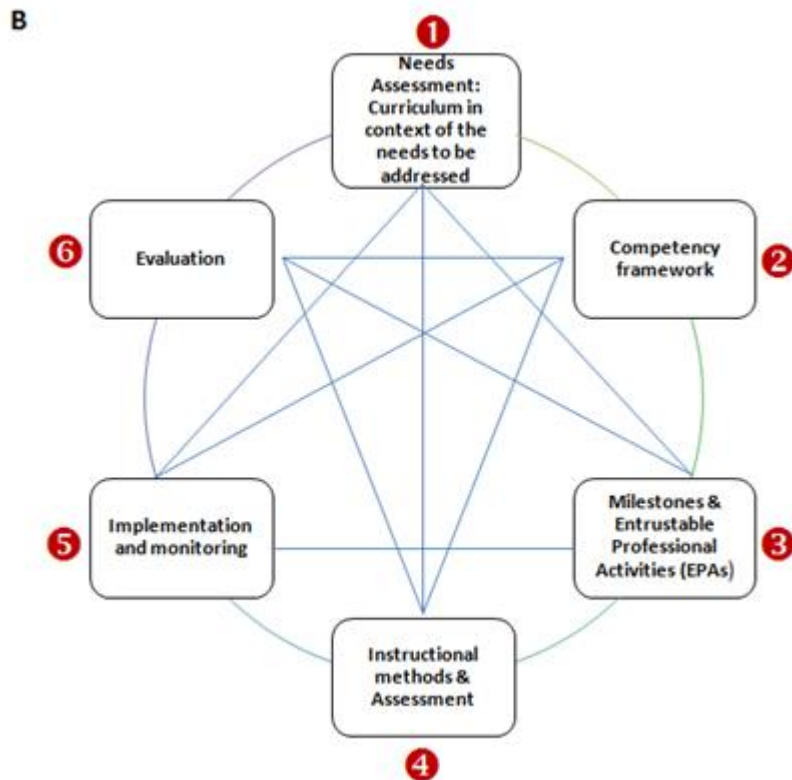


Figure 3. A Six-Step approach to Competency-based Curriculum Development (Sherbino and Lockyer, 2011)

2.3 Needs assessment in health professions curriculum design and review

Needs assessment helps to define and interpret the global, national and local contexts in which an envisaged curriculum will be implemented (UNESCO, 2016). Thus, developing a curriculum requires balancing globally benchmarked standards with local needs and priorities. Furthermore, conducting a needs assessment is (for an academic institution) a step towards designing a socially accountable programme (Boelen and Heck, 1995); a programme arguably based on a sound understanding of the community's health and social needs and a genuine desire to address them. In 2010, the *Lancet* Commission recommended that academic institutions should build strong relations with communities to provide a context for educational programmes focused on achieving health equity (Frenk et al., 2010).

2.3.1 Components of needs assessment in health professions curriculum development and review

When conducting a needs assessment in the development or review of an HP curriculum, four aspects should be considered (See Figure 4 below) (Sherbino and Lockyer, 2011).

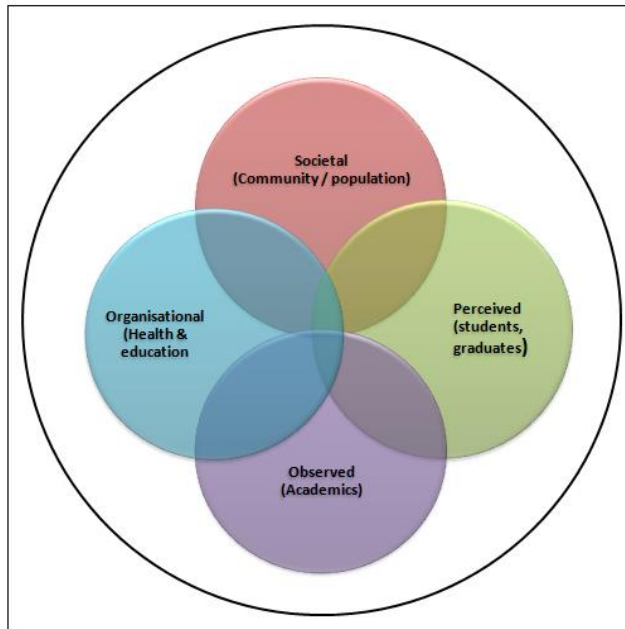


Figure 4. Types of needs assessments in health professions curricular design: perceived, observed, organisational and societal (Royal College of Physicians and Surgeons of Canada, 2012; Sherbino and Lockyer, 2011)

- a) **Perceived needs** are identified by students and graduates of the programme as well as other professionals interacting with the students or graduates. The best way to know what learners perceive as their learning needs is to ask them directly. This can be done in a number of ways: In Ghana, the University for Development Studies conducted a *survey* among medical students to investigate satisfaction regarding their current education with nutrition. Students were dissatisfied with their current education in nutrition and felt poorly prepared to give nutritional care (Mogre, Stevens, Aryee, & JJA Scherpbier, 2017). At Yale School of Medicine, *focus group* discussions were conducted among students and residents regarding their training in geriatrics. Residents identified gaps in skills and knowledge (Drickamer, Levy, Irwin, and Rohrbaugh, 2006).
- b) **Observed needs** are identified by academics and content experts. In South Africa, for example, Sefako Makgatho Health Sciences University wanted to realign the Dental Therapy and Oral Hygiene curriculum to the ethos of service-learning. The University carried out a survey among academics to explore critical cross-field outcomes that may be achieved.

Academics identified the following outcomes: identify and solve problems by using critical and creative thinking and diagnose, plan and implement a community-based programme (Ebrahim and Julie, 2017).

- c) **Organisational needs** manifest at three different contexts: global, national and local. At the global level, the question is what is needed to upscale and transform a global health workforce (Boelen and Wollard, 2010; Frenk et al., 2010; WHO, 2014b) to help provide equitable universal health coverage. Universal health coverage is a way of ensuring that all people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that people do not suffer financial hardship when paying for these services (WHO, 2017).

At the national level the focus is on the needs as stipulated by health and education policies, and requirements of professional boards. In Botswana, an example will be the Botswana National Health Policy (Botswana Ministry of Health, 2011) which recognises that there is inadequate access to health services by people with disability, youth and the aged and uneven distribution of rehabilitation services. Locally, the focus is on the needs identified by service providers; local health management teams and academic institutions. The University of Botswana's, Teaching and Learning Policy calls for preparing students effectively for life, work and citizenship (University of Botswana, 2008b).

- d) **Societal needs** are health and healthcare needs at the individual, family, community and population levels across the continuum of care (Royal College of Physicians and Surgeons of Canada, 2012). These are identified by the community or population served, service users, patients' advocacy groups and through demographic and epidemiological data. Societal needs are discussed further in section 2.3.2. (See page 18)

All aspects of needs assessment are necessary to inform curriculum development or review and therefore all of them should be considered. Otherwise it will be difficult to/for:

- a) develop outcomes that are aligned with desired changes in health and healthcare.
- b) identify gaps between what students/graduates are able to do and what they need to be able to do (Gruppen et al., 2012).
- c) foresee deficiencies based on expected changes in healthcare needs (Donald & Donald 1992).
- d) use available resources to the maximum benefit of the learners.

- e) identify deficiencies in knowledge, skill, and attitudes in the current teaching practices (Donald & Donald, 1992).
- f) learners working within a system that did not include them to become accountable for, to their performance as well as measure up to society's expectations.

By way of example, Table 1 on page 17 depicts five examples where all the four aspects of needs assessment were considered. In the USA, the University at Buffalo School of Medicine and Biomedical Sciences, a needs assessment for development of a curriculum for teaching medical students to care for patients with disabilities (Symons, McGuigan, and Akl, 2009) involved: the review of literature and reports by national and international agencies, discussions with medical students, directors in the school, community-based agencies, people with disabilities and their families, physicians, nurses and social workers.

As part of renewing the medical doctor programme, Memorial University's medical school in St. John's Newfoundland and Labrador (NL) carried out a needs assessment (Memorial University of Newfoundland, 2009). CanMEDS' roles were taken into account and a profile of the population of NL was conducted. Focus groups and interviews were conducted with key stakeholders. Furthermore, a survey was carried out among medical students, physicians and academics.

In Australia, a regional government struggled to reduce the impact of preventable chronic diseases in remote, rural and indigenous populations. In an effort to develop a competency-based curricular framework to address prevention and detection of major chronic diseases, training needs assessment was conducted through interviews with key stakeholders (remote health staff, practitioners and local policy makers, universities, health departments and indigenous organisations (Smith, O'Dea, McDermott, Schmidt, and Connors, 2006).

As part of developing a competency-based medical curriculum, Makerere University with the help of John Hopkins University first carried out a needs assessment. The process comprised curriculum review, literature review, surveys, key informant interviews, and focus group discussions with key stakeholders (Kiguli-Malwadde, E Olapade-Olaopa et al., 2014).

Table 1. Examples of needs assessment that included all four components of needs assessment

	Perceived Needs	Observed Needs	Organisational Needs	Societal Needs
USA: A curriculum to teach medical students to care for people with disabilities (Symons et al., 2009)	Formal and informal discussions with undergraduate medical students, residents, social workers, nurses and physicians.	Formal and informal discussions with medical educators, directors of clerkships, residency programme and introduction to clinical medicine.	National and international literature and reports on care and teaching relating to disabilities;	Discussions with people with disabilities and their families, community-based agencies specialising in health and social services for people with disabilities.
Canada: Curriculum needs assessment-Undergraduate Medical Programme, Memorial University of Newfoundland (Memorial University of Newfoundland, 2009)	Online survey: undergraduate and postgraduate students and practising physicians.	Online survey: Faculty and preceptors.	CanMEDS' roles; literature review –identify tools to provide direction and support for the process; Review of existing curriculum	Profile of population; Focus groups and interviews with patient representative groups and Focus group with community advisory committee representatives.
Australia: A competency-based curricular framework for health providers to address chronic diseases among remote and rural indigenous populations (Gruppen, Mangrulkar, and Kolars, 2010; Smith et al., 2006)	Interviews with practitioners Surveys of remote health staff across Northern territory and Queensland	Multidisciplinary workshop with 35 educators across northern Australia	Interviews with local policy makers, health departments, an organisational partnership of universities, literature and resource review	Interviews with indigenous/community organisations
Uganda: Introduction of CBME in their undergraduate medical curriculum (Kiguli-Malwadde, E Olapade-Olaopa et al., 2014)	Interviews/focus group with students and alumni.	Interviews/focus group with medical school leaders and academic staff; employers of graduates.	Interviews with Ministry of Health officials, Ministry of Education, district directors of Health and international development partners; literature and curriculum reviews	Interviews with community leaders.

2.3.2 Societal needs assessment

There are two aspects of societal needs; the qualitative and quantitative. The qualitative aspect refers to the expressed needs or expectations of the population served (Namukwaya, Grant, Downing, Leng, and Murray, 2017). In Uganda with the hope to assist the development of guidelines to provide patient-centred care for people with advanced heart failure, a study was done to understand patients' experiences and needs over the course of their illness (Namukwaya et al., 2017). Patients had unmet psychological (need for assurance and empathy), social (need for having control), spiritual (need to be treated with respect) and information (on treatment and self-care) needs. The quantitative aspect refers to needs obtained by analysing health statistics (demographic and epidemiological data). The World Health Statistics, for example, provides data on the burden of disease and social determinants of health for its 194 member states (WHO, 2016).

A multitude of approaches has been used to determine societal needs including burden of disease, social determinants of health, information provided by patient advocacy groups, disease-related data, grey literature and medico-legal reports. A summary of information and examples these approaches provide are shown in Table 2 below. For this study, patient advocacy groups were used to help identify and reach potential interviewees.

Table 2. Approaches often used to determine societal needs

Approaches used to determine societal needs	Information Obtained	Example
Burden of disease	Human and economic costs resulting from poor health and disease - Information on morbidity, mortality, trends, direct and indirect costs of healthcare.	In Botswana, the top three causes of loss of disability-adjusted life years (DALYs) in 2016 (all ages) were HIV/AIDS, Diabetes, and tuberculosis (Institute for Health Metrics and Evaluation, 2017)(Institute for Health Metrics and Evaluation, 2017).
Social determinants of health	Information on factors that influence health outcomes: income and social status; social support networks; education; employment/working conditions; social environments; physical environments; personal health practices and coping skills; healthy child development; gender; and culture.	Factors like alcohol and drug abuse, tobacco smoking, unhealthy food habits and inadequate physical activity were found to be common among adults in Botswana, 2008 survey.(Botswana Ministry of Health, 2010b, 2011).
Patient advocacy groups	Information on support given to the health system (counselling, health education, emotional and spiritual support to patients and their families) by the groups.	Cancer Association of Botswana runs an Interim Care Home which provides temporary accommodation, medical care, transport and meals to patients while they are receiving treatment

	Up-to-date information on physical, psychological, social, emotional and spiritual needs of sufferers.	at tertiary hospitals. Additionally, after-care service offered to patients after returning to their respective homes through follow up telephone calls and home visits (UICC, 2016).
Disease-related data	Information on (unmet) needs of sufferers including physical, psychological, social, and spiritual and information needs.	Study: Patients with advanced heart failure in Uganda had unmet needs including physical, psychological, social, and spiritual and information needs (Namukwaya et al., 2017).
Grey literature	Hard-to-find, often detailed and up-to-date information/research on certain topic.	Botswana Human Resources Strategic Plan for Health (government report) provides information on human resource requirements for the country for the plan period (Botswana Ministry of Health, 2008).
Medico-legal reports	Vital data on the nature, distribution and determinants of preventable deaths and the effects of interventions	A study in the USA investigated Sudden Unexpected Infant Deaths (SUIDs) by specifically looking at the sleep environment and circumstances. 3136 SUIDs were assessed. The study identified modifiable sleep environment risk factors ((Schnitzer, Covington, and Dykstra, 2012).

2.3.3 Expressed societal needs

There is great interest in what society expects of health professionals beyond the health professions community of practice. This is shown by the sheer number of many patient-oriented websites focusing on the topic (Bendapudi et al., 2006), for example, patients-association.org.uk, and patientscanada.ca. Review of the literature suggests that there are some common things that users of the health services expect from health professions (Bendapudi et al., 2006; Murtagh, 2011) (Table 3, p. 20). However, some of the expectations are context-specific if not culture-specific (Al-Rumayyan et al., 2017).

A study in South Africa revealed that patients' needs included use of a patient's first or a similar language during consultation (language) and to be attended to by the same doctor on repeat visits (continuity of care) (Fernandez et al., 2014). Additionally, patients needed to feel involved during the consultation and to understand the explanation regarding their condition.

Recently, Namukaya and colleagues carried out a study among patients with advanced heart failure in Uganda to understand their needs (Namukwaya et al., 2017). Multidimensional needs identified included physical, information, psychological, social and

spiritual needs. Patients needed information on their illness and self-care; wanted reassurance (at a time of uncertainty and anxiety); empathy; counselling; wanted to be valued and have a sense of independence, including the need for maintaining hope, purpose and respect.

Table 3. Examples of expressed needs of users of the health services

Country	Study	Expressed needs
South Africa	Factors associated with patients' understanding of their management plan in Tshwane clinics (Fernandez et al., 2014)	<ul style="list-style-type: none"> • Language concordance: use of patient's first or similar language • Continuity of care: seen by the same doctor on repeat visits • Participation during consultation • Understandable explanation of the health problem
Uganda	Improving care for people with heart failure in Uganda: serial in-depth interviews with patients' and their health care professionals (Namukwaya et al., 2017)	<ul style="list-style-type: none"> • Physical: to control symptoms and for cure • Information: on illness, meaning of symptoms and test results, medication and self-care. • Psychological: reassurance, empathy and for attaining life goals • Social: space for independence, companionship and for having control • Spiritual: maintain hope, sense of purpose, feel cared, treated with respect and find meaning for their illness
USA	Patients' perspectives on ideal physician behaviours (Bendapudi et al., 2006)	<p>Doctor who is:</p> <ul style="list-style-type: none"> • Confident: engenders trust and confidence in the patient • Emphatic: understands patient's feelings and experiences and communicates that understanding • Humane: caring, compassionate and kind • Personal: shows interest and sees a patient as more than just a patient • Forthright: speak candidly and in plain language • Respectful: accept patient's input • Thorough: conscientious and persistent
Australia	Paradigms of family medicine: bridging traditions with new concepts; meeting the challenge of being the good doctor from 2011 (Murtagh, 2011).	<ul style="list-style-type: none"> • Doctor who is caring; responsible; empathic; shows interest and concern; competent; knowledgeable; confident; sensitive; perceptive; diligent; available; (has) good manual skills

In another study by Bendapudi et al (2006), patients at Mayo Clinic wanted a doctor who is confident, emphatic, humane, personal, forthright, respectful and thorough (Bendapudi et al., 2006). In Australia, a customer survey conducted by St Vincent's Hospital in Melbourne indicated that customers preferred a doctor who is (in order of significance) caring, responsible, empathic, shows interest and concern, is competent, knowledgeable, confident, exhibits sensitivity, perceptive, diligent, available and has good manual skills (Murtagh, 2011).

A majority of the needs expressed in the studies mentioned above were reflected in letters written to the British Medical Journal in 2002 in response to its questions 'What is a good doctor and how can we make one?' (British Medical Journal, 2002) and an editorial that appeared in this journal at the same time titled 'Patients' views of the good doctor; *doctors have to earn patients trust*' by Angela Coulter (Coulter, 2002). What is clear from the studies, commentaries and editorials is that the quality of a patient's relationship with a doctor is very important. It has an effect not only on patient's emotional responses, but also behavioural and medical outcomes for instance compliance (Haynes, McDonald, and Garg, 2002; Hojat et al., 2011) and recovery (Stewart et al., 1999).

2.4 Data available in Botswana to inform a needs assessment of the medical curriculum review

This section discusses data currently available in Botswana to inform a needs assessment of the UB MBBS medical curriculum. The discussion is divided into the four different components of the needs assessment for curriculum design: organisational needs, observed needs, perceived needs and societal needs.

2.4.1 Organisational needs

A review of the literature suggests that there is substantial information available on organisational needs to inform the review of the University of Botswana MBBS curriculum (Table 4, p. 26). The literature covers all the three levels: global, national and local contexts. At the global level, the target is to half disparity in health worker distribution between urban and rural areas by 2030 as a way to achieve equitable universal health coverage (WHO, 2014b) and to improve health equity by using competency-based curricula and a student admission process that reflect and match national profile (Frenk et al., 2010).

The UN Sustainable Development Goals (SDGs) especially Goal 3 emphasise the need for countries to ensure healthy lives and the promotion of well-being for all ages by, for example, reducing mortality from non-communicable diseases and promotion of mental health (United Nations, 2015). Also, many health professional boards and countries have developed competency frameworks which call for graduates who are health advocates (Health Professions Council of South Africa, 2014; Royal College of Physicians and Surgeons of Canada, 2015).

At national level, both the 2011 Botswana National Health Policy and the 2010 Integrated Health Service Plan recognise that there is inadequate access to health services by people with disability, youth and the aged and uneven distribution of rehabilitation services. Furthermore, there is a rise in the burden of chronic non-communicable diseases. Therefore, they both call for the Essential Health Service Package (EHSP) to be made the cornerstone of the health service provision (Botswana Ministry of Health, 2010b, 2011). Essential Health Service Package represents basic health interventions (promotive, preventive, curative, and rehabilitative) that governments are committed to providing, and making available to the whole population (Botswana Ministry of Health, 2010a). The interventions tend to address the main diseases, injuries and risk factors that affect the population.

At local level, the University of Botswana Learning and Teaching Policy aims to ensure that students are prepared effectively for life, work and citizenship (University of Botswana, 2008b) (See Table 4 on p.26).

2.4.2 Observed needs

The main source of the observed needs is the current UB MBBS curriculum. A review of available documents on the curriculum revealed that Phases I and II of the curriculum were reviewed in 2009 and 2012 respectively. Both reviews were done by academics at the medical school with help from a curriculum expert from Hull York Medical School (UK) and use of curricula from other medical schools as references (Table 4). Users of the Botswana health service and communities were not involved.

The MBBS programme has seven graduate attributes and each attribute has several specific components (See APPENDIX B. University of Botswana attributes of medical school graduates, p. 99). They are committed to delivery of safe and effective care evidenced by possession of the knowledge needed for solid scientific basis of medicine and application of this knowledge to the care of patients and possession of clinical and patient management skills.

Graduates with these attributes also provide patient-centred care by involving patients in decision making, accommodating their values, preferences and expressed needs and act as their advocate in the medical context. As lifelong learners, the graduates investigate and evaluate practice, appraise and assimilate new scientific knowledge into their practice. Furthermore, they can identify, analyse and manage problems in both clinical and non-clinical contexts.

The MBBS graduates communicate effectively and collaborate with patients, their families and other health professionals. Additionally, they demonstrate commitment to adhering to ethical principles and legal responsibilities of the profession; demonstrate commitment to own health and wellbeing of colleagues and recognise own personal limits. They are accountable to the patients, society and the profession; are willing to serve anywhere in Botswana and to go beyond the call of duty for the benefits of the patients. Although there is no competency framework for the MBBS programme, its graduate attributes mirror domains of competence found in common health professions competency frameworks (See APPENDIX C: Examples of domains of competence mirrored by University Botswana medical graduate attributes, p. 101)

In addition, in 2012, the Botswana Health Professional Council (BHPC) released a total of 13 core competencies expected of medical school graduates in Botswana. Each core competency has several enabling competencies. The core competencies are largely based on the General Medical outcomes for graduates (Tomorrow's Doctors) (General Medical Council (UK), 2009) and therefore can be clustered into three graduate attribute roles, namely a doctor as a practitioner (doctor's role in clinical practice), a doctor as a scientist and scholar and a doctor as a professional (See APPENDIX D: Core Competencies expected of Medical School graduates by Botswana Health Professions Council, p. 103) As a practitioner, the doctor must use motor and cognitive skills to diagnose and manage the care of the patients and communicate sensitively and effectively with patients, their families and colleagues. As a scientist and scholar the doctor has to apply biomedical, psychological, social science and population health principles, methods and knowledge to medical practice and research. As a professional the doctor is expected to adhere to ethical principles and legal responsibilities of the profession; accountable to the patients, society and the profession.

2.4.3 Perceived needs

Recently, a study was done to determine the extent to which the UBFoM MBBS programme prepared graduates to function effectively as interns (Prozesky, 2017) (See Table 4). Overall, they rated themselves as fairly well prepared to work as interns in the hospitals where they were placed. However, as 'Communicator' (Health Professions Council of South Africa, 2014), interns felt they were not well prepared for 'breaking bad news diagnosis/prognosis' and 'handling distressed relatives post-patient demise'. As a 'Health advocate' interns appear to have a micro view of the health system (hospitals where they were based) rather than macro view and see the system's problems as challenges which they cannot help the country overcome but rather as obstacles which were poised to overcome them. Furthermore, as a 'professional' the interns felt not well prepared to maintain a good work and social life balance as well as achieve emotional balance in the work place when there is too much to do and when patients are difficult to deal with.

2.4.4 Societal needs

In terms of societal needs most if not all the information available is derived from health statistics. The Botswana National Health Policy (Botswana Ministry of Health, 2011) and the Integrated Health Service Plan (Botswana Ministry of Health, 2010b) revealed that 25.9% of the population is stunted and that only 34% of health workers work in primary healthcare facilities. They also anticipated that by 2016, 38% of posts will be in primary healthcare and 58% of such posts will be vacant (Table 4, page 26) (Botswana Ministry of Health, 2010b; Nkomazana, Peersman, Willcox, Mash, and Phaladze, 2014). Additionally, major causes of mortality of public health concerns are HIV, TB and other infectious diseases, cardiovascular and respiratory disorders. Three major risk factors that account for the greatest disease burden in Botswana are alcohol use, high blood pressure, and dietary risks (Institute for Health Metrics and Evaluation, 2017).

2.4.5 Conclusion

The literature review revealed that HP curriculum design process starts with needs assessment which, in turn directs identification of outcomes and competencies. There are four components of needs assessment namely perceived, observed, organisational and societal needs. In section 2.3.2 (p. 18) it was stated that there are two aspects of societal needs; the quantitative aspect (health statistics) and qualitative aspect (expressed needs of the population served).

Section 2.4.4 (p. 24) and Table 4 (p. 26) revealed that there is substantial information available with regard to the quantitative aspect of societal needs. There appears to be a void in the literature concerning expressed needs of users of the Botswana public health service. The researcher found no documented evidence of expressed needs of service users of Botswana health service regarding care received from health professionals particularly medical doctors. Hence, this served as rationale for this study.

Table 4. Available data to inform curriculum review in Botswana

Types of Needs	Level	Sources of data	What the data say about societal needs
Organisational	Global	WHO Global strategy on human resources for health: workforce 2030 (WHO, 2014b)	Towards universal health coverage: Half disparity in health worker distribution between urban and rural areas
		UN Sustainable Development Goals (United Nations, 2015)	SDG 3 (Agenda 2030): Achieve universal health coverage and reduce mortality from non-communicable diseases and promotion of mental health
		Lancet Commissions (2010): Health professionals for a new century: transforming education to strengthen health systems in an interdependent world (Frenk et al., 2010)	Improve healthy equity: Admissions matching social, linguistic and ethnic diversity of patients population & using competency-based curricula
		Global consensus for social accountability of medical schools (Boelen & Wollard, 2010)	Medical schools have social contracts with communities they serve. Actions must have positive effects on the health of the community
		Competency Frameworks e.g. CanMEDS competency framework and Health Professions Council of South Africa (Health Professions Council of South Africa, 2014; Royal College of Physicians and Surgeons of Canada, 2015)	Medical doctors as <i>Health Advocates</i> : 'work with communities to determine and understand their needs, speak on behalf of others when required and mobilise resources to effect change'
		World Federation for Medical Education –Basic Medical Education Global Standard (World Federation for Medical Education, 2015)	Under participation in formulation of mission and objectives: Measures should be in place for communicating with and getting views from recipients of healthcare
	National	Revised National Health Policy (2011) and Integrated Health Service Plan (2010-2020) (Botswana Ministry of Health, 2010b, 2011)	Inadequate access to health services by people with disability, youth and the aged; uneven distribution of rehabilitation services; a rise in the burden of chronic non-communicable disease; health workers concentrated in urban areas, and Essential Health Service Package to be the cornerstone of health provision service
Organisational	National	Botswana Health Profession Council–Core	<ul style="list-style-type: none"> Assess psychological and social aspects of a patient's illness

Types of Needs	Level	Sources of data	What the data say about societal needs
		competencies required of medical graduates (Botswana Health Professions Council, 2012)	<ul style="list-style-type: none"> Promote health and engage with population health issues Apply ethical and legal principles to medical practice Practice in a professional manner at all times and communicate effectively
	Local	University of Botswana <ul style="list-style-type: none"> Strategic Plan (2008)(University of Botswana, 2008a) and Learning and Teaching Policy (2008)(University of Botswana, 2008b) Medical school graduate attributes 	Prepare students effectively for life, work and citizenship; engage actively with community affairs and develop strategic partnership with non-governmental organisations in areas where the University can provide support . Seven graduate attributes
Perceived		Medical intern preparedness study (personal communication; manuscript in preparation)	Overall interns felt fairly well prepared to function effectively as interns. However: <ul style="list-style-type: none"> <i>Communicator role</i> - not well prepared for 'breaking bad news' and 'handling distressed patient's relatives' <i>Health advocate role</i>- Lack a macro view of the health system. Look at the system's problems as challenges they cannot help their country overcome <i>Professional role</i> – Struggling with achieving a good work-life balance and an emotional balance in a stressful work place
Societal		Grey literature <ul style="list-style-type: none"> Revised National Health Policy (2011) and the Integrated Health Service Plan (2010) (Botswana Ministry of Health, 2010b) Fact sheet -World Health Statistics (2016) (WHO, 2016) Research articles (Nkomazana et al., 2014)	<ul style="list-style-type: none"> 25.9% of the population is stunted Alcohol and drug abuse, tobacco smoking, unhealthy habits and inadequate physical activity common amongst adults Major causes of mortality: HIV, TB and other infectious diseases, cardiovascular and respiratory Only 34% of health workers employed to work in primary healthcare facilities, by 2016 38% of posts will be in primary healthcare and 53% were expected to be vacant

Types of Needs	Level	Sources of data	What the data say about societal needs
		<p>Advocacy groups (personal communication)</p> <p>Expressed needs</p>	<ul style="list-style-type: none"> • Majority of doctors in the public health service are expatriates <p>Provide additional support to the health system - provide information to affected individuals, emotional support by developing social networks for patients and their families and provide interim home for patients coming to tertiary hospital for advanced treatment</p> <p>No documented evidence of expressed needs of users of Botswana health service</p>
Observed		<p>Current UB MBBS Curriculum (UB medical school is the only medical school in the country) (University of Botswana Faculty of Medicine, 2012, 2016).</p>	<ul style="list-style-type: none"> • MBBS curriculum revision in 2009 (Phase I) and 2012 (Phase II): done by an ad hoc committee of academics <i>No community input</i> • Curriculum is somewhat community-oriented <ul style="list-style-type: none"> • Phase I- weekly visits to the clinics • Phase II– public health community based research. <i>No service learning</i>¹ • Phase II - largely tertiary focused except for Public health rotation (community-based research) and Family medicine rotation (part tertiary and part clinic visit) • Social accountability² and social responsibility not intentionally addressed • No interprofessional training³

¹ Experiential education in which students learn by providing service to the community.

² Obligation to direct institution's education research and service activities towards addressing health concerns of the community to be served.

³ Occasions when two or more health professions learn with, from and about each other to improve collaboration and the quality of care.

3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology used in this study. The research methodology is a way of outlining how scientific objectivity and rationality were followed to generate trustworthy findings. The chapter discusses the research design followed by the research paradigm. Thereafter, the practical matters are discussed: data collection and analysis, study participants and sampling strategy, strategies to ensure data collection is scientifically sound and ethical considerations

The research design outlines how the research objectives will be accomplished or how the research question will be addressed and it is based on a particular meta-theoretical paradigm (Babbie, 2010; Babbie and Mouton, 2003). In this chapter, the reason for having selected the interpretive and constructive, qualitative paradigm is outlined together with the meta-theoretical assumptions used. The research paradigm section includes a discussion on the epistemological and ontological perspectives and research methodologies influenced by the phenomenological or interpretive paradigm.

3.2 Research design

This study is exploratory in nature, and this is appropriate given that there is little data available regarding expressed needs of users of Botswana public health service. Exploratory research is most suitable in situations where limited information is available (Cooper, Schindler, and Sun, 2006; Polonsky and Waller, 2005). The main aim of exploratory research is to gain a better understanding of an issue and lay a foundation for future and more rigorous research (Cooper et al., 2006; Zikmund, 2003).

Exploratory research is typically qualitative (Cooper et al., 2006) and therefore a qualitative research methodology was deemed appropriate for the current study.

The phrase qualitative research refers to non-numerical inquiry methods and procedures used to collect data about social phenomena (Mukamunana, 2006). Qualitative research is considered to be interpretive and naturalistic, because in it researchers study phenomena in natural settings, seeking to understand a phenomenon with regard to the meanings people bring to it (Guba and Lincoln 1994; Babbie and Mouton 2007:53-58) and the meanings that people attach to phenomena in their social worlds. The researcher therefore captures the views and beliefs of study participants and focuses on their words and actions, seeking to identify patterns (Cavana, Delahaye, and Sekaran, 2001).

Qualitative research is often identified with the following characteristics:

- Aim: seeks to provide a thorough and explained understanding of the meanings that people ascribe to their social worlds;
- Sample size: small samples chosen purposively using salient criteria;
- Data collection: typically involves close interaction between the researcher and the study participants, enabling exploration of emergent issues;
- Data collected: rich, extensive and detailed;
- Data analysis: amenable to emerging concepts and ideas, potentially producing in depth description; identification patterns and explanations;
- Results: focused generally on the interpretation of social meaning derived from the social world of study participants (Mukamunana, 2006; Ritchie and Lewis, 2003).

In a qualitative study, the researcher is the medium through which data are gathered to reach the desired objectives (Polkinghorne, 2006). Therefore, it is vital that the researcher clearly understands the philosophical perspectives that underpin the research being undertaken (Fourie, 2015).

3.3 Research paradigm

What kind of knowledge is valid and how can we make sense of reality? What is or should be considered science? According to Babbie and Mouton (2003), there are three broad meta-theoretical interpretations of science (research paradigms): positivism, phenomenology (also referred to as interpretivist or constructivist) and critical theory (Babbie and Mouton, 2003; Fourie, 2015).

A paradigm can be defined as a "world view, general perspective, a way of breaking down the complexity of the real world" (Patton 1990, p. 37) and a shared understanding of reality. According to Kuhn (as cited in Vaillancourt 2009, p. 890), paradigm is "the set of common beliefs and agreements shared between scientists about how problems should be understood and addressed". A paradigm is thus a basic set of beliefs that guides the way things should be done (Fourie, 2015) and provides the context of a researcher's study (Guba and Lincoln, 1994; Ponterotto, 2005). Each research paradigm is committed to a specific methodology; positivism to quantitative research, phenomenology to qualitative research and critical theory to participative action research (Fourie, 2015; Mackenzie and Knipe, 2006).

According to Kant reality is not restricted to what is observable, but it is also constructed (if not interpreted) by the individual (Fourie, 2015; Ponterotto, 2005; Rickman, 1995). This constructivist view is encapsulated in the interpretive and constructive research paradigm. Interpretivism holds that both interpretation and observation are important in understanding the social world. Constructivism (which is closely linked to interpretivism) maintains that human beings actively construct knowledge instead of passively receiving it (Ritchie, Lewis, Nicholls, and Ormston, 2013). Thus, individuals live their daily lives by constructing interpretive structures (reality or beliefs) to understand and appreciate the world around them.

Interpretivism and constructivism assert that knowledge is generated by examining, analysing and understanding the social world that people being studied live in, paying particular attention to their meanings and interpretations (Crotty, 1998; Fourie, 2015). Accordingly, the researcher(s) must enter the social world of the study participants and understand the world from their point of view. Although, the interpretivist and constructivist research process is deemed to be primarily inductive (because interpretation is based on data), it is accepted that observations are influenced by ideas and assumptions and consequently it is 'theory-laden' (Fourie, 2015).

The present study sought to get a phenomenological acceptable understanding of the interpretive structures that users of Botswana health service constructed to develop an understanding of the care they want to receive. Since the current study sought to explore and understand a social phenomenon (perspectives of users of Botswana public health service regarding care received), interpretivism was selected as the most appropriate research paradigm.

There are five dimensions of a scientific research namely teleological, sociological, ontological, epistemological and methodological (Babbie and Mouton, 2003; Fourie, 2015; Mouton and Marais, 1990; Pickard, 2007).

The teleological aspect refers to the objective and purpose of the research (Fourie, 2015; Mouton and Marais, 1990; Pickard, 2007). For the current research, a phenomenological teleological position was adopted. The objective of the research was to understand the interpretive structure developed by users of Botswana health service with regards to care received.

The sociological element recognises that research is a collaborative activity (Mouton and Marais, 1990; Pickard, 2007). Therefore, it depicts the nature of the relationship between investigators and between the investigator and research participants (Mouton and Marais, 1990). The current study adopted a phenomenological stance that puts emphasis on the participant-centeredness of the research (McCrorry and O'Donnell, 2016).

The ontological dimension deals with the nature of being and what constitutes reality (Gray, 2013; Saunders, Lewis, and Thornhill, 2009). There are arguably four dominant ontological traditions: positivist (naïve realism), post-positivist (critical realism), critical-theoretical and constructivist views (relativism) of reality (Guba and Lincoln, 1994, 2005; Pickard, 2007).

For the current research the constructivist view was adopted, from which reality was viewed through the experiences of users of Botswana health service (Babbie & Mouton, 2003). Constructivist ontology is seen as an accurate view of reality because it recognises the subjective nature of the perceptions of study participants' (Fourie, 2015).

The epistemological dimension addresses the question: what kinds of knowledge are legitimate and adequate (Gray, 2013). It deals with what forms the basis of our knowledge, how people can obtain knowledge or learn about reality (Honderich, 1995; Ritchie et al., 2013). Thus, epistemology deals with the credibility of research findings. Additionally, epistemology is about creating a shared understanding between the researcher and the study participant regarding the way the participant perceives the world (Eriksson and Kovalainen, 2008).

The objective of the current qualitative research was to obtain a *trustworthy understanding* of the interpretive structure developed by users of Botswana health service. The understanding can be considered as trustworthy as long as it actually reveals the phenomenological reality of the researched (Fourie, 2015). This epistemological principle was realised by using participant-centred qualitative research methods where reality was viewed through the experience of the study participants and by the researcher giving all attention and thought and being thoroughly absorbed in the experiences of the service users of Botswana health service (McCrorry and O'Donnell, 2016).

The methodological element concerns research methods, approaches and design that are required to make certain that truthful (epistemic) deductions are made or that the best estimate of the 'world' is made. Thus, methodology is about the epistemic ideal (Babbie and Mouton, 2003; Mouton and Marais, 1990). Ideals refer to the conditions that good explanation in science has to satisfy (Greene, Sandoval, and Bråten, 2016).

3.4 Data gathering techniques for Question 1: What are the expressed needs of service users regarding care received from medical doctors in Botswana?

This section describes the method used to collect data to determine the expressed needs of users of Botswana health service regarding care received. Additionally, the section discusses the sampling strategy used and describes the recruitment criteria, the data collection and the steps taken to ensure data collection is scientifically sound. Thereafter, the technique used to analyse the data is described.

There are a variety of methods that can be used to conduct needs assessment and they include conducting focus groups interviews, community meetings, and administering questionnaires or surveys (Sherbino and Frank, 2011). A survey of tools to use in conducting a needs assessment is outlined in Appendix E (p. 110) (The list is not exhaustive). The kind of information obtained is often dependent on the type of method used. Qualitative methods such as focus groups can limit expression of individuals' views where participants influence one another (Chitsabesan, Corbett, and Walker, 2006). Trigger tapes and structured interviews may severely restrict ideas due to interviewers' preconceived ideas (Chitsabesan et al., 2006). As for survey methods, items used generally come from published literature and therefore are constrained by preconceptions possibly limiting responses (Chitsabesan et al., 2006; Jolly and Macdonald, 1987). However, semi-structured interviews provide a focused interaction needed to gain insight into how participants view the world (Chitsabesan et al., 2006; Denzin, 1970).

Critical Incident Technique (CIT), a qualitative data gathering technique utilising the semi-structured interview method was used in this study.

3.4.1 Critical Incident Technique (CIT)

This method offers a step-by-step approach to collecting and analysing information about human activities and their significance to the people involved (Flanagan, 1954; Gremler, 2004). It has the potential of producing rich, contextualized data that reflect real-life experiences. The creator of CIT, John Flanagan (1954), defined it as:

a set of procedures for collecting direct observations of human behaviour in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles. The critical incident technique outlines procedures for collecting observed incidents having special significance and meeting systematically defined criteria.
(p. 327)

According to Boyd and Westfall (as cited in Swan and Rao, 1975) (Swan & Rao, 1975) the strength of CIT is that (it)

(a) . . . helps to define the issue – that is, to make clear to the respondent the who, what, when, where, why, and how; (b) . . . involves simple, easy to understand questions; (3) the questions are specific; and (d) by asking the respondent to name incidents, the questions concerning such incidents are within the respondent's experience (p.307)

Preferred methods for collecting data are individual interviews or direct observations (Hughes, Williamson, and Lloyd, 2007). In this study individual interviews were conducted. In order to ensure that participants give full and accurate responses they were asked to concentrate on recent incidents they have taken part in or directly observed. Participants may narrate one or more incidents that show positive and/or negative aspects of the issue being investigated and are urged to give factual reports, instead of interpretations, of what took place. Generally, questions follow a dual positive/negative pattern (described in Section 3.4.4, p. 36)

CIT has been used to study "what people do" in a variety of professions and provided useful information to develop a profile of "acceptable performance" in given fields or professions. In the context of health professions, the technique has been used to elicit characteristics and behaviours of clinical teachers (Chitsabesan et al., 2006) and obtain patients' perspectives on ideal medical doctor behaviour (Bendapudi et al., 2006). More recently, it was used in a study that sought to develop a medical practitioners' competency measurement, namely the South African Medical Practitioner Competency Questionnaire (SAMPCQ) (Fourie, 2015).

3.4.2 Sampling strategy and research participants

For the purpose of this study, non-probability sampling, specifically purposive sampling was used. Purposeful sampling is a technique used for the identification and selection of information-rich cases for the most effective use of limited resources (Palinkas, Horwitz, Green, and Wisdom, 2015): This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest. A purposive sample was selected through two specific service user (stakeholder) groups, namely Village Development Committees (VDCs) and patient advocacy groups. The two groups were approached and through them potential interviewees were identified. The two service user groups were selected because they interact or work on a regular basis with individuals who have been to see a doctor many times (individuals who are knowledgeable about or experienced with a phenomenon of interest).

VDCs are often referred to as ‘village parliaments’ because members come from the community and are elected by the community. The committee together with the local chief run the affairs of the village. It is also an ‘advocacy group’ for the village because it lobbies government with regard to development (infrastructure and others) and services that the government is supposed to provide.

Four VDCs in the greater Gaborone district health management area were approached, namely Tlokweng, Old Naledi, Gabane and Mogoditshane (Figure 5 below). The advocacy patient groups that were approached are: Cancer Association of Botswana (CAB), Botswana Council for Disabled (BCD), Botswana Network of AIDS Service Organisations (BONASO), Diabetes Association of Botswana, Botswana Substance Abuse Support Network (BOSSANET) and Botswana Organisation for Rare Diseases (BORDIS).

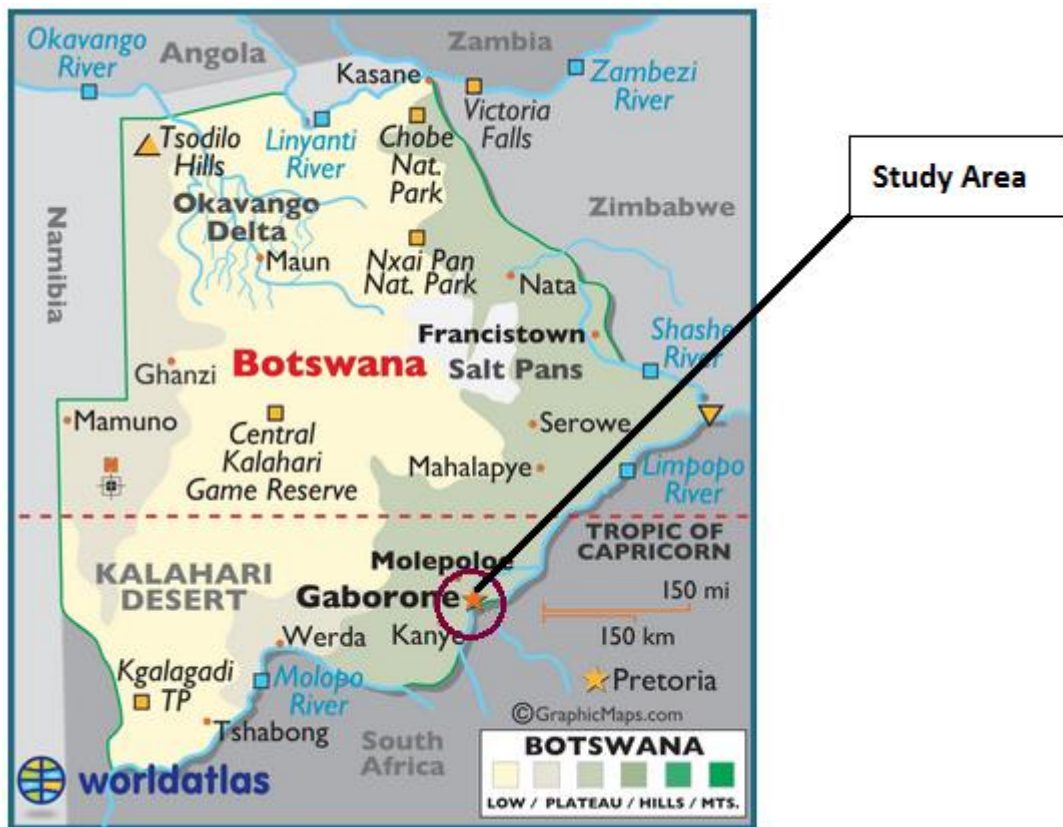


Figure 5. Map showing study area - Greater Gaborone District Health Management Area (Worldatlas, 2017)

Potential research participants had to fulfil the following criteria to be included in the study:

1. Must have taken part in or observed first hand several consultation sessions conducted by different medical doctors in a public clinic or hospital
2. 18 years old or over (only individuals 18 years old or over can legally consent to participate in research in Botswana).

The researcher sought to ensure that the sample is balanced in terms of gender.

3.4.3 Sample size

There are no rigid dictates about suitable 'sample size' for CIT (Hughes et al., 2007). Rather, sample size depends on quality and variety of the critical incidents and the complexity of the issue. Even in the literature, sample size used in 'similar studies' varies considerably (Chitsabesan et al., 2006; Fourie, 2015). Flanagan recommended that data collection and analysis should be done simultaneously and incidents collected until no new *critical behaviours* emerge (Flanagan, 1954). Therefore, in this study, data were analysed as soon as it were generated and recruitment ended when no new themes emerged from the CIT analysis ('theoretical saturation'). Saturation is the point in continuous data collection and analysis that collecting additional data will not yield any new information relating to the research question but serve only to confirm an emerging understand (Saunders et al., 2017).

3.4.4 Data gathering process

CIT was used during the interviews to elicit preferred attributes and actions of a medical doctor from real-life experiences of users of Botswana health service. The same interview guide (See APPENDIX F: Interview Guide, p.114) was adhered to during each interview to ensure consistency.

3.4.4.1 The Interview process

Interviews were conducted in comfortable and private settings away from any distractions. Each participant chose where they want the interview to take place: Some chose clinics or their workplaces while others opted for the researcher's office. Interviews were audio taped where the participants gave a written consent. Otherwise the interviewer took notes during the interview. This followed the advice from the University of Botswana Institutional Review Board that not all potential participants will want to be audio-taped and therefore an alternative should be provided. Each interview consisted of three stages namely, study formalities, CIT and conclusion (Figure 6, p. 37).

Study formalities

The first step of the interview was to establish rapport and introduce the research study. Where possible a summary of the aims and objectives of the study, the interview process and a copy of the consent form (See APPENDIX F: Interview Guide, p. 114 and APPENDIX G: Informed consent form - English, p. 115) were given to the participant in advance to allow them to prepare for the interview. After the introduction, the interviewer obtained informed consent from the participant and collected biographical information.

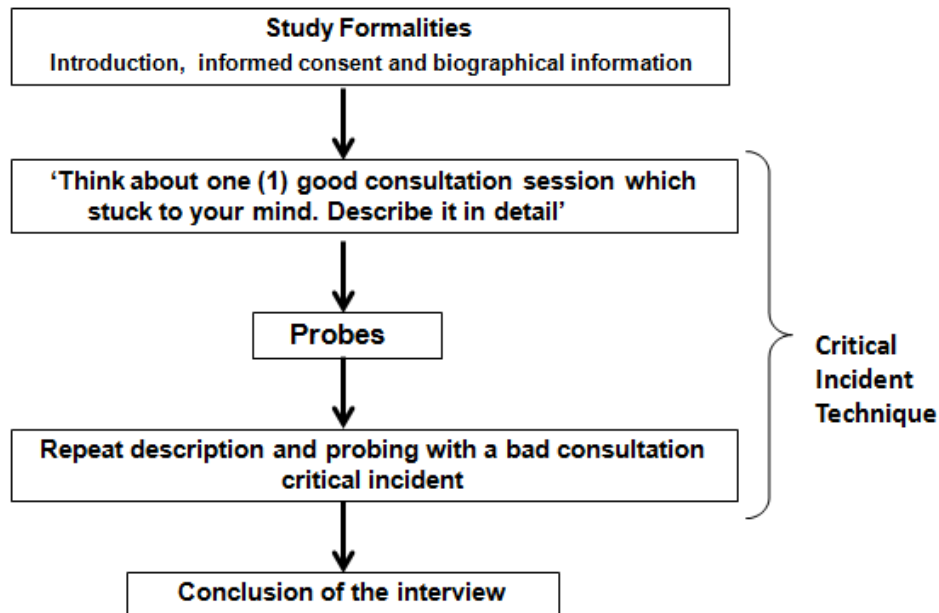


Figure 6. Interview flow chart showing different stages of the interview (Adapted and modified from Chitsabesan et al. 2006)

Critical incident

Interviewees were asked to describe in detail a 'good' and 'bad' consultation they have had with a medical doctor in a public health facility in Botswana. Each interviewee was encouraged to explain exactly what the specific medical doctor did (behaviours and actions) and why they regarded it as a good or bad experience.

Concluding the interview

Finally, the interviewer thanked the interviewee for his/her participation, and asked them if they have any questions or want to supplement the data.

3.4.5 Pilot test

As part of the preparation for the interviews, a pilot test was conducted to evaluate the interview design and to find out if there are any flaws and weaknesses in it. Nothing was found that warranted adaptation of the interview design. However, the pilot test confirmed (as suspected by the University of Botswana Institutional Review Board) that not all participants would want to be audio-taped.

3.4.6 Ensuring rigour of the interview

Throughout the data collection, every effort was made to use tactics that ensured that data was collected objectively and scientifically and that a true account of each participant's perspectives was captured. This was achieved by using the following strategies:

3.4.6.1 Credulous listening

During the interview, the researcher strove to ensure that participant's responses were accurately construed and that the interviewer did not impose his/her own interpretations and assumptions to the information being given. This was achieved by a 'credulous' approach to listening.

Credulous listening involves giving total attention to another person and taking everything they say at face value and as true for them (Fransella, Bell, and Bannister, 2004; ProfessionalsAustralia, 2014). This however does not mean that one has to simply accept participants' construing (Fourie, 2015).

3.4.7 Probing

An important part of interviewing is following up on things people tell you (probing). According to Bernard (1995), probing is stimulating ". . . an informant to produce more information . . . without injecting yourself so much into the interaction that you only get a reflection of yourself in the data" (p. 215). Through probing the interviewer can clarify what the participant said or get more details (Kennedy, 2006). In this study, several probing techniques were used: silent probe, keeping silent and waiting for the study participant to continue; echo probe, repeating the last thing the participant said and asking him/her to continue; and the Uh-huh probe, – urging the participant to continue with the description by making affirmative noises such as 'yes, I see' (Center for refugee and disaster response, 2000).

Additionally, only non-leading questions (to allow the interviewees to have control over the information generated) were asked and the study participant was allowed to lead (Bernard, 1995; Center for refugee and disaster response, 2000).

3.4.8 Reading back to the participant notes taken (for interviews not audio-taped)

For interviews **not** audio-taped, the notes taken by the interviewer/researcher were read to ensure that what has been recorded is a true account of what the participant said.

3.4.9 Data Analysis

The main purpose of the study was to identify patterns and ultimately themes regarding what users of Botswana health service express as their need with regard to care received. Therefore, thematic analysis was thought to be an appropriate technique to use to analyse data from this study. This is a method for “identifying, analysing and reporting patterns within data” (Braun and Clarke, 2006; Burnard, Gill, Stewart, and Treasure, 2008). Data analysis of the interviews was divided into three stages:

Stage 1: Translation and Transcription

All audio-taped interviews were transcribed verbatim (word for word) by the researcher. For non-audio-taped interviews, notes taken by the interviewer were used. Transcription was a good opportunity for the researcher to absorb oneself into the data (Gale, Heath, Cameron, Rashid, and Redwood, 2013).

As it is common during conversations in Botswana, majority of the interviewees kept switching between English and Setswana languages. Therefore, most transcripts contain both Setswana and English. Consequently, Setswana components of any transcript had to be translated into English. The researcher (also the interviewer) carried out the translation. The researcher is fluent in both the local language (Setswana) and the English language. Furthermore, he has some experience with translation and very often forward or back translate research proposals and consent forms. Having the interviewer as the translator reduces the risk of misinterpretation and loss of participant intended meanings of phrases and concepts. Furthermore, he or she is better placed than a professional translator to understand and acknowledge the nature of the research, including contextualisation of data as it is converted from one language to another.

A translation-during analysis approach was used: where the interviewee used Setswana, coding was done in Setswana and then the codes translated into English (Nurjannah, Mills, Park, & Usher, 2014). The researcher did not acquire the services of a professional translator to back translate the scripts because of resource constraints. However to check the reliability of the codes generated, extracts from the transcripts from which the codes were developed, were reviewed and discussed with a member of staff from UBFoM's Department of Medical Education (who is fluent in both languages) but unconnected with the study. The idea was to check and ensure the codes and consequently themes generated truly reflected discrete attributes mentioned by the study participants

Stage 2: Familiarisation with the Interview

Familiarising oneself with the whole interview using the audio recording and/or transcript and interviewer notes is an essential part of interpretation (Gale et al., 2013). Here the researcher re-listened to the audio recordings and re-read the interviewer's notes and made any analytical notes, thoughts and impressions.

Stage 3: Coding

Here, the transcript (line by line) and the notes were read and short phrases or words (a 'code') that describe what is interpreted as important were noted in the margins of the text. Coding line-by-line was to enable the researcher to identify that which may usually be indiscernible because it is not clearly expressed. As stated in Stage 1 above where the interviewee used Setswana, coding was done in Setswana and then the codes translated into English.

Step 4. Developing a working analytical framework

Since there was no sample size in this research, initially three interviews were conducted, transcribed and coded. Then, each subsequent interview was analysed as soon as it was generated. After coding the first three transcripts, all the phrases and words were collated and compared to come up with a set of codes (a working analytical framework) to apply to subsequent transcripts. The framework kept changing as more transcripts were coded until no additional codes emerged and recruitment was ended.

Step 5. Apply the analytical framework

The analytical framework was applied by indexing subsequent transcripts using the existing codes. In addition to applying the working analytical framework, each transcript was carefully read to identify additional codes and/or categories to add to the framework.

Step 6. Charting data into the framework matrix

Here, the data were summarised by codes from each transcript in a matrix using a table.

Step 7. Interpreting data

Here, the researcher identified the characteristics of the data. Themes were generated from the data set by reviewing the matrix and making connections within participant and codes

3.5 Data gathering techniques for Question 2: How are the current graduate attributes of the MBBS programme aligned to the expressed needs of service users?

This section describes how the UB medical graduate attributes were analysed to determine their alignment with the needs expressed by users of Botswana health service regarding care received from medical doctors.

3.5.1 Data analysis

Descriptive content analysis technique was used to examine the list of graduate attributes of the University of Botswana MBBS programme (Foresight Enriched Research Infrastructure Impact Assessment Methodology, 2011). The aim was to summarize the informational content of the graduate attributes document with respect to the themes generated from the analysis of interviews of users of Botswana health service and the research question stated above (3.11).

The informational content was presented in a straight forward language and organised according to the needs of the study (Jiggins Colorafi and Evans, 2016; Neergaard, Olesen, Andersen, and Sondergaard, 2009; Sandelowski, 2000; Margarete Sandelowski, 2010).

The analysis was carried out as follows:

- Defined the themes and research question to be used
- Reviewed the data (UBFoM graduate attributes) and identified the informational contents with respect to the themes and the research question
- Prepared a brief descriptive summary of the key informational contents

Adapted and modified from Foresight Enriched Research Infrastructure Impact Assessment Methodology, 2011).

3.6 Ethical considerations

Ethical scrutiny is required in research to protect the rights, dignity and welfare of research participants. Furthermore, ethical scrutiny is required if individual-level information will be collected, children or other vulnerable persons are involved or if there are potential risks to the safety of the researcher(s). The current study was an empirical behavioural research and therefore required the active involvement of people. Thus, it could potentially result in the dignity, rights, safety and wellbeing of the research participants being compromised. These concerns were mitigated by the fact that participation in the study was voluntary and each participant was free to withdraw his/her consent and to discontinue participation at any time without penalty or supplying reasons.

Furthermore, a potential study participant was enrolled in the study only after providing an informed consent (University of Southern California- Office for the Protection of Research Subjects, 2013). An informed consent entails that the research participant was fully informed about the aims and objective of the proposed study; what participation in the research involved; how the research results will be disseminated; who the researchers were; where and how he/she can make further inquiries about the research if he/she wished to do so; what his/her rights as a participant were and where he/she can obtain more information on his/her research rights. Further, the participants were provided with the opportunity to ask questions, were given adequate time to rethink the issue and were not pressurized or induced to participate.

There were no potential risks or discomforts envisaged in the study. Information on all participants and interview recordings and notes are stored in a secure place; were and will continue to be treated confidentially. Additionally, all information is kept anonymously and the participants are referred to by numbers. Interviews were conducted in a safe environment and the information obtained will be reported anonymously.

The proposal was approved by the Human Research Ethics Committee of Stellenbosch University (#S16/06/107) (See APPENDIX I: Ethics approval -Stellenbosch, page 121) and University of Botswana Institutional Review Board/Botswana Ministry of Health, Health Research & Development (HPDME:13/18/1 Vol. X (817) (See APPENDIX J: Ethics approval -UB, page 123).

4 FINDINGS

4.1 Introduction

This chapter presents themes that emerged from the analysis of transcripts and notes regarding expressed needs of users of Botswana health service (Figure 7 below). The chapter also presents the results of the analysis of the alignment of the graduate attributes of the University of Botswana MBBS programme with the identified expressed needs of users of Botswana health service.

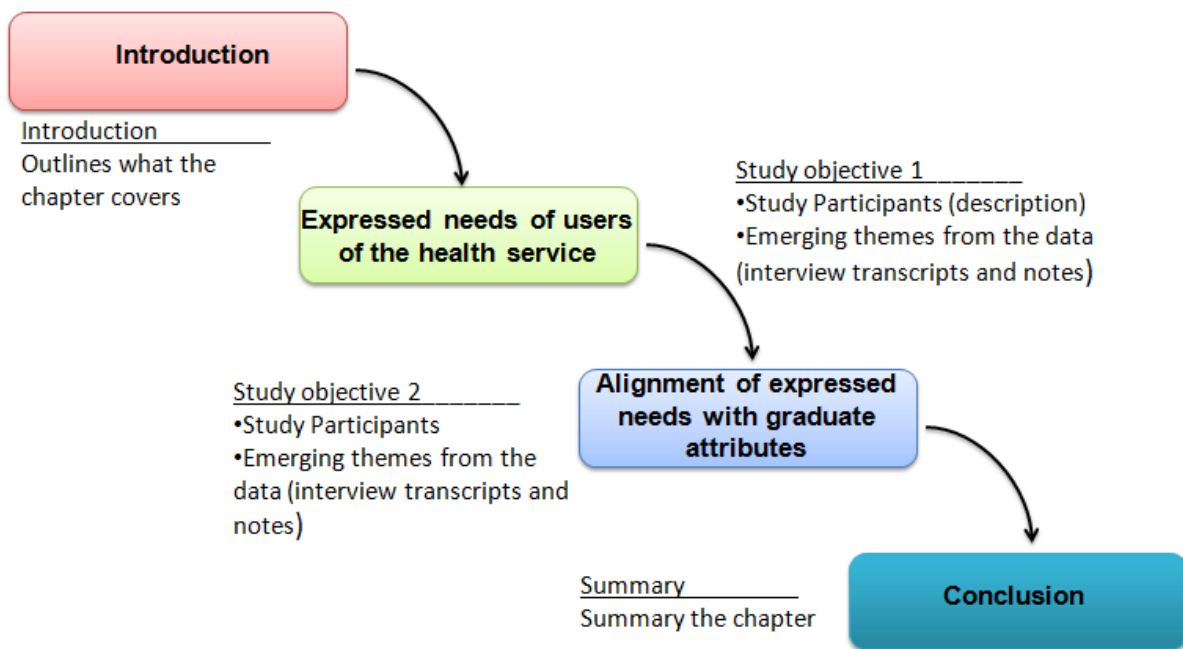


Figure 7. A flowchart showing presentation of study findings

4.2 Expressed needs of users of Botswana Health Services regarding care received from medical doctors

4.2.1 Study participants

All the participants approached, consented to take part in the study and participated in an individual interview. Interviews lasted between 15-25 minutes (average 20 minutes). Data saturation was reached after interviewing 10 participants. However, two more participants were interviewed to make certain that no new themes emerged. In total, seven female and five male service users were interviewed.

The interviewees were spread across the advocacy groups: two from Botswana Council for Disabled; three from Cancer Association of Botswana; five from Diabetes Association of Botswana, and two from Village Development Committees (Table 5).

Table 5. Profile of interviewees

Participant	Advocacy group through which the participant was identified	Gender	Age (years)
1	Botswana Council for Disabled	Female	45
2	Botswana Council for Disabled	Female	39
3	Naledi Village Development Committee	Male	24
4	Naledi Village Development Committee	Female	57
5	Cancer Association of Botswana	Male	27
6	Cancer Association of Botswana	Female	51
7	Cancer Association of Botswana	Female	50
8	Botswana Diabetes Association	Male	23
9	Botswana Diabetes Association	Female	21
10	Botswana Diabetes Association	Female	23
11	Botswana Diabetes Association	Male	22
12	Botswana Diabetes Association	Male	21

4.2.2 Emerging themes from the data (interview transcripts and notes)

As stated in Chapter 3, data analysis was carried out by organising the responses of the interviewees to identify patterns and ultimately themes (Labuschagne, 2003). This section provides a summary of the themes identified from participants' responses

Eleven behavioural themes (indicative of valued care) were identified in the research: respectful, empowering, humble, focused, empathetic, unprejudiced, trustworthy, welcoming, humane, thorough and personal. Definitions of identified behaviours and supporting quotations (behavioural anchors) and 'mirror' opposite quotations are presented in Table 6 on page 46. The definitions are mostly from the participants' perspectives, but where necessary or possible, definitions from the patient's perspective were reconciled with what is described in the literature. Participants' description of bad consultations reflected mirror opposites of desired doctor's behaviour. The concern expressed by interviewees included doctor's disinterest in the patient as an individual, lack of courteous behaviour and questioning, insensitivity, lack of thoroughness and prejudice.

Table 6. Themes of expressed Needs of Users of Botswana Health Service (indicative of 'good care'). Definitions and Supporting Quotes

Desired Behaviours	Definitions	Representative Quotations	Mirror Opposite Quotation
Respectful	The doctor listens to me, respects and acknowledges my presence; takes into account my unique needs and preferences.	<p>'I was given ear drops and told that I will see a difference in three days. After a week or two of seeing no difference, I told the doctor that this is not working but the doctor did not listen but insisted that I continue using the drops. It is important that when I as a patient tell you something, you must listen; should understand that people are different and respond differently to medicine; should listen and be patient.'</p> <p>'There should be respect; shouldn't be that the doctor can talk to me anyhow.'</p>	
Empowering	The doctor engages and involves me in the decision-making process. I never felt bullied.	<p>'The doctor helped me accept my condition. He was talking to me in a friendly way, he came to my level and he brought everything to my level. He did not use medical jargon. He made it so simple and straightforward that I accepted my condition very quickly.'</p> <p>'The doctor had a conversation with me and allowed me to ask questions.'</p>	'I told the doctor that this (the medicine) is not working but the doctor did not listen but insisted that I continue using the drops even though I knew it was not working for me.'
Humble	The doctor is mindful of his limitations; asks for help when in doubt and admits mistakes.	'The doctor apologised for not giving me proper instructions. I forgave him because he admitted his mistake and apologised.'	I was lying on the examination bed and the doctor was about to examine me when the nurse walked in and asked with amazement and surprise why the doctor wanted to use a certain instrument. The nurse felt that it was an inappropriate instrument to use in a pregnant woman. The doctor then pretended that he was not going to use it and that he was just holding it.'

Desired Behaviours	Definitions	Representative Quotations	Mirror Opposite Quotation
Focused	The doctor gives me his/her full attention; with little or no distractions present during the consultation.		'During the consultation, the phone rang and the doctor picked it up and was on the phone for sometimes without saying sorry. He did not apologise to me.'
Empathetic	The doctor tries to understand what I am feeling and experiencing physically and emotionally and communicates that understanding to me.	'Although my condition was serious, the doctor made it look like I am having something not so serious like flu. He said 'do not be afraid, this is why I [the doctor] am here'. That's something that kept me going.'	'I had an operation in my sinus and tubes were inserted into my nose. Some days after the operation, the doctor came unannounced to remove the tubes. I was not psychologically prepared and I did not know if I was going to be sedated. However, without care in the world the doctor removed the tubes; without care of the pain I may feel and without caring about how I have to handle the waste coming out of the tubes. It was left to me to find ways of dealing with such things.'
Unprejudiced	The doctor does not show an unfair dislike or bias because of some characteristic of mine.	'He [the doctor] was talking to me in friendly way; he came to my level; he did not judge me; he was not aggressive or harsh.'	'Are you blind and pregnant? said the doctor, as if blind people should not get pregnant.'
Trustworthy	The doctor provides explanation, security, confidence and a sense of protection. The doctor is honest and open with me and colleagues.	'When you talk to doctor you should be able to trust them, not feeling that he will judge you, should feel free to open up; should feel confident that he will not disclose anything to anyone without your consent.'	'I was lying on the examination bed and the doctor was about to examine me, when the nurse walked in and asked with amazement and surprise why the doctor wanted to use a certain instrument. The nurse felt that it was an inappropriate instrument to use in a pregnant woman. The doctor then pretended that he was not going to use it and that he was just holding it'
Welcoming	The doctor is friendly and makes me feel happy, welcomed and accepted.	'There is nothing as comforting as when I walk in the consultation room, the doctor says hello.'	'The doctor did not greet me, smile at me or even offer me a chair.'

Desired Behaviours	Definitions	Representative Quotations	Mirror Opposite Quotation
		<p>'He greeted me like an African would; he greeted me and told me his name.'</p> <p>'He sat me down with a smile.'</p> <p>"He cracked jokes that made me feel at home and made me open up.'</p>	
Humane	The doctor is caring, compassionate, sensitive, considerate and kind	<p>Although my condition was serious, the doctor made it look like I am having something not so serious like flu. He said 'do not be afraid, this is why I (the doctor) am here. That's something that kept me going.'</p> <p>'My [doctors] are willing to help even when they are off-duty.'</p>	<p>'I was a kid at the time and therefore did not follow the doctor's instructions very well. When the doctor looked at my records, his face turned pink, he was angry and harsh. He did not want to listen to what I wanted to say. I had so many things I wanted to tell him but he was having none of it. Because he was so angry he put me on a high dose of medicine and I fell into a coma as a result. I even cried.'</p> <p>'I was feeling a bit down, my blood pressure was high and any person could see I was down...but the doctor rudely said, what can I do for you?'</p> <p>'Why should the doctor tell me about causes of cancer, when I already have it. He made me feel like I have done something wrong to get the cancer?'</p> <p>'Even though the doctor knew I am blind, he simple told me to lie on the examination bed. He did not explain what he was going to do, how and with what.'</p>
Thorough	The doctor is diligent, meticulous, persistent, does not assume and uses a language I can understand.	'He explained what he was going to do and what he was going to use; he explained the procedure and the process.'	Even though the doctor knew I am blind, he simple told me to lie of the examination bed. He did not explain what he was going to do,

Desired Behaviours	Definitions	Representative Quotations	Mirror Opposite Quotation
		<p>'It is important that the doctor explains what he is going to do; talk to you before physical examination, explain and get your consent.'</p> <p>' He explained to me my condition, what I should eat and what may happen if I don't.'</p>	<p>how and with what.'</p> <p>'It is important that a doctor can speak to you in your language; a language that makes you comfortable.'</p>
Personal	The doctor takes interest in me as a person and not as a set of symptoms; remembers me as an individual with preferences hopes and fears.	'When you are with them it is as if you are with a family member; they are willing to help even when they are off-duty.'	'Does not sit well with me if the doctor asks your name every time they see you.'

4.3 Alignment of University of Botswana medical graduate attributes with expressed needs of users of Botswana Health Services

This section provides a summary of the findings of the analysis of the UB medical school graduate attributes with respect to the themes identified in section 4.2 (p. 43). The analysis revealed that three of the seven attributes seek to deal with how a graduate should relate with or behave towards his/her patients. The three attributes are: i) commitment to patient-centred care, ii) demonstration of high standards of ethical practice and professionalism, and iii) ability to communicate and collaborate effectively (See Table 7, p. 51). As a doctor committed to patient-centred care, a UBFoM graduate is respectful and engaging, compassionate and empathetic. Further, as a medical professional, the graduate adheres to the highest standards of both ethics and professionalism and acknowledges his/her limitations. Also, the graduate is caring and is an effective communicator. Collectively, the three attributes mention the following behaviours: respect, empathy, effective engagement (inevitably encompasses empowerment), humane (compassion and caring) and to a lesser degree, humility and being personal. The UBFoM graduate attributes however do not address (explicitly) behaviours such as the need for a doctor to be thorough, focused (undistracted), unprejudiced, trustworthy and welcoming.

A caveat in interpreting these findings or analysis is that there are no detailed definitions or descriptions of the attributes. In addition, there are no enabling, observable and measurable indicators for each of the attributes.

4.4 Conclusion

Analysis of the interview transcripts and notes revealed that study participants would like doctors to be respectful, empowering, humble, focused, empathetic, unprejudiced, trustworthy, welcoming, humane, thorough and personal. Further analysis showed that not all behaviours are explicitly addressed by the UBFoM graduates attributes: the need for a doctor to be thorough focused (undistracted), unprejudiced, trustworthy and welcoming is not explicitly addressed.

The next chapter discusses the findings reported herein in the context of existing literature and the current UBFoM graduate attributes.

Table 7. Alignment of University of Botswana (UB) Medical Graduate Attributes with expressed Needs of Users of Botswana Health Service

UBFoM Graduate Attributes	Specific components of each graduate attribute	Corresponding valued behaviours reported by participants
Committed to patient-centred care	They respect their patients' values, preferences and expressed needs, and will engage their patients as partners in decision-making.	Respectful, Empowering
	They are compassionate, empathetic and committed to advocacy on behalf of their patients.	Empathetic, Humane
	They will seek to overcome the limitations on effective patient-centred care which result from differences in language, social status and cultural background.	Humane, Perhaps Unprejudiced (aspirational)
Communicate and collaborate effectively	They possess good written and verbal communication skills.	Empowering, Humane
	They are able to establish professional and caring relationships with patients, patients' families and the communities in which they practice.	Humane, Personal
	They are able to communicate health-related information effectively to their patients, colleagues and to decision-makers within society.	Empowering

UBFoM Graduate Attributes	Specific components of each graduate attribute	Corresponding valued behaviours reported by participants
Demonstrate high standards of ethical practice and professionalism	They practice in accordance with the highest standards of both ethics and professionalism.	“Too broad”. Not clear what this entails
	They will acknowledge their limitations and their need for ongoing professional growth.	Partial Humble
	They acknowledge the equal status of their colleagues in other health-related professions. Graduates will work effectively with colleagues in a team in ways which best serve patients’ interests.	<ul style="list-style-type: none"> • Not described by participants • Not in the scope of the interview. • Deals with interprofessional relations. Probably perceived and/or observed need
	They are able and prepared to recognize stress and health-related problems in themselves and in their colleagues, and seek or offer support as appropriate.	<ul style="list-style-type: none"> • Not in the scope of the interview. • Probably perceived and observed need
	They appreciate their role in promoting respect for human rights and incorporate this into their professional practice.	<ul style="list-style-type: none"> • Probably an organisational and observed need

UBFoM Graduate Attributes	Specific components of each graduate attribute	Corresponding valued behaviours reported by participants
Committed to delivering safe and effective care	They are skilled in the vocational sciences and understand the scientific foundation of clinical and public health practice.	Not in the scope of the interview
	They possess sound clinical and patient management skills, are able to recognize and manage common medical conditions and emergencies, and are competent in the performance of core clinical procedures.	Not in the scope of the interview
	Our graduates recognize rare and serious conditions and know to seek assistance from senior colleagues or refer them appropriately.	Not in the scope of the interview
	They are committed to improving quality and safety in patient care.	Not in the scope of the interview
	They will make effective use of health-related information, including electronic source.	Not in the scope of the interview
Committed to life-long learning	They are committed to a lifetime of reflective self-appraisal and improvement.	Not in the scope of the interview
	They will seek out, appraise and assimilate new knowledge in order to remain abreast of developments in the health sciences, and will incorporate these developments into their practice.	Not in the scope of the interview

UBFoM Graduate Attributes	Specific components of each graduate attribute	Corresponding valued behaviours reported by participants
Open-minded, critical thinkers and effective problem-solvers	They will prove skilled in problem identification, analysis and management, both in the specific sense of clinical diagnosis and management, and in the broader sense of problem solving in relation to research, practice management, administration and health promotion.	Not described by participants Not in the scope of the interview
	Graduates should have an interest in research and an understanding of its importance in their daily practice.	
Are socially accountable	Graduates are accountable to the profession, patients, to society and to the country.	Personal
	Graduates will exhibit a willingness to extend themselves/ sacrifice time/ put in extra effort when patient needs require it.	Not described by participants
	Graduates will be aware of the needs of society, exhibit a willingness to work in areas of need, have a commitment to stay working in Botswana, and avoid profit as a primary professional orientation.	Not described by participants
	Graduates should be willing to take up positions of leadership and exercise initiative.	Not described by participants Not in the scope of the interview
Valued behaviours NOT explicitly addressed by graduate attributes		<ul style="list-style-type: none"> • Focused • Unprejudiced • Trustworthy • Welcoming • Thorough

5 DISCUSSION AND INTERPRETATION OF RESULTS

5.1 Introduction

The aim of this chapter is to discuss and interpret the results reported in Chapter 4 in the context of existing literature and in relation to the current UBFoM MBBS graduate attributes.

It is generally accepted that there is a link between healing and human relationships (Benson, 2014; Stewart, 1995). Health professionals build relationships with their patients by means of skilful communication. In practice communication is often taken to be what doctors say (Stewart, 1995). However, there is more to communication; the how, when and to whom the health professional says it. This aspect of communication includes non-verbal behaviour; eye contact, facial expression, body position and posture, tone of voice and movement (Jonathan Silverman and Kinnersley, 2010). Collectively, the how, when and to whom features of communication are often referred to as interpersonal skills and reflect a health professional's inner feelings, attitudes and values (Dyche, 2007).

The expectation in medical practice is that doctors should constructively align their interpersonal capacities with each patient they see (Dyche, 2007) and build a good quality patient-doctor relationship. In fact, a patient's consultation with a medical doctor is more than sharing of information about diagnosis and therapy options, as it often involves the patient's search for psychological, social and spiritual healing, in other words, a therapeutic relationship (Matthews, Suchman, and Branch, 1993; Travaline, Ruchinskas, and D'Alonzo, 2005). Research has shown that a good quality patient-doctor relationship improves patient outcomes (Haynes et al., 2002; Stewart et al., 1999; Stewart, 1995; Travaline et al., 2005) and effective patient-doctor communication can improve a patient's wellbeing as tangibly as many drugs (Bull et al., 2002; Ciechanowski, Katon, Russo, & Walker, 2001; Stewart, 1995; Travaline et al., 2005).

This study offers important insights into discussions of what constitutes 'valued care' from the voices of the users of the Botswana health service. Furthermore, it provides information useful to medical educators and medical schools seeking to best train medical students on effective patient-doctor communication and patients' expectations and also to doctors seeking to improve how they interact with patients.

5.2 Expressed needs of users of Botswana Health Services

According to participants a preferred doctors is respectful, empowering, humble, focused, empathetic, unprejudiced, trustworthy, welcoming, humane, thorough and personal.

5.2.1 Respectful

Patients want to be treated by doctors who are polite, civil, considerate and respectful. That is, they want to be treated by a well behaved doctor (Colgan, 2010). Respect embodies the notion of good manners, which incidentally is something that is central to many service-oriented professions (Kahn, 2008). Not surprisingly, many in the medical profession continue to affirm the importance of respectful patient-doctor communication and relationship (Beach, Duggan, Cassel, & Geller, 2007; Dickert & Kass, 2009; General Medical Council (UK), 2009; Swing, 2007).

By way of example, Appendix K (p.124) depicts how the behavioural theme 'respectful' and other identified valued behaviours are addressed in the medical curricula of the Universities of the Witwatersrand, South Africa and Liverpool, United Kingdom. In the University of Witwatersrand curriculum, 'respect' is addressed for example under the 'Communicator' role. Here the curriculum identifies development of 'rapport, trust and ethical therapeutic relationships with patients and families' as one of the key competencies. There is then specificity with enabling competencies such as 'establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, *respect*, honesty and integrity'(University of Witwatersrand Faculty of Health Sciences 2008). This competency is assessed through ward performance evaluation. Under professionalism in the University of Liverpool curriculum, students are expected to 'demonstrate *respect* for patients and colleagues and recognise the contribution of the interprofessional teams to enhance the quality of patient care' (University of Liverpool, 2015) This is assessed by using Mini-Clinical Evaluation Exercise (MiniCEX) and Liverpool Objective Clinical Assessment System (LOCAS).

MiniCEX is an assessment method which requires trainees to engage in authentic workplace-based patient encounters while being observed by faculty members. These encounters can take place in a variety of workplace settings including inpatient, outpatient, and emergency departments (Norcini and Burch, 2007). It is a way of determining whether students are attaining the clinical and communications skills necessary to meet the healthcare needs of patients. The LOCAS is an Objective Structured Clinical Examination (OSCE) style assessment done in a real clinical environment with real patients. Objective Structured Clinical Examination is an evaluate tool used to assess competency, based on objective testing through direct observation. Candidates move through a series of time-limited stations performing a variety of clinical tasks and marked against standardised scoring rubrics (Khan, Ramachandran, Gaunt, and Pushkar, 2013; Stillman et al., 1997).

In an article published in the *New England Journal of Medicine* in 2008, Kahn drew attention to the notion that patients desire and expect to be looked after by doctors who are well behaved. He observes that most patients complain, of not being understood or empathised with, but rather of doctors behaviours they see as offensively impolite and neglectful (Kahn, 2008). Kahn therefore stressed that finer points of patient care should be built on a base of good manners and he offered six simple behaviours hospitalised patients consider as respectful: ask permission to enter the room; introduce yourself; shake hands; sit down; explain your role and ask how the patient feels about being in the hospital. Kahn's prescription is consistent with what is found in the ethical writings of Hippocrates. In *Decorum*, Hippocrates advises that on entering a patient room a doctor should "bear in mind your manner of sitting, reserve, arrangement of dress, decisive utterance, brevity of speech, composure, bedside manners, (and) care" (Jones 1923 p. 295).

In a study by Dickert and Kass (2009), patients indicated that respecting a person includes the following major elements: empathy, care, autonomy, provision of information, recognition of individuality, dignity and attention to needs (Table 8, p. 61). In their reflection on the concept of medical respect, Beach et al. (2007) propose that 'medical respect' should impose a moral duty on doctors to believe a patient has value (cognitive dimension) and then act in the light of that belief (behavioural dimension). In a way, a respectful behaviour should be a true expression of the doctor's belief about the value of the patient as a person. Unsurprisingly, a doctor's respectful behaviour is positively associated with patient clinical outcomes and greater patient satisfaction with care (Baier, 1995).

5.2.2 Empowerment

Every person who comes to consult a doctor comes as an individual with a different set of questions, concerns and experience. Increasingly patients want and expect to understand and make decisions about the health care or service they are receiving (Balch, 2015).

A 2012 report from the King's Fund entitled 'Patient's preferences matter' states that while many doctors want to excel in diagnosing disease, very few of them eagerly desire to excel in diagnosing what patients want (Mulley, Trimble, and Elwyn, 2012). Simply put, doctors do not understand what patients want suggesting that doctors do not engage enough in dialogue, co-production and collaborative care with their patients; do not recognize that consultations should be a meeting of two experts (doctor knows diagnosis, prognosis, treatment options and patient has the experience of illness, knowledge of social circumstances, personal preferences and values) (Coulter, 2002; Realpe and Wallace, 2010).

Respondents in this study indicated that they prefer relationship-centred encounters. In a way, they want interactions that are not only medically functional but also receptive, informative, facilitative and participatory (Hall and Roter, 2007; Realpe and Wallace, 2010; Street, Makoul, Arora, and Epstein, 2009). That is, participants want to be empowered.

WHO defines empowerment as 'a process through which people gain greater control over decisions and actions affecting their health (WHO, 1998). In his commentary, Chatzimarkakis argues that empowerment means enablement (Chatzimarkakis, 2010). For enablement to occur shared decision making (SDM) is required. Shared decision making is a collaborative process in which a patient with the support of a doctor makes a decision about his/her treatment. The process requires the bringing together of the doctor's expertise, such as treatment options and risks and the patient's expressed needs, for example, preferences, values and beliefs (NHS England, 2015).

Shared decision making rests on the premise that a patient's self-determination is a desired goal and that doctors ought to support patients to reach that goal (Elwyn et al., 2012). It is associated with improved patient reported outcomes. A systematic review of the literature on SDM and patient outcome revealed that when perceived by patients as happening, SDM tends to lead to better affective-cognitive outcomes (Shay and Lafata, 2015). Unsurprisingly, patients who are engaged in shared decision-making in their treatment respond better to treatment, are more loyal, are more likely to get recommended screenings, adhere to treatment instructions, and lead a healthy lifestyle (Cowan, 2014) (Table 8, p. 61).

In an article published in the *Journal of South African Family Practice* in 2006, Hugo and Couper outlined a consultation activity that has elements that empower a patient (Hugo and Couper, 2006). They describe three continuous processes of consultation namely facilitation, clinical reasoning and collaboration. It is during collaboration that the patient is empowered because the doctor involves the patient in understanding the diagnosis and arrives at the solution through a mutual plan. Furthermore, the doctor and the patient negotiate a way forward when there is a disagreement and the relationship is maintained by openness and respect.

The University of Witwatersrand medical curriculum addresses the issue of empowerment under the 'Communicator' role. A doctor as a communicator, must 'accurately convey relevant information and explanations to patients, families, colleagues and other professionals' (University of Witwatersrand Faculty of Health Sciences 2008). Specifically, the doctor should 'deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, and encourages discussion and participation in decision making' (APPENDIX K: How universities of Witwatersrand and Liverpool medical curricula address behavioural themes (expressed needs) identified by study participants, p.124).

5.2.3 Humility

Although some in the medical fraternity think being paternalistic, authoritarian and possibly arrogant as a doctor is beneficial (Ingelfinger, 1980), respondents in this study preferred a humble doctor. Not surprisingly, humble and not paternalistic doctors seem to be most effective at working with their patients (Ruberton et al., 2016) (Table 8, p. 61). According to Coulehan, medical humility consists of three things: unflinching self-awareness; empathetic openness to others; and keen appreciation of and gratitude for the privilege of caring for sick persons (Coulehan, 2010). Chochinov (2010) opined that humility means recognizing and being mindful of own limitations, understanding and importance (Chochinov, 2010). He further argued that illness or even the threat of it, renders a person vulnerable and invariably undermines their sense of self. Therefore, doctors should see themselves as mirrors through which patients look for positive reflection or affirmation of self. For a doctor to see him/herself as such, requires humility.

5.2.4 Focused

Medicine is a profession that requires focused attention (Ross and Forgie, 2012). This is so because a doctor has to be able to selectively identify key issues during an encounter with a patient. A doctor has to listen to the patient and pay attention to both what they say and choose not to say (Kurtz, Silverman, and J, 1998; JD Silverman, Kurtz, and Draper, 1998). For a doctor to achieve this, requires little disruptions or distraction and giving the patient undivided attention during the meeting.

In this study, interviewees related experiences where the doctor paused to respond to a text and telephone while talking to them. Thus, in a matter of seconds the doctor transferred his/her attention from one task (talking to the patient) to another (texting or talking on the phone). The respondents found such personal distractions disconcerting if not outright disrespectful. Although in some instances the doctor's action may be simple reflex, students, residents and doctors in practice must be mindful of the message they may be sending to patients. Patients may not only feel disrespected, but unworthy of the doctor's attention. Distractions or interruptions can lead to disastrous errors (Dossey 2014). Interruption-related errors leads to lapses in concentration and focus or delayed treatment (Hall et al., 2010)(Table 8, p. 61).

5.2.5 Empathy (including elements that are humane and personal)

While it is often emphasised that to provide the best care doctors should be detached and emotionally disengaged from the patients (Halpern, 2003; Zinn, 1993), evidence suggests that patients value a doctor who is able to relate as a human being or respond empathically (Bendapudi et al., 2006). This requires a doctor to be approachable and authentic. Participants in the current study indicated that they too prefer a doctor who is empathetic, humane and personal. Since empathy has several dimensions (emotional, cognitive, moral, interpretive and behavioural) (Hojat et al., 2011; Stepien and Baernstein, 2006), Pedersen defines empathy as an appropriate understanding and communication of the patient's experiences (Pedersen, 2008).

Numerous benefits may accrue from a doctor's empathy (Table 8, p. 61). These include the following therapeutic benefits: reduced anxiety and depression in patients (Halpern, 2003; Neumann et al., 2011); heartened patient's feeling of safety and trust in a health provider and improved patient satisfaction and compliance (Halpern, 2003) and reduced reluctance to reveal key information. Additionally, the doctor's empathy is associated with shorter stays in hospitals following surgery, improved immune function and shorter periods of colds (Reiser, 2003).

Table 8. Themes of expressed needs of users of Botswana health service and literature review

Theme	Current UBFoM Graduate Attributes	Literature Reference
Respectful	They respect their patients' values, preferences and expressed needs, and will engage their patients as partners in decision-making.	Respectful behaviour is positively associated with <ul style="list-style-type: none"> • patient clinical outcomes • patient greater satisfaction with care (Baier, 1995) 'Medical Respect' imposes a moral duty on doctors to believe a patient has value and to act in the light of that belief (Beach, 2007).
Empowering	They respect their patients' values, preferences and expressed needs, and will engage their patients as partners in decision-making. They are able to communicate health-related information effectively to their patients, colleagues and to decision-makers within society.	Patients who are engaged in shared decision-making: <ul style="list-style-type: none"> • respond better to treatment, • are more loyal, • more likely to get recommended screenings, adhere to treatment instructions, • lead a healthy lifestyle (Cowan, 2014).
Humble	They will acknowledge their limitations and their need for ongoing professional growth.	<ul style="list-style-type: none"> • Humble doctors most effective at working with their patients (Ruberton et al., 2016).
Focused	Not addressed in the graduate attributes.	Interruptions can lead to errors resulting in: <ul style="list-style-type: none"> • lapses in concentration and focus • delayed treatment (L. Hall et al., 2010). • Possibly death (Dossey 2014)
Empathetic (includes elements that are humane and personal)	They are compassionate, empathetic and committed to advocacy on behalf of their patients. They are able to establish professional and caring relationships with patients, patients' families and the communities in which they practice.	Therapeutic benefits: <ul style="list-style-type: none"> • reduced anxiety and depression in patients (Halpern, 2003; Neumann et al., 2011), • enhanced patient's sense of safety, • increased trust in a healthcare provider, • improved patient satisfaction and compliance

Theme	Current UBFoM Graduate Attributes	Literature Reference
		<p>(Halpern, 2003),</p> <ul style="list-style-type: none"> • willingness to reveal key personal information, <p>Also, doctor's empathy is associated with:</p> <ul style="list-style-type: none"> • shorter stays in hospitals following surgery, • improved immune function, • shorter periods of colds (Reiser, 2003).
<p>Unprejudiced (includes elements that are humane)</p>	<p>They will seek to overcome the limitations on effective patient-centred care which result from differences in language, social status and cultural background.</p>	<p>Patients who feel judged:</p> <ul style="list-style-type: none"> • less likely to adhere to medical instructions, • more distrustful of their doctors, • unhappy about the care they are receiving, • more likely to suffer poorer mental and physical health, • less likely to use accessible preventive care, • delay attending health problems, • rate their own health more poorly (Abdou, Fingerhut, Jackson, and Wheaton, 2016).
<p>Trustworthy</p>	<p>Not addressed in the graduate attributes.</p>	<p>Patient's trust in a doctor is associated with:</p> <ul style="list-style-type: none"> • patient's sense that his/her problems are taken seriously (Croker et al., 2013), • partnership between the patient and the doctor (Little et al., 2001; Ommen, Thuem, Pfaff, and Janssen, 2011), • patient being given enough time during consultation.

5.2.6 Unprejudiced (including elements that are humane)

Some of the participants indicated that they felt judged and treated differently by doctors because of who they are. Thus, they felt prejudiced. Prejudice is defined as any attitude, feeling, opinion or behaviour regarding a particular group, which directly or in some way indicates some negativity to that group (Brown, 2011). Patient-doctor relationship is an understanding or promise founded on shared trust and a fiduciary relationship anchored on honesty (Clark, 2003). Unfortunately, prejudice compromises this and can have a negative effect on the “victim”. For example, it can negatively affect a person’s emotional wellbeing, self-image and health.

A study published in the *American Journal of Preventive Medicine* showed that patients who feel judged by health providers are less likely to adhere to medical instructions, are more distrustful of their doctors and other healthcare providers and unhappy about the care they are receiving. These patients are also more likely to suffer poorer mental and physical health; less likely to use largely accessible preventive care; tend to delay attending health problems and rate their own health more poorly (Abdou et al., 2016) (Table 8, p. 61). Not surprisingly, prejudice and any negative stereotypes violate the ethical principles of justice, beneficence and non-maleficence. These principles recognise that each person should be treated fairly and equitably and be given his or her due (Clark, 2003) and many medical educators affirm this principle (General Medical Council (UK), 2009; Royal College of Physicians and Surgeons of Canada, 2015).

In the University of Liverpool medical curriculum, prejudice is addressed in both ‘the Communication’ and the ‘Psychology and Sociology as Applied to Medicine’ themes. Graduates should be able to ‘communicate clearly, sensitively and effectively with individuals and groups regardless of their age, social, cultural or ethnic backgrounds or their disabilities, including when English is not the patient’s first language’.

Additionally, graduates should ‘understand the concepts of stigma, stereotypes and prejudice and reflect upon their impact on individuals, groups and society’(University of Liverpool, 2015) (APPENDIX K: How universities of Witwatersrand and Liverpool medical curricula address behavioural themes (expressed needs) identified by study participants, p. 124). Invariably, to achieve these outcomes requires students to understand what it means to be humane, empathetic and perhaps personal as well and to act as such. The above stated outcomes are assessed by means of MiniCEX and LOCAS.

5.2.7 Trust (some elements are humane)

Trust defines healthy human relationships (Mascarenhas et al., 2006; Mechanic and Schlesinger, 1996) and more so patient-doctor relationship (Kao, Green, Zaslavsky, Koplan, and Cleary, 1998; Peabody, 1927; Ridd, Shaw, Lewis, and Salisbury, 2009). This is because medical care is innately personal. Patients have to bare themselves emotionally and physically (Bendapudi et al., 2006). Additionally, patients are naturally stressed, anxious, vulnerable (physically, psychologically, spiritually and socially (including financial stress) and are at a considerable knowledge disadvantage (Goold, 2002). Therefore, patients have little choice but to believe that the doctor will care for or act in their best interest. Thus, they have to trust the doctor to perform the right service in the right way (i.e. the doctor possesses both clinical and interpersonal skills).

Without trust it would be difficult for a patient to be open about his/her medical history, allow him/herself to be examined or follow the doctor's recommendations for tests and treatment (Mostashari, Riley, Selwyn, and Altice, 1998; Safran et al., 1998). No wonder it is often said that trust in the healer is critical to healing itself (Brody, 1992; Goold, 2002).

Research shows that a patient's confidence and trust in a doctor is associated with the patient's sense that his/her problems are taken seriously (Croker et al., 2013); there is partnership between them and the doctor (Little et al., 2001; Ommen et al., 2011); and that they were given enough time during consultation (Skirbekk, Middelthon, Hjortdahl, & Finset, 2011) (Table 8, p. 61). Furthermore, patient trust in doctors is strongly associated with the following doctor's behaviours: caring and comfort, communication and technical competency (Thom, 2001). Conversely, negative experiences, especially those related to communication, lessen trust in doctors (Keating et al., 2002).

5.3 Expressed needs of users of Botswana health service and doctor's orientation to patients

A doctor's orientation (attitudes, beliefs and feelings) towards a patient may be divided into three sequential domains: cognitive, affective and behavioural (Dyche, 2007). Cognitive refers to the thoughts and beliefs a doctor would have about a patient. Affective refers to the emotional response (liking/disliking) to a patient while the behavioural concerns a doctor's response (favourable/unfavourable) to do something concerning the patient (Jain, 2014).

Analysis of identified behavioural themes to determine which domain of orientation(s) is reflected by each revealed that most of them reflected at least two of the domains of a doctor's orientation to a patient (**Error! Reference source not found.**). The allocation of domain of orientation to a behavioural theme was not based on any set of guidelines but gut feel guided by the definition of each behavioural theme.

Table 9. Expressed needs of users of Botswana health service. Definitions and domains of doctor's orientation to patients

Desired Behaviours	Definitions	Domain of orientation
Respectful	The doctors listens to me, respected and acknowledges my presence; takes into account my unique needs and preference	Behavioural, cognitive (believing that patients have value)
Empowering	The doctor engages and involves me in the decision-making process. I never felt bullied	Cognitive, behavioural
Humble	The doctor is mindful of his limitations; asks for help when in doubt and admits mistakes	Cognitive, behavioural
Focused	The doctor gives me his/her full attention; with little or no distractions present during the consultation	Behavioural
Empathetic	The doctor tries to understand what I am feeling and experiencing physically and emotionally and also communicates that understanding to me	Affective, cognitive, behavioural
Unprejudiced	The doctor does not show an unfair dislike or bias because of some characteristic of mine	Behavioural, cognitive
Trustworthy	The doctor provides explanations, security, confidence and a sense of protection. The doctor is honest and open with me and colleagues	Behavioural, cognitive
Welcoming	The doctor is friendly and makes me feel happy, welcomed and accepted	Behavioural
Humane	The doctor is caring, compassionate, sensitive, considerate and kind	Affective, behavioural
Thorough	The doctor is diligent, meticulous, persistent, does not assume and uses a language I can understand	Behavioural, cognitive
Personal	The doctor takes interest in me as a person and not as a set of symptoms; remembers me as an individual with preferences hopes and fears	Cognitive, affective

5.4 Value perception of users of Botswana Health Services

This study shows that users of the Botswana health service judge their experiences whenever they interact with a doctor and that they base their judgement on, among other things, the service elements (customer service elements) – respect, understanding, listening, responding and serving (Amini, 2013). During an encounter with a doctor a patient intentionally and unconsciously surveys and sifts through a wide range of ‘clues or pointers’ and sorts them into impressions, both rational and emotional (Haeckel, Carbone, and Berry, 2003), and generates a value perception about the service they are receiving. The ‘clues’ tell a service story to the patient or service user. An ‘experience clue’ can be anything that can be perceived, sensed or recognised by its absence (Berry, Carbone, and Haeckel, 2002; Haeckel et al., 2003). Accordingly, a doctor or any health provider’s first step to managing patients’ experience of the health care service, is to be aware of the ‘clues’ he/she is sending to patients (Berry et al., 2002).

Clues fall into three synergistic categories: functional, mechanics and humanics (Bendapudi et al., 2006; Berry et al., 2002; Haeckel et al., 2003). Functional clues are the “what” of the experience. They embody the technical quality of the service. Mechanic (clues emitted by things) and humanic clues (clues emitted by people) are the “how” of the experience and as such reveal just how much an individual doctor is truly being of service (Bendapudi et al., 2006; Berry et al., 2002; Haeckel et al., 2003). *Mechanic* clues originate from ‘tangibles in the service experience and include sights, smells, sounds, tastes and textures. The comfort, orderliness, cleanliness, modernity and noise levels of a medical facility illustrate mechanic clues’ (Bendapudi et al., 2006). *Humanic* clues originate from the behaviour and appearance of doctors or health providers and include neatness, level of passion, fitting dress, choice of words, tone of voice and body language (Bendapudi et al., 2006). In a nutshell, mechanic and humanic clues affect the patient’s emotional perceptions (Haeckel et al., 2003).

The current study affirms that humanic clues are important to patients and influence their value perception of the service the doctor renders and their total experience (feelings patients have following an interaction with the doctor) (Haeckel et al., 2003). Furthermore, the humanic clues reported in this study, emphasise the need for doctors to be interpersonally effective when meeting with patients and to understand how they (as doctors) are perceived by patients.

The findings of this study raise the questions: why is it that the users of the health service prefer a doctor who is kind, caring, listens and understands their feelings and concerns? Can sociological and psychological theories help us understand users' preferences and expectations? The next section, unpacks users' preferences using several psychological and sociological perspectives.

5.5 Possible explanations for the expressed needs of users of Botswana Health Services

There are a number of theories and philosophies that could help explain why users of Botswana health service or patients approve or disapprove certain attitudes and behaviours of doctors. These include social exchange theory, face work theory, expectancy-confirmation theory, value-percept disparity theory and botho/ubuntu philosophy.

5.5.1 Social exchange theory

Social exchange theory holds that human interactions and social behaviour are governed by an exchange process. That is human relationships are determined by rewards or punishments (costs) that an individual expects to receive from others and invariably people enter into exchange relationships with the hope of benefiting (Byrd, 2006; Lee and Lin, 2009; Upenn, 1989). Put differently, how one feels about an interaction/relationship with another person depends on, among other things, one's perceptions of the kind of relationship a person thinks he/she deserves. An interaction that elicits approval from another person is more likely to be repeated than an interaction that elicits disapproval (Crossman, 2017) Taking a patient-doctor encounter as a social exchange, it follows then that when a doctor displays behaviours such as friendliness, empathy and concern for the patient, the patient gains a reward and is likely to want to see the same doctor again or show high level of trust towards the same doctor. In contrast, if the encounter is characterised by low doctor friendliness (no smile, greetings, nods) or high dominance, such an encounter will be seen by a patient as a punishment. The patient will probably not want to see the said doctor again or the experience may evoke distrust towards the doctor. Actually, oppressive interpersonal interactions are associated with deteriorated patients' outcomes (Auerbach, Penberthy, and Kiesler, 2004).

5.5.2 Face work theory

In every social interaction people use 'face'. The concept of 'face' emanates from the work of Goffman (1968), on linguistic interaction. He stated that humans like to maintain a 'positive social value' in social interactions (Goffman, 1968). In a way, face is a sense of social value people experience during social interactions (University of Huddersfield, 2017).

In many cultures face is a metaphor for a person's qualities and/or abstract aspects such as respect, honour, esteem and self (Murad, 2015). Put differently, face is how the person wants to be seen by others, how he/she wants others to treat him/her and how he/she treats others (Murad, 2015). Thus, people have face 'needs' such as dignity, autonomy, respect, acknowledgement and the need for belonging (Brown and Levinson, 1987; Lim and Bowers, 1991; Murad, 2015).

The concept of 'face' is consistent with what is espoused by the theory of self determination, which states that human beings have three core psychological needs: a need for autonomy, competence and for belonging (relatedness) (Ryan and Deci, 2000). Autonomy is defined as having a sense of willingness and choice when doing something or doing something out of one's values or interest. Competence refers to the wish to have complete control of the environment and outcome while belonging is feeling connected to others and experiencing caring.

Patient-doctor interaction is by nature transactional and interpersonal. It is a social action (Sociology-Guide, 2017). For that reason both the patient and doctor affect and are affected by each other. During the interaction, patients treasure 'deeds or acts' that connect with their face needs (dignity, autonomy, respect, acknowledgement and the need for belonging) or do not threaten their face needs. Ignoring patient's face needs can lead to patient resistance, inappropriate actions or misunderstanding, dissatisfaction and low level of trust in the doctor. Thus, disregarding the patient's face needs can lead to a Fight or Flight response, for example run away (never come back), fight (resist) or sometimes freeze to be less visible (impassive) (University of Nottingham Counselling Services, 2016).

5.5.3 Expectancy-confirmation and value-percept disparity theory

In the world of commerce, customers bring their own ideas on what matters to them about a product. Admittedly, users of the health services also bring with them certain expectations when they seek medical services. According to the theory of expectancy-confirmation when a person buys a product or seeks a service, the individual has a general sense of what they would like to get out of it (expectations). If performance lives up to or exceeds expectations, the user will be satisfied. However, if performance fails to meet or exceeds expectation the opposite is true; the user will walk away dissatisfied (Aigbavboa and Thwala, 2013; Carlsmith & Aronson, 1963). This study reveals what the users of Botswana health service expect when they interact with a doctor or what brings them satisfaction or dissatisfaction when seeking medical services. In a way, the study gives some pointers as to what influences user's perceptions of the service experience.

Interestingly, an individual could be satisfied by aspects of a product or service for which there were no previous expectations. According to the value-percept disparity theory satisfaction is 'an emotional reaction caused by 'cognitive-evaluative process' which is the comparison of the 'object', action or condition to an individual's values (needs, wants, desires) rather than an expectation (Parker and Mathews, 2001; Westbrook and Reilly, 1983). Therefore, what service users want is that there should be no great difference between their values and the object of their evaluations (Aigbavboa and Thwala, 2013). Thus, satisfaction is between the observed and the desired (Aigbavboa and Thwala, 2013; Kotler, Siew, Swee, and Chin, 1996; Parker and Mathews, 2001).

In some ways, valued behaviours of a medical doctor reported herein may not necessarily reflect expectations, but values the users hold.

5.5.4 Botho/Ubuntu philosophy

Botswana society subscribes to botho/ubuntu. According to this ethic a person develops fullness of being through relatedness and relationship with others (Hailey, 2008). In Botswana, this is understood in the dictum '*motho ke motho ka batho*' (I am because you are) (Metz, 2010). In this respect, when a patient consults with a doctor, they have an expectation that the doctor will conduct him/herself in a manner that shows desire to relate and connect well with the patient. That is, the doctor should show botho, which manifests through being welcoming, warm, hospitable, helpful, polite, humble, kind, caring, compassionate, respectful, considerate, generous, sensitive to the needs and wants of others and showing gentility (Embassy of Botswana-Japan, 2012; Tutu, 2004). According to botho, a person who fails to share oneself in this way is said to be lacking 'botho', literally lacking humanness or personhood (Metz, 2010).

5.5.5 Expressed needs of users of Botswana Health Services and University Botswana medical graduate attributes

Analysis of the UBFoM graduate attributes against identified societal needs revealed that they are not optimally aligned. Some needs are not addressed in the attributes. Furthermore, evidence emerging from the ongoing review of the UB MBBS curriculum indicates that the expressed needs of users of the health service that are reflected in the graduate attributes are not intentionally addressed and attended to by tutors during clinical practice. Much of the teaching in clinical years is purely clinical with little emphasis on communication and interpersonal skills.

Although professional and communication (including interpersonal) skills are supposedly assessed during MiniCEX, lack of a tool for assessing especially professionalism makes it difficult to find evidence as to whether professionalism is actually assessed and what is actually assessed. Nonetheless, in Phase I of the UBFoM MBBS programme, communication skills and to a limited extent professionalism, are developed through clinical and communication skills sessions, clinical placement and problem-based learning. Clinical and to a degree communication skills are assessed using OSCE while professionalism is not. Not surprisingly, in the intern preparedness study, interns rated themselves as not well prepared with regard to the 'Professional' role (Prozesky, 2017). In the same study, supervisors of interns offered few qualitative propositions relating to the 'Communicator' role which may be an indication that the 'Communicator' role is not seen as an important area.

6 CONCLUSION

6.1 Introduction

This research sought to determine the extent to which the UBFoM graduate attributes reflect the views of the users of health services in Botswana by investigating the needs of users regarding care received from medical doctors and identifying any deficiencies. Eleven behavioural themes were identified: welcoming, focused, empowering, respectful, humane, humble, unprejudiced, trustworthy, empathetic, thorough and personal. However, in the list of UBFoM graduate attributes, there is little or no explicit mentioning of behaviours such as the need for a doctor to be thorough, trustworthy, focused (undistracted), unprejudiced and welcoming. Additionally, the graduate attributes are not fully defined or described and there are no enabling, observable and measurable indicators for each of the attributes.

This chapter concludes the study by discussing the limitations of the study, the practical and educational implications and makes recommendations for future research.

6.2 Limitations of this study

Methodologically, the first limitation of this study was the use of a purposeful sampling technique which is a non-probability sampling technique. In this technique, sampling error cannot be calculated and it cannot be assumed that the sample of 12 'information-rich individuals' from the Greater Gaborone area is representative of the Botswana population (Cooper et al., 2006). Secondly, only one data collection technique was used and therefore there was no triangulation to validate or verify the findings and develop a deeper understanding of the issue (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014).

Initially, the plan was to conduct a small focus group interview to corroborate the findings and to ensure the account is rich and robust. Regrettably, it was not possible to carry out a focus group interview because of participants' availability and time constraints. Thirdly, the researcher sought to ensure that the sample is balanced in terms of gender. The sample consisted of both males and females. In the present study, only individuals 18 years old or over (only individuals 18 years old or over can legally consent to participate in a research in Botswana) were recruited. Regrettably, this excluded teenagers and 'young adults' who are also users of Botswana health service and very often come on their own (without their parents) to seek medical services and admittedly, have their own views about the care received from medical doctors.

Additionally, none of those interviewed were elderly (over 60 years of age). Therefore, the sample obtained cannot be assumed to be representative of the demographics of Botswana.

Furthermore, those who were interviewed were identified with the help of 'advocacy groups' and there is therefore a possibility, though remote, that they provided a unilateral view of desired medical doctor behaviour or actions. Perhaps, it would be valuable to conduct interviews with other population groups, including those who have the experience of both western medicine and other medical paradigms such as traditional African medicine to get a multilateral view of ideal doctor behaviour.

6.3 Implications

This study raises a number of practical and educational implications. Medical educators and curriculum developers should realise that humanistic competencies are essential to medical students' understanding of a doctor's role and to how doctors ought to practise medicine. Therefore, medical educators should be intentional about providing students with relevant educational experiences to acquire humanistic competencies or opportunities to apply the desired humanistic qualities. Equally, educators and curriculum developers should be aware of specific behaviours and actions that drive patient satisfaction and focus on cultivating and assessing such behaviours and actions during training if they want to skill students on building quality patient-doctor relationships. Concentrating on preferred behaviours and actions aligns very well with competency-based assessment; enables doctors to ascertain whether they are adhering to the valued doctor behaviours, and reveals how doctors essentially practise medicine (Bendapudi et al., 2006; Ginsburg, Regehr, and Lingard, 2004). It is also important to understand (especially in the context of Botswana), why doctor's sometimes behave in ways that patients perceive as unprofessional and use the information to prepare students for medical practice.

The valued doctor behaviour identified in this study can help medical educators understand what factors are indicators of performance success from a behavioural perspective. This could help in the selection of students for medical training. Even though some behaviours can be acquired during training, the chances of successfully developing such behaviours is higher for individuals who innately demonstrate the right competency potential (Fourie, 2015). Medical training prepares students to become responsible professionals and one such responsibility of students is to avoid acting in ways that undermines public trust in the medical profession. Thus, students behaviour at all times (in and outside the learning environment) should justify the trust the public has on the profession (British Medical Association, 2016).

The valued doctor behaviours identified in this study can be used as a guide on how students should conduct themselves outside the learning environment and to look out for inappropriate behaviour. Behaviour outside the academic environment is an indication of the authenticity of the students behaviour and problematic behaviour during training is a predictor of professional misconduct as a doctor (Bonke, 2006).

Lastly, the UB MBBS graduate attributes ought to be expanded to cover areas that the study participants highlighted but are not included in the current list of attributes. Furthermore, the attributes should be clearly defined and enabling indicators provided to help tutors: know what to focus on, provide educational experiences for the students to demonstrate competency and develop or adopt and use appropriate assessment tools. In addition, curriculum development teams should have patient representatives on a committee from the start, for example, a patient with cancer or a quadriplegic. Nowadays students are often part of a curriculum development process, but not patients or advocacy groups.

6.4 Suggestions for future research

This study provides the groundwork for a number of possible studies: Firstly, it is suggested that a similar study be conducted with a wider range of participants (expand to other population groups and other parts of the country) to get multilateral views.

Different data collection techniques should be used to allow for triangulation. Furthermore, attempts should be made to ascribe relative importance to behaviours or actions identified by study participants and should be extended to unearthing the relative impact of positive versus negative perceptions on users of the health service. Studies have shown that ‘... doctor’s willingness to listen and the content and delivery of information to the patient were more important to patient ratings than were perceived involvement in decisions’ (Goold 2002 p.79). Ascribing relative importance is important for educators because they will have a sense of what specific behaviours they should focus on during training of medical students.

The MBBS curriculum should be analysed to determine where and how patient-doctor relationship and professionalism are covered, whether they are covered sufficiently, whether the students are exposed to the right educational experiences and whether they are appropriately assessed if assessed at all.

Furthermore, it will be important to determine whether the tutors have the requisite skills and attitudes to role model desired competencies consistently as part of their performance appraisal, and the ability to coach and mentor students with regard to patient-doctor relationship and professionalism. Another research question to consider would be: what is the most effective way to facilitate the medical students at the University of Botswana to learn the graduate attributes that will meet the expressed needs of patients?

6.5 Concluding remarks

Interviews with 12 users of Botswana health service reveal that users desire a doctor who is: welcoming, focused, empowering, respectful, humane, humble, unprejudiced, trustworthy, empathetic, thorough and personal. The implication for medical educators and tutors at UBFoM is that they should not neglect teaching and assessing communication and interpersonal skills or to provide students with opportunities that will enable them to apply the above mentioned humanistic qualities. The findings also suggest that there is a need to relook at the UBFoM graduate attributes and make changes that will ensure that students are skilled on how to establish strong, trust-based patient-doctor relationships; that interpersonal skills are adequately covered in the curriculum; and that tutors have the requisite skills necessary to facilitate acquisition of interpersonal skills by students. The research lays the foundation for a larger research project that will be representative of the Botswana population and also assess the relative importance of each of the behaviours identified by users of the Botswana health service and the relative impact of positive against negative perceptions. This forms part of the University's social accountability and contract with society regarding the delivery of graduates with the competencies to meet the health needs of the people of Botswana.

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8 APPENDIX A. Examples of competency frameworks and professional standards for medical education

Table 10. Examples of Frameworks for Competency-Based Medical Education (Table adapted from Thistlethwaite, JE et al. 2014 and then modified by removing and adding more information)

Framework/Standards	Origin, year	Terminology Used	Roles or Domain of Competence	Definition of Role - Using Professional as an example
Health Professions Council of South Africa, Core competencies for undergraduate students in clinical associate, dentistry and medical teaching and learning programmes in South Africa (Health Professions Council of South Africa, 2014).	South Africa 2014	Competencies	Roles: Healthcare practitioner, Communicator, Collaborator, Health advocate, Leader and Manager, Professional, Scholar.	As <i>professionals</i> , healthcare professionals are committed to ensure the health and well-being of individuals and communities through ethical practice, profession-led self-regulation and high personal standards of behaviour.
Makerere University medical student competency domains (Kiguli-Malwadde, E Olapade-Olaopa et al., 2014).	Uganda, 2011	Competencies	9 domains rather than Roles: Medical Knowledge, Population health, Critical inquiry and scientific methods, Interpersonal and communication skills, clinical skills and patient care, Leadership and management skills; Continuous improvement of care through reflective practice, Professionalism and ethical practice, Health systems management.	Demonstrate through knowledge and behaviour, a commitment to the highest standards of clinical care, ethics, integrity, and accountability to the patient, society, and the profession.
Association of American Medical Colleges: Learning Objectives for Medical Student Education. Guidelines for Medical Schools (Association of American Medical Colleges, 1999).	United States, 1998	Learning objectives	N/A	Physician must be altruistic

Framework/Standards	Origin, year	Terminology Used	Roles or Domain of Competence	Definition of Role - Using Professional as an example
CanMEDs Physician Competency Framework (Royal College of Physicians and Surgeons of Canada, 2015).	Canada, 2005	Competencies	Medical expert, communicator, collaborator, health advocate, manager, professional, scholar.	Physicians are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behaviour, accountability to the profession and society.
General Medical Council: Tomorrow's Doctors (General Medical Council (UK), 2009).	United Kingdom, 2009	Outcomes	Scholar and scientist, practitioner, professional.	The graduate will be able to behave according to ethical and legal principles; Reflect, learn and teach others; Learn and work effectively within a multi-professional team; Protect patients and improve care.
Australian Medical Council: Standards for Assessment and Accreditation of Primary Medical Programs by the Australian Medical Council (Australian Medical Council, 2012).	Australia, 2012	Outcomes	<p>The four domains are:</p> <ol style="list-style-type: none"> 1. Science and Scholarship: the medical graduate as scientist and scholar. 2. Clinical Practice: the medical graduate as practitioner. 3. Health and Society: the medical graduate as a health advocate. 4. Professionalism and Leadership: the medical graduate as a professional and leader. 	Demonstrate professional values including commitment to high quality clinical standards, compassion, empathy and respect for all patients. Demonstrate the qualities of integrity, honesty, leadership and partnership to patients, the profession and society.
Reference List of General Physician Competencies (Englander et al., 2013).	United States, 2013	Competencies	8 domains rather than roles: Patient care; Knowledge of Practice; Practice-based Learning and Improvement; Interpersonal and Communication skills;	Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Framework/Standards	Origin, year	Terminology Used	Roles or Domain of Competence	Definition of Role - Using Professional as an example
			Professionalism; Systems-based Practice; Interprofessional Collaboration and Personal and Professional Development.	

9 APPENDIX B. University of Botswana attributes of medical school graduates

Table 11. University of Botswana attributes of medical school graduates

Graduate Attribute	Components
Our graduates are committed to delivering safe and effective care.	<ul style="list-style-type: none"> • They are skilled in the vocational sciences and understand the scientific foundation of clinical and public health practice. • They possess sound clinical and patient management skills, are able to recognise and manage common medical conditions and emergencies, and are competent in the performance of core clinical procedures. • Our graduates recognize rare and serious conditions and know to seek assistance from senior colleagues or refer them appropriately. • They are committed to improving quality and safety in patient care. • They are committed to the most effective use of limited resources. • They are able to identify, appraise and apply best evidence in making health care decisions. • They will make effective use of health-related information, including electronic sources.
Our graduates are committed to patient-centred care.	<ul style="list-style-type: none"> • They respect their patients' values, preferences and expressed needs, and will engage their patients as partners in decision-making. • They are compassionate, empathetic and committed to advocacy on behalf of their patients. • They understand the importance of personal, socio-economic and cultural factors in determining health, and their impact on the effectiveness of health care interventions. They will seek to overcome the limitations on effective patient-centred care which result from differences in language, social status and cultural background.
Our graduates are committed to life-long learning.	<ul style="list-style-type: none"> • They are committed to a lifetime of reflective self-appraisal and improvement. • They will seek out, appraise and assimilate new knowledge in order to remain abreast of developments in the health sciences, and will incorporate these developments into their practice.
Our graduates are open-minded, critical thinkers and effective	<ul style="list-style-type: none"> • They will prove skilled in problem identification, analysis and management, both in the specific sense of clinical diagnosis and management, and in the broader sense of problem solving in relation to research, practice

Graduate Attribute	Components
problem-solvers.	<p>management, administration and health promotion.</p> <ul style="list-style-type: none"> • Graduates should have an interest in research and an understanding of its importance in their daily practice.
Our graduates demonstrate high standards of ethical practice and professionalism.	<ul style="list-style-type: none"> • They understand the ethical principles on which clinical practice is based as well as the legal responsibilities of the profession. • They practice in accordance with the highest standards of both ethics and professionalism. • They will acknowledge their limitations and their need for ongoing professional growth. • Graduates have an obligation to be and remain as competent as possible in their work. • They acknowledge the equal status of their colleagues in other health-related professions • Graduates will work effectively with colleagues in a team in ways which best serve patients' interests. • They are able and prepared to recognize stress and health-related problems in themselves and in their colleagues, and seek or offer support as appropriate. • They appreciate their role in promoting respect for human rights and incorporate this into their professional practice.
Our graduates are able to communicate and collaborate effectively.	<ul style="list-style-type: none"> • They possess good written and verbal communication skills. • They are able to establish professional and caring relationships with patients, patients' families and the communities in which they practice. • They are able to communicate health-related information effectively to their patients, colleagues and to decision-makers within society.
Our graduates are socially accountable (<i>added in 2009</i>).	<ul style="list-style-type: none"> • Graduates are accountable to the profession, patients, to society and to the country. • Graduates will exhibit a willingness to extend themselves/ sacrifice time/ put in extra effort when patient needs require it. • Graduates will be aware of the needs of society, exhibit a willingness to work in areas of need, have a commitment to stay working in Botswana, and avoid profit as a primary professional orientation. • Graduates should be willing to take up positions of leadership and exercise initiative.

10 APPENDIX C: Examples of domains of competence mirrored by University Botswana medical graduate attributes

Table 12. Examples of domains of competence mirrored by University of Botswana medical graduate attributes (modified from Gruppen et al. 2010)

Institute for International Medical Education (Institute for International Medical Education, 2002)	Deans of Scottish Medical Schools (Scottish Doctor) (The Scottish Deans' Medical Curriculum Group, 2000)	U.S. Accreditation Council for Graduate Medical Education (Swing, 2007)	Makerere University (Kiguli-Malwadde, E Olapade-Olaopa et al., 2014)	Health Professions Council of South Africa Core Competencies (Health Professions Council of South Africa, 2014)	UBFoM Graduate Attributes derived domains (University of Botswana Faculty of Medicine, 2007)
Professional values, attitudes, behaviour and ethics	Outcomes for attitudes, ethical understanding and legal responsibilities	Professionalism	Professionalism and Ethical practice	Professional	Ethical practice and Professionalism
Scientific foundation of medicine	Outcomes for basic, social & clinical sciences and underlying principles	Medical knowledge	Medical knowledge	Healthcare practitioner	Safe and Effective care
Communication skills	Outcomes for communication	Interpersonal and Communication skills	Interpersonal and Communication skills	Communicator	Communication and Collaboration
Clinical skills	Outcomes for clinical skills	Patient care	Clinical skills and Patient care	Healthcare practitioner	Patient-centred Care; Safe and Effective care
Population health and Health systems	Outcomes for health promotion and disease prevention	Systems-based practice	Health systems management Population health	Leader and Manager Health Advocate	Patient-centred care

Institute for International Medical Education (Institute for International Medical Education, 2002)	Deans of Scottish Medical Schools (Scottish Doctor) (The Scottish Deans' Medical Curriculum Group, 2000)	U.S. Accreditation Council for Graduate Medical Education (Swing, 2007)	Makerere University (Kiguli-Malwadde, E Olapade-Olaopa et al., 2014)	Health Professions Council of South Africa Core Competencies (Health Professions Council of South Africa, 2014)	UBFoM Graduate Attributes derived domains (University of Botswana Faculty of Medicine, 2007)
Management of information	Outcomes for medical informatics			Scholar	
Critical thinking and Research		Practice-based learning and improvement	Critical inquiry and Scientific methods	Scholar	Critical thinking and Problem-solving
			Continuous improvement of care through reflective practice		
					Life-long learning
			Leadership and Management skills	Leader & Manager	

11 APPENDIX D: Core Competencies expected of Medical School graduates by Botswana Health Professions Council

Table 13. Core Competencies required of medical school graduates in Botswana

Core Competencies	Components	Graduate Attribute Role*
Carry out a consultation with a patient	<ul style="list-style-type: none"> • Take an accurate, succinct, problem-focused medical history from the patient, and/or his family and/or his carers • Elicit the patient's concerns, values, beliefs and understanding of <i>his</i> condition • Perform an accurate general physical and organ-specific examination • <i>Ability</i> to perform an accurate mental state examination • Explain the findings and proposed next steps clearly concisely and in easily understood language to the patient, <i>his</i> family and/or carers 	Practitioner
Assess clinical presentations, order investigations, make differential diagnoses and negotiate a management plan	<ul style="list-style-type: none"> • Apply clinical reasoning to interpret the history and examination • Generate a reasonable differential diagnosis • Select the most appropriate and cost-effective investigations which will positively contribute to the ability to make an accurate diagnosis • Interpret the results of common investigations • Reach the most likely working diagnosis, based on the results of history, examination and appropriate investigations • Construct an appropriate management plan thereafter in conjunction with the patient, <i>his</i> relatives, his carers and other members of the health-care team • Provide care for the dying patient and his family • Manage chronic illness appropriately. 	Practitioner

Core Competencies	Components	Graduate Attribute Role*
Provide immediate care of medical emergencies	<ul style="list-style-type: none"> • Recognise life-threatening emergencies • Instigate timely interventions including first aid, basic life support, cardiopulmonary resuscitation and/or advanced life support in order to appropriately manage acute medical emergencies • Provide immediate appropriate trauma care 	Practitioner
Assess psychological and social aspects of a patient's illness	<ul style="list-style-type: none"> • Appreciate a patient's culture and its effect on clinical presentation • Appreciate social factors relevant to clinical presentations and impact of illness • Appreciate psychological factors relevant to clinical presentations and impact on illness • Appreciate a patient's religious and other beliefs when considering management options • Detect stress as a contributor to illness • Detect substance misuse • Assess a patient's psychological status including mood, memory and cognitive function • Assess fitness to understand the diagnosis and options for treatment and to choose or decline specific treatment and to give consent for procedures and/or treatment 	Practitioner
Carry out practical medical procedures	<ul style="list-style-type: none"> • Moving and handling of patients • Use of sphygmomanometer • Urinalysis • Phlebotomy • Administration of oxygen • Peripheral venous cannulation • Administration of IV fluids • Subcutaneous, intramuscular and intravenous injections • Administration of local anaesthetic 	Practitioner

Core Competencies	Components	Graduate Attribute Role*
	<ul style="list-style-type: none"> • ECG recording • Bladder catheterisation • Suturing of minor wound • Insertion of nasogastric tube • Diagnostic pleural or peritoneal tap • Insertion of chest drain for pneumothorax • Cardiopulmonary resuscitation • Application of back-stab • Basic respiratory function tests including but not limited to Peak Expiratory Flow Rate • Take arterial blood for blood gas estimation • Reduce a dislocated shoulder • Perform evacuation of retained products of conception • Perform a lower segment caesarean section • Perform safe male circumcision • Insert a central venous line • Surgically manage a ruptured ectopic pregnancy • Perform an appendectomy • (Competencies t-z are applicable only after completion of internship) 	
<p>Prescribe drugs safely and competently</p>	<ul style="list-style-type: none"> • . Prescribe drugs clearly and accurately • Prescribe drugs safely, effectively and economically for the management of all common conditions • Provide appropriate information regarding drugs to the patient and <i>his</i> family and/or carers • Review the appropriateness of drug and other therapies, and evaluate potential benefits 	<p>Practitioner</p>

Core Competencies	Components	Graduate Attribute Role*
	<p>and risks</p> <ul style="list-style-type: none"> • Treat pain and distress timeously and effectively • Consult colleagues or other reliable sources of information when required to prescribe an unfamiliar drug or for an unfamiliar condition • Know the common side effects of most drugs used to treat common conditions 	
Communicate effectively in a medical context	<ul style="list-style-type: none"> • Communicate clearly with patients, relatives, nurses, colleagues and other health professionals, using the method preferred by the patient, relatives, or health professionals, be it spoken, written or electronic • Provide adequate explanation to patients regarding their conditions, and advise on possible management options and likely prognosis in a sensitive, caring and respectful manner • Counsel, advice, reassure, comfort and support patients and their relatives • Break bad news to patients and relatives in a compassionate and caring manner • Communicate readily with disabled people • Communicate readily through an interpreter • Deal confidently and appropriately with an aggressive patient • Seek and obtain informed consent 	Practitioner
Apply the principles, skills and knowledge of evidence based medicine	<ul style="list-style-type: none"> • Define and carry out an appropriate literature search • Critically appraise published medical literature • Interpret research findings appropriately and accurately • Apply the available published evidence to clinical practice 	Scientist and Scholar/Practitioner
Use information and IT effectively in a medical context	<ul style="list-style-type: none"> • Make clear accurate patient records at the time of the consultation, which report the relevant clinical findings, information given to the patient, decisions made and medication or other treatment prescribed • Store and subsequently retrieve clinical information even many years from time of 	Practitioner

Core Competencies	Components	Graduate Attribute Role*
	storage <ul style="list-style-type: none"> • Use appropriate computer software programmes • Access appropriate and varied sources of information 	
Apply scientific principles, method and knowledge to medical practice and research	<ul style="list-style-type: none"> • Use scientific methods relevant to biological, behavioural and social sciences at a level adequate to provide a rational basis for medical practice • Use scientific method to acquire future knowledge through study or research throughout one's career • Participate in regular and systematic audits, reviews and appraisals • Respond constructively to audits, reviews and appraisals 	Scientist and Scholar
Promote health, engage with population health issues and work effectively in a health care system	<ul style="list-style-type: none"> • Provide patient-centred care that minimizes the risk of harm to the patient • Apply measures to prevent the spread of infection • Be conversant with general determinants of health • Be conversant with the economic, social, cultural, environmental and psychological factors that contribute to ill-health on an individual, community, regional and global basis • Engage patients in risk reduction strategies for the prevention of disease and/or injury • Engage in health education, screening and disease prevention on a population basis 	Scientist and Scholar
Apply ethical and legal principles in medical practice	<ul style="list-style-type: none"> • Maintain patient confidentiality except in specific circumstances where permitted by law or in the best interests of the patient's carers to break confidentiality • Obtain informed consent for all procedures and treatments • Certify death according to the Botswana certification procedure • Request a post-mortem examination in appropriate circumstances • Be familiar with the laws of Botswana as they pertain to healthcare both on an individual and public health level 	Professional

Core Competencies	Components	Graduate Attribute Role*
	<ul style="list-style-type: none"> • Apply the ethical principles of beneficence, non-maleficence, justice and autonomy to clinical care at all times 	
<p>Practice in a professional manner at all times</p>	<ul style="list-style-type: none"> • Provide patient-centred care at all times • Act in the best interests of the patient at all times • Involve the patient fully in decision making regarding current and future care • Be honest and trustworthy interactions with patients, relatives, colleagues and the community at all times • Treat the patient with respect regardless of age, sex, background, tribe, race, culture, disability, nationality, lifestyle, religion, sexual orientation, marital status, parental status, economic status or any other social issue • Treat the patient's culture and religious beliefs with respect, and take same into account when considering options for management • Provide the necessary care to alleviate pain and distress • Positively contribute to the care of the patient and family at the end of life, both interns of symptom management and practical issues such as death certification • Treat the patient even in a situation that put the doctor at risk, whilst actively engaging in risk-reduction strategies • Maintain excellent standards of hygiene in carrying out duties • Ensure that equipment used is maintained to the highest standard • Recognize and accept limitations in one's knowledge, experience and skill • Be willing to refer patients to better qualified or more experienced colleagues timeously and appropriately • Optimise patient care by working effectively as part of a team whilst building positive working relationships with medical and other health professional colleagues • Strive to maintain the highest possible standard of practice at all times • Have the capacity to deal with situations of uncertainty 	<p>Professional</p>

Core Competencies	Components	Graduate Attribute Role*
	<ul style="list-style-type: none"> • Have the capacity to readily adapt new or altered situations • Engage in a process of life-long self-directed learning to continually improve knowledge and skills • Apply new knowledge to one's clinical practice • Assist both formally and informally in the education and training of younger colleagues • Be honest and objective when appraising the performance of fellow health professionals, both those in training and in the context of peer review • Accept positions of leadership and carry out tasks required of such positions when appropriate • Engage in research as appropriate • Protect patients and the community from risk of harm posed by other doctors or health professional's conduct, performance or health • Recognise one's own personal health needs, and consult and follow the advice of a suitably qualified professional, rather than self-treating • Make efficient use of resources available while not compromising the care or health of patients • Be able to work in a regional and international context, by being able to converse in more than one language • Maintain current registration with BHPC at all times • Maintain current practicing licence and/or current professional association memberships as appropriate 	

12 APPENDIX E: Selected tools for needs assessment

There are a number of ways to collect needs assessment data. The table below describes some of the commonly used tools and their strengths and weaknesses.

Table 14. Tools for gathering needs assessment data (Adapted from: **Royal College of Physicians and Surgeons of Canada 2011, Chapter 5—Mind the gap: educational needs assessment** *Educational Design: A CanMEDS Guide for the Health Professions—pp 33-34*)

Method	Description	• Strengths	• Weaknesses
External environmental scan	Examination of data generated outside the organisation (e.g., recommendations from accreditation surveys, publications and web based information about similar curricula)	<ul style="list-style-type: none"> • Provides a starting point for subsequent approaches to data collection • May identify areas not suggested by people in the organisation because they lack knowledge of options or perceive that they cannot address difficult issues 	<ul style="list-style-type: none"> • May not be applicable to small or local curricula • Time and resource intensive
Internal environmental scan	Examination of data generated within the organisation (e.g., faculty assessments, performance data from previous student cohorts, committee minutes, leadership reports, patient care data)	<ul style="list-style-type: none"> • Data collection not required • Low cost 	<ul style="list-style-type: none"> • Data of variable quality and utility • Data must be interpreted and repurposed • Privacy issues, if individuals are identifiable
Epidemiologic analysis	Review of epidemiologic reports relevant to the training program	<ul style="list-style-type: none"> • Provides objective data to guide selection of abilities that graduates will require • An understanding of the burden of illness(es) to be treated by graduates helps to set priorities for learning 	<ul style="list-style-type: none"> • Can sometimes be difficult to translate data into an educational gap to be addressed by teaching • Can be time consuming • Sometimes difficult to find and access the most useful data

Method	Description	• Strengths	• Weaknesses
Strategic planning session for curriculum development		<ul style="list-style-type: none"> • May involve a range of learners, teachers, educators and administrators • May involve brainstorming of learner needs as well as curriculum strengths and weaknesses • Allows leaders to generate and prioritize needs (e.g., nominal group approach) • May facilitate a commitment to changes in curriculum 	<ul style="list-style-type: none"> • Requires skilled facilitation • Time intensive
Focus group	A trained facilitator poses a set of questions to a group of 4–7 participants	<ul style="list-style-type: none"> • Efficient way to interview several people simultaneously • Group interaction may provide insights not suggested in one-on-one interviews • • Qualitative data 	<ul style="list-style-type: none"> • Resource intensive to collect and analyse data • Requires trained facilitator • Requires expertise in data analysis • Data may be skewed by the discussion and the people present • • Participants may be reluctant to disclose critical information if anonymity cannot be guaranteed
Standardised, scripted interview (by phone or in person)		<ul style="list-style-type: none"> • Particularly suited to collecting qualitative, in-depth data • Responses can be clarified • Standardised approach to data collection • • Methodological rigour 	<ul style="list-style-type: none"> • Resource intensive to collect and analyse data • Requires trained interviewers • Requires expertise in data analysis • • Self-reported data
Questionnaire or		<ul style="list-style-type: none"> • Captures knowledge, attitudes, behaviours 	<ul style="list-style-type: none"> • Skill needed to write items

Method	Description	• Strengths	• Weaknesses
survey		<ul style="list-style-type: none"> • Can be designed to have methodological rigour • Quantitative and qualitative data can be collected • Easy to disseminate the questionnaire or survey and send reminders through a variety of methods (e.g., email, fax, paper) • • Low cost 	<ul style="list-style-type: none"> • Data quality is dependent on getting an adequate response rate • • Self-reported data
Knowledge test	Knowledge tests can be in multiple-choice, short-answer or essay answer form	<ul style="list-style-type: none"> • Efficient means to assess cognitive (i.e., knowledge) domains • • Often possible to obtain questions from national and international databanks or access practice examinations 	<ul style="list-style-type: none"> • Time, effort and expertise are required to construct valid tests of skills and higher order cognitive abilities • These tests assess knowledge, not application of the knowledge in real settings • • Difficult to make questions clinically applicable
Direct observation	Learners are observed using a checklist, global rating scale or other systematic approach to data collection	<ul style="list-style-type: none"> • Optimal method of assessing performance • • Can be rigorous 	<ul style="list-style-type: none"> • Time and resource intensive to develop guidelines and checklists • Observer must be knowledgeable about behaviour or skill being assessed • • Observer bias
Audit of patient records		<ul style="list-style-type: none"> • Can be methodologically rigorous • • Assesses real-life performance 	<ul style="list-style-type: none"> • Requires development of standardised reporting of outputs • Resource and time intensive • Privacy issues, if individuals are

Method	Description	• Strengths	• Weaknesses
			<ul style="list-style-type: none"> identifiable Only recorded elements are evaluated (e.g., actual performance, if not recorded, is not included)
Multi-source feedback	Involves focused surveys of patients, peers and other health care professionals	<ul style="list-style-type: none"> Data are collected as part of other assessment processes Assesses real-life performance Identifies needs related to the Collaborator, Communicator, Health Advocate and Professional Roles 	<ul style="list-style-type: none"> Resource intensive (large amount of data required to generate reliable reports) Data may be skewed by reporting biases
Analysis of data from reflective tools (e.g., portfolios, web- or paper-based learning diaries)		<ul style="list-style-type: none"> Data are collected as part of other educational processes Can identify needs not identified through course evaluations or testing procedures 	<ul style="list-style-type: none"> Data are of variable quality and quantity, making analysis difficult Requires expertise to review and analyse data in a meaningful and consistent way Requires development of standardised reporting of outputs

13 APPENDIX F: Interview Guide

Study Participant Information

Code number of participant _____

Gender _____

Date _____

Introduction

Views of 'ideal medical doctor' from the perspective of the population served

Guide to answering questions

When responding to the following questions, please keep the following points in mind. These will guide you as to what type of information is being sought:

1. Answers should refer to the behaviour and actions of a medical doctor practicing in a hospital.
2. Answers should refer to Botswana public health care sector

Critical Incident Questions

Think of one good consultation session you have had with a medical doctor in a public clinic or hospital (which sticks in your mind). Describe it in detail. Please explain exactly what the specific medical doctor did (give behavioural descriptions and actions) and why you regard it as a good session.

Think of one bad consultation session you have had with a medical doctor in a public clinic or hospital (which sticks in your mind). Describe it in detail. Please explain exactly what the specific medical doctor did (give behavioural descriptions and actions) and why you regard it as a bad session.

Concluding the interview/Closure

Would you like to make any other comment that you think may be helpful to this study?

Thank you for your time and participation in this study.

If you have any questions about this interview, feel free to contact me. My contact details are in your copy of the consent form.

14 APPENDIX G: Informed consent form - English

CONSENT TO PARTICIPATE IN RESEARCH

Assessment of the needs of the service users of Botswana health service

Investigator: Enoch Sepako, PhD Phone number(s): 355 4601 / 72409588

Supervisor: Dr Stefanus Snyman

What you should know about this research study:

- We give you this informed consent document so that you may read about the purpose, risks, and benefits of this research study.
- You have the right to refuse to take part, or agree to take part now and change your mind later.
- Please review this consent form carefully. Ask any questions before you make a decision.
- Your participation is voluntary.
- You have been selected as a possible participant in this study because of your position as a user of Botswana health service.
- This study has been approved by the Research Ethics Committee Human Research of Stellenbosch University.
- The research will contribute to the master's thesis of Enoch Sepako

PURPOSE

The purpose of the interview is to get a better understanding of the needs of users of Botswana health service with regard to the characteristics and behaviours of medical doctors. The findings will contribute towards the formulation of a blueprint that will guide the development of a competency framework for the University of Botswana Bachelor of Medicine Bachelor of Surgery programme.

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

PROCEDURES AND DURATION

If you decide to participate in this study, you would be requested to spare between one-hour and one and a half hours to participate in an interview. The interviews will be conducted in a private area where only the interviewer and you will be present. Your interview will audio-taped whilst the interviewer will also take notes during the interview. If you agree that your interview may be recorded, please give your written consent by signing this consent form.

RISKS AND DISCOMFORTS

There is no risk involved. The participants are only required to sit down for about one hour to one hour and a half to complete the interview. Therefore, the only discomfort will be to set aside time to be interviewed.

BENEFITS AND/OR COMPENSATION

There are no direct benefits to the participants in the study. Participants will not be receiving remuneration for their participation in this research study.

CONFIDENTIALITY

All information will be kept confidential. During the interview you will not be required to provide your identity or particulars in the recording of the interview. A coding procedure will be used to establish and maintain anonymity. The overall results will be published so they can be used to improve teaching and learning at University of Botswana Faculty of Medicine, but your individual information will not be identifiable. Additionally, the results will be published in a completed Master's thesis. However, only the integrated findings will be published and not the actual interview. None of the data will be used for commercial use.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you decide not to participate in this study, your decision will not affect your future relations with the University of Botswana or Faculty of Medicine, its personnel, and associated institutions. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty or supplying a reason.

AUTHORIZATION

You are making a decision whether or not to participate in this study. Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to participate.

Name of Research Participant (please print) Date

Signature of Participant

INVESTIGATOR

I declare that I explained the information given in this document to _____ [*name of the subject/participant*]. He/she was encouraged and given ample time to ask me any questions. This conversation was conducted in Setswana/English and no translator was used.

Signature of Investigator Date

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP

If you have any questions concerning this study or consent form beyond those answered by the investigator, including questions about the research, your rights as a study participant; or if you feel that you have been treated unfairly and would like to talk to someone other than the investigator, please feel free to contact Dr Nicola Barsdorf, Health of Research Ethics Administration, Stellenbosch University, Phone: +27 (0)21 938 9075, E-mail: nbarsdorf@sun.ac.za.

15 APPENDIX H: Informed consent form - Setswana

PAMPIRI YA THERISANYO LE TUMALANO KA GO TSAYA KAROLO MO PATLISISONG

Patlisiso ka kafa badirisi ba ditirelo tsa botsogo mo Botswana ba eletsang go bona dingaka di itshwara ka teng le go se dira

Mmatlisisi: Enoch Sepako, PhD

Mogala: 355 4601 / 72409588

Motlhokomedi: Dr Stefanus Snyman

SE O TSHWANETSENG GO SE ITSE KA PATLISISO E:

- Re go neela pampitshana e ya therisanyo le tumalano ya go tsaya karolo gore o kgone go ipalela ka maikaelelo, bomosola le kgonagalo ya bodiphatsa ja patlisiso e.
- O na le tshwanelo ya go se tseye karolo, kgotsa go ka tsaya karolo gompieno mme o fetole mogopolo mo nakong e e tlang.
- Tsweetswee bala pampitshana e ka kelotlhoko. Botswa dipotso pele ga o tsaya tshwetso.
- Go tsaya karolo gago ga go patleletswe, o tsaya karolo ka go batla ga gago.
- O tlhophilwe go ka nna mongwe wa ba tsaya karolo mo patlisisong e ka o le modirisi wa ditirelo tsa botsogo mo Botswana
- Patlisiso e e sekasikilwe ebile e letleletswe ke makalana a a tlhokomelang tshiamo le boleng jwa dipatlisiso a dikolo tsa Unibesithi Ya Stellenbosch le Unibesithi Ya Botswana
- Patlisiso e tla a dirisiwa mo mokwalong wa thuto e kgolwane (master's thesis) ya ga Enoch Sepako.

MAIKAELELO A PATLISISO

Maikaelelo a patlisiso e ke go tthaloganya botoka se badirisi ba ditirilo tsa botsogo mo Botswana ba se tlhokang mabapi le kafa dingaka di tshwanetseng go tshwara ka teng le go se dira fa banale kgotsa ba bona balwetse. Maduo a patlisiso e a tlaa dirisiwa go tswa ka mokwalo o o tla kaelang lenanao la dithuto tsa bongaka kwa Unibesithi Ya Botswana mabapi le gore dialogane di tshwanetse go kgona go dira eng le gone go itshwara jang. Pele o baya monwana pampiri e, ka tswée tswée botsa dipotso ka sengwe le sengwe se o sa se tthaloganyeng ka patlisiso e. Tsaya nako e o e tlhokang go akanya ka kopo e.

KA FA RE TLA DIRANG DILO KA TENG:

Fa o dumela go tsaa karolo mo patlisisong e, re tla kopa gore o tsee metsotso e e sa feteng masome a le borobabongwe (90 minutes) go botsolotswa kana go tsaya karolo mo puisanong ya setlhotshwana. Potsolotso e tla direlwa mo sephiring, e le wena le mmatlisisi fela. Potsolotso e tlaa gatisiwa ka sekapa mantswe le ka mokwalo. O tshwanetse go supa pele fa o baya monwana pampiri e ya therisanyo le tumalano gore o dumela gore potsolotso ya gago e gatisiwe ka sekapa mantswe.

KGONAGALO YA BODIPHATSA MABAPI LE GO TSAYA KAROLO

Go nale kgonagalo ya gore potsolotso e, e ka go fudua maikutlo jaaka o letloga se se diragetseng. Fa se, se ka direga, potsolotso e tla a emisiwa, mme o lomagenngwe le mosidila maikutlo. Batsaakarolo batla kopiwa go tsaa metsotso e e sa feteng masome a le borobabongwe (90 minutes) go tsaya karolo mo puisanong. Jalo he, kgwetlho ke go beela fa thoko nako ya go potsolotswa.

BOMOSOLA JA GO TSAYA KAROLO LE KGONAGALO YA GO ATSWIWA

Ba tsaya karolo ga bane ba robe sepe mo go tseyeng karolo mo patlisisong e.

PABALESEGO LE TSHIRELETSEGO YA TSOTLHE TSE O RE DI BOLELELANG

Re tla tlhomamisa gore tsotlhe tse o re di bolelelang di babalesegile ebile di sireletsegile. Ga ona o kopiwa ka nako ya potsolotso go supa gore omang. Tsamaiso e e haphegileng e tla a dirisiwa go netefatsa gore ga go ope (ntle le mmatlisisi) yo ka nyalanang se o se boletseng le wena. Se o re se bolelelang se tla bolokiwa sebaka sa ngwaga tse tlhano morago se senngwe. Maduo a patlisiso e a tla a phatlalatswa gore a dirisiwe go tlhabolola tsamaiso ya thuto mo sekoleng sa bongaka sa unibesithi ya Botswana. Gape a tla dirisiwa mo mokwalong wa thuto e kgolwane (masters' thesis), mme leina la gago ga le na le amanngwa le maduo a patlisiso e. Se o re bolelelang ga sena se dirisiwa go dira kgwebo kgotsa go dira dipopelo.

GO TSAYA KAROLO GA GO PATELEDIWE

Go tsaya karolo ga go patlelediwe, o ka ikgethela go sa tsee karolo. Fa o ikgethela go sa tsee karolo, se ga se na go ama tirisano ya gago le Unibesithi ya Botswana kana sekole sa bongaka, bodire le makalana a e dirisang le one. Fa o ikgethela go tsaya karolo, o na le tshwanelo ya go ikgogela morago nako epe mo tsamaong ya patlisiso, ga o kake wa kgoreletsega ka gope.

TESELETSO

O tsaya tshwetso ka go tsaya kgotsa go se tseye karolo mo patlisisong e. Go baya monwana ga gago go supa gore o badile ebile o tlhalogantse tsotlhe tse di tlhalosetsweng mo mokwalong o fa godimo, ebile dipotso tsotlhe di arabilwe mme ka jalo o tsere tshwetso ya go tsaya karolo.

Ke dumalana le gore potsolotso yame e ka gatisiwa ka sekapa mantswa Ee_____ Nyaa_____

Leina la motsaakarolo ka botlalo

Letsatsi la tumalano
(letsatsi/kgwedi/ngwaga)

Monwana wa motsaakarolo

MMATLISISI

Ke tlhomamisa fa ke tlhaloseditse_____ [leina la mo tsaya karolo] sengwe le sengwe se se mo pampiring e. O ne a rotloedwa le go fiwa nako go botsa dipotso. Re ne re buisana ka Setswana/Sekgoa go sena moranodi.

Leina la motsaakarolo ka botlalo

Letsatsi la tumalano
(letsatsi/kgwedi/ngwaga)

O TLA FIWA MORITI WA PAMPITSANA E YA THERISANYO LE TUMALANO GO E IPEELA

Fa o na le dipotso mabapi le patlisiso e, kgotsa pampiri ya therisanyo le tumalano tse di sa tlhalosegang sentle go tswa babatlising, go akararetswa dipotso mabapi le patlisiso, ditswanelo tsa gago jaaka motsaakarolo kgotsa ga osa tsewa sentle ka tsela nngwe mme o batla go bua le mongwe ko ntle ga mmatlisisi, o gololosegile go ka itshwaraganya le ba ofisi e e lebaganyeng le tsa dipatlisiso. Yone ke ofisi ya Dipatlisiso le Ditlhabololo (e e itsegeng ka leina la ORD), Unibesithi ya Botswana. Mogala: 355-2900, E-mail: research@mopipi.ub.bw, Telefax: [0267] 395-7573.

16 APPENDIX I: Ethics approval -Stellenbosch



UNIVERSITEIT•STELLENBOSCH-UNIVERSITY
jou kennisvenoot • your knowledge partner

Approval Notice New Application

08-Aug-2016
Sepako, Enoch E

Ethics Reference #: S16/06/107

Title: An evaluation of the alignment of the current competencies (required of graduates) of the University of Botswana undergraduate medical programme (MBBS) to the needs of the service users of Botswana health service

Dear Dr Enoch Sepako,

The **New Application** received on **30-Jun-2016**, was reviewed by members of **Health Research Ethics Committee 1** via Expedited review procedures on **04-Aug-2016** and was approved.

Please note the following information about your approved research protocol:

Protocol Approval Period: **08-Aug-2016 -07-Aug-2017**

Please remember to use your **protocol number (S16/06/107)** on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:

Please note a template of the progress report is obtainable on www.sun.ac.za/rds and should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Translation of the consent document to the language applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372
Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health).

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Helene Visser at City Health (Helene.Visser@capetown.gov.za Tel:

+27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and documents please visit: www.sun.ac.za/rds

If you have any questions or need further assistance, please contact the HREC office at .

Included Documents:

Consent_Form_Enoch_Sepako.doc

Investigator Declaration V4 2 (Eng) S SNYMAN.pdf

BBVH ABRIDGED CURRICULUM VITAE JUNE 2016.doc

Investigator Declaration Prof Ben van Heerden_Enoch Sepako_scanned.pdf

General Checklist(Eng)_V2.1 April 2016.doc

Research_Proposal_Enoch_Sepako_19531869.doc

Research_Protocol_synopsis_Enoch_Sepako_19531869.doc

Enoch_Sepako_CV_June2016.doc

HREC Application Form V9.14 April 2016 (Eng)_Enoch.doc

Dr Stefanus Snyman.docx

Investigator Declaration_Enoch_Sepako_19531869.pdf

Application form

Sincerely,

Franklin Weber

HREC Coordinator

Health Research Ethics Committee 1

17 APPENDIX J: Ethics approval -UB

TELEPHONE: 363 2766
FAX: 391 0647
TELEGRAMS: RABONGAKA
TELEX: 2818 CARE BD



Republic of Botswana

MINISTRY OF HEALTH
PRIVATE BAG 0038
GABORONE

REFERENCE NO: HPDME: 13/18/1 Vol. X (817)

11 November 2016

Health Research and Development Division

Dr. Enock Sepako
Department of Biomedical Sciences
Faculty of Medicine
Private Bag 00713
Gaborone, Botswana

Dear Dr. Sepako

PERMIT: AN ANALYSIS OF THE ALIGNMENT OF CURRENT COMPETENCIES (REQUIRED OF GRADUATES) OF THE UNIVERSITY OF BOTSWANA UNDERGRADUATE MEDICAL PROGRAMME (MBBS) TO THE NEEDS OF THE SERVICE USERS OF BOTSWANA HEALTH SERVICE

Your application for a research permit for the above stated research protocol refers. We note that your proposal has been reviewed and approved by University of Botswana Institutional Review Board.

Permission is therefore granted to conduct the above mentioned study. This approval is valid for a period of 1 year effective 11 November 2016.

This permit does not however give you authority to collect data from the selected site(s) without prior approval from the management. Consent from the identified individuals should be obtained at all times.

The research should be conducted as outlined in the approved proposal. Any changes to the approved proposal must be submitted to the Health Research and Development Division in the Ministry of Health for consideration and approval.

Furthermore, you are requested to submit at least one hardcopy and an electronic copy of the report to the Health Research, Ministry of Health within 3 months of completion of the study. Approval is for academic fulfillment only. Copies should also be submitted to all other relevant authorities.

Thank you for your cooperation and your commitment to the protection of human subjects in research.

Yours sincerely

L. Moremi

For /Permanent Secretary



Vision: Model of Excellence in Quality Health Services

Values: *Botho, Equity, Timeliness, Customer Focus, Teamwork, Accountability*



18 APPENDIX K: How universities of Witwatersrand and Liverpool medical curricula address behavioural themes (expressed needs) identified by study participants

Wits graduate attribute role (University of Witwatersrand Faculty of Health Sciences, 2008)	Key competency and enabling competencies	(Partially) corresponding valued behaviours reported by study participants	Assessed
Medical expert	Function effectively as clinicians, integrating all of the roles below to provide optimal, ethical and patient-centred medical care in a plurality of health and social contexts <ul style="list-style-type: none"> • Demonstrate compassionate and patient-centred care 	Humane	Ward Performance Evaluation-Patient care
	Perform a complete and appropriate assessment of a patient <ul style="list-style-type: none"> • Effectively identify and explore issues to be addressed in a patient encounter, including the patient's context and preferences 	Elements of thoroughness and respect	Ward Performance Evaluation-Patient care OSCE
	Seek appropriate consultation from other health professionals, recognizing the limits of their expertise	Elements of humility	Ward Performance Evaluation-Communication and teamwork and Professional attitudes and behaviours
Communicator	Develop rapport, trust and ethical therapeutic relationships with patients and families <ul style="list-style-type: none"> • Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, 	Respect, Trust	Ward Performance Evaluation-Patient care

Wits graduate attribute role (University of Witswatersrand Faculty of Health Sciences, 2008)	Key competency and enabling competencies	(Partially) corresponding valued behaviours reported by study participants	Assessed
	respect, honesty and integrity <ul style="list-style-type: none"> • Respect patient confidentiality, privacy and autonomy • Listen effectively 		
	Accurately convey relevant information and explanations to patients, families, colleagues and other professionals <ul style="list-style-type: none"> • Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, and encourages discussion and participation in decision making 	Empowering, humane	Ward Performance Evaluation- Patient care OSCE
	Develop a common understanding on issues, problems and plans with patients, families, colleagues and other professionals to develop a shared plan of care <ul style="list-style-type: none"> • Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns and preferences • Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision making 	Empowering, Unprejudiced	Ward Performance Evaluation- Patient care OSCE

Wits graduate attribute role (University of Witswatersrand Faculty of Health Sciences, 2008)	Key competency and enabling competencies	(Partially) corresponding valued behaviours reported by study participants	Assessed
	<ul style="list-style-type: none"> • Encourage discussion, questions and interaction in the encounter • Engage patients, families and relevant health professionals in shared decision making to develop a plan of care 		
Health Advocate	Respond to individual patient health needs and issues as part of patient care <ul style="list-style-type: none"> • Identify the health needs of an individual patient • Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care 	'Personal'	Ward Performance Evaluation- Patient care
Professional	Demonstrate a commitment to their patients, profession and society through ethical practice <ul style="list-style-type: none"> • Exhibit appropriate professional behaviours in practice, including honesty, integrity, commitment, compassion, respect and altruism 	Humane, respect & trust	Ward Performance Evaluation- Communication and teamwork & Professional attitudes and behaviours

Appendix K (continued). How University of Liverpool medical curriculum addresses behavioural themes identified in the study

University of Liverpool Themes (University of Liverpool, 2015)	Learning Outcomes	(Partially) corresponding valued behaviours reported by participants	Assessed
Professionalism	Demonstrate respect for patients and colleagues and recognise the contribution of the interprofessional teams to enhance the quality of patient care The graduate should appreciate the significance of non-verbal communication in the medical consultation and the importance of patient confidentiality Be aware of their own limitations, attitudes, and the impact of these behaviours on professional practice	Respect, humility	<ul style="list-style-type: none"> • Objective Structured Clinical Examinations (OSCEs) • Liverpool Objective Clinical Assessment System (LOCAS) • Work based assessments (WBAs) such as Mini Clinical Examination Assessments (Mini CEX)
Communication	Communicate clearly, sensitively and effectively with patients, their relatives or other carers, and colleagues from the medical and other professions, by listening, sharing and responding Communicate clearly, sensitively and effectively with individuals and groups regardless of their age, social, cultural or ethnic backgrounds or their disabilities, including when English is not the patient's first language	Empathy, humane and empowering Unprejudiced, Thorough	<ul style="list-style-type: none"> • Equality and Diversity essay • Tutor based assessment of communication skills through continuous assessment • e-portfolio tasks.
Psychology and Sociology as Applied to Medicine	Understand the concepts of stigma, stereotypes and prejudice and reflect upon their impact on individuals, groups and society	Unprejudiced	

19 APPENDIX L: Turnitin report

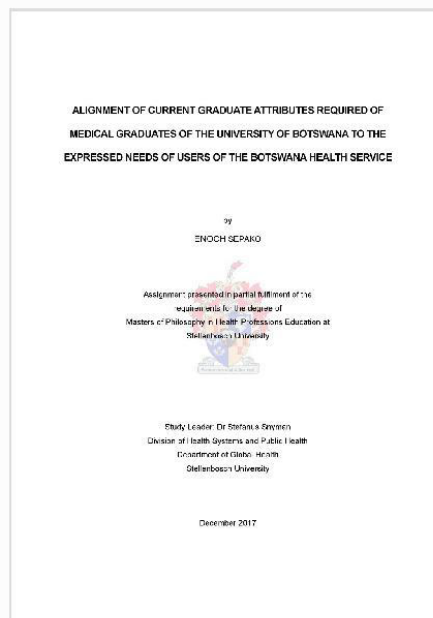


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