A MODEL DEVELOPMENT FOR AN INTERDISCIPLINARY APPROACH TO PATIENT CARE: A CASE FOR CURRICULUM DEVELOPMENT

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ABSTRACT

The complexity of human health and its determinants has been developing gradually and the means to attend to them has gone beyond the scope of a specific health discipline. Advocacy is underway by health stakeholders such as the World Health Organisation (WHO), higher learning institutions and individual scholars to incorporate interprofessional practice initiatives in health as a means of ensuring that health practitioners share ideas communicate and collaborate in order to put forward a comprehensive management plan for patients. These initiatives seek to ensure that a problem that could hardly be solved uniprofessionally is shed light on. The University of the Western Cape (UWC) is among the universities in the world that have incorporated an Interdisciplinary Core Courses Curriculum to be undertaken by all undergraduate students enrolled in the Faculty of Community and Health Sciences (FCHS) hence aiming at producing graduates who are collaboration conscious in their practice. This effort adds into the UWC's endeavor of producing socially responsible graduates.

This study analysed the UWC curriculum in order to ascertain its cognitive rigor for delivery of the interprofessional competencies. It further sought to identify whether the effort that the FCHS is putting through the Interdisciplinary Core Courses in having an impact on the perceptions of final year students during their field work placements in various health care institutions. The study also sought to find out whether the health care institutions practice policies are interprofessional practice friendly. Finally, the views and perceptions towards interprofessional collaboration (IPC) of institutional manager's for institutions where UWC places more than one discipline of students for practice were explored.

Using some results from those objectives, and input generated through three rounds of a Delphi study, the researcher developed an interdisciplinary approach of patient care model for health institutions that can be used in the institutions to facilitate interprofessional practice as well as in the University for training.

The study was a concurrent mixed method whereby the quantitative part involved the interdisciplinary core courses curriculum analysis using the Depth of Knowledge (DOK) framework and determining the students' interdisciplinary education perceptions using the Interdisciplinary Education Perceptions Survey (IEPS). The qualitative part involved content analysis of health care institutional policies and thematic analysis of managers' views and perceptions towards IPC. The content analysis was guided by literature and the Institutional Analysis and Development framework (IAD), which is designed to guide a wide range of policy analysis. All the quantitative data was analysed descriptively using version 20 of the SPSS computer packages.

The UWC curriculum was found to have a strong specific outcome content rating and an assessment criteria content rating not aligning in rating with the strong rating of the specific outcomes. The students' perceptions depicted a strong sense of own profession autonomy and competence (mean=2.56; n=311), moderate sense of need for collaboration (mean 3.24; n=311) while slightly less than half of the student perceived the existence of actual cooperation in their practice (mean 2.98; n=311). The patients care protocol for the rehabilitation Centre was friendly to IPC just as much as the center's manager perceived the Centre's culture of practice. This was contrary to the other three tertiary institutions whose attributes of friendliness to IPC were not equally shared by the managers neither were they part of protocols objective or preamble. The managers attributed lack of

collaboration to workload, lack of professional advocacy, professional regulations and medical-legal liability. They however proposed early commencement of a holistic assessment of a patient and seamless consultation to health care providers as remedy to some of the barriers. The model that was developed proposes eight principles that address formulation of teams, mentorship and attitude change, communication, settings, patient centered care, reflection and evaluation.

The UWC interdisciplinary core courses curriculum portrays strong specific outcomes that are not well aligned with their assessment criteria. The curriculum only utelises IPE related methods of teaching but lacks IPE competences content. Hospital mangers who run acute care institutions deemed to distance themselves from IPE though they recognised it importance contrary to the non-acute care institutions who seemed to practice the same and had more positive perceptions about the same. We recommend that the curriculum be reviewed to incorporate IPE competences and run the courses through out the course. Health institutions should consider forming teams that can function on emergency and non-emergency, support championing of collaborative practice and adopt evolving goals model of clinical practice especially emergency situations.

Permission to conduct the study and ethical clearance from relevant sources were acquired.

Keywords:

Inter-professional/interdisciplinary Education, Interdisciplinary/interprofessional collaboration and health institutions.

DECLARATION

I hereby declare that: **A model development for an interdisciplinary approach to patient care: a case for curriculum development** is my own work, that it has not been submitted, or part of it, for any degree or examination in any other university, and that all the resources I have used or quoted have been indicated and acknowledged by means of complete references.

Signature: ----------

Karuguti M. Wallace

Witness: ----------

Prof. Julie Phillips

DEDICATION

This thesis is dedicated to my immediate family and the late Prof. Ratie Mpofu.

ACKNOWLEDGMENT

Most sincerely, I have seen your hand o God, I thank you for bringing to completion the good work that you started in me.

To the many people who in big and small ways contributed to the completion of this work, I thank you.

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CHAPTER ONE

INTRODUCTION

1.1. Introduction

The complexity of human health and the need to establish practice mechanisms to improve on the quality and safety of health care are at the helm of discussion among health stakeholders in the world. It has been established that solutions to the fragmented state of health services do not rest within the scope of a single health care establishment. Approaches that unite health professionals to deliver on health demands collaboratively such as learning together (Interprofessional Education) (IPE) to work together (interprofessional collaborative practice) are widely encouraged. In this chapter, a general overview of the global shortcomings in the health sector and the role of collaborative practice to alleviate them are highlighted. In addition, the worldwide reaction to curb the health shortcomings through institutionalising of collaborative practice is presented. Details of the roles of health education, expected student competencies, curriculum and facilitators/lecturers are underscored. Issues pertaining to the ethics of collaborative practice and the accreditation of graduates also feature in this chapter. Finally, the aim, objectives, rationale, research questions, definition of terms and the abbreviations used are presented.

1.2. Background

Understanding of human health and its determinants have developed to greater levels of complexity over time. A wide range of human health needs remain unattended. Occasions of humanitarian crisis, health security situations such as pandemics and epidemics, the

invasion of non-communicable diseases and the deficits in the health systems and services such as shortage of health workers globally have put intense demands on health services (WHO, 2010). Medical errors have as well become an alarming occurrence in the health organisation especially those caused by lack of communication or miscommunication among different health professionals hence leading to severe injury or unexpected patient death (O'Daniel & Rosenstein, 2008).

Although health care budgets in most countries are increased annually, their costs remain unsustainable, of low quality and of high inequality (Stange, 2009). The trend taken by the process of health care service delivery is that of " spending more and more for both the providers and receivers for less value" (Stange, 2009). Health care has been commodified and consequently devalued. The commodity on sale is "treatment of disease" with a wide disregard for the person experiencing the illnesses. The loss of value for health care is rooted in ignoring the wholeness of the individual or community and also in the policy that deal only with discrete diseases and fails to create environments that support creative interaction between different parts of the system (Fisher, 2008). When the relationship between the pathology and the individual is ignored, then there is less trust and hope hence the expected outcomes of health care (healing) are jeopardised (Scott et al., 2008). Stange (2009) advances the argument that improving health is cultivated by a science that considers the behavior of multiple interacting factors that advance the health of a whole individual or community. A health systems that focuses and acts on a part rather than acknowledging the parts relations with the whole is considered fragmented and is at the root of the health care crisis of poor quality, unsustainability and inequality (Strange, 2009). Despite enormous advances in the study

of human systems their complexity is more than the sum of their parts. Fragmentation in approaches to patient care and professional insularity do not match those advances. These complexities of health and inadequacies in health systems necessitate systems, policies and approaches to patient care that curb fragmentation and enhance comprehensive and coordinated procedures in health care. In the realisation of this need, health stakeholders and scholars articulate that health care has gone beyond the scope of any one particular profession. The need to transform health care in future decades has been gradually rising. The WHO has taken the initiative to advocate for transformation and acknowledged that adopting the prevailing global trends of teamwork in health would be appropriate (WHO, 1988). The WHO also highlights that a team of carefully composed people with various types of degrees, skills and knowledge could carry out numerous responsibilities more efficiently as opposed to a sum of contributions of all the members (WHO, 1988). The need to move health systems from a state of fragmentation to integration is evident. Furthermore, the desire to improve health outcomes cannot be ignored. "What is becoming clear is that traditional models of patient care will not be able to meet the demands of the future or ensure that those who live away from major population centres have access to services of the same quality. In order to address these pressures, the health workforce of the future will need to be more adaptable and be able to work effectively in teams" (Dunston et al., 2009 p 3). In order to achieve this, health care providers need new skills. As previously advocated by Betz (1997), they must learn to speak the language of other disciplines to function in a collaborative model, make decisions on who will do what, and coordinate referrals to outside agencies.

Interprofessional collaborative patient centered practice has received tremendous recognition as means of addressing the challenges being encountered in the health circles such as patient safety, human resource shortages and populations with complex health care needs (Chan & Wood, 2010). It has been found to improve patient outcomes across a variety of settings from primary health care, to acute care and rehabilitation (Chan & Wood, 2010). It "is designed to promote the active participation of each discipline in patient care. It enhances patient and family centered goals and values, provides mechanisms for continuous communication among care givers, optimises staff participation in clinical decision making within and across disciplines and fosters respect for disciplinary contributions all professionals." (Curran, 2004 p 4). Different countries in the world have arrived at broadly similar agenda for transforming their health sector to suit collaborative practice following several health determining factors that they consider important.

In order to advance the interests of quality health through interprofessional collaborative practice, various bodies such as the Centre for Advancement of Interprofessional Education (CAIPE) in the United Kingdom, the American Interprofessional Health Collaborative (AIHC) in the US, the Japan Interprofessional Working and Education Network (JIPWEN), the Canadian Interprofessional Health Collaborative (CIHC), Learning and Teaching for Interprofessional Practice in Australia (L-TIPP) among others have been constituted. Other than the national organizational initiatives, further efforts have been made to create regional networks that seek to advance IPE as a means to achieve IPC. A good example is the European Interprofessional Education Network (EIPEN) (Helme, 2009). EIPEN has particular interest in establishing good practices in

interprofessional learning and teaching in health and social care among partner countries (Helme, 2009). L-TIPP has responded to the challenges that are facing health care by recognising the need for enhanced levels of interprofessional teams working together to manage complex health situations that demand systematic informed collaboration between various professionals (Dunston et al., 2009). In the Australian health sector reform agenda, L-TIPP seeks to move away from a uniprofessional form of practice that is described as less flexible and with little ability to respond to complex needs of patients and their carers. The body highlights the conclusion of a national review of the literature on factors that support exemplary performance in health care that indicate that health teams have a potential that is never realised because of lack of effective communication and team working practices (Dunston et al., 2009). In the United States, the AIHC responds to health challenges by transcending several boundaries - professional, organisational, educational and geographical - that encapsulate health practice by pursuing transformation of learning, policies, practices, and scholarship toward an improved system of health and wellness for individual patients, communities and populations (AIHC, 2012). AIHC believes that educating those entrusted with the health of individuals, communities, and populations to value and respect each other's unique expertise and skills and to work together is fundamental to care that is effective, safe, of high quality and efficient in terms of cost, resources, and time (AIHC, 2012 p1). The United Kingdom CAIPE's efforts in enhancing collaboration in health practice seeks to develop teams that can together respond to complex problems presented by individuals, families and communities that overcome the scope of a single profession; manage relationships among growing numbers of health professions; improve patients safety

through betterment of communication among professionals; to cope up with the raising consumers demands and media pressure with regards to health care services provided under inadequate resources and high costs as well as optimise the deployment of human resources (Barr & Low, 2012). The ultimate goal of the UK cultivated interprofessional practice, is one that is within a defined legal and policy context that ensures provision of quality care while transcending the boundaries between professions, settings and organisations (Barr & Low, 2012). Japan in the 1980's changed their view on health to embrace approaches that focus on the quality of life. The change of view was prompted by the realisation that the Japanese population of the 21st century was living longer hence the need for elderly care. (Endoh, Magara & Nagai, 2012, p 21). Furthermore, the shortage of medical doctors and the efficiency to handle the complex health issues of citizens became rampant in the country hence making it difficult for professionals from a single occupation to meet the diverse demands for medical, health and social care. Consequently, the health stakeholders in Japan acknowledged the need for a teamwork approach and collaboration in health and social care (Endoh, Magara & Nagai, 2012 p 21).

Attempts to use collaborative health practice have also been made in some developing countries such as South Africa and Tanzania. In Tanzania, the first steps have been made towards interprofessional practice after the realisation that the health systems are facing a challenge in meeting the needs of the population (Leshabari et al., 2012). Approximately 45 per 10000 women die as a result of pregnancy related conditions, 260 per 10000 children die before the age of one while the prevalence of HIV/AIDS, tuberculosis, malaria and non-communicable diseases remain high (Leshabari et al., 2012). Muhimbili

University of Health and Allied Sciences (MUHAS), is spearheading the efforts towards collaborative practice at district levels in order to make better use of resources, and prevent common diseases (Leshabari et al., 2012).

Collaborative practice in South Africa is not yet under a single organisation tasked with championing the noble idea. However higher learning institutions such as the university of Limpopo are playing the role of cultivating collaborative practice through training, practice during students field placements and research (Treadwell & Havenga, 2013). Treadwell and Havenga (2013) focused on facilitators (lecturers), learners, patients simulators, content, learning resources, settings, faculty development, logistics, learning strategy and evaluation as very important elements of IPE leading to collaborative practice.

The realisation of the limitations in health practice and the acknowledgement of collaborative practice as a means to alleviate the challenges highlighted above, has led to research and implementation of several initiatives. A good example is the Canadian study "Enhancing Interdisciplinary Collaboration in Primary Health Care in Canada" that underscored more than one initiative that they found crucial to cultivate collaborative practice (Nolte & Tremblay, 2005). These include setting of principles and a framework that will improve collaboration and broaden the options for collaboration in patient care across settings, research on improved collaborative care, provide a toolkit for primary health care providers to effectively function together and the provision of recommendations that will help health stakeholders such as regional health authorities, regulators, insurers, and educators embrace as well as implement the stipulated principles and framework (Nolte & Tremblay, 2005). Other scholars reckon communication to be a

major hindrance to collaborative practice and informs that the rigid formal communication systems empasised in health settings have limited the role of informal communication and the opportunities it creates for health care providers to communicate patients information (Chen, Tang, Zhou, Sercevic & Lee, 2013). More unanimously, global initiatives towards collaboration in health care have concentrated on education, thus IPE. Ochard, Curran and Kabene (2009) argue that a health education systems that are structured around multidisciplinary models with none collaborative decision making and less involvement of the patient can no longer support the complex health needs of the patients. As the need to collaborate during health care service provision across settings emerge, Evans, Sønderlund and Tooley (2013) reckon that there is an equally urgent need to develop a workforce of students with capabilities to practice collaboratively (collaborative conscious graduates) that higher learning institutions need to address. In support of IPE, Barnsteiner, Disch, Hall, Mayer and Moore (2007) observed that most health education is performed in silos, curricula is different from one discipline to the next and when attempts are made to teach on common skills within health, no interdisciplinary interaction is conducted. The result of this form of training is undervaluing and misunderstanding of each others' contribution and also the development of professional protectionism (Barnsteiner et al., 2007). The WHO backs IPE for collaborative care by indicating that "for practitioners to perform well interprofessionally, they need education specific to that style of work, preferably focused on population health needs and conducted in communities and clinical settings" (Leshabari et al., 2012).

Several initiatives have been made geared towards training health care professionals using interdisciplinary collaborative models (Papa, Rector & Stone, 1998). Several Faculties of Health Sciences at higher learning institutions globally have structured interdisciplinary core courses curricula with the aim of producing graduates who can practice collaboratively (University of the Western Cape (UWC), 2009; Buck, Tilson & Anderson, 1999). Buck et al., (1999) highlight that the ultimate goal of a core courses curriculum, is to provide students with the knowledge, skills, and values necessary for interprofessional practice. Davies (1997) reckons that problems in the real world do not present themselves in tidy disciplinary packages and therefore emphasizes that disciplinary and professional specialisations is useful but inadequate as the only method of organising knowledge for instruction. As a result, interest in developing courses that provide interdisciplinary perspectives is increasing. The need to revise health training curricula in higher learning institutions has been motivated over time by various health stakeholders reports and scholarly documentations which further acknowledge that health education programs have been perceived as too inflexible and discipline-specific, minimising the kind of interdisciplinary education needed and required in the evolving patient-centered care workplace (Greening, 1997). In an effort to unpack the characteristics of a truly interdisciplinary curriculum, Repko (2007) indicated that an interdisciplinary curriculum reflects the emerging consensus definition of interdisciplinarity and addresses the core elements of it. These elements include (1) addressing a complex problem or focus question that cannot be resolved by using a single disciplinary approach (2) drawing on insights generated by disciplines, interdisciplines, or schools of thought, including non-disciplinary knowledge formations (3) integrating

insights and (4) producing an interdisciplinary understanding of the problem or question (Repko, 2007).

Greening (1997) strongly indicates that the ultimate goal of restructuring a health training curriculum to incorporate interdisciplinary core courses is to produce health professionals who have learned a set of core competencies that are central to the effective functioning of all health professionals, including an ability to work as part of an interdisciplinary team in managed care settings. Furthermore it is essential that health students integrate teamwork (interdisciplinarity) and patient outcomes throughout the students' educational program (Greening, 1997). Mansilla (2004) informs that following interdisciplinary core course training, it is expected that students will acquire an interdisciplinary work understanding. She describes the interdisciplinary understanding as the capacity to integrate knowledge and modes of thinking in two or more disciplines to produce a cognitive advancement e.g. explaining a phenomenon, solving a problem, creating a product, raising a new question in ways that would have been unlikely through single disciplinary means. It is this understanding that Mansilla (2004) attempts to clarify further by indicating that it is one thing to understand an issue in an interdisciplinary way superficially and another to understand the same issue in depth. The difference between the deep and the superficial understanding determines the quality of interdisciplinary work and its impact as performed by students (Mansilla, 2004).

In order to thrive in the contemporary societies of knowledge, young scholars need not only to develop insights and modes of thinking that are informed by a variety of disciplines, but also to integrate these forms of knowledge effectively whether it is in research capacity development or general career development (Boix Mansilla &

Duraisingh, 2007). The major issues of the developing world demand that young people be nurtured to produce quality interdisciplinary work. Mansilla, 2005; Haas, Sheehan, Stone and Hammer-Beem (2009) indicate that trying to implement interdisciplinary education by simply combining students into groups without adequate curriculum adaptation, preparation, and planning is ineffective. Furthermore a well-developed interdisciplinary course can help the transition of health care professional students previously accustomed to studying and working within their own specific discipline to communicate, cooperate, and collaborate across discipline lines (Hass, et al., 2009). Several universities globally have therefore taken this initiative seriously and have step-by-step adjusted their curriculums to incorporate interdisciplinary learning and have over years developed structures necessary for the functioning of students undergoing through this form of curricula. As early as 1969, the University of Nevada, Reno, in the USA legislative act that formed the medical school already had a provision for development of an interdisciplinary Health Sciences Program aimed at integrating the activities of existing health related programs in the campus (Baldwin & Baldwin, 2007). The curriculum was structured to provide a horizontal lower division component, consisting of basic university requirements and courses in the biomedical sciences common to all health fields and required for entry into the various clinical programs. This extended from college entry through to graduation. Baldwin and Baldwin (2007) further reported that a planned sequence of interdisciplinary team teaching and team learning experiences, involving the classroom, the community and clinical settings exist**.** The curriculum was designed in such a way that at junior level, the students were exposed to complex areas of knowledge. In addition, the students conducted projects or investigated health related

problems in a community setting in small groups or simulate teams while in senior levels the students' interdisciplinary learning and practice was more focused on clinical setting (Baldwin & Baldwin, 2007).

The College of Health Professions at the University of New England offer a unique set up of interdisciplinary education whereby their interdisciplinary models for health care professional education has nine competency outcomes for graduates of the college participating in the interdisciplinary learning experiences (Haas et al., 2009). The competencies aims would enable the graduates to understand the roles and responsibilities of professions beyond their own and would understand and use the skill of collaboration in facilitating interdisciplinary patient and family care (Haas et al., 2009). Since these outcomes were pre set, they created the foundation for the Faculty of Health Sciences to develop courses that would create an environment for health care professional students to learn the roles and responsibilities of various disciplines and the skills of effective collaboration (Haas et al., 2009). The Faculty of Health Sciences at the University of Cape Town (UCT) in South Africa runs a core content curriculum that the University refers to as pan-professional (Duncan, Alperstein, Mayers, Olckers & Gibbs, 2006). Duncan et al. (2006) describe the UCT core course curriculum as one with a difference; one that injects value to undergraduate health professional education through the development of critical cross-field knowledge, skills and attitudes that unite rather than differentiate professions. The aim of the curriculum is to lay an integrated, pan-professional foundation for the advancement of collective commitment to and understanding of national health and social development objectives such as primary

health care, human rights and professionalism (Duncan et al., 2006). The UCT curriculum is more of a shared learning one rather than a shared teaching. The difference between the two as described by Horsburgh, Lamdin & Williamson (2001) is that shared learning occurs when students are interdependent in the knowledge construction process while shared teaching refers to learners from different professions sitting side by side in lectures where development is not supported by deliberate educational strategy. The bigger picture of the UCT curriculum is that it encompasses the university's responses to an ethical call towards a commitment to reform health education post apartheid in 1994 (Duncan et al., 2006). At the UWC where this research was conducted, the interdisciplinary core courses modules were jointly planned over a decade ago and are jointly offered by staff from all the departments in the Faculty of Community Health and Sciences (FCHS) (UWC, 2009). The modules are compulsory for health science students and serve as a foundation for all other discipline-specific modules offered by departments. The various modules are offered at different year levels of study. The modules comprise of *Health, Development and Primary Health Care, Health Promotion and Introduction to Philosophy of Care* in the first and second year respectively while in the third and fourth year *Measurement of Health and Disease* and *Inter-Professional Community-Based Practice* Modules are offered **(**UWC, 2009). By the end of this course, the FCHS of UWC aims to produce graduates who understand the link between health, development and primary health care, appreciate the basic concepts of health promotion, develop variety of academic skills through engagement with qualitative research methodology and prepare students to practice from an inter-disciplinary perspective and to understand the expertise of how each profession collaboratively contributes to enhance

practice (UWC, 2009). Taking a more holistic perspective, UWC advocates cultivation of socially responsible graduates as one of the Universities core values (UWC, 2009). Davis (1960) indicates that social accountability is an obligation to the concerned to nature and develop human values such as morale, cooperation, motivation, and self-realisation in work. Furthermore, as quoted by Waggie, Laattoe and Filies (2013), the WHO reiterated that the roles of a health training institution include directing their education, research and service activities towards resolving the health concerns that the society that they serve consider as priorities. Hence the need to foster approaches to health education that can prepare graduates who possess the mentioned attributes (Waggie, Laattoe & Filies, 2013).

On the account of the competencies that IPE is supposed to deliver to the learner, there is some scholarly consensus with respect to the domains of the co-competences. For example, Orchard (2010) in the National Interprofessional Competency Framework of Canada has listed six domains that include interprofessional communication, patient centered care, role clarification, team functioning, collaborative leadership and interprofessional conflict resolution while the British Columbia Competency Framework for Interprofessional Collaboration is organised into three domains i.e. interpersonal and communication skills, patient centered care and collaborative practice (interprofessional Network of British Columbia, 2008). Curtin University in Australia considers IPE to occur in a continuum starting from exposure to other professionals during learning and practice. The learners hence move across the continuum at different rates according to their personal and professional experiences (Brewer, 2011). The University assumes that

the students capacity to demonstrate interprofessional capabilities in various settings is motivated by their comfort level, familiarity and skill set within that context (Brewer, 2011). Although the Curtin University set of competences/capabilities is similar to others mentioned above, i.e. communication, team function, role clarification, conflict resolution and reflection, it does consider these to be underpinned by three core elements namely patient centered service, patient safety and quality and collaborative practice (Brewer, 2011). The Griffith Health Institute provides a decent summary of IPE learning outcomes/competences for the Development of Education and Scholarship in their implementation framework for interprofessional learning that has borrowed heavily from the WHO suggestions for IPE learning outcomes (Griffith Health Institute for the Development of Education and Scholarship, 2011 p 6). It states that the university graduates are expected to "articulate the purpose for effective interprofessional practice in relation to optimisation of the quality, effectiveness and person-centeredness of health and social services, in order to assist patients and clients to maximise their health and wellbeing; work effectively in a team, both in the role of team member and of team leader; describe the potential barriers to effective teamwork and strategies through which they may be overcome; describe the roles, responsibilities, practices and expertise of effective members of their own profession; describe the roles, practices and expertise of effective members of each of the other major health professions recognise and challenge stereotypical views in relation to the roles, practices and expertise of particular health professions in their own thinking and in the communication of others express their professional opinions competently, confidently and respectfully to colleagues in any health profession; listen to the opinions of other health professionals effectively and

respectfully, valuing each contribution in relation to its usefulness for the patient, client or community concerned, rather than on the basis of the professional background of its contributor. At the individual level of care, graduates should be able to synthesise the input of multiple professional colleagues, together with the beliefs, priorities and wishes of the patient or client and their significant others, to reach consensus on optimal treatment, care and support and how it should be provided while for community level health activity: graduates should be able to synthesise the input of multiple professional colleagues, together with the values and priorities of the community concerned, to reach consensus on optimal interventions and how they should be implemented. Finally, they should be able to reflect critically and creatively on their own performance in health professional team settings" (Griffith Health Institute for the Development of Education and Scholarship, 2011 p 6).

Prior to implementation of an IPE program in an institution, systematic planning of matters related to curriculum development and human recourse are factored (Buring et al., 2009). Lecturers and facilitators in particular need to be prepared for mentoring interdisciplinary groups. They are responsible for delivering of IPE (Anderson, Thorpe & Hammick, 2011) in the sense of assisting students to move from exposure to immersion to mastery of interprofessional competencies (Edgelow, Van Dijk, Medves & Saxe-Braithwaite, 2009). Oandasan and Reeves (2005) indicate that the "lecturers" in the context of IPE should not be viewed as the "expert teacher" but a facilitator who instead of teaching the learners, he/she works with them. He/she needs to be **"**attuned to the dynamics of interprofessional learning, skilled in optimising learning opportunities, valuing the distinctive experience and expertise which each of the participating

professions brings" (Oandasan & Reeves, 2005 p32). According to Buring et al., (2009), bringing lecturers from various disciplines into settings such as laboratories, hospitals or simulation centres should not be assumed to directly result in beneficial IPE outcomes. It is therefore important to put in place facilitator development programs while considering the key elements of the purpose of IPE. A number of teaching strategies are recommended for facilitators to enable them to deliver IPE. In particular small groups learning with consideration of the groups balance size and stability (Oandasan & Reeves, 2005). Although the formats of teaching may involve methods such as case based approach, problem based approach and observation based approach (Oandasan & Reeves, 2005) the idea of applying these methods in small groups set up has been empasised. Tiberius (1990) indicates that when small groups come together, a learning environment with the potential to enable the participants to share tasks and learn from one another develops (Tiberius 1990). Furthermore, the set up gives the students an intimate contact with the teacher's competence and style of exposition while any sense of ignorance in the subject is quickly detected with stark precision of accuracy by the students (Tiberius, 1990). MacFarlane (2006) highlighted a number of observations by facilitators with regards to delivery of IPE. In her assessment of barriers, MacFarlane (2006) noted that facilitators pointed out lack of commitment by facilitators and students coming as a result of insufficient preparedness or inadequate information about IPE. Information and preparedness with regards to staffing, processes, content and roles were highlighted as areas of insufficiency during IPE delivery (MacFarlane, 2006). The study also unearthed that facilitators have concerns that interprofessional teaching may erode their own professions and therefore have a negative attitude. Nevertheless, perceived levers for

development of IPE were also highlighted by the facilitators in this study, these included exploration of positive mechanisms to alleviated the threat of erosion of own professions as well as providing information with regards to interprofessional team working and the potential benefits it possesses (MacFarlane, 2006). It is therefore clear that the delivery of IPE demands for competence and commitment from the lecturers. As the role of interprofessional collaborative practice gets explored in practice and research, further attention needs to be accorded to the ethic of working as a team, which is key in interprofessional collaborative practice. The study of what is good or bad, right or wrong and of moral duty and obligation defines ethics (Cott & Drinka, 2007). In health care, the concept of ethics encompasses the standards of practice linked to the responsibility of individual providers towards the patients and to one another as professionals (Clark et al., 2007).

With the emergence of IPC, the concept of ethics requires professionals to be continuously responsive to each other, focusing on how professionals ought to behave once they decide to collaborate and asking themselves about what values are worth preserving, how to demonstrate those values in their actions and how to work through situations of competing values in a reasonable and a civilised way (Rolfe, Levin & Hellman, 2007). Interprofessional care is essentially considered an ethical approach to care. Its most renowned quality is that it promotes wellbeing of the patient, which is a bioethics principle-beneficence (Engel & Prentice, 2013). Together with exhibiting their technical prowess, health professionals ought to be aware of their professional norms and values and timely express them to patients, families and team members in the endeavor to

work together to deliver ethically responsible care (Verkerk et al., 2004). Furthermore, interprofessional practitioners should acquire a progressive moral sensitivity to vulnerabilities, values and responsibilities encountered at work while understanding that they are part of a practice that involves multiple perspectives and appreciating that they are participants in a practice that is socially shared (Rolfe et al., 2007). A major challenge to ethical interprofessional health practice is paused by the competition that arises as a result of each individual in the interprofessional team bringing a different view point guided by individual values and beliefs of that profession and further motivated by disciplinary knowledge and perspective (Engel & Prentice, 2013). The particularity of each discipline's perspective as informed by the bioethical principle of beneficence entrenches the potential for conflict within the team (Wilhelmsson et al., 2012). Differences may arise in goal setting or in particular ethical norms that differ per individual discipline (Oberle & Bouchal, 2009). In the event of trying to find a middle ground or demand to give up a belief by an institution or other profession about what is right maybe strenuous and add tension (Engel & Prentice, 2013). However, one of the major domains or competencies of interprofessional care is conflict resolution. As a competence, it requires the professional to be able to "Contribute to establishing a safe environment in which diverse opinions can be expressed; Recognise the potential for conflict to occur; Value the potential positive nature of conflict; Identifies common situations that may lead to conflict including role ambiguity, power differences, communication differences (terminology or language) and differences in goals; Employs strategies to deal with conflict constructively including analysing the causes and working collaboratively to reach acceptable agreed upon solutions" (Brewer, 2011p

11). Among the interprofessional ethics training curricula that has been developed to achieve interprofessional practice values and obligations include the Interprofessional Ethics Awareness and Self-reflective Practice curriculum (Rolfe et al., 2007). The curriculum highlights "narrative training" as a method that contributes to clinical effectiveness. Reading and writing skills are core in narrative training. Rolfe, et al., (2007) indicates that professionals with such skills develop the quality of being more attentive to patients and more attuned to their experiences. They become more reflective in their service delivery with improved accuracy in interpreting patients' stories. The narrative training is designed in three phases, i.e. the writing phase that is solitary with more of personal reflection. This is followed by a small group reading and discussion phase that is public and communal. It entails sharing of the individual writing, risk taking and self-disclosure. The last phase involves listening to others writing (Rolfe et al., 2007). The authors of the curriculum are of the opinion that a professional with reflective skills developed by narrative training, i.e. writing, reading and listening process are well positioned to provide quality patient care in an interprofessional practice forum (Rolfe et al., 2007).

The accreditation of IPE and practice by professional bodies has attracted some debate around the world. Questions of how to attain compliance using specific standards have been raised on some occasions. In fact, without inclusion of IPE accreditation standards either in uniprofessional or interprofessional bodies, then the reason for implementing IPE in the academic programs is beaten (Gilbert, 2005). "Since academic institutions must adhere to the requirements published by their respective accrediting body, the extent

to which the various health professions' educational programs incorporate IPE is therefore driven by accreditation standards and guidelines. This connection makes the accreditation process a powerful tool for educational change" (Zorek & Raehl, 2013 p 2). Although some accreditation bodies have mandated IPE and practice (Bankston & Glazer, 2013), incorporation of IPE and IPCP language into guiding standards of compliance need to take place (Zorek & Raehl, 2013). Countries with a longstanding history of IPE and practice such as Canada have achieved a great deal of pre-licensure IPE accreditation for six Canadian health professions: physical therapy, occupational therapy, pharmacy, social work, nursing and medicine (AFMC n. d). The Accreditation of Interprofessional Health Education (AIPHE) a national collaborative of eight organisations is mandated to accredit six Canadian health professions i.e. physical therapy, occupational therapy, pharmacy, social work, nursing and medicine. The individual professional associations for the mentioned disciplines form the larger AIPHE that accredits the standards of IPE and IPCP collaboratively (AFMC nd). The United States has made much effort to create accrediting standards for IPE in individual professions. Zorek and Raehl (2013) in USA have challenged the individual professional bodies to collaborate in creating a common IPE standard that will help graduates to see the world from the eye of other professions. Other accreditation bodies and licensing authorities should as well consider the noble idea of creating core principle standards to guide accreditation of pre-licensure health graduates.

Despite the constraints of time and funding, in training health care providers in an interdisciplinary way, faculties agree that this type of training needs to occur if the health care system is to provide cost effective, culturally sensitive, and accessible primary care

(Papa, Rector & Stone, 1998). Documented information regarding interprofessional learning in Africa is scanty or rather concentrated in South Africa. A global geographical scan commissioned by WHO has provided useful information on where IPE exists, how it is conducted and why training institutions offer it (Rodger & Hoffman, 2010). The study managed to gather 41 responses from the six global regions of WHO. Among these only 9% was from the developing countries with only South Africa from the African continent with less than 1% responses (Rodger & Hoffman, 2010). The majority of the respondents (91%) practiced IPE in the developed countries with two thirds being from Canada, UK and USA (Rodger & Hoffman, 2010). Various means of delivery of IPE highlighted in this study included "lectures/presentations by faculty experts (15%), small group discussions with fellow students (14%), working as part of a team to care for patients in a hospital setting (13%), and working with other students to discuss and resolve prepared written cases 12%" (Rodger & Hoffman 2010, p482). IPE was reported to have been hardly evaluated globally while those who did it utilised student's surveys in developed countries (Rodger & Hoffman, 2010). Recent IPE initiatives in Africa have been cited in Tanzania (Leshabari et al., 2012) and Egypt (Hosny, Kamel, El-Wazir & Gilbert, 2013). The role models for South African and the other African upcoming initiatives therefore remain in Europe e.g. (Helme, 2009), America e.g. (Baldwin, 2007) and Australia e.g. (Brewer, 1999). It is therefore important that the initiatives of South African universities pertaining to interdisciplinary learning for collaborative practice in health be consistently evaluated. Eventually, other African universities will emulate the South African models of interdisciplinary learning for collaborative practice. A health professional that undergoes an interdisciplinary core course curriculum while attaining interprofessional

collaborative practice competencies is not only expected to practice collaboratively in primary health care and community setting but also in institutionalised settings. If collaboration is instrumental and contingent, we need to explore how it emerges in health care settings such as acute care hospitals and rehabilitation centres, the purposes it serves, the roles of different professional groups within the shifting relationships among various professions (Reeves & Lewin, 2004). The aim of this study therefore is to assess the interprofessional competencies friendliness of the inter-disciplinary core courses being undertaken at the FCHS of UWC and its ability to feed into interdisciplinary collaborative practice in health institutions.

1.3. Research question

Do the interdisciplinary core courses promote collaborative practices in institutionalised patient care? Furthermore:

- Do interdisciplinary core courses promote positive attitudes and limit professional prejudice towards each other in the health teams?
- Do learners of interdisciplinary core courses encounter favorable working frameworks for exercising skills learnt through the courses in the institutions that they work?
- Do learners of interdisciplinary core courses experience barriers in health institutions in their efforts to collaborate in practice?

1.4. Problem statement

There is immense lack of collaboration in patient care practices in health care institutions in several parts of the world including South Africa. This could be associated with lack of

interdisciplinary learning in health sciences teaching institutions and lack of collaborative practices friendly working models in the health institutions. Literature indicates that lack of collaboration in learning and eventually at work is facilitated by professional prejudice that learners develop during their undergraduate studies. In addition, the interdisciplinary teaching and learning has been offered at UWC for over a decade but there exists no evidence as to its influence on interprofessional practice. This study would shed some light on whether its current interdisciplinary curriculum needs to be revised, strengthened and improved and furthermore would present a model for interdisciplinary practice in an institutional setting.

1.5. Aim

The overall aim of the study is to develop a model for an interdisciplinary approach to patient care in an institutional setting.

1.6. Objectives

- Evaluate the UWC FCHS interdisciplinary core courses curriculum for rigor and relevance.
- Determine the perceptions of students regarding interdisciplinary approaches to patient care.
- Evaluate patient's care/management documents/protocol/policy in selected public health institutions in the Western Cape.
- Explore Health Institutions Managers views and perceptions of collaborative interdisciplinary practice in their respective hospitals.

- Develop an interdisciplinary approach of patient care model for health institutions

1.7. Rationale

It is for the sake of the complexity and the interdependence of the health problems existing in recent decades that the importance of collaboration in health duties has been found to be necessary (D'Amour, Videla, Rodriguez, & Beaulieu, 2005). There is consensus in literature that an interprofessional approach of patient care is appropriate for achievement of increasingly complex patient/ clients needs. In order for health professionals to collaboratively work towards achieving the demands of interdisciplinary approaches of patient care, interdisciplinary learning in the early stages of health career training is consequential. It is one of the aims of inter-disciplinary learning to alleviate the health professional's rigid discipline based vision of their clientele and the services they offer formed along their education process (D'Amour et al., 2005). It is appropriate therefore at the school level to enhance collaboration in learning in order to make changes to this paradigm and implement a logic of collaboration rather than a logic of competition during practice (D'Amour, Sicotte & Levy, 1999). Further scholarly contributions geared towards ensuring entrenching interdisciplinary approaches to patient care are necessary. The current study has therefore provided useful information as contribution towards collaborative practice.

1.8. Definition of terms:

Institutionalised patient care settings: Institutional setting for patient care. These include acute care hospitals, rehabilitation centers and step down health facilities such as dispensaries.

Interprofessional collaborative practice: when multiple health workers from different professional backgrounds work together with patient, families, carers and communities to deliver the highest quality care". Elements of collaborative practice include respect, trust, shared decision making and partnerships. (WHO, 2010).

Interprofessional core competencies: Describe the knowledge, skills, attitudes and values that shape the judgments essential for interprofessional collaborative practice. These include communication, patient centered care, role clarification, team functioning, collaborative leadership and interprofessional conflict resolution.

Interprofessional Education: Occasion when two or more professional study with from and about each other to improve collaboration and quality of care (CAIPE, 2002).

Interprofessional/Interdisciplinary core courses curriculum: Participation or cooperation of two or more disciplines in studies, activities, or courses that meet the common needs of students. (Eric online dictionary, 2014).

Interpersonal communication: The quality of communicating clearly and professionally in a culturally appropriate manner in a way that depicts respect of values, beliefs and culture of relevant parties. In the same context, professionals are also meant to actively listen to patients needs and concerns of clients, listen to team members opinions as well as use information and communication systems effectively to improve their service (Brewer, 2011).

Role clarification: The collaborative professional understands hi/her role and that of the colleague professional and used that knowledge to improve patient care.

Team functioning: The ability of a health worker to understand the principles of team work and group processes and the importance of the same in the delivery of effective interprofessional collaborative patient care (Brewer, 2011).

Interprofessional conflict resolution: Sustaining a safe environment where diverse opinions and conflicts are identified, expressed and valued as potential avenues for acceptable resolution.

Patient centered care: The patient is valued as an important partner in planning and implementing health care. Clarifying their role in achieving quality and safe care as well as empowering them to participate in the whole process is an important component of patient centered care.

1.9. List of abbreviations:

The following abbreviations have been used in this thesis.

AFMC: The Association of Faculties of Medicine of Canada

AIHC: American Interprofessional Health Care

AIPHE: Accreditation of Interprofessional Health Education

CAIPE: Centre for Advancement of Interprofessional Education

CIHC: Canadian Interprofessional Health Collaborative

DOK: Depth of Knowledge

FCHS: Faculty of Community and Health Sciences

IPC: Interprofessional Collaboration

IPCPC: Interprofessional Collaboration for Patient Care

IPE: Interprofessional Education

IPOC: Introduction to Philosophy of care

JIPWEN: Japan Inter Professional Working and Education Network

L-TIPP: Learning and Teaching for Interprofessional Practice

MUHAS: Muhimbili University of Health and Allied Sciences

PHC: Primary Health Care

UCT: University of Cape Town

UK: United Kingdom

USA: United States of America

UWC: University of the Western Cape

WHO: World Health Organisation

1.10. Summary of chapter one

Chapter one formed the introduction of the study that highlighted the shortcoming that currently exist in the health sector globally as pertains to service delivery. This has been labeled as fragmentation fueled to a great extent by commercialisation of health services. The need to med the fragmentation using more cohesive and uniting approaches such as IPC has been recommended. The role of IPC is captured as a promoter of participation of all disciplines in the provision of health services. IPE is necessary as part of synergy towards IPC. Organisational efforts such as those of CAIPE, AIHC, JIPWEN, CIHC, L-TIPP to foster IPC are clearly noted. None organisation but rather academic mainly in the developing world such as Tanzania and South Africa have been highlighted. Further efforts made by universities in developing curricula and research concerning the impact of IPE and IPC in different countries are elaborated in this chapter. The chapter also captures the issues related to ethical practice in IPC and the importance of professional accreditation in this endeavor. The research gap on and details of implementation of IPE

and IPC is highlighted. The research questions, problem statement, aim of study, objectives, study rationale, definition of terms and the abbreviations in full were presented in this chapter. The next chapter presents a review of literature regarding IPE and IPC.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presents a review of literature with regard to IPE and various scholarly concepts that inform its curricula. Literature on interprofessional collaborative practice, and the attempts made to evaluate its effects on patient care, is presented. Interprofessional collaborative practice in various health care institutions, and its impact on different parameters, is also reviewed and presented. Finally, a theoretical framework (the intergroup contact hypothesis) that underpins the current study has been identified and is described.

The notion of "shared learning" has been communicated in the literature using many terms such as interprofessional or multiprofessional, multidisciplinary or interdisciplinary used interchangeably in time and place without any general agreement about their meaning (Hammick, 1998). In this study, the terms profession and discipline will be used interchangeably to refer to the line of work being undertaken in training by a student or by a qualified health practitioner. In addition, the distinction made by Hammick (1998) between multiprofessional or multidisciplinary as just simply learning together and interprofessional or interdisciplinary as learning together to promote collaborative practice will be used.

2.2. Interprofessional Education

Occasions when more than one group of students learn with, from and about each other (IPE) is a course of action undertaken through institutions of health training and

motivated by various stakeholders in response to multiple area of inadequacy in health service delivery experienced for several decades now. The rationale behind IPE is that when several health disciplines learn together, they develop attributes that enable them to work better together in future and reduce duplication of roles as well as promote patient safety. It is widely clear that ill health presents itself in a complex manner whose management is not limited in a single health discipline. This has necessitated the importance of developing means of working together which learning together should precede. The WHO refers to IPE as "a necessary step in preparing a collaborative practice-ready" health workforce that is better prepared to respond to local health needs (WHO, 2010 p 7). The Organisation further acknowledges that "there is sufficient evidence to indicate that effective IPE enables effective collaborative practice" while collaborative practice strengthens health systems and improves health outcomes. (WHO, 2010). According to the WHO, as cited by Baker (2010), effective IPE, and hence collaborative practice, is shaped by supportive management practices, availability of supporting champions, the desire by health workers to change their culture and attitudes of practice, the will to revise existing curricula and legislation that eliminates barriers to collaborative practice. A number of countries have managed to put in place some of these mechanisms hence exercising a more structured IPE in training institutions and IPCP in the health care settings. Canada and United Kingdom, for example, enjoy policies that direct IPE and substantial funding to facilitate the same (Lapkin, Levett-Jones & Gilligan, 2013). IPE is mandatory now in the pre-registration health training. The health council of Canada recommends that each university health sciences program offers an IPE subject (Lapkin et al., 2013). In Australia, a national National Registration and Accreditation

Scheme for Health Professions has been created that oversees national registration and accreditation system for nine health professions in the country (Dunston et al. 2009). In the U.S.A an advisory committee to the Secretary of the U.S. Department of Health and Human Services and to Congress on IPE recommended in 2013 an important intervention such as inclusion of IPE competencies in the accreditation and/or credentialing criteria by the accrediting bodies and inclusion of risk management as part of the core competencies of IPE by health training schools (Tenth Annual report, 2013). Other countries such as Tanzania (Leshabari et al., 2012) and South Africa (Treadwell and Havenga, 2013) lack national structures, but have comprehensive curricula components of IPE.

The impact of IPE and collaborative practice on specific outcomes has been under scrutiny for over two decades now. Researching on change that is directly attributable to IPE, effectiveness of specific health outcomes and updates of the same papers. Zwarenstein et al. (1999) observed that the theoretical chain that links IPE to improved education efficacy, closer teamwork, better care and, lastly, improved outcomes is hypothetically appealing but needs to be empirically substantiated. Zwarenstein and colleagues, as early as 1999, believed that empirical evaluation research involving rigorous research designs such as randomised control trials and statistical significance of interventions could inform on whether IPE was meeting its goal or not. They further noted that qualitative impact evaluation of IPE would answer the questions of why and how it works. It is worthwhile to note that this literature review established that IPE was commonly evaluated with students as the participants while its impact on patient care was evaluated on qualified practitioners using some specific outcomes such as patient

satisfaction, referral procedures and medical record intervention checklists. In an effort to ascertain the effectiveness of IPE and IPCP, Zwarenstein et al. (1999) conducted a systematic review that yielded no published empirical research highlighting the effectiveness of IPE. Six years later Barr, Koppel, Reeves, Hammick & Freeth (2005) conducted a systematic review exploring six outcomes following IPE. The outcomes included learners' reactions, modification of learners' attitudes/perceptions, learners' acquisition of knowledge/skills, learners' behavioral change, change in organisational practice and benefits to patients. Some encouraging results of positive reactions were identified from 42 % of the learners who experienced IPE while over a third 36 % and 35 % were positive about their knowledge and skills as well as organisational practice respectively. A more recent systematic review was in 2009 being an update of the 1999 Cochrane review by Zwarestein and colleagues. The update after ten years of growth in evaluation of IPE identified six studies meeting the inclusion criteria of their review (Reeves et al., 2010). Two of these had positive outcomes reported while two had a mixture of positive and neutral outcomes. Among those that recorded positive outcomes had the culture of emergency department systems change being assessed pre and post intervention with indicators such as appropriate protocols, materials such as posters, brochures, medical record intervention checklists and referral information available to staff, staff training and higher levels of patient satisfaction being tested (Reeves et al., 2010). However, similar limitations in analysing the effectiveness of IPE that included the heterogeneity of IPE interventions and the methodological limitations of the studies were experienced in 1999 and in 2009 (Reeves et al., 2010). "IPE is not an end in itself but is one strategy to achieve the goals of (1) patient-centered care, (2) optimal care

experiences for patients and their families, (3) patient safety, (4) improved quality of care, (5) enhanced health throughout the population, and (6) reduced costs of care. The value and success of interprofessional care is measured by how well it achieves these aims" (Tenth Annual report, 2013 p10). The methods of achieving these aims are broad and utilised differently in various training institutions around the world. IPE and collaborative practice has been evaluated though inadequately on its effectiveness through outcomes such as patient satisfaction and safety in acute care, management of care delivered to domestic violence victims and better delivery of care by mental health professionals (Maeno et al., 2013) as well as on the pedagogies utilised in the delivery of the programs. Following the recognition of IPE as a means to ensure that professionals are adequately prepared to work together, many education and training initiatives have been developed leading to the heterogeneity of IPE (Payler, Meyer & Humphris 2008). The heterogeneity of IPE pedagogy of delivery is to a certain extent justified by for example the level at which it is being offered for instance the undergraduate, postgraduate or post-registration CPD for professionals; the mix of professions represented as well as service delivery points targeted such as acute, chronic care services and community based services (Payler et al., 2008). Various scholars have informed quite in detail on various pedagogies utilised in IPE programs. This review of literature attempted to report them as utilised in training institututions although IPE exists in other settings as well. In Canada for example Cook (2005) explored the pedagogies being utilised in Canada that included (a) no specific education on interprofessional health care (b) some generic team building exercises only (c) Shared instruction in core content only (d) shared content but with a deliberate interprofessional focus (e) specific instruction in

IPE. Reflection in practice, problem-based learning, experiential learning, use of teamwork models and the creation of non-threatening learning environment are other methods that were gathered by Oandasan and Reeves (2005). Some Literature in USA pointed out problem-based learning and clinical experiences as commonly used methods to deliver IPE programs (Rouse, Delunas, Anderson, & Anderson, 2012). Students' perceptions with regards to IPE and collaborative practice have been assessed by various researchers utelising both qualitative and quantitative methods and interested in exploring and identifying the students views on some specific outcomes. In their systematic review that sought to highlight on the learning outcomes that can only be achieved through IPE, Thistlethwaite and Moran (2010) came up with 88 published literature and listed six outcomes including teamwork; roles and responsibilities; communication; learning and reflection; the patient needs; ethics and attitudes as outcomes achievable only through interprofessional learning. Matches to Thistlethwaite and Moran (2010) deduction in other studies that sought to research on students' perceptions were observed. For instance among the areas that Solomon et al. (2010) in Canada explored and reported on positive attitudes towards, were clarifying professional roles, providing information from own professional perspective, development of skills for problem-solving together, recognising and valuing collaboration, ability to reflect on clinical experiences and the impact on the patient.

In Japan, students acknowledged the significance of IPE in improving interprofessional work and communication regardless of their specific disciplines, understanding own and others professions, empowerment of patients and experiencing a comparison between

biomedical model of care and the holistic model of care (Maeno et al. 2013). A more comprehensive review of students views on IPE while targeting outcomes such as reaction (learners' views on the learning experience and its interprofessional nature), modification of perceptions and attitudes (change of attitude towards team based learning), behavioral change (transfer of interprofessional knowledge to practice), change in organisational practice and benefits on patients was conducted by Hammick, Freeth, Koppel, Reeves and Barr (2007) without a geographical limitation. Over all, more positive outcomes among the 21 studies reviewed, especially in areas of learners reaction to IPE and change of knowledge and skills were reported compared to mixed perceptions or neutral (Hammick et al., 2007). The major limitations that were highlighted by most researchers who evaluated IPE and IPCP was the heterogeneity of modes of instruction and points of service delivery (Hammick et al., 2007).

2.3. Interdisciplinary core courses

The definition of interdisciplinary education as highlighted in the literature revolves around the notion of various health disciplines studying together in order to practice in a way that collaboratively, a problem that cannot be satisfactorily addressed using single methods or approaches will be solved (Klein, 1990). It also generally involves the appropriate combination of knowledge from many different specialties especially as a means to shed light on an actual problem (Brewer, 1999). An IPE curriculum seeks to develop core competencies, i.e. a set of skills desirable for the broad practice of public health, reflecting the characteristics that staff of public health organisations may want to possess as they work to protect and promote health among the students in a gradual and progressive manner. (Council on Linkages Between Academia and Public Health

Practice, 2010; Orchard et al., 2010). The University of Toronto Centre for IPE (n.d) describes this process as an educational and professional continuum built on values and ethics, communication and collaboration. It particularly involves "active engagement of students from different professions in interactive learning whereby "something" is exchanged among and between learners from different professions that changes how they perceive themselves and others" (AIPHE n d pp 6). Ultimately, the changes must positively influence clinical practice in such a manner that enhances IPC, patient involvement in care and most importantly, improve health outcomes (AIPHE n d). Beyond the specific IPE goals described above, various faculties of health also include some other important aims that can be met by a curriculum of this nature. A few examples of faculties' other aims of having interdisciplinary core courses in their curriculum include those of the University of Nevada Reno of preparing students who can assume leadership roles for the health care delivery systems of the future as well as encouraging students to anticipate their role as functioning members of health teams (Baldwin & Baldwin, 2007); that of the University of Cape Town which is pan-professional and emphasizes unity by developing sound interpersonal relationships, understanding group dynamics, professionalism, commitment to human rights and endorsement of the primary healthcare philosophy (Duncan et al., 2006) and that of East Tennessee State University whose aim was to develop better health care provider teams who will become leaders in addressing quality, cost, access issues, in collaborative practices responsive to community needs (Brown et al., 2003).

Without a doubt, for IPE to be delivered to the learners, partnering health training disciplines (health faculty) ought to accommodate an IPE program or curriculum during the course. The complexity of doing that has been explained by the WHO in their explanation that achieving IPE and collaborative practice requires a review and assessment of the mechanisms that shape both (WHO, 2010). The WHO's review of literature, results of an international environmental scan of IPE practices, country case studies and the expertise of key informants enlighten that the afore mentioned achievement is shaped by several factors organised around 1) IPE, 2) collaborative practice, and 3) health and education systems (WHO, 2010). Hence policymaking and curriculum designs for IPE should revolve around these shaping mechanisms and address the overlaps as well (WHO, 2010). Some universities have only been able to incorporate simple extra-curricula interprofessional activities outside the regular class work, for instance the Memorial University of Newfoundland curriculum reported by (Curran, Sharpe, Flynn & Button, 2010) hence lacking the clinical experience. It is considered to be a less threatening method for staff who have not embraced professional integration or where institutional support is minimal (Barr, Koppel, Reeves, Hammick & Freeth, 2005). However, "Baldwin Jr and Baldwin (2007) argue that it is vitally important that such early learning be reinforced by clinical experience in a real life setting where team development and function are not left to chance, but are an integral part of the curriculum". There are also IPE programs that are compulsory, for example the Western University scenario whereby the curriculum "puts students from all nine of the University's disciplines together in the classroom, in small group venues, and in clinical experiences with patients (Western University. 2014) hence providing the students with

both theory and practice. The collaborative practice delivery points may differ from one institution to another with for instance the UWC one that provides a community setting for the students to practice the interprofessional skills (UWC, 2009). The University of Toronto also provides a good example of compulsory competencies driven curriculum involving all health sciences including Dentistry, Medicine, Nursing, Pharmacy, Physical Education and Health, Social Work and Rehabilitation Sciences. (Centre for Interprofessional Education, 2010). The curriculum design includes a mandatory core curriculum, complementary learning activities, simulation experiences, and a four-week clinical placement where students learn how to apply the theoretical concepts of collaboration in practice settings (Centre for Interprofessional Education, 2010).

Countries with a long standing history of IPE and nationally functioning programs have gone ahead to publish national profiles of IPE which now give it a more focused outlook compared to single universities initiatives as highlighted earlier. For instance, the Australian interprofessional heath education national audit provided the health sector with a curriculum renewal which was published as a progress report for Australian IPE current activities and future possibilities whose data were heavily informed by a second and a third study namely "Interprofessional Education: a national audit" and "Interprofessional Education for health professionals in Western Australia: Perspectives and Activity" respectively (Interprofessional Curriculum Renewal Consortium, 2013). The progress report also gathered data and was considered as study one. The progress report has the contribution of relevant stakeholders in health training and IPE in Australia and globally. These include the Australian Interprofessional Practice and Education Network (AIPPEN), nine other universities in Australia, 13 IPE authors from over ten

universities in the world acknowledged as a project reference group as well as support from Office for Learning and Teaching (OLT), Health Workforce Australia (HWA) and West Australian Health (WA Health) (Interprofessional Curriculum Renewal Consortium, 2013). The report therefore commands significant validity in highlighting the philosophy of IPE as practiced in Australia and carries lessons to be learned by upcoming institutions that desire to foster interprofessional collaborative practice. The study managed to conceptualise curriculum development for IPE and recommended the following considerations that IPE curriculum development should make: 1). Localization of curriculum in consideration of institutional circumstances; 2). Ability of the curriculum to engage with a range of social political and economic factors as well as the need for attention to institutional circumstances (Nicol, 2013). When these considerations are made, professional educators would now be able to link educational practice to health policy and create a curriculum with the right knowledge value (content), use appropriate pedagogy and be able to assess learners within a proper organisational arrangement (Nicol, 2013). The Canadian National Interprofessional Competency Framework developed by Canada Interprofessional Health Collaborative (CIHC) is yet another national interpretation of an IPE concept grounded on competencies for IPE. The framework was developed based on literature review related to health competencies and a review of existing competency frameworks for IPE and IPC (Orchard et al., 2010). They argue, "All health and human service/social care professions now look to a set of competencies to underpin their curricula, and to inform their scopes of practice" (Orchard et al. 2010p3). Among the strengths of the national interprofessional framework developed by CIHC is the adaptation of the specific

professions service delivery regulations into the framework. Also specific health services gatekeepers such as Canadian Patient Safety Institute and the Public Health Agency of Canada regulations have been factored. The strength of the national framework also lies in the fact that it is the only framework that integrated professional competencies applicable to all health professionals following the realisation that although specific health professional bodies acknowledge the relevance of IPC, none of them has developed a competencies model that can be used interprofessionally (Orchard et al., 2010). The CIHC arrived at six competence domains that highlight the knowledge, skills, attitudes and values that shape the judgments essential for interprofessional collaborative practice. The six domains allow learners to apply their competencies irrespective of their level of skills or point of service delivery. The learners' and practitioners' competencies can develop with the six domains over their professional lifespan and function in any situation. The six competence domains are 1) interprofessional communication, 2) patient/family /community-centered care, 3) role clarification, 4) team functioning, 5) collaborative leadership and 6) interprofessional conflict resolution (Orchard et al., 2010). Orchard and colleagues conclude that the six competence domains are interdependent and their application would result in a dynamic and flexible foundation for interprofessional learning and practice. Limitations to according IPE and collaborative practice a rounded functioning mechanism of training and support during practice obviously do exist. This is summarised by Baldwin and Baldwin (2007) into ten factors that have previously hampered IPE and collaborative practice as follows: "1) limitations in the amount and timing of all the necessary inputs into the curriculum, which seldom provide the necessary continuity of learning and experience; 2) lack of

functioning interdisciplinary clinical role models in teaching and in practice; 3) limitations inherent in the traditional linear model of professional education; 4) professional and disciplinary ‘‘turf guarding’’ and territorial imperatives; 5) silo certification and accreditation requirements; 6) traditional professional power dispositions; 7) administrative resistance to new forms of organisation and education; 8) difficulties in matching academic schedules and student skill levels; 9) initial expense of new programs; and 10) resistance of established programs.

Collaboration in practice originates from understanding and appreciation of the roles and contributions that each discipline brings to the care delivery experience (Haas et al., 2009). Since the aim of all health disciplines is to serve the patient and work toward ideal health for all, then it is important to come up with an educational mechanism that will socialize the health disciplines to work as teams through understanding and appreciating each other's roles (Haas et al., 2009). It is important at this point to precisely look at the structures of interdisciplinary component of health training curricula that is available in literature. While Hursh, Haas and Moore (1983) advocate use of generic skills as a mode of educating students in an interdisciplinary course, whereby the process involves recognising and defining problems; analysing the structure of an argument; assessing the relationships of facts, assumptions, and conclusion and performing hypothetico-deductive processes is applied, Newell (1990) strongly recommends that interdisciplinary courses should be organised around a topic. He argues that when a topic is identified, time to cover it can be allocated to satisfy three important things: 1. hooking student's interest in the topic through the use of, for example, articles films and short

stories; 2. shedding of each disciplines perspective on the topic and 3. interdisciplinary synthesising the topic into a more holistic perspective. Newell further argues that so long as the selected topic for educating students on collaborative practice is of interest to the students, the level of the topic will not be narrow as thought by some authors, instead it will broaden up along the semester since the insight/perspective of every discipline will be shared. In his model for designing interdisciplinary courses Newell (1994) came up with a structured instructional process that encouraged students to learn the roles and responsibilities of various professions and the skill of working together. The process has eight steps that include: assembling an interdisciplinary team; selecting a topic; identifying disciplines; developing the subtext; structuring the course; selecting readings; designing assignments; and preparing the syllabus (Newell, 1994).

South Africa welcomed the transformation of health soon after democracy in 1994 when the primary health care (PHC) policy was drafted. In their perspective on PHC in South Africa, Kautzky and Tollman (n d) highlighted that although there was renewed commitment and great investment in PHC, it was necessary that the effort goes beyond addressing the health persisting challenges, and more broadly incorporate innovative health systems designs and experimental work at scale, in order to reorient today's over-bureaucratized and often rigid primary care system. Initiatives such as Community Partnerships (CPs) funded by the W. K. Kellogg Philanthropic Foundation, were among the plans whose aim was to improve the quality of PHC through the reform of health professionals' education, by providing students with the opportunity to learn and

experience inter-professional, team-based, non-hospital PHC in community settings (El Ansari & Phillips, 2001).

The Faculty of Community and Health of the UWC in South Africa has been implementing interdisciplinary education for over a decade now. Structured modules for undergraduate students that are taught to several disciplines are underway. Interdisciplinary Core Courses Unit coordinates this process. International scholars feel that it is appropriate now to substantiate the claims that interdisciplinary learning positively influences inter-professional practice (Barr, Hammick, Koppel & Reeves, 1999). In the same accord, the current study attempts to assess stakeholders' perceptions of interdisciplinary education and practice for patient care in part of South Africa thus partly justifying the investment on this endeavor.

2.4. Interprofessional collaboration

IPC is firmly founded on teamwork. It is by far the best-tried and tested instrument for collaboration that is accorded respect in the field of interprofessional practice (Barr et al., 2005). The concept of more than one profession getting involved in patient care may, however, define the different forms of professional groupings that exist in delivery of health care. As explained by Wieland, Kramer, Waite and Rubenstein (1996), a professional group is at least a team if it shares a common setting and a set of patients. This will nevertheless not fully describe the nature of teamwork expected in interprofessional collaborative practice. Wieland et al (1996) explain how teams differ among themselves in their membership composition, commitment to common goals, degree of collaboration in accomplishing team related tasks, how the team handles

leadership and the kind of attention they give to team processes. The unique characteristics of interprofessional/interdisciplinary teamwork that Wieland et al (1996) describes is the interdependence of team members in the same setting, communicating formally and informally while planning for solutions of problems identified either independently or interdependently together. This form of practice, as highlighted later, has shown multiple positive outcomes in both clinical and human resource circles.

Hursh et al. (1983) indicate that as problems are identified, we need to understand the limits of unidisciplinary thoughts and expand our horizons by a coordinated examination of alternative modes of description, conceptualisation and evaluation.

The value of working actively with other professionals, as part of a single care team, is well embedded in discussions of effective health care (Finch, 2000). George (2000) described teamwork as "an essential prerequisite to modern clinical care". According to the General Medical Council, a good medical practice is based on a team of health professionals whose members are "open and honest about professional performance" both together and separately. This requires a willingness to engage directly, across boundaries that have long been impermeable (General Medical Council, 1998).

Every working environment involves professional interaction with others. In this regard, a large component of collaboration is usually involved. In the context of health professionals, the term collaboration conveys the idea of sharing and implies collective action oriented toward a common goal, in a spirit of harmony and trust (D'Amour et al., 2005). Immensely, the need for and the momentum to improve health care is growing.

Consequently interprofessional collaborative practice is increasingly being viewed as essential for providing of patient centered health care (Ateah at al., 2011). However, it is worthwhile to point out that health professionals interact in environments that present not only opportunities but a range of organisational constraints. These constraints complicate relationships between professionals (D'Amour et al., 2005). This complexity puts health managers in various institutions globally in a difficult position to organise this component of working together.

The development of research to demonstrate the effects of IPC has been slow. This is associated with challenges to this form of research (Schmitt, 2001). However, some significant work has been done in an attempt to gather empirical information on the effects of interprofessional collaborative practice. In his review of team care literature in chronic illness and rehabilitation, over 25 years period Halstead (1976), categorized the pool of literature into three categories namely opinion articles, program description and serious research efforts to investigate the effectiveness of team care. The outcomes observed included morbidity, mortality, functional outcomes, hospital use, other health services use, employment, and costs. Out of 507 studies, ten were control studies and six of them demonstrated teamwork care to have been effective. They demonstrated improved outcomes in one or more areas for patients receiving coordinated team care when compared with control groups (Halstead, 1976). Zwarenstein, Reeves and Perrier (2004) indicated that post licensure inter-disciplinary collaboration achieved health benefits (9/14) following an intervention that involved issuing of a structure guideline or implementation of a new way of working. Interdisciplinary collaboration is now

considered a high priority as concerns about patient safety, health and human resource shortages, effective and efficient care have reached epic proportions (Bainbridge, Nasmith, Orchard & Wood, 2010). However, The desire to push forward long term initiatives of health delivery change such as interdisciplinary collaboration are usually sidelined by urgent crises such as epidemics of HIV/AIDS and/or tuberculosis, spiraling health-care costs, natural disasters, ageing populations, and other global health issues (WHO, 2010). Efforts to gather evidence on the impact of interprofessional practice have still continued to extents of investigating the cost benefits of the same for example Smith, Ornstein, Soriano, Muller, and Boal (2006) who recorded a revenue increase and a decline in average length of hospital stay in Mount Sinai Medical centre in a hospital. The study went further to examine the caregiver burden among those who engaged in a collaborative practice programme and identified a significant decline (from 32.84 to 29.00 $p<.02$) (Smith, et al., 2006). In a systematic review, Suter et al (2012) identified studies that reported cost saving through interprofessional interventions that led to reduced number of hospital re-admissions and provider visits measured through a reduction of length of hospital stay, adverse events such as nosocomial infection rates (from 7.5 to 3.2 per 1000 ventilator days, $p=0.04$), bloodstream infections (from 5.9 to 3.1 per 1000 line days, $p=0.03$) and urinary tract infections (from 3.8 to 2.4 per 1000 catheter days, $p=0.17$) (Jain, Miller, Belt, King & Berwick, 2006), cancellation of surgery, hospital related mortalities and others. Suter et al's (2012) systematic review set out to identify the impact of interprofessional interventions on health human resource outcomes such as quality workplace, staff satisfaction, recruitment and retention, turnover and choice of employment and cost benefit. They concluded that "Collectively,

the studies provided sufficient evidence that IP interventions at the post-licensure levels positively impact provider satisfaction and workplace quality" (Suter et al., 2012 p 264). Other studies, such as Mitchell et al. (2013 p 7), have reported social-economic benefits that have been associated with "reduced healthcare costs due to the impact of interprofessional teams including lower rates of admission for chronic disease, lower ICU readmissions, reduced length of stay, and lower staff turnover". Working as interprofessionally composed teams in order to achieve positive outcomes such as mentioned above requires group maintenance functions that are organised to have regularly scheduled time and space a shared language and methods of conflict resolution (Wieland, et al., 1996). Although there are many models for IPE for collaborative centered patient care, there are fewer for interdisciplinary collaborative practice Bainbridge et al. (2010), hence the motivation to conduct this research.

2.5. Collaborative institutionalised patient care

Reasonable attention in research and in health practices pertaining to interdisciplinary education and collaborative practice has been given to primary health care and non-institutionalised community health care. It is important to acknowledge that many university graduates who follow an interdisciplinary curriculum work subsequently in health institutions such as accident and trauma hospitals, general hospitals and rehabilitation centres. The impact of interdisciplinary education in such institutions has not been explored enough. Gradually the belief that training health professionals differently encourages them to hold on to their independence and autonomy, thereby detracting from effective teamwork, is growing. This increases the gap of communication, sharing, and professional collaboration among health workers in

institutions. Reeves and Lewin (2004) indicate that the interdisciplinary relationships in acute care settings are short lived and continuously shifting between individuals and organisations.

Sections of institutionalised settings such as the Intensive Care Unit (ICU) are thought by Lingard, Espin, Evans and Hawryluck (2004) to be a source of interdisciplinary tension because of the pivotal role in the care of the hospital's most critically ill patients and in the management of critical care resources. Although Lingard et al. (2004) acknowledge that the principle of abolishing hierarchies and cultivating shared decision making as important in ICU teams, they also indicate that it is necessary to recognise that these teams as not only unified entities but also a collection of individuals with distinct professional identities based on different models of care, skills, economic circumstances and political agendas. Lingard et al. (2004) further indicate that collaboration or conflict in the ICU are catalysed by six factors that include authority, education, patient needs, knowledge, resources and time. These become the areas of focus when ICU teams want to enhance the accomplishment of certain goals.

Rehabilitation centres are yet another institutionalised setting where interdisciplinary collaboration among the health care providers is necessary. Gibbon (1999) states that the inclusion of the word multidisciplinary or any other term that refers to involvement of more than one health carer in a rehabilitation setting is a clear indication that more than one healthcare occupational group is needed so that patients health outcomes can be achieved. Nevertheless, the way these professional groups work becomes more

important. In his evaluation of teams, Pearson (1983) indicates that multidisciplinary patient's assessment where consultations were arranged separately did not improve communication between various specialists. The physician who was in charge of patient management just generally considered reports from various health carers. The care was generally fragmented. The interpretation of the term multidisciplinary is therefore "a structure of patient care that disregards the process (Pearson, 1983). On the other hand, a team interaction where the process of care is discussed is frequently referred to as interdisciplinary (Davis et al., 1992). In this case the term collaboration fits well in the interdisciplinary approaches of patient care since it carries the ideas of sharing the whole process of care.

Teamwork is an important component in the functioning of any institution (Blancet, 1994). According to D'Amour et al. (2005), bringing together a variety of competencies, experiences and judgments from various professionals by an institutional management is an indication of trying to respond to a reality that unidisciplinary approaches of addressing the increasingly complex issues is inadequate in terms of both the knowledge and the working methods that are being applied. Regardless of this endeavor, developing collaborative practice among a group of health care professionals still represents a considerable challenge to political decision-makers as well as to organisational managers (D'Amour et al., 2005). It has also been difficult for managers to gather empirical evidence that informs on the characteristics of an organisation that supports the development of interdisciplinary relationships within interdisciplinary teams (D'Amour et al., 2005). In this regard, the message is clear that there are a number of interdisciplinary

collaborative practice determinants that exist and influence collaboration in institutionalised setting (D'Amour at el., 1999). These determinants are classified as *interactional factors* (interpersonal relationships between team members) such as their willingness to collaborate and the existence of mutual trust, respect and communication; *organisational factors* (conditions within the organisation) such as its structure and philosophy, team resources and administrative support, as well as communication and coordination mechanisms and *systemic factors* (conditions outside the organisation) such as components of social, cultural, educational and professional systems (D'Amour et al., 2005).

It would only be reasonable for the determinants of interdisciplinary collaborative practice in institutions to be addressed in order to suit the efforts of the university's health faculties of preparing graduates for collaborative practice. If the institutions are not supportive to this form of practice, new graduates will shy away from implementing their new skills and only flow with the systems that they find operational in the institutions. This study therefore seeks to identify the perceptions of final year students of UWC who have been through the interdisciplinary core courses curriculum and whether the institutions where they carry out their clinical practice have systems in place that support interdisciplinary approaches of patient care.

2.6 Theoretical framework Intergroup: Contact Hypothesis

A theoretical framework provides a particular perspective, or lens, through which to examine a topic (Trent University, 2014). "The theoretical framework is the structure that can hold or support a theory of a research study" (Labaree, 2013 p 1). It introduces and describes the theory that explains why the research problem under study exists.

The framework must demonstrate appropriateness of its theories and concepts to the topic of research being addressed so as to be able to relate to the broader field of knowledge that the research is exploring. Hean, Craddock and Hammick (2012) discussed the need for theory to practice IPE. They explain that theory plays an important role as a tool that enables practitioners to articulate, reflect and reinterpret the routine health practices. The intergroup contact hypothesis was identified and is being presented explicitly in this study as an appropriate framework that relates to the hypothesis of the study and the concepts that inform IPE and collaborative practice in health care (Herbert, 1984).

The development of the intergroup contact theory

Prior to 1954, social scientists discussed the influence of intergroup contact in theory (without empirical research base). The big question in this regard was "what happens when groups interact? (Pettigrew & Tropp, 2005). Pessimistic theorists such as Sumner (1906) believed that intergroup contact is usually characterised by a sense of superiority from most groups and would naturally result in conflict. Without empirical evidence, writers such as Baker (1934 p120) persisted in believing that, regardless of equality, intergroup contact would only lead to suspicion, resentment, disturbance and possibly open conflict.

More optimistic views about intergroup contact started to be documented after the Second World War whereby shared inter-racial experiences with a common goal were seen to lead to shared understanding and regard (Pettigrew & Tropp, 2005) while Brameld (1946 p245) further indicated that when groups are isolated from one another, prejudice would actually spread widely. The conflicting theoretical opinions pertaining to the impact of intergroup contact eventually became a field of research for the then emerging discipline of social psychology **(**Pettigrew & Tropp, 2005) which led to numerous studies that pursued the role of contact among different racial groups in universities and among seamen in a ship. The results were different in both cases with positive racial attitudes developing among the seamen and negative attitude among the students **(**Pettigrew & Tropp 2005). Further emphasis on the capability of intergroup contact to develop positive attitudes among the groups was laid by scholars such as Stouffer et al. (1949) who provided empirical information that African American soldiers who fought side by side with the white American soldiers during the winter Bulge war of 1944-45 immensely changed the attitudes of white American soldiers. The empirical research era of the intergroup contact was climaxed by Allport's hypothesis of 1954 (intergroup contact hypothesis) which provided four specific situational conditions that are necessary for intergroup contact to reduce prejudice. These were equal status, common goals, intergroup cooperation and support of authorities law or custom (Pettigrew, 1998). Going forward, more studies have empirically supported Allport's hypothesis including in Africa, for instance, Holtman, Louw, Tredoux and Carney. (2005) who investigated the predictors of racial attitudes among different racial learners

in the University of Cape Town and highlighted contact as the most important predictor of racial attitudes, more important than socio-economic class, demographic integration of the school, or participants' racial identification. A more detailed meta analysis of studies that sought to investigate the association between intergroup contact and prejudice indeed came up with inverse relationships between intergroup contact and prejudice from 94% of the studies (Pettigrew & Tropp, 2013).

Intergroup Contact hypothesis

Gordon Allport acknowledged that intergroup contact had positive and negative attitudes to the groups based on the studies that had been done previously. He, however, adopted a "positive factor" and indicated that in order for groups contact to reduce prejudice, four positive features of the contact situation at hand must be present (Pettigrew & Tropp, 2005 p263). These are mentioned above and will be explained briefly below in order to highlight the bases for the theory and later illustrate the role of the theory in underpinning the arguments of the current study.

Equal group status

All groups that are in contact should expect and perceive equal status in the situation at hand. Some research indicates that groups should come into contact with equal status although there are those that also find intergroup contact to be effective even when the status differed initially (Pettigrew & Tropp, 2005 p265).

Common goals

For intergroup contact to be effective, an active effort towards a shared goal is important (Pettigrew & Tropp, 2005 p264). This helps to reduce prejudice (Pettigrew, 1998). Miracle (1981) reported a study - the "Robbers café experiment" of 1961 by Sherif and

colleagues Sherif, Harvey, White, Hood and Sherif. (1961) and deduced that in contact situations, conflicts are reduced when superordinate goals (goal of high appeal value for both groups that cannot be ignored by the group partaking in the situation but whose effective attainment supersedes the ability of one group alone) are introduced. A good example for testing the common goal situational condition in reducing prejudice would be a racially mixed school football team, that needs to win games (superordinate goal) as compared to a non football-playing group of student of the school being a control group (Miracle, 1981).

Intergroup cooperation

In order to attain a common goal, the effort made must be interdependent, based on cooperation and not competition (Pettigrew & Tropp, 2005 p265). In their book *The robbers cave experiment: Intergroup conflict and cooperation* Sherif, Havey, White and Sherif (1961) demonstrated the cooperation principle through creating barriers to activities that would only be achieved through intergroup cooperation. Following the cooperation, positive relations were detected.

Support of authorities law or custom

This situational condition revolves around explicit social sanctions that renders intergroup contact more acceptable, effective and has more positive effects (Pettigrew, 1998). "Authority support establishes norms of acceptance" (Pettigrew, 1998 p67).

Significance of intergroup contact hypothesis to the research

The intergroup contact hypothesis was considered an appropriate theoretical framework to underpin this research because of the realisation that professional prejudice in health develops early during training and affects practice deep in the professionals' careers. The

assumption made in this case is that more contact among various professionals in the health sector will reduce the prejudice and promote collaboration for better health care. The four situational conditions illustrated by Allport in 1954 are closely related to the effort made in health training institutions through IPE whose intention is to prepare graduates with competences that enable them to perceive equal status, have a common goal and cooperate in achieving it. Institutional policy support is empasised in this research as much as it is empasised in this theoretical framework. The deductions of this study therefore across the students perceptions with regards to IPE, the interprofessional curriculum analysis, analysis of patient care protocols and managers perceptions about IPCP borrowed from the intergroup contact hypothesis that indicates that contact among groups under specific situational conditions, eliminates prejudice and promotes positive attitudes among members.

2.7. Summary of chapter two

This chapter presented a review of literature on IPE, core courses, IPC, institutionalised patient care and the theoretical framework. Literature has described IPE as a reaction to inadequacies in health. The WHO and other scholars have cited IPE as a necessity. It is part of a synergistic process to prepare students for IPC when they graduate. Approaches to IPE by different countries through their universities and other organisational frameworks have been cited. Some studies have documented the impact of IPE in terms of efficacy, closer teamwork, better care and improved outcomes. The interdisciplinary core courses curriculum and how they are utilised to enable students acquire interprofessional competencies are also presented. Cases of University of Toronto, University of Cape Town, Neveda Reno, East Tennessee and the UWC are cited. Various

features of these curricula such as being compulsory or part time, having a clinically practical component or community based are presented. The review of literature also identified how an IPE curriculum can be conceptualised in different countries such as Australia, Canada and United Kingdom. The South African context of an IPE curriculum is also presented. Literature on IPC used in this study is presented as "not only a team approach to patient care" but a team approach that has characteristics of interdependence such as regular communication being formal or informal while seeking solutions to health problems that are beyond the scope of a single profession. Trends of research in highlighting the impact of IPC have been reported to be slow but growing to show positive outcomes. Examples of indicators that have been used to assess he impact of IPC include caregiver burden, hospital readmission rates, hospital stay, cancellation of surgery, staff satisfaction and other social economic indicators. With regards to institutionalised patient care, different settings that are institutionalised for care are described. Literature acknowledges that the nature of IPC in institutions is short lived hence encouraging gaps in communication and sharing of information. The different teams that exist in such settings such as multidisciplinary and interdisciplinary are described. Team functioning is encouraged for institutions although it has proven to be challenging for administrators. Determinants of IPC in institutions need to be researched and addressed. Finally, the theoretical framework used to underpin this study (Allport's theory of intergroup contact hypothesis) was presented. The next chapter shows the methodology that was used in the entire study.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

In this chapter, the methods utilised to conduct the study are described. In particular, the settings, study design, population and sampling, data collection methods and instrumentations are clearly presented. Further, the data analysis methods and the procedure undertaken in the Delphi study meant to validate the developed collaborative practice model are highlighted. Finally, issues of ethical considerations pertaining to this study have been reported.

3.2. Setting

The UWC, where the current study was conducted is a public university that was established in 1960. The university was established under an apartheid regime of government that intended it to serve the colored community of South Africa. The University eventually pursued a creative struggle against discrimination and was therefore a strong force behind the liberation and formation of a democratic South Africa. The university is located in the Northern suburbs of greater Cape Town, in the City of Tygerberg (UWC, 2009). It is situated approximately 40 km from Cape Town along Robert sobukwe road. The university is closely accessible by a wide range of public transport including by air train and road. UWC continues to pursue the equity agenda, enhancement of quality higher education and empowerment of the historically marginalised communities through extensive community engagement. This has defined

the universities social, historical, economic, political and the educational/professional culture that significantly informs the curriculum programs that produces graduates who enter the professional market with specific knowledge, skills and attitudes. In this regard, UWC has joined other academic institutions globally in the initiative to enhance collaboration in patient care. Since the late 90's, much effort has been made to initiate interdisciplinary education at the university in the Faculty of Community and Health Science (FCHS). The FCHS initiative has developed over years to a level whereby several departments place their students in various communities for community based education and IPE (Mpofu, Daniels, Adonis & Mashingaidze, n d). These departments include Psychology, Physiotherapy, Occupational Therapy, Nursing, Natural Medicine, Social Work and Dietetics. An interdisciplinary core course integrated curriculum exists in the FCHS and is coordinated by an Interdisciplinary Teaching & Learning Unit (ITLU) to facilitate the joint learning among professionals (Mashingaidze, n d). Statistically, the number of UWC's output of students with inter-disciplinary education is on the rise. The finalists from various departments and schools who had undergone through the curriculum and placed on the IPE programs formed part of the sample of the current study. Other settings included the health care institutions where students who covered the curriculum in class and completed the interdisciplinary placements were placed for clinical practice in their final year.

3.3. Study design

Both qualitative and quantitative methods (mixed method) were employed concurrently in this study. Walker, Spratt and Robinson (2004) highlights that using the two methods of research appears to offer a more comprehensive approach to finding answers to

research questions. Furthermore, mixed methods provide a greater understanding and/or validation of results (Bazeley, 2007). The strategy that was utilised in this research was the concurrent mixed model design where qualitative and quantitative data was converged in order to provide a comprehensive analysis of the research questions hence all forms of data were collected at the same time then the information was integrated in the interpretation of the overall results (Creswell 2003 p14). The quantitative part of the study focused on interdisciplinary core course curriculum analysis and the student's perceptions on interdisciplinary education. It was hypothesised that the strength of the curriculum in cognitive rigor would reflect in the students' perceptions regarding the courses. The qualitative part of the study covered the content analysis of the patient care institutional policies and the hospital managers' perceptions with regards to interprofessional collaborative practice. It was also hypothesised that the friendliness or unfriendliness to collaborative practice would reflect in the views and perceptions of the managers with regards to interprofessional practice in their institutions.

3.4. Data collection methods

The data collection methods used to answer each objective will be presented here.

3.4.1. Objective one*:* <u>To evaluate the UWC FCHS interdisciplinary core course curriculum for cognitive rigor</u>.

The interdisciplinary core courses curriculum comprises of three modules undertaken by all students admitted in the faculty. The three modules consist of a total of 14 specific outcomes and 57 assessment criteria. The researcher and a second independent trained evaluator analysed all the specific outcomes and assessment criteria. According to Porter (2006), a curriculum analysis is taken to mean assessing the academic content of a

curriculum at its intended level, enacted level and assessed levels. It involves a systematic process of isolating and analysing targeted features of a curriculum. Furthermore, it does involve analysing the performance expectations, or cognitive demand, that describe what students are to know and do with the content. As advised by Jansen and Reddy (2003), in a process of curriculum analysis the researcher should consider inquiring about "What need" is the curriculum responding to, "who is the curriculum designed for", "who designed the curriculum", what content areas does it focus on, who teaches the curriculum, what exposure time is there to this curriculum, how will the success of the curriculum be determined and what resources does the curriculum need. The Depth of Knowledge framework (DOK) (Appendix A) authored by (Webbs, 2002) of curriculum analysis was used to analyse the performance and the assessment objectives.

Curriculum analysis framework

The Depth of Knowledge (DOK) (Appendix A) framework was used for assessment of performance expectation (Webbs 2002). Analysis through this framework entails two processes: - First, systematically identifying and isolating curriculum objectives content, using a measure that considers both cognitive rigor and relevance (real world application) and secondly analysing the performance expectations for the content. The specific outcomes as indicated in the lessons plan of the curriculum represented the interdisciplinary core course intended content while statements of expectations i.e. assessment criteria regarding student performance throughout the course represented the enacted curriculum. (Curricula Analysis Whitepaper, 2008). Both were assessed using the DOK framework. According to this framework, the higher the level, the higher the

cognitive demand and relevance. In this case therefore an interdisciplinary core course curriculum objective assigned to level 1 had the lowest cognitive demand and relevance while an objective assigned to level 4 had the highest cognitive demand and relevance (Curricula Analysis Whitepaper, 2008). For the curriculum analysis impartiality, a second reviewer who had interests in interdisciplinary education was used to chronologically work through the curriculum objectives and for satisfaction attainment, reference to available literature regarding interdisciplinary core course was made and levels of DOK allocated.

Each of the titles of DOK scale has been defined by Webb (2002) in order to guide the curriculum evaluators on the kind of thinking involved while doing the task. Level one which is the recall and reproduction level requires the recall of information, such as a fact, definition, term, or a simple procedure, as well as performance of a simple science process or procedure. In level two (skills and concepts) engagement of some mental processing beyond recalling or reproducing a response is included. The content knowledge or process involved is more complex than in Level 1. In level 3 (Short-term Strategic Thinking) reasoning, planning, using evidence, and a higher level of thinking than the previous two levels is required while in level 4 (Extended Strategic Thinking) there is high cognitive demands and complexity. Students are required to make several connections, relate ideas within the content area or among content areas and have to select or devise one approach among many alternatives to solve the problem. The DOK framework for scoring curriculum content is shown in table 3.1.

Table 3.1. Depth of knowledge framework scale

DOK level	Title of level
1	Recall and Reproduction
2	Skills and Concepts
3	Short-term Strategic Thinking
4	Extended Strategic Thinking

Reliability and Validity

The reliability of the DOK framework was ensured through an inter-rater reliability test. Inter rater reliability is where data is coded independently and then the codes compared for agreement (Armstrong, Gosling, Weinman & Marteau, 1997). An independent rater with interest in interdisciplinary education was trained and requested to analyse the interdisciplinary core courses curriculum using the DOK tool. The tool was printed and attached to the three courses content (specific outcomes and assessment criteria). The independent rater was trained on how to use the tool and allowed two days to give feedback. The cohen's Kappa statistical measure of SPSS was used to measure the agreement between the independent rating and the researchers rating. The Kappa score ranges from 0-1. The closer the k value to 1, the more reliable the tool is. In this regard the score was k=0.713. Content validity was ensured through a panel of experts in the FCHS through dissemination of the DOK scale to them together with the level allocation guides.

Data analysis

Concurrence between the two evaluators was reached through kappa coefficient in SPSS in order to ascertain the attribute agreement value. The kappa coefficient values range from 0 to 1. The closer the k value to 1 the stronger the agreement.

Following this procedure, the statistical interpretation of the degree of cognitive demand (rigor) and the relevance of the interdisciplinary core courses curriculum was such that the bigger the percentage of higher DOK levels (3 and 4) the higher the degree of rigor and global relevance and vise versa for DOK lower levels 2 and 3. Descriptive statistics as in SPSS version 20 was used to compute the frequencies, percentages, mean mode and standard deviation of the DOK framework as assigned to the curriculums objectives.

3.4.2. Objective 2: To determine the perceptions of students regarding interdisciplinary approaches of patient care

Population and sampling

All final year students in the FCHS of the UWC who had completed the interdisciplinary core courses curriculum and had already commenced their clinical practice placements in various health care institutions were invited to participate in the study.

Student's inter-disciplinary education perception

The student's interdisciplinary education perception was determined through the Interdisciplinary Education Perception Scale (IEPS). This instrument was created by Luecht, Madsen, Taugher and Petterson (1990) with a view to determine the perceptions of interdisciplinary learners following the realisation that interdisciplinary education programs in allied health professions were growing and needed alternate forms of assessment that go beyond basic performance indicators. Luecht et al., (1990) originally formed the IEPS as an 18-response item tool with a 1 to 6 point agreement likert scale ranging from level 1(strongly disagree) to level 6 (strongly agree). Following the revision of this instrument by McFadyen, Maclaren and Webster (2007) it became a 12-item

instrument but the Likert scaling remained the same. A section inquiring on students' demographics was included hence the final tool consisted of two sections (Appendix B).

IEPS reliability and validity

The authors established the internal consistency of the instrument in its four subsections namely Competency and Autonomy, Perceived Need for Cooperation, Perception of Actual Cooperation, and Understanding Others' Value. They reported internal consistency alpha values of 0.823, 0.563, 0.543 and 0.518 respectively and an alpha value of 0.872 for the entire scale having used a sample size of 143 subjects (Luecht et al., 1990). This instrument was later revised by McFadyen et al. (2007) in order to affirm evidence of the stability of the original instrument and of the test-retest reliability of the items and sub-scales when used with undergraduates. They used the Structural Equation Modelling (SEM) approach in order to allow the content of the questionnaire items to suggest the structure of the subsections. At the end of this process, a 12 items, 3 subsections questionnaire was arrived at McFadyen et al. (2007). The subsections are: - Competency and Autonomy, Perceived Need for Cooperation and Perception of actual Cooperation. The items are renumbered from 1-12 in their respective three subsections.

Data analysis

The first subsection of the instrument (Competency and Autonomy) has a maximum/minimum score of 30/6 while the second subsection (perceived need for cooperation) has a max/min score of 12/2 and the last subsection has a maximum/minimum score of 30/6. A maximum in any subsection represents a strongly agree response in all the items in a subsection while a minimum represents a response of strongly disagree in all the items in a subsection. The higher the score per subsection, the

higher the positivity of the interdisciplinary education perception and vice versa. In order to draw statistical correlations between the subscales and the demographic characteristics, the Likert scales for each subscale were converted into a binomial data of "agree or disagree" and a Kruskal–Wallis test of variance and correlation computed. The Kruskal–Wallis test was used because it does not assume that a set of data is normally distributed and can compare the distribution of unrelated independent and dependent variable. It also provides a Chi-square value that can be used to identify the statistical significance between variables. Cross-tabulation between subscales and demographic characteristics was computed in order to assess the distribution of those demographics across the subscale variables.

3.4.3. Objective 3: <u>To evaluate patient's care/management documents/protocol/policy in selected public health institutions in the Western Cape</u>.

The health care institutions where UWC places students for clinical practice were considered. A purposive sampling method was used to select only those institutions that the UWC places students from more than one department in a year were. These included Tygerberg hospital, Grooteschuur Hospital, Lentegeur hospital, Redcross hospital and the Western Cape Rehabilitation Centre. The institutions managers were requested to offer for analysis those documents that would depict the models of practice in their institutions.

<u>Policy Analysis guide</u>

The purpose of the analysis that was conducted on the institutional policies in this study was to identify whether the policies are interdisciplinary practice friendly. A number of

questions that need to be answered along the analysis were drafted to guide the process. These questions were informed by literature such as D'Amour et al. (2005) who highlighted on the three determinants of interdisciplinary practice in institutions. These include interactional, organisational and systemic factors. Some of the Institutional Analysis and Development framework (IAD) (Polski & Ostrom, 1999) guidelines of policy analysis were also used to formulate the questions. The framework was formulated by an interprofessional crew as a tool for a wide spectrum of institutional policy analysis (Polski & Ostrom, 1999). IAD guides to inquire on such issues as the attributes of team players, institutional rules, general performance of systems and analysis of action arena (Polski & Ostrom, 1999).

Data analysis

Prior to the engaging into reading of the institutional patient care protocols, two major categories were created. These included "friendliness to collaborative practice" and "unfriendliness to collaborative practice" Going forward, themes were created and allocated to either of the two categories as the researcher thoroughly read and re-read the documents. The researcher ensured that the themes that emerged were exclusive and independent as such, data/quotes was placed only on either of the categories (Methodology manual, 1995). However, it was possible to locate a practice component/quote of the protocol among two themes falling under the same category. i.e. it was not possible for a practice component to be friendly and unfriendly to collaborative practice at the same time. A colleague to the researcher was trained and supplied with a coding manual for coding consistence. The principal researcher and the trained

independent coder constantly engaged in reading and re reading of the policy content in order to code the entire text. Following a summary of the coded data, constructive inferences were made while deriving interpretations and eventually reported on the compliance to literature of the institutional patient care policies.

3.4.4. Objective 4. To explore Health Institutions Managers views and perceptions of collaborative interdisciplinary practice in their respective hospitals

Population and Sampling

Managers of the same institutions whose policies were analysed were invited to give their views and perceptions of collaborative interdisciplinary practice. The managers who have a medical background and are playing an administrative role for the whole institution were requested to participate

Data collection method

The views and perceptions were collected through in depth interviews. Questions to guide the interviews were formulated by the researcher guided by literature. The interviews were conducted in English language and recorded in an audio digital tape recorder and taking of field notes. The interviews were conducted in the managers' places of work as they had requested during the permission seeking process. The interviews were conducted at an average of 45 minutes each.

Data analysis

Manual transcription to transform audio data into text was performed. The content of the transcribed data was read and re read while the audio recording was listened to several times to familiarise the researcher with the content and to create better understanding

(Methodology manual, 1995). In this process identifying of themes as coding units and assigning them to prior identified categories was conducted. Manual coding using different colors was done in order to associate specific segments of information to the themes prior identified. This data was summarized, constructive inferences derived out of it and finally reported in the sixth chapter of this thesis

3.4.5. Objective 5*:* <u>To develop an interdisciplinary approach of patient care model for health institutions and the UWC.</u>

Several steps were taken in the development of the interdisciplinary approach to patient care model. Firstly, literature regarding interdisciplinary care practice was explored. Secondly, data was analysed from objective three as outlined in chapter six and objective four as outlined in chapter seven. Key aspects taken into consideration included institutional administrative support for IPC, interdisciplinary team formation, communication, interdisciplinary intervention in various settings, patient centered care, documentation and evaluation.

<u>Delphi study</u>

A Delphi study is meant to obtain the most reliable consensus of a group/panel of experts concerning e.g. a tool (Dalkey & Helmer, 1963). Experts who were requested to form the panel were identified by the researcher within the UWC and internationally. Interdisciplinary interests and experience were considered in identifying the panel. The levels of expertise in either IPE or IPC e.g. a PhD or above two years of experience or extent of publication in the field were considered to acquire at least 10 experts. The researcher used a purposive sampling to identify the experts. The researchers experience throughout the study was an enabling factor to select the panel (Polit & Hungler 1997 p.

229). An electronic communication (email) was established and was used to disperse a series of successive questionnaires spread over a three rounds while analysing feedback to identify consensus or evidence that no more consensus can be reached. A universally agreed proportion of consensus does not exist (Hasson, Keeney & McKenna, 2000). However due to a relatively small panel of experts, a higher level of consensus (70%) was set to be the definition of agreement for different concepts that were paused to the panelist. The comments provided by panelist for each concept facilitated reaching a higher agreement level for the concepts that initially had low consensus. The questions were in form of Likert scale or yes/no design. Spaces for open comments were provided. Initial opinions informed the setting of the subsequent questions throughout the rounds (Gibson, 1998). Personal emails were used to ensure that the opinion feedback was controlled and independent (Rowe, Wright & Bolger, 1991). The aim of the study was explained to the panel including the need to remain committed throughout the rounds (Buck, Gross, Hakim & Weinblatt, 1993). Although lack of convergence may compromise validity and reliability in a Delphi study, successive questioning and use of experts' opinions increased trustworthiness in general (Goodman, 1987). Commonalities within the open comments for specific questions were identified, interpreted and incorporated in the corresponding concepts of the model. General comments such as use of terms and the order of proposed principles were also considered. Statistical data generated by the likert scale were analysed descriptively per round and presented in tables and figure. From the input of the Delphi study, the institutional interdisciplinary practice model was finalized.

3.5. Trustworthiness

In order to ensure trustworthiness in this study, the following procedures were followed:

Credibility: To ensure coding consistence among the coders both in the pre test coding and in the actual coding, coding manuals consisting of category names, definitions or rules for assigning codes and examples were developed (Weber, 1990).

Pre tests of the content analysis system to check for the suitability of categories, coding instructions and the themes was conducted by an independent colleague not forming part of the actual analysis. This was done on randomly selected samples of text (Zhang & Wildmuth, 2009). This allowed for some additions to the categories following an agreement between the researcher and the independent evaluator. The reliability of coders was also tested with an acceptable range of reliability set at 70-80 % implying that the coders would code similarly a group of items >70% of the times (Methodology manual, 1995). The agreement level between the researcher and the independent coder was 80% implying that out of some 10 randomly selected phrases in the text, 8 of them were coded similarly between the researcher and the independent reviewer.

Transferability: Sufficient description of the content of the policies and that of the manager's views and perceptions is made in order to allow future readers to make an informed decision regarding transferability.

The researcher and the independent coder constantly inductively engaged with the content of the policies, read and re read while comparing with literature in order to stimulate original insight and to identify differences between developed categories.

An independent coder (health expert with interdisciplinary practice interest) was trained to partner the principal researcher in the exercise.

Since the consistence of coding was done with a randomly selected sample of text, a recheck of consistence was done after completion of actual coding (Zhang & Wildmuth 2009).

3.6. Ethical considerations

When this study was proposed, it was submitted to the UWC's Senate Research Grant and Study Leave Committee where ethical approval was sought and granted (Appendix C) registration number 11/10/33. The researcher also approached the Director of the Interdisciplinary Teaching and Learning Unit (Appendix D) with full explanation about the study in order to acquire from her the Interdisciplinary Core Courses curriculum for analysis. The permission was granted (Appendix E). Any lecturers who were lecturing in a class of students forming the sample group were approached to allow the researcher to approach the students after their lectures to answer the 12-item six point likert scale questionnaire voluntarily. Arrangements were made to collect the questionnaire during the next end of the lecture or sometimes the students dropped the questionnaires at the reception of their departments where the researcher had organised to collect them. The e-learning facility in the UWC website that links all students undertaking a common course to a common access of information was also used to remind the students to submit back the questionnaires. At this meeting, the aim and the nature of study was made clear before the questionnaires were issued for answering. The study involved institutions of health that function under the department of health of South Africa. Permission from the Western Cape Department of Health was therefore sought (Appendix F). The department of health instructed the researcher to request respective institutions to grant permission for this study. The researcher proceeded to request specific institutions for ethical

clearance as seen in Appendices G, H, I, J and K. The institutions granted permissions as seen in Appendices L, M, N and O. One institution did not respond.

An information sheet explaining the aim and rationale of the study was made available to the respondents (Student information sheet Appendix P and for Managers Appendix P). Contact addresses in case of queries were also supplied. Matters concerning respect, privacy, confidentiality and anonymity were made clear and observed. Agreement to participate in the study in any way was done through a formal consent form signed by the participant Information sheet for student Appendix R and for Manager Appendix S). Participants were informed of their freedom to withdraw from the study at any time and without prejudice. All collected data was backed up and locked in safety. The data was not kept for longer than necessary. The participants of the Delphi study were anonymous to one another but only known to the researcher. When the study was completed, results were made available to the University and the health care institutions. Participants were allowed to ask questions pertaining to issues being discussed along the study. The researcher either answered the questions or guided the participants to appropriate sources of information required.

3.9. Summary of chapter threee

In this chapter, the methodology used to conduct the study was presented. This included the settings; study design; population and sampling methods; data collection methods, instruments and analysis for each objective procedures and ethical considerations. The results of the study are presented in the next four chapters.

CHAPTER FOUR

CURRICULUM ANALYSIS

4.1. Introduction

The results of this study are presented in four chapters and in two fold i.e. training and practice. The first two chapters i.e. chapter four and five are those that investigated the training aspect of interprofessional collaborative practice while chapter six and seven investigated the practice component of the same.

In this chapter (fourth chapter), the interdisciplinary core courses curriculum as implemented at the UWC is being analysed. All the three modules offered in the interdisciplinary course were analysed. The focus of this analysis is to assess the curriculum's cognitive rigor i.e. the mental demand required from the students when they are assessed with regards to the content covered. Since specific interprofessional practice attributes/competences are expected from the learners on completion, the level of cognitive rigor reflects on how well the interprofessional practice competences are developed among the learners. The curriculum is composed of three modules namely: Introduction to Philosophy of Care; Primary Health Care; and Health Promotion.

The analysis of the curriculum in this chapter is twofold. The first is the curriculums' method/pedagogy of teaching relationship to methods used internationally to deliver IPE. The second is the analysis of the curriculums cognitive rigor of the content. The latter will be performed using the Depth of Knowledge levels tool.

4.2. Interdisciplinary core courses curriculum pedagogy analysis

The importance of analysing the methods of teaching IPE is spelt out by Payler, Meyer and Humphris (2008) when they argue that the less there is on research regarding pedagogies useful on IPE, the more it shall be assumed that the content of intervention in the courses delivers the desired outcomes.

A content analysis for pedagogies utilised to deliver IPE was therefore conducted.

In order to analyse the pedagogies, a systematic review conducted by Payler, et al., (2008) which is the only systematic review thus far conducted to review methods used in the delivery of IPE, was used as a reference point to explore the extent to which the UWC delivery of IPE has exploited the available methods of teaching that exist. Barr, (2002) suggests that it is advantageous to use more than one method in combination to deliver IPE. However, the need for use of a wider variety of methods for delivery of IPE in the UWC context was considered depending on the outcomes targeted as pointed out by Barr, (2002). Payler, et al., (2008) literature review unearthed 14 methods as internationally used, hence a comparison was done as illustrated in Table 4.1 to compare the content of UWC's methods in relation to the global perspective. Out of the 14 methods, UWC utilises over half of these 9 (64%).

Table 4.1. Content analysis; Pedagogies used to deliver course content

Pedagogies highlighted in review	Pedagogies used at UWC	Procedure
Team-building exercises	✔	Teams formed with leaders, role allocation, communication stipulated
Shared content instruction	✔	Curriculum content is shared among all disciplines
Reflection in practice	✔	Reflective journals assessed.
Problem-based learning	✔	Community projects with actual determinants of health
Experiential learning	✔	Health promotion community projects
Guided discovery learning	--	
Small group session	✔	Groups in class sessions and group assignments
Plenary discussions	--	
Critical thinking	--	
Case studies	--	
Role play	--	
Web-based virtual community network (technology)	✔	Materials shared online, sharing forum online, online projects discussion forum
Communities of practice	✔	Community placement
Lectures	✔	Conducted by facilitators
14	**9**	

KEY: ✔-Method used at UWC
-- Method not used at UWC

4.3. Three modules analysis for cognitive rigor

In each module, there is a set of specific outcomes each with several assessment criteria through which students are tested for the extent on learning achieved. The specific objectives are a summary of what the student experiences throughout the content for each module. The assessment criteria depict the intended depth of learning from the content. The DOK tools through its four "activity levels" guides in ranking the specific outcomes and the assessment criteria into those four activity levels that are elaborated in figure 4.1 and table 4.2. The first step of the analysis therefore is to rank the specific outcomes as per the DOK in order to create a standard of which at least half and above of the DOK scores for the assessment criteria should correspond (Poter, 2006 p 14). Poter (2006)

clarifies that the extent to which the content experienced by students (specific outcomes) corresponds to the tests that the students takes, the more the student is thought to have had an opportunity to learn. This represents a content experienced verses content tested form of comparison. The four activity levels are in an ascending order hence implying that an assessment criteria ranked in level one has a low cognitive demand (low mental demand in learning) when compared the other three.

Figure 4.1 is a summarised guide (reference) for ranking the assessment criteria into the DOK levels while table 4.2 is an expounded format of the same.

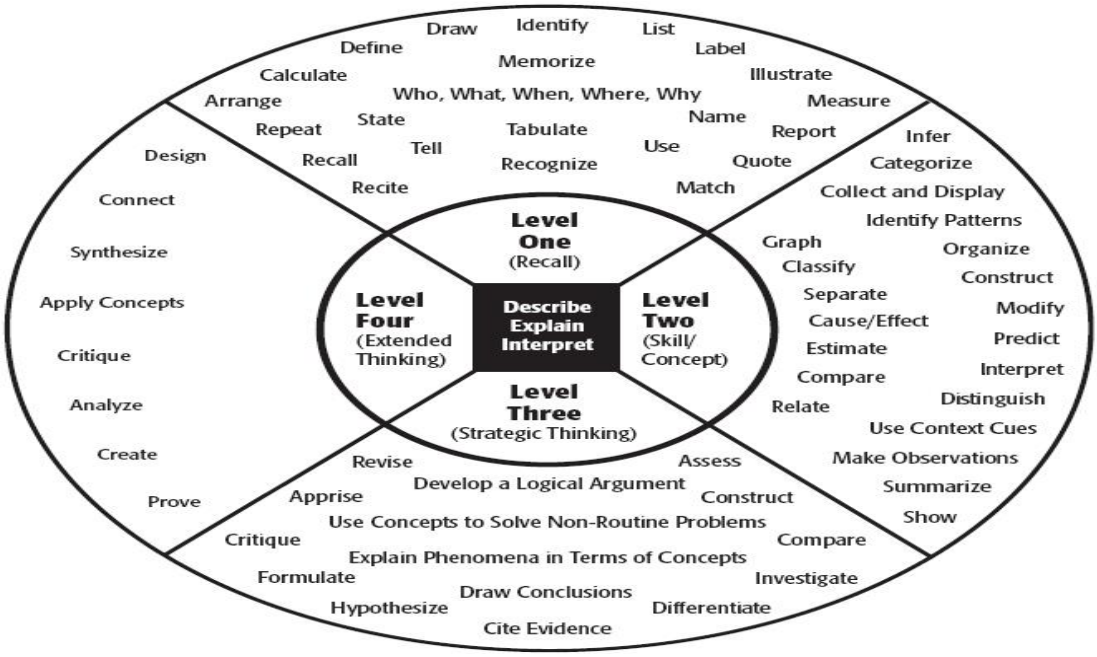


Figure 4.1. Simple Depth of Knowledge scoring guide

Table 4.2. Expounded DOK scale scoring guide

Level one activities	**Level two activities**	**Level three activities**	**Level four activities**
Recall elements and details of story structure, such as sequence of events, character, plot and setting. Conduct basic mathematical calculations. Label locations on a map. Represent in words or diagrams a scientific concept or relationship. Perform routine procedures like measuring length or using punctuation marks correctly. Describe the features of a place or people.	Identify and summarize the major events in a narrative. Use context cues to identify the meaning of unfamiliar words. Solve routine multiple-step problems. Describe the cause/effect of a particular event. Identify patterns in events or behavior. Formulate a routine problem given data and conditions. Organise, represent and interpret data.	Support ideas with details and examples. Use voice appropriate to the purpose and audience. Identify research questions and design investigations for a scientific problem. Develop a scientific model for a complex situation. Determine the author's purpose and describe how it affects the interpretation of a reading selection. Apply a concept in other contexts.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analysing its data, and reporting results/ solutions. Apply mathematical model to illuminate a problem or situation. Analyse and synthesise information from multiple sources. Describe and illustrate how common themes are found across texts from different cultures. Design a mathematical model to inform and solve a practical or abstract situation.

(Webb, 2002)

4.3.1. Introduction to Philosophy of Care (IPOC)

The first module that was analysed was "Introduction to Philosophy of Care" (IPOC). It's purpose was to introduce the students to some of the conceptual foundations which form the basis for sound ethical practice of health care professionals and further develop skills in understanding care as a social practice and to recognise different moral arguments about care. IPOC was undertaken by Dietetic, Natural Medicine, Physiotherapy, Occupational Therapy, Social Work, Sports Recreation and Exercise Science and Nursing students. Table 4.3 presents the DOK analysis of IPOC.

IPOC was constituted of four specific outcomes that were considered a summary of the course content. Each specific outcome was assessed through a number of assessment criteria as shown in table 4.3. Each specific outcome and the assessment criteria were rated for cognitive rigor using the DOK scale. The alignment of the assessment criteria's ranking to that of the specific outcome was drawn. The first specific outcome requires students to "Analyse and describe 'care' as a social practice and their position as a future health care professional in the larger social power structures, e.g. gender, class and race, and how these are informed by policy making". The analysis allocated it the DOK ranking level four. It was assessed through five assessment criteria out of which the majority 3/5 were rated at level two of the of the DOK tool. The other two assessment criteria were each rated at level one and four respectively. Hence only one assessment criteria was aligned to level four of the corresponding specific outcome. The second specific outcome required the students to "Demonstrate knowledge of the basic moral concepts, ethics and human rights relevant to service providing and an awareness of the

ethical responsibilities of health care workers in South Africa". It was ranked at DOK level three. It was assessed through six assessment criteria of which 3/6 were rated at level one and the other 3/6 at level two. None of them were rated at level three (the corresponding DOK ranking of the specific outcome) or the higher level four. Six assessment criteria that assessed the third specific outcome had 3/6 rated at level three while 2/6 were rated at level four. The rest 1/6 was rated at level two. The specific outcome had been ranked at level four hence only 2/6 aligning to the specific outcome. Finally, the fourth specific outcome required students to "Demonstrate skills and professional conduct such as punctuality, participation and attendance when working in interdisciplinary groups". It was ranked at DOK level 2 and assessed through two assessment criteria of which one was rated at level one and the other at level 2. Hence one assessment criteria was aligned to the corresponding specific outcome.

Table 4.4 shows the extent of alignment in DOK ranking between the specific outcomes and assessment criteria for IPOC.

Table 4.3. Depth of Knowledge scoring for Introduction of Philosophy of Care

Specific outcomes (S O)	DOK level for (S O)	Assessment criteria (AC)	DOK score AC
Analyse and describe 'care' as a social practice and your position as a future health care professional in the larger social power structures, e.g. gender, class and race, and how these are informed by policy making	4	Define care and understand the various dimensions of care	1
		Know the ethic of care approach and its four core values.	2
		Understand some of the barriers to good care.	2
		Describe the link between gender, race and class discrimination to the care process within SA social, political and health context and how this has been influenced by policy.	2
		Apply the ethic of care approach to a South African case study	4
Demonstrate knowledge of the basic moral concepts, ethics and human rights relevant to service providing and an awareness of the ethical responsibilities of health care workers in South Africa	3	Define morality and ethics and distinguish between the two	1
		Define values, and distinguish between the different types of valuing	1
		Understand the meaning and importance of ethics in daily life and its relevance to professional work	2
		Define moral judgments, ethical issues and ethical problems.	1
		Understand the origin and basic and tenets of 'principle ethics'.	2
		Describe the Human Rights Standards for health professionals, Batho Pele principles and the Patient Rights Charter.	2
Demonstrate the ability to analyse and the skills needed to deal with moral dilemmas in day to day caring practices	4	Analyse the four elements of the ethic of care i.e. attentiveness, responsibility, competence and responsiveness through the use of case studies, small group and plenary discussions	4
		Determine the perceived nature of the ethical problem	3
		Gather as much sound information as possible. This includes medical, as well as legislation, social/psychological aspects relevant to the case.	2
		Decide on the ethical approach that will best get at the heart of the problem.	3
		Explore all the practical; alternatives and then decide what should be done and how best it could be done.	3
		Act on the conclusions about what ought to be done	4
Demonstrate skills and professional conduct such as punctuality, participation and attendance when working in interdisciplinary groups	2	Attend classes	1
		Participation in group activities and plenary feedback sessions	2
Mean DOK level (S O) ***Mode DOK level (S O)***	***=3.25*** ***=4***	***Mean DOK levels (A C)*** ***Mode DOK Levels (A C)***	***2.21*** ***2***

In no specific alignment to the specific outcomes the majority 8 (42%) of the assessment criteria for IPOC were rated at level two i.e. “skill/concept level” which implies that the cognitive demand for students in this module was engagement of some mental processing beyond recalling or reproducing a response. Less than a third 5 (26%) of the assessable objectives were ranked at a lower level of cognitive demand (level one) where students are required to exercise recall of information, such as a fact, definition, term, or a simple procedure, as well as performance of a simple science process or procedure. Higher levels of cognitive demand i.e. levels three and four were equally recorded in 3 (16%) of the student’s assessment criteria as shown in table 4.5.

Table 4.4. Alignment in Depth of Knowledge ranking between the specific outcomes and assessment criteria for IPOC

IPOC specific outcomes	DOK level for specific outcome	Number of assessment criteria aligned to the ranking of the corresponding specific objectives	%
First	4	1/5	20%
Second	3	0/6	0%
Third	4	1/5	20%
Fourth	2	1/2	50%

Table 4.5. Frequency of assessment criteria per Depth of Knowledge for IPOC

Activity Levels	**Frequency of each activity level (%)**
Level one (Recall)	5 (26%)
Level two (Skill/concept)	8 (42%)
Level three (Strategic thinking)	3 (16%)
Level four (Extended thinking)	3 (16%)

4.3.2. Primary Health Care (PHC)

A second module that was analysed was "Primary Health Care" that was undertaken by Nursing, Dietetics, School of Natural Medicine, Physiotherapy, Occupational Therapy, Social Work, Sports Recreation and Exercise Science, Dentistry, Oral health and Pharmacy disciplines. The purpose of the course was not only to teach interprofessional health practice competences but also to equip the students with the basic knowledge and skills for understanding the *concepts* health, development and primary health care and the links between them. Table 4.6 below presents the analysis of the course content.

The DOK cognitive demand assessment for primary health care module is presented in table 4.6. This modules consititutes of five specific outcomes and each assessed through several specific assessment criteria. The first specific outcome required students to "Demonstrate an understanding of the concepts of health and the social determinants of health". It was rated at DOK level two and assessed using five assessment criteria of which only 1/5 was rated at level three while 2/5 were assigned to level two and the other two each rated at level one. Hence 2/5 were aligned to the corresponding level of specific outcome. The second specific outcome required students to "Analyse social inequality, poverty and underdevelopment in a local community context". It was rated at level four of the DOK scale and assessed with four criteria of which 2 were rated at level three and one in level four. One alignment to the DOK level of the corresponding specific objective was noted. The third specific outcome required students to "Describe the origins and main features of the Primary Health Care Approach and analyse its implementation in a community context". It was rated at DOK level four. It had only ¼ assessment criteria

rated in the upper two levels of DOK (level three) while the other three were rated in level one (2/4) and level two (¼). No alignment to the corresponding specific outcome was noted. The fourth specific objective had more of its assessment criteria rated in the upper two levels of DOK i.e 2/3 in level three and ¼ in level four. Only one alignment to the corresponding DOK ranking of the specific outcome was noted. the fifth specific outcome had its two assessment criteria each rated at level one and two as shown in table 4.6. while the outcome itself was ranked at level two. Table 4.7 shows the extent of alignment in DOK ranking between the specific outcomes and assessment criteria for PHC.

Table 4.6. Depth of Knowledge for PHC

Specific outcomes (S O)	**DOK level for (S O)**	**Assessment criteria**	**DOK scores**
Demonstrate an understanding of the concepts of health and the social determinants of health.	2	Describe their own definition of health	1
		Identify categories of health	2
		Define two perspectives of health	1
		Examine the various dimensions of health	3
		Describe the key determinants of health	2
Analyse social inequality, poverty and underdevelopment in a local community context.	4	Explain how social inequality and ill health is linked	3
		Describe the relationship between poverty, under development and health	4
		Describe how class, gender and race impacts on health	2
		Understand the state of health in a South African context	3
Describe the origins and main features of the Primary Health Care Approach and analyse its implementation in a community context.	**4**	Describe the origins of Primary Health Care	1
		Describe the main features of Primary Health Care	1
		Describe the principles and Objectives that underpin the Primary Health Care approach	2
		Examine the Department of Health and the Health Structure	3

Analyse the factors influencing the health of a specific community and make recommendations to improve health using the Primary Health Approach.	**4**	Provide a rationale for community involvement in health	3
		Analyse the factors influencing the health of a specific community and make recommendations to improve health using the Primary Health approach	3
		Reflect and report on the value of working in interdisciplinary teams	4
Demonstrate skills and professional conduct such as punctuality, participation and attendance when working in interdisciplinary groups**.**	2	Attendance of classes	1
		Participation in group activities and plenary feedback sessions	2
Mean DOK level (S O) ***Mode DOK level (S O)***	**3.2** **4**	***Mean DOK levels (A C)*** ***Mode DOK Levels (A C)***	**2.28** **3**

On a general view of all the eighteen criteria aligned to assess the five specific outcomes, Only 2 (11%) of these were ranked in the higest level of cognitive demand levels (level four) i.e. "extended thinking" while one third 6 (33%) of the assessment criteria was ranked at level three i.e. "strategic thinking". Five (28%) of these criteria were ranked in the lower levels of cognitive demand (level one and level two) i.e. "recall" and "skill/concept" respectively. This implies that less of the content in primary health care required students to make several connections, relate ideas within the content area or among content areas and have to select or devise one approach among many alternatives to solve a problem (level four) while most of the content in this module demanded for reasoning, planning, using evidence, and a higher level of thinking (level three).

Table 4.7. Alignment in Depth of Knowledge ranking between the specific outcomes and assessment criteria for PHC

PHC specific objectives	DOK level for specific outcome	Number of assessment criteria aligned to the ranking of the corresponding specific objectives	%
First	2	3/5	60%
Second	4	1/4	25%
Third	4	0/4	0%
Fourth	4	1/3	33%
Fifth	2	1/2	50%

Table 4.8. The frequency of assessment criteria per Depth of Knowledge level for PHC

Activity levels	Frequency of each activity level (%)
Level one (Recall)	5 (28%)
Level two (Skill/concept)	5 (28%)
Level three (Strategic thinking)	6 (33%)
Level four (Extended thinking)	2 (11%)

4.3.3. Health Promotion

Finally, a third module of the interdisciplinary course referred to as "interdisciplinary Health Promotion" was analysed. The purpose of the course was to make the students understand the background and history of Health Promotion and Health Promoting Schools, the theory and application of health promotion models, importance of accessing information for health promotion, the role of the communication in health promotion, the planning cycle: identifying the needs, writing objectives, deciding on indicators and developing an action plan, project implementation & methods of evaluation and finally learn report Writing. Table 4.9 presents the analysis.

Health promotion consisted of five specific outcomes each being assessed by a number of assessment criteria as shown in table 4.9. Specific outcome one required students to "Understand the main approaches to health promotion and that health promotion requires not only individual behavior change and curative care but also social, political and environmental changes that address the underlying causes of ill-health". It was rated at DOK level two and assessed by seven assessment criteria. It had 5/7 of those rated at level three of DOK levels while the other two were each rated at level two. In this case, there was a 100% alignment to the corresponding specific outcome. The second specific outcome required to students to "Apply the principles and approaches of the health

promoting schools framework and to use this framework when planning and implementing a health promotion project in the schools". It was rated at DOK level four. The assessment criteria for the second specific outcome were more to the lower two levels of DOK with 4/6 in level two and 2/6 in level one. No alignment to the corresponding specific outcome was noted. The third specific outcome required students to "Analyse the impact of the communication and research on health promotion strategies". It was rated at level four of the DOK scale. All the three assessment criteria for the third specific outcome and the single assessment criteria for the fourth specific outcome were rated at level two. The fourth specific outcome required students to "Critically reflect on the community-based experience". The only alignment to the DOK rating of the corresponding specific outcome was noted in the fourth specific outcome. The fifth specific outcome required students to "Demonstrate professionalism such as punctuality, participation, respect, attentiveness, responsibility, competence and responsiveness when working in the interdisciplinary groups and at the schools". It had its assessment criteria rated in the lower two levels of DOK as shown in table 4.9 with non of them aligned to the DOK level three of the fifth specific outcome. Table 4.10 shows the extent of alignment in DOK ranking between the specific outcomes and assessment criteria for Health Promotion.

Table 4.9. Depth of Knowledge scoring for Health Promotion

Specific outcomes (S O)	**DOK level for (S O)**	**Assessment criteria**	**DOK scores**
Understand the main approaches to health promotion and that health promotion requires not only individual behavior change and curative care but also social, political and environmental changes that address the underlying causes of ill-health	2	Understand the concept of health promotion	2
		Developed a suitable definition of health promotion	3
		Understand the main events that influenced the health promotion movement	2
		Explain the major elements of the following health promotion theories: health belief model, social learning theory and community action for health	3
		Link a theory or a combination of theories with the problem that needs to be addressed and to program planning	3
		Have developed an understanding of the different factors /aspects that influence health behavior and behavior change of an individual	3
		Demonstrate an understanding of community participation as a health promotion strategy and the need for mediation, negotiation and enablement to ensure community participation	3
Apply the principles and approaches of the health promoting schools framework and to use this framework when planning and implementing a health promotion project in the schools	4	Explain and describe the settings approach to health promotion	2
		Know the background of the health promoting school initiative	1
		Know the definition of health promoting school	1
		Understand the health promoting school framework.	2
		Understand the aims of a health promoting school	2
		Know the steps in the planning cycle	2
Analyse the impact of the communication and research on health promotion strategies	4	Demonstrate an understanding of the importance and challenges involved in selecting and appropriate communication strategies to promote health	2
		Understand what type of information is useful for health promotion and where to access this information	2
		Understand the importance of accessing information before planning a health promotion program	2
Critically reflect on the community-based experience	2	Critically reflect on a particular incident during the experience in the school	2
Demonstrate professionalism such as punctuality, participation, respect, attentiveness, responsibility, competence and responsiveness when working in the interdisciplinary groups and at the schools	3	Attendance of classes and school visits	1
		Participation in group activities and plenary feedback sessions	2
		Participation in the presentation and production of the report.	2
Mean DOK level (S O)	5	***Mean DOK levels (A C)***	2.1
Mode DOK level (S O)	3	***Mode DOK Levels (A C)***	2

Generally, twenty assessment criteria were assessed in this module. Of these, majority 12 (60%) were those that required students to learn certain skills and concepts (Level two). None of the outcomes were ranked as being in the extended thinking level (Level 4) while a quarter 5 (25%) of these required them to develop strategic thinking abilities as shown in table 4.9. This result implies that the Health Promotion module had a stronger ability to enable students to develop some mental processing skills beyond recalling or reproducing a response more than they would do some reasoning, planning and using evidence. The module had no ability to enable students make several connections, relate ideas within the content area or among content areas and have to select or devise one approach among many alternatives to solve the problem.

Table 4.10. Alignment in Depth of Knowledge ranking between the specific outcomes and assessment criteria for Health Promotion

Health Promotion specific outcomes	DOK level for specific outcome	Number of assessment criteria aligned to the ranking of the corresponding specific outcome	%
First	2	7/7	100%
Second	4	0/4	0%
Third	4	0/3	0%
Fourth	2	1/1	100%
Fifth	3	0/3	0%

Table 4.11. The frequency of assessment criteria per Depth of Knowledge level for Health Promotion N=20

Activity Levels	Frequency of each activity level (%)
Level one (Recall)	3 (15%)
Level two (skill/concept)	12 (60%)
Level three (strategic thinking)	5(25%)
Level four (extended thinking)	0 (0%)

4.4. Summary of the Interdisciplinary co-course curriculum cognitive rigor

Cumulatively, the whole curriculum is composed of 14 specific objectives and 57 assessment criteria that were subjected to this analysis using the DOK tool. According to the tool, the cognitive demand attributed to the content of the curriculum would reflect the cognitive rigor of the content through which students learn interprofessionally. Poter (2006) recommends that the alignment of the DOK levels between the specific outcome (standard) and the assessment criteria be used as a measure of cognitive rigor hence suitability to deliver IPE competencies. In addition, the frequency of assessment criteria rated in either the two lower levels (1 & 2) or upper levels (3 &4) of the DOK tool would determine the cognitive rigor with levels 3 & 4 being high rigor and 1 & 2 low rigor. The general reflection of the interdisciplinary core courses curriculum was that it had a slightly less than average (44%) ability to enable the students to learn how to engage some mental processing beyond recalling or reproducing a response (level two) while the higher levels of cognitive demand i.e. level three and four where students would acquire the abilities of reasoning, planning and using evidence and that of making several connections, relating ideas within the content area or among content areas and having to select or devise one approach among many alternatives to solve a problem was at 24% and 9% respectively. Figure 4.2 illustrates.

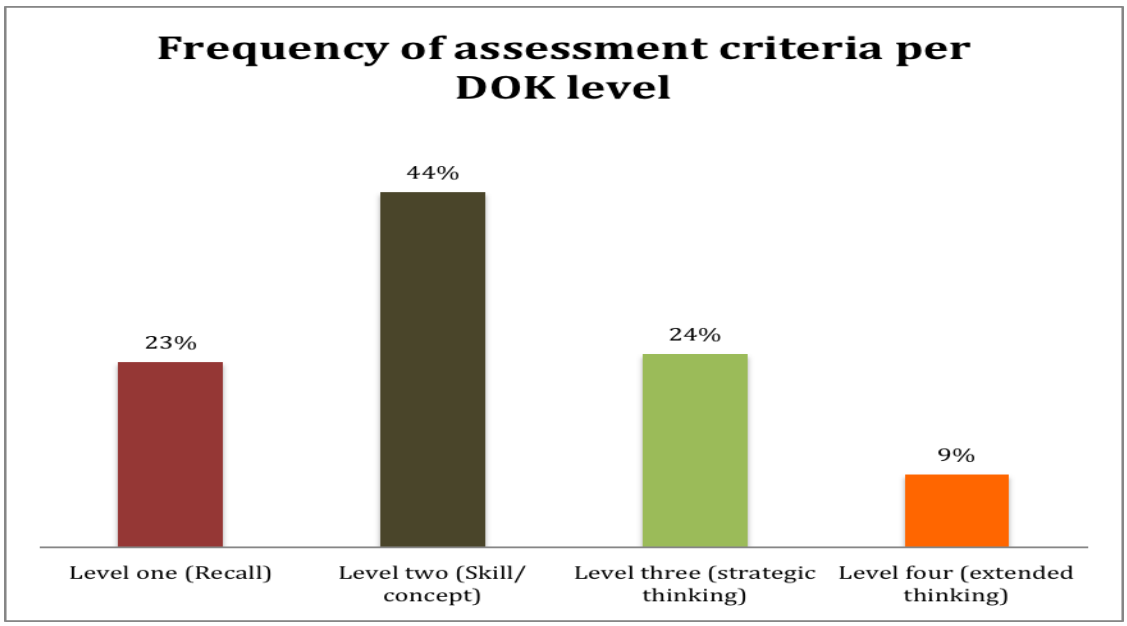


Figure 4.2. Levels of cognitive rigor for interdisciplinary core course at UWC

4.5. Summary of chapter four

The UWC curriculum was found to be utelising most of the methods used globally to deliver IPE. It was also noted that the curriculum had strong specific outcomes according to the DOK framework but had most of the assessment criteria DOK rating not in alignment with the rating of the corresponding specific outcomes.

The next chapter (chapter five) is the results presentation for the students, perceptions with regards to the interdisciplinary learning that they acquired through the above-analysed curriculum. This chapter forms the second part of the first component of interdisciplinary collaborative practice (training) investigated in this study.

CHAPTER FIVE

INTERPROFESSIONAL EDUCATION STUDENTS' PERCEPTIONS

5.1. Introduction

This chapter seeks to identify the students' perceptions regarding the interprofessional education that they had completed during their pre-registration training period at the FCHS in the UWC. Only the views of finalists in each department were investigated. This was based on the fact that they had more contact with the patients in their final year and would be able to articulate the role of the knowledge that they had acquired through the interdisciplinary core courses during their practice.

The social demographic characteristics of the students' respondents are presented in table 5.1. The final year students at the FCHS during the period of study were approximately 430 students. 416 students were approached and questionnaires were distributed to them during the data collection sessions. Only 311 questionnaires were returned having been completed properly. This amounted to 74% response rate of those that were approached.

Table 5.1. Students' demographic characteristics N=311

Variables	Frequency	Percentage (%)
Gender		
Male	119	38.3
Male	192	61.7
Departments		
Social work	50	16.1
Occupational therapy	54	17.4
Physiotherapy	72	23.2
Nursing	69	22.2
Dietetics	25	8
Natural medicine	12	3.9
Psychology	29	9.3
Years of study		
Fourth	305	98.1
Fifth	3	1
Sixth	3	1

5.2. The Interdisciplinary Education Perception Scale

The interdisciplinary education perception scale developed by McFadyen, Maclaren and Webster (2007) is designed to gather students' perceptions pertaining to interprofessional education. This process involves inquiry on three subscales considered to measure the professional perceptions of students exposed in interprofessional settings relative to their own profession and other health professionals (McFadyen, Maclaren & Webster, 2007).

The three sub scales include **"**Competency and Autonomy, Perceived need for Cooperation and Perception of actual Cooperation" with regards to interprofessional education. As mentioned earlier in the data analysis section for this objective in chapter 3, the higher the score the negative the perception and vice versa. Hence those scores that denoted disagreements represented negative perceptions while those scores that denoted agreements represented positive perceptions.

5.2. Competency and Autonomy

This sub-scale consists of 5 items. These items inquired of "competence and autonomy" with regards to "training, Positivity about goals and objectives, positivity about contribution and accomplishment, Trust for each other's professional competence and sense of extreme competence" were computed as a summative scale for each subscale. Hence the 5 questions would to the maximum score 30/30 being "strong disagreement" (negative perception) or minimum score of 5/30 being "strong agreement" (positive perception). This is so because the scale is set in reverse. Table 5.2 presents this result for subscale one. Most students 174 (55.9%) "somewhat agreed" that colleagues in own profession are competent and autonomous. As shown in table 5.2, the rest of the Likert

scale points in this subscale were part of "agreement" except only 11 (3.5%) participants who "somewhat disagreed". The median and mode values for this subscale were both 3.

Table 5.2. Students perception on competence and autonomy

N=311, Mean 2.56, Median=3, Mode=3

Competence and autonomy		
Perception	**Frequency**	**Percent**
Strongly agree	20	6.4
Agree	106	34.1
Somewhat agree	174	55.9
Somewhat disagree	11	3.5
Disagree	0	0.0
Strongly disagree	0	0.0

A Kruskal–Wallis test of variance and correlation between the students' perceptions of own "competence and autonomy" and "gender and own department" were computed on SPSS. A statistical significance between "gender" and perceptions of competence and autonomy was identified ($p<0.05$) as shown in table 5.3. There was no statistical significance between students' perceptions of competence and autonomy and either the department that the student belonged to or the year of study ($p<0.05$).

Table 5.3. Statistical associations between "students' perceptions on competence and autonomy" and "demographic characteristics" **p<0.05**

Test statistic a,b			
	Year of your health science studies	**Gender**	**In which department in the FCHS do you belong to?**
Chi-square	3.977	12.628	5.560
Df	3	3	3
Asymp. Sig	.264	*. 006	.135

a. Kruskal Wallis Test
b. Grouping Variable: Competence and autonomy
* Significant at p<0.05

After identifying a significant relationship between "gender" and "perceived sense of competence and autonomy" the researcher further sought to identify the distribution of "gender" across a binomial scale of only "agree and disagree". A cross-tabulation test was conducted for that. As shown in table 5.4, more female participants 183 (61%) agreed that individuals in their profession were competent and autonomous as compared to male participants 117 (39%).

Table 5.4. Crosstabulation between "gender and perceived sense of competence and autonomy" N=311

Gender	Perceived sense of competence and autonomy		Total
	Agree	Disagree	
Male	117 (39%)	2 (18.2%)	119 (38.3%)
Female	183 (61%)	9 (81.8%)	192 (61.7%)
Total	300 (100%)	11 (100%)	311 (100%)

5.2. Perceived need for cooperation

This subscale tested the attitudes of interdependence and acceptance of a common goal, indicating a sense of commitment to a comprehensive patient care. The next two questions were utilised. The two questions that were used to investigate the perceptions of students in this context were those that asked the students to indicate whether they agreed of disagreed that "individuals in their professions must depend upon the work of other professionals" and whether "individuals in their professions needed to cooperate with other professionals"

Still on a summative scale for both questions, forming a single variable, there was less of "strong agreement" 20 (6.4%) as compared to other levels of agreement such as "agree" 83 (26.7%) and "somewhat agree" 50 (16.1%). As shown in table 5.4, all levels of

disagreement were not represented. However, those students that highlighted some form of disagreement formed almost an equal number to those that expressed a form of disagreement. This indicated relatively balanced perceptions between those who perceived that there was need for cooperation and those who thought otherwise though slightly more disagreeing. This was also reflected in the measures of central tendency where by the mean was 3.24, and mode 4.0. The variation of students perceptions was not exaggerated considering a standard deviation of 1.17.

Table 5.5. Perceived need for cooperation N=311, Mean 3.24, Mode 4, SD=1.17.

Perceived need for cooperation		
Perception	**Frequency**	**Percent**
Strongly agree	20	6.4
Agree	83	26.7
Somewhat agree	50	16.1
Somewhat disagree	117	37.6
Disagree	41	13.2
Strongly disagree	0	0.0

A Kruskal–Wallis test of variance and correlation was computed on SPSS for the subscale for "perceived need for cooperation". The students' perceptions were correlated with the demographic characteristics of "current year of study, gender and respective departments". In this case, statistical significance was identified between "perceived need for cooperation" and "gender" as well as "the departments the students belonged to" ($p<0.05$) as shown in table 5.5.

Table 5.5. Statistical associations between "students' perceptions on actual cooperation" and "demographic characteristics" **p<0.05**

Test statistic a,b			
	Year of your health science studies	**Gender**	**In which department in the FCHS do you belong to?**
Chi-square	2.491	12.628	5.560
Df	4	4	4
Asymp. Sig	.646	*. 001	*.000

a. Kruskal Wallis Test
b. Grouping Variable: Perceived need for cooperation
* Significant at p<0.05

The distribution of "gender and the students' departments" were crosstabulated across a binomial scale of "agree and disagree" for the subscale investigating students perceptions for "need for cooperation". With regards to gender, more female students 108 (70.6%) agreed that there was need for actual cooperation as shown in table 5.6. With regards to the departments, more physiotherapy students 55 (35.9%) agreed that there was need for actual cooperation while the highest disagreement with this regard was recorded by the Nursing students 40 (25.3%) as shown in table 5.6.

Table 5.6. Cross-tabulation between gender and department across perceived need for cooperation **N=311**

Variables	**Perceived need for cooperation**		**Total**
Gender	Agree	Disagree	
Male	**45 (29.4%)**	**74 (46.8%)**	**119 (38.3%)**
Female	108 (70.6%)	**84 (53.2%)**	**192 (61.7%)**
Total	**153**	**158**	**311 (100%)**
Department			
Social work	**27 (17.6%)**	**23 (14.6%)**	**50 (16.1%)**
Occupational therapy	**30 (19.6%)**	**24 (15.2%)**	**54 (17.4%)**
Physiotherapy	55 (35.9%)	**17 (10.8%)**	**72 (23.2%)**
Nursing	**29 (19%)**	40 (25.3%)	**69 (22.2%)**
Dietetrics	**7 (4.6%)**	**18 (11.4%)**	**25 (8%)**
Psycology	**2 (1.3%)**	**10 (6.3%)**	**12 (3.9%)**
Natural Medicine	**3 (2.0%)**	**26 (16.5%)**	**29 (9.3%)**
Total	**153 (49.2%)**	**158 (50.8%)**	**311 (100%)**

5.3. Perception of actual cooperation

This subscale assessed the student's attitudes towards valuing one another's input in practice, attitude towards teamwork behavior such as willingness to share information and recourses and interpersonal skills necessary for teamwork. These were assessed through the last five questions of the questionnaire, which were computed as a summative single variable denoting the students' perception of the existence of "actual cooperation". The majority of the students 118 (37.9%) "somewhat disagreed" that there was actual cooperation. Only 19 (6.1%) strongly agreed that actual cooperation during their practice existed as shown in table 5.7. The measures of central tendency were computed to summarise the data for the "perceived actual cooperation" variable. Looking at the mean, (2.98) it was identified that most students had a moderate stand on "existence of actual cooperation", with the mode being "somewhat disagree" (4). These perceptions did not vary widely considering the standard deviation of just 0.95.

Table 5.7. Perceived actual cooperation. Mean=2.98, Mode=4, SD=0.95.

Perceived actual cooperation		
Perception	**Frequency**	**Percent**
Strongly agree	19	6.4
Agree	86	27.7
Somewhat agree	88	28.3
Somewhat disagree	118	37.9
Disagree	0	0.0
Strongly disagree	0	0.0

A further correlation analysis was carried out using the Kruskal–Wallis between the students' perceptions for "existence of actual cooperation" and the demographic characteristics of gender, year of study and department. As shown in table 5.8, statistical

significance was identified between "actual cooperation" and "gender" as well as "actual cooperation" and the "department they belonged to".

Table 5.8. Statistical associations between "students' perceptions on actual cooperation" and "demographic characteristics"

Test statistic a,b			
	Year of your health science studies	**Gender**	**In which department in the FCHS do you belong to?**
Chi-square	2.212	26.973	48.362
Df	3	3	3
Asymp. Sig	.646	*. 000	*.000

a. Kruskal Wallis Test
b. Grouping Variable: Perceived actual cooperation
* Significant at p<0.05

In the subscale for "actual collaboration" a cross tabulation was also computed in order to assess the distribution of the demographic characteristics that revealed a statistical significance across the perception scale. The perception scale was first computed into a binomial scale of "agree and disagree". As shown in table 5.9, more female 140 (72%%) than male students felt that there was actual cooperation during their clinical practice. More Physiotherapy students 60 (31%) than any other groups of students indicated that there was actual cooperation during practice. The majority of disagreement was recorded among the nursing students.

Table 5.9. Cross-tabulation between gender and department across perceived need for cooperation N=311

Variables	Perceived actual cooperation		Total
Gender	Agree	Disagree	
Male	**53 (27.5%)**	**66 (55.5%)**	**119 (38.3%)**
Female	140 (72.5%)	**52 (44.1%)**	**192 (61.7%)**
Total	**193**	**118**	**311 (100%)**
Department			
Social work	**44 (22.8%)**	**6 (5.1%)**	**50 (16.1%)**
Occupational therapy	**32 (16.6%)**	**22 (18.6%)**	**54 (17.4%)**
Physiotherapy	60 (31.1%)	**12 (10.2%)**	**72 (23.2%)**
Nursing	**42 (21.8%)**	27 (22.9%)	**69 (22.2%)**
Dietetrics	**15 (12.7%)**	**18 (11.4%)**	**25 (8%)**
Psycology	**1 (0.5%)**	**11 (9.3%)**	**12 (3.9%)**
Natural Medicine	**4 (2.1%)**	**25 (21.2%)**	**29 (9.3%)**
Total	**193 (62.1%)**	**118 (37.9%)**	**311 (100%)**

5.4. Binomial analysis of students perceptions

The framing of the IEPS questions is positive hence the higher the agreement level would be an indication of positivity while the higher the level of disagreement reflected negativity towards the perception of students with regards to either competence and autonomy, need for cooperation and actual cooperation in the areas presented to them.

On a binomial scale (agree disagree) the perception of being competent and autonomous in own profession was overwhelming (96.5%) while the need for cooperation was perceived as important or as an obligation by just about half of the respondents (49.2%) while slightly above half (50.8%) did not consider it important or as an obligation. Agreements dominated actual perception of cooperation with 62.1% of the students agreeing with the ideas that suggested that actual cooperation is part of their practice as shown in figure 5.1. The measures of central tendency for the overall perception for IPE in the three subscales are presented in table 5.10. The means for the three subscales i.e. “competence and autonomy, need for cooperation and actual cooperation” were 0.96, 1.5

and 1.3 respectively. The standard deviations in the three subscales did not indicate widely varying opinions from the students per subscale as shown in table 5.10.

Table 5.10. Measures of central tendency for overall students' perception **N=311**

	Perceived competence and autonomy	Perceived need for cooperation	Perceived actual cooperation
Mean	0.96	1.5080	1.3794
Median	1.00	2.0000	1.0000
Mode	1	2.00	1.00
Standard deviation	.034	.251	.236

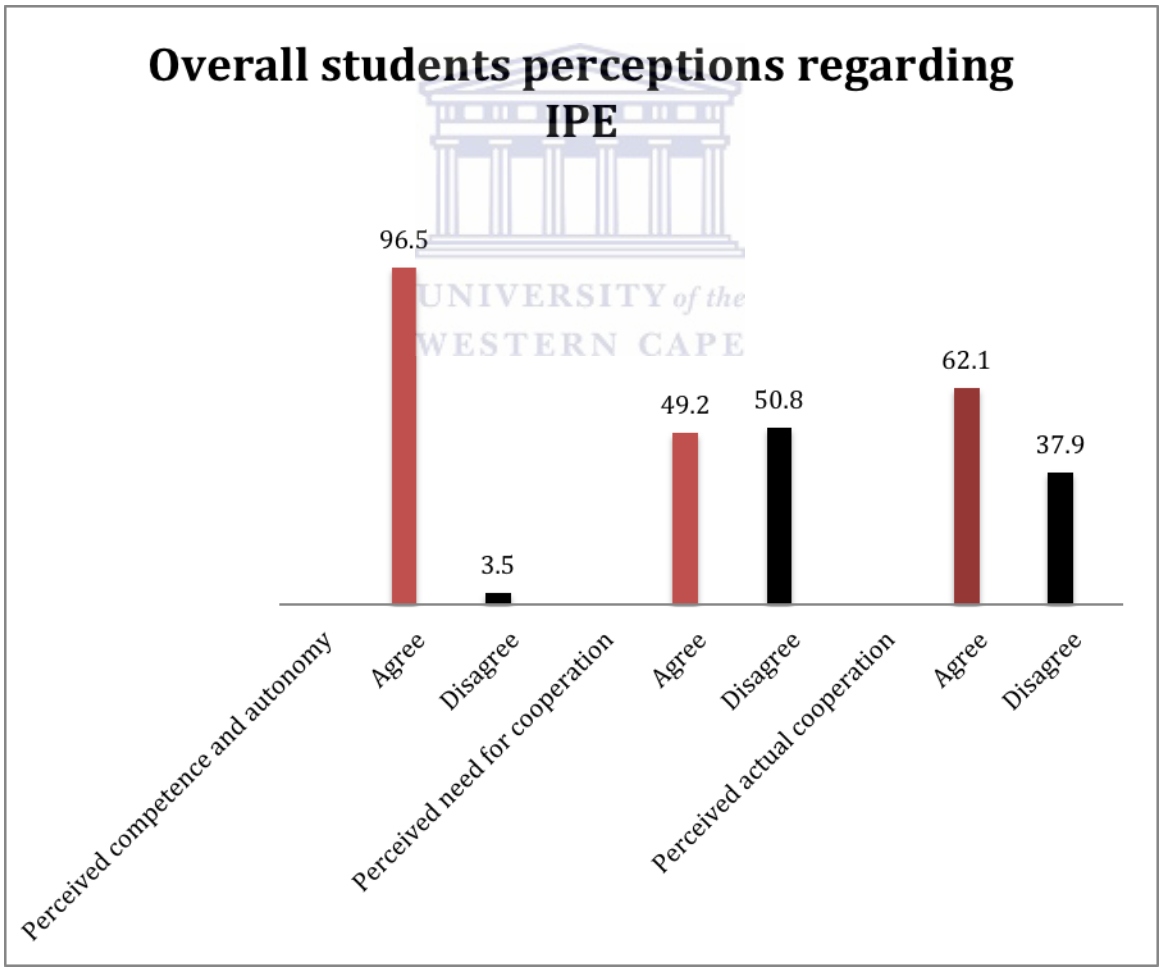


Figure 5.1. General students perception on interprofessional education

Summary of chapter five

Students portrayed a strong sense of own profession competence and autonomy while the need for collaboration in order to perform in own professions was moderately perceived as positive. Slightly more than a third of the student did not perceive the existence of actual collaboration in their practice. More Physiotherapy students as compared to other groups agreed that there was need for cooperation and that cooperation actually existed. It was also noted that nursing students had more negative perceptions towards need for cooperation and more of them disagreed that there was actual cooperation in their practice. Statistical significance between the perceptions for "need for cooperation" and "gender" as well as "department" at $p<0.05$ was identified. The same demographic characteristics had a statistical significance with "perceived actual cooperation".

The next chapter is the first of the two chapters (6 and 7) that investigated the practice component of interdisciplinary collaborative practice. Chapter six presents the analysis of patient care protocols acquired from the health institutions where UWC students are placed for practice, while chapter seven presents the views and perceptions of those health institutions manager's regarding interprofessional practice.

CHAPTER SIX

PROTOCAL ANALYSIS

6.1. Introduction

This chapter presents the analysis of the patient care protocols or frameworks that exist in the hospitals where the UWC places more than one group of students from the FCHS. The analysis sought to identify the protocols' friendliness to ethos of interprofessional collaborative practice. The analysis of patient care protocols in this study could have been performed thematically using the grounded theory approach only. However, for triangulation purposes and assurance of quality analytical work as stated by Bardach, (2000) the analysis also considered the suggestions of a policy analysis framework by Polski and Ostrom (1999) (An Institutional Framework for Policy Analysis and Design) (IAD) and the eight fold path to policy/document analysis by (Bardach, (2000).

According to the IAD, analysis of documents that amount to synthesis of work performed by multiple participants, should be emphatic on the behavior in the action arena, which includes the action situation, individuals and groups who are routinely involved in the situation (actors) (Polski & Ostrom, 1999). In this regard, identification of factors that influence the behavior of individuals and groups should be conducted. Polski and Ostrom further suggest that after identifying a policy/protocol issue, the analysis should be guided by a series of general questions, which enable fact finding about outcomes of activity in the policy/protocol arena. Those questions will create a forum for creation of content-based questions (interprofessional collaborative practice related) hence the generation of codes and quotations that begin the process of a thematic analysis of the document. The general guiding questions are such as:

- "*What is happening in the protocol arena?*
- *How do observed outcomes compare to policy objectives?*
- *Which outcomes are satisfactory?*
- *Which are not?*
- *Which outcomes are most important?* (Polski & Ostrom 1999).

As suggested by Bardach, (2000) policy analysis is a moral as well as an intellectual responsibility. The researcher is accountable for the quality of policy analytic work. In this regard, Bardach, (2000) proposes a rather mechanistic eightfold path that assists the analyst to perfect the art of utelising the protocol analysis as a method in the process of assessing the documents ability to guide a specific health care process and quality assurance. He however indicates that the path may not necessarily be followed in its original order neither is it mandatory to follow the entire path. The eight proposed steps are, defining of the context, stating the problem, search for the evidence, consider different policy options, project the outcomes, apply evaluative criteria, weigh the outcomes and make the decision.

The hypothetical problem that motivated the need for this analysis was that ***"There is inadequate institutional infrastructure (Protocols) that promotes interprofessional collaborative practice"***. The following questions therefore as informed by the IAD and other literature guided the analysis.

1. Does the protocol consider silo practice in patient care a problem?

2. What policy is formulated for care—does it seek to achieve the Interprofessional practice outcomes. Is the term team, interdisciplinary or interprofessional used in the course of defining practice? Are there proxy terms or synonyms such as interdisciplinary teams or partnership used instead?

3. Protocol implementation

(a) Integrated clinical care- Does division of labor based on common goal setting with team members contributing expertise as needed and regular re-evaluation of goals exist?

(b) Does open communication during patient's discussion in order to arrive at a diagnosis and a management program exist? This must involve the patient centered family and or community. Communication pathways must be ensured by organisational structures. Are routes of communication clear being formal or informal communication such as team meetings face-to-face conversation, making use of proximity to address case progress?

(c) Value of input--Are all professional's and patients inputs recorded for evaluation, is there a forum for consultation to colleagues or room for their input provided, be it verbal electronic or hard copy?

4. Is there room for conflict resolution? (listening to all team members, encourage each to contribute and discuss conflicting matters, forum for brain storming and focus on common interest, positive or negative feedback, forum for review and evaluation of progress (Grant et al., 1995).

5. Is the patient care patient centered (patient getting an opportunity to explain his world of health). Does the patient have a forum to get to see the team (D'amour et al., 2005)? Does the medical team make efforts to satisfy the patients' desire for information? (Stewart, 2001).

6. What type of power exists among the professionals? Is it collaborative power where clinicians are distinctive in the roles they play as well as practicing the roles interchangeability as well as evaluating themselves in order to hold themselves accountable to the team? (Nugus, Greenfield, Travaglia, Westbrook & Braithwaite, 2010). Does the leadership seek maximum involvement among stakeholders and focus on results? (Interaction institute for social change, 2009).

In the analysis of the protocols, the researcher had two pre determined categories i.e. **"friendliness" and "unfriendliness"** to interprofessional ethos of patient care. Guided by the list of questions listed above, the researcher developed specific themes generated out of the practice components documented in the protocols and were classified as either being friendly or unfriendly to interprofessional ethos of patient care.

Prior to engagement with the content of the document (assessment of behavior in the action arena) as described by Polski and Ostrom (1999) in the IAD, the protocol's purpose/objectives of formulation as well as assessment of factors that may influence behavior of individuals or groups in practice were assessed from two sources, i.e. from the protocols preambles (introductory statements) and from the hospital manager's description. The researcher therefore borrowed information gathered from the semi structured interviews with the respective managers. This assisted the researcher to understand the protocol issue that lead to formulation of the protocol as well as appreciating the conditions/factors surrounding their practice that would impact on defining their practice as being friendly or unfriendly to collaborative patient care.

Further, this information provided an understanding of the prevailing culture of practice per setting.

6.2. PROTOCOL ONE

In protocol one, the practice framework that was accessible for analysis was specialised for the management of spinal cord injury patients in a referral hospital. The protocol is set up to perform emergency medical and trauma services; acute and rehabilitation care as well as chronic and return to community programs. The health personnel working to implement the content of the protocol are listed as a multi-disciplinary team in the protocol. The team often works in an emergency and acute environment more than the rather non-anxious chronic rehabilitation procedures. Also, the culture of practice is one where the doctor leads the team by virtue of health care being a medical legal process and therefore other practitioners will not involve themselves in team leadership because they would not legally to take responsibility. The described environment of care and possibly the culture of practice in the institution where this protocol was accessed was deduced from the preamble content below and the institution's manager's view on the process of practice in the institution.

"……It is the intention of this document to provide a set of norms and standards that will enhance and support the care of Spinal Cord Injured patients in Specialised Centres. This document could also be used as a standard for new Spinal Units and to evaluate existing Spinal Units. While a comprehensive national strategy would ultimately be the best option, it is hoped that the Norms and Standards will go a long way towards reducing the morbidity resulting from spinal cord afflictions. The incidence of spinal cord injuries can also be reduced by appropriate preventative strategies, but this aspect is not in the scope of this document

The management of Spinal Cord Injured patients comprises the following phases:

- *Emergency Medical Services (EMS)*
- *Emergency/Trauma Departments*
- *Acute Spinal Cord Injury Unit (ICU, High care, Post-acute)*
- *Spinal Cord Injury Rehabilitation Unit*
- *Chronic Care and return to community/work (Primary Health sector and follow-up)*

4.OBJECTIVE

The objective of this document is to provide a framework for the rendering of clinical services to patients with spinal cord afflictions including:

A responsive and accessible referral system; Efficient integration of Spinal Cord Services into the Health Care System and a Multi-disciplinary Team

A Spinal Unit should be staffed and serviced by a dedicated multi-disciplinary team consisting of medical staff, rehabilitation therapists, nursing staff and adequate supporting social and other services……..”(Protocol preamble).

“……..You know the doctor is the leader, because the doctor makes the diagnosis. Well, the doctor at the moment is traditionally the leader because the doctor makes the diagnosis, but in the interest our people are requested, to what extend and how much power they have I think you’d probably have to delve deeper in these areas. But generally, they do look to the doctor to be the leader because the doctor makes the diagnosis and you know can prognosticate in orthopedic wards for instance, especially in trauma orthopedics. The doctor discharges but then the person will not be discharged yet until maybe the physio has seen the patient and also said okay, this person is fit for discharge. And there are varying levels of power and people do confer with each other. But I think it’s also a medical legal responsibility issue where a patient will not be discharged until the doctor okays the discharge, there are a lot of medical legal issues which actually probably necessitates that the doctor be the leader. You know, where the doctor, one cannot say the physio discharge the patient, you know the doctor has to make the discharge and he has to make sure that the doctor has made the medical legal decision that this patient is fit for discharge. So it’s a lot of medical legal and medical legal responsibility. I think, you know, other professions are quite, I think in general people are quite aware of things and people don’t want to take on more than they can bite off, that they can defend themselves in court……”(Hospital manager)

6.1.1. Category one. Friendliness to interprofessional ethos of patient care

Friendliness to ethos of interdisciplinary collaborative practice was explored across the document guided by the above stated questions designed from a broad spectrum of literature and the IAD. Although protocol one is designed to feature the process of management of the patients chronologically and in vast detail, the presentation of the emerging themes in the analysis did not take the same order because the protocol was detailed beyond the need of the analysis and therefore justifying the skipping of some areas. Below are various themes that were developed from the protocol one.

6.1.1.1. Collaborative practice capabilities/competences

As highlighted broadly in literature, the capabilities that professionals possess when they undertake IPE and become collaborative practice conscious include communication, team function, role clarification, patient centered care, conflict resolution and reflection. By and large, the areas of protocol one that were classified as friendly to IPCP represented some of the above-mentioned capabilities.

Patient centered care for instance featured prominently. Patient centered care happens to be among the most broadly defined competence of patient care with definitions such as "occasions where the patient is valued as an important partner in planning and implementing health care", being about "sharing the management of an illness between patient and health care workers" (Bauman, Fardy & Harris, 2003) or according to Stewart (2001) being patient centered actually means taking into account the patient's desire for information and for sharing decision making and responding appropriately. With due regard for these definitions, the protocol was found to have been friendly to collaborative practice in specific aspects of patient centered care as illustrated below

(a) Discharge of patients. This is considered to be an interdisciplinary process that should ensure continuation of care after hospitalization with a significant component of patient participation in the planning and execution of the plan (Lin 2013). Issues of follow up post discharge, patient centered discharge planning process, timing of discharge planning commencement and the stakeholders necessary to be involved have been given more attention. The following statements were the reflection of the explained inference:

".....The completion of the comprehensive inpatient rehabilitation programme qualifies the SCI patient for discharge from the Rehabilitation Centre with regular follow-up as stipulated above. This is individualised to every patient's/client's need. The discharge environment and infrastructure is also taken into account and planned for. The purpose of rehabilitation is to see the patient reaching his/her full potential……" ***(patient centered care)---discharge***

".....Using a client-centered approach to develop a coherent and realistic discharge and management plan which addresses long term occupational needs (self management, leisure, work, social)....." ***(patient centered care). ---discharge***

"…… Start planning for discharge from day 1 as patients are often discharged on short notice……". ***(patient centered care)---discharge***

".....Rehabilitation patients for discharge should be assessed by Social Work to ensure availability of careers/referrals to care……" ***(patient centered care)---discharge***

(b) Goal setting: Patient centered goal setting in health care is an old practice in health practice whose principle is prioritizing the patients goals in the care plan (Mandy,1996). However, interdisciplinary patient centered goal setting is a little complex since it involves more professionals where by questions of role responsibilities, role boundaries and role blurring arise (Armstrong, 2008). It was deduced from the protocol under analysis that establishment of treatment goals needed to be collaborative among the health team, patient and the carers. The consideration of social functioning of a patient and the involvement of family/carers were important highlights as depicted in the quotes below:

".....This is determined by treatment goals which have been established collaboratively with patient, family members and treatment team....." ***(patient centered care)----goal setting***

".....The rehabilitation phase is a goal-orientated process aimed at enabling a patient with a SCI to reach an optimum mental, physical, and/or social functioning level thus providing him/her with the tools to change his/her own life……" ***(patient centered care)---goal setting/***

".....The client and family form an integral part of the team, are involved in team/family conferences and planning/training sessions....." ***(patient centered care)—goal setting***

"…… This is determined by treatment goals which have been established collaboratively with patient, family members and treatment team....." ***(patient centered care) goal setting***

(c) Attention to patients needs: In the context of patient centered care, effort is made to understand the needs of a local population or an individual in a more refined and established approach (Wright, Williams & Wilkinson, 1998). It is argued in the literature that combining the needs of a population with the knowledge of those of an individual patient helps to meat the health goals (Write et al., 1998). Furthermore, those needs need to be assessed and attended to through interprofessional specialised skills that no single health discipline may possess (Sargeant, Loney & Murphy, 2008). The individuals perception of a health need is empasised because his/her view of being healthy may not necessarily mean absence of pathology but may for instance include a job, a bus route to the hospital or health centre, or decent housing (Shanks, Kheraj & Fish, 1995). Having considered patient centered care from a context of patients needs, the following components from the protocol deemed to support collaborative practice.

"……The Rehabilitation ward needs to be staffed by dedicated staff trained in the care of the SCI patient because of their special needs……" ***(patient centered care)----patients needs***

"…….A holistic approach focusing on maximising each person's independence and successful re-integration into society needs to be used. The client is seen as a holistic human being with diverse needs on a physical, emotional and social level. These needs differ from person to person……" ***(patient centered care)---patient needs***

"…….The team designs a comprehensive, individualised programme to suit the needs of each person entering into rehabilitation…" ***(patient centered care)---patient needs***

Team functioning

A team of health professionals is known to be functional when the task accomplishment effort is independent and collaborative and not parallel (Sargeant et al., 2008). Characteristically, a team will function well if members establish sustainable work

relationships, respect each others contribution, share decision making with commonly agreed goals, facilitates discussions and respect team ethics (Brewer, 1999). Sargeant et al., (2008) give a scenario of an obesity epidemic in a population that they describe as a primary health care area of intervention whose interprofessional coordinated teamwork across clinics, institutional and community health and social resources is necessary. The analysis noted the following components of practice to have been friendly in this context.

*"……for instance, a patient may sometimes commence with rehabilitation activities before the spine is stabilised), the rehabilitation phase in general requires different skills compared with the acute spinal cord injury phase e.g. different medical skills as well as intensive physiotherapy, occupational therapy, social work as well as sexual counseling****……(team functioning).***

The client and family form an integral part of the team, are involved in team/family conferences and planning/training sessions: ***team functioning***

Inherent requirement of a duty: Ability to function in a group ***(team functioning)***

*Rehabilitation patients for discharge should be assessed by Social Work to ensure availability of careers/referrals to care……****"(team functioning)***

Communication and referrals

In this analysis, interprofessional communication and referrals were merged. Clear, comprehensive and professional culturally sensitive communication is considered an important competence interprofessional practice. Networks of referrals are also known to be facilitated by interprofessional communication competence. Furthermore, as pointed out by Coulter, Singh, Riley and Der-Martirosian (2005) it is important to note that an efficient referral system/patterns accompanied by interprofessional communication is highly facilitated by the how professionals were trained, how much knowledge they possess regarding the role of colleague professionals, availability of the required service and sometimes the costs associated with referring the patient to colleague. As must as

formal referral and communication channels are valued in health practice, the informal ones are as well known to contribute to the quality of care. The protocol entailed the following statements that were seen to be of value in term communication and referrals for collaborative practice:

*"……. Referrals are received from any of the following sources: written referrals from medical staff, verbal referrals from any team members……..."(**communication of referrals formal/informal)***

"……Protocol and Policies:
*Positive feedback of personnel and patients, Communicate and liaise with supervisors…..**(effective communication)***

*Inherent requirements for practitioners: Good communication skills, To provide acceptable nursing care, Good interpersonal skills……." **(effective communication)***

"……..** Recommendations regarding rehabilitation options can be discussed with the patient's doctor……." **(informal communication)

*"……. Feedback about patient progress/problems to sister of ICU/discussions with doctor. The on-call doctor is always available in the ICU. Discuss any questions regarding treatment/precautions with the ICU doctor/sister. (e.g. patients on dialysis; low platelet counts; haemodynamic instability……." **(effective communication)***

"……..*Patient information: Medical folders are kept in sister's office/nursing station. Referral is answered and placed in medical folder; physiotherapy notes are kept in medical folder.*
Other:
- *Daily feedback and discussion with sister in ward is advised.*
- *Please discuss specific precautions with doctor as needed**……..")(formal and informal communication)***

*"…….Regular communication and feedback to ward sister/nursing staff is essential……."**(effective communication)***

6.1.2. Category two: unfriendliness to collaborative practice

This category was illuminated by occasions when the components of practice seemed to antagonize the interprofessional collaborative practice competences or encourage multidisciplinarity or silo practice. Key interest was taken when terms opposite to

interprofessional/interdisciplinary were used as well as in occasions when more than one profession was mentioned. This was to ensure that the exact meaning in that regard was clearly understood. It is in this context that the themes listed below were developed and backed up with the components of practice identified.

6.1.2.1. Protocol objectives insufficiency towards professional interdependence

During discussions that relate to collaborative practice in health and particularly in hospital settings, questions arise regarding the role of institutions administration in enabling the practice. Begun, Mosser and White (2011) provide an elaborate answer to this question but broadly labels administrators as equal partners in the teams that carry common goals. Among the important responsibilities that Begun et al., (2011) recommends is in the formulation of the institutions vision and mission and still further down to practice objectives. Administrators should enable clinicians to understand the culture of practice in the institution through entrenching the virtue of teamwork in the objectives that guide practice. It is in this regard that that the protocol analysis in this study identified unfriendliness to collaborative practice in the structure of the objective below.

"……*The objective of this document is to provide a framework for the rendering of clinical services to patients with spinal cord afflictions including:*

-A responsive and accessible referral system;

-Efficient integration of Spinal Cord Services into the Health Care System……"

6.3. PROTOCOL TWO

The second protocol that was accessed was specialised for management of stroke patients in a hospital setting. An emergency work environment exists where by patients presenting with signs of stroke are evaluated and admitted. The physician conducts the evaluations and keeps close communication with the registrars on call. A team of health experts labeled as a multi disciplinary team meets twice a week to discuss the admitted cases. Further, there are weekly radiology reviews conducted. A hospital based multidisciplinary rehabilitation management conducted post-acute phase of treatment is noted. A component of preparation for discharge is also part of the protocol. The acute care is empasised with the role of the medical doctors emerging prominent while other health professionals are consulted to give attention to patients on priority bases with the doctors motivating the need in that regard as pointed out by the hospital manager in the statement after the one below. In this protocol, non of the themes were attributed to friendliness to interprofessional collaborative practice.

"…….The hospitals stroke service evaluates all Patients with the diagnosis of stroke in the Emergency Unit, consults on similar patients in the hospital inpatient service and admits stroke patients directly to the Stroke Unit. The service operates 24 hours a day, 7 days a week. The Emergency Unit physicians have direct access to the registrars on stroke call who carry a pager. The Stroke roster with the registrars and consultant on stroke call is available in the Emergency Unit and on the Hospital telephone exchange. The initial evaluation is conducted by the Emergency Unit physician followed by consultation by the stroke registrar on call. All patients with acute stroke admitted to the Stroke Unit are evaluated according to established pathways and follow a schedule of diagnostic and therapeutic steps. There are daily stroke ward rounds and the multidisciplinary team meet twice weekly on Monday and Wednesday at 13h30 to discuss all stroke patients in the hospital. There is a weekly stroke radiology meeting for review of all stroke scans and angiograms. Stroke patients admitted to the general medical wards are seen on a daily basis by the stroke rehab team……"(Protocol preamble)

***"……..**We've got a stroke unit where we've got a multi-disciplinary team, as I've said. The spine unit where we've got a multi-disciplinary team, there the social worker is very involved. So yes, I mean you know, people do motivate for the staff , but where there can't be, there can't be. And then within Allied Health unit you probably have to prioritise where you place staff where they need it and I suppose the*

doctor is very involved in motivating - is it in stroke unit, is it spinal, is it in the ICU. Where do you most definitely need...ja, physio or OT's, you know……..”(hospital manager)

6.2.1. Unfriendliness to interprofessional collaborative practice

6.2.1.1. Risks related to late or lack of teams member involvement

Although late involvement of a health team member may be conjoined with inefficiencies in communication, it goes beyond and touches on the role of clinical complications in prompting the consultation of a team member. Together with arising of complications, inadequate knowledge on the roles of team members may lead to delayed or no consultations hence risking patients' health. Lack of specific disciplines in some settings or the costs involved may also contribute to late or no consultations at all. The components of practice below were therefore deemed to antagonize collaborative practice through conspicuous lack of teamwork or late consultation of vital members of the team hence pausing health risks

“…….The service operates 24 hours a day,7 days a week. The Emergency Unit physicians have direct access to the SHO/registrars on stroke call who carry a pager……..” ***(no teams in emergency)***

“……..Swallowing: no foods until assessment of ability to swallow because of high risk of aspiration. Before testing patient for swallowing competence observe patient for: Wet phonation, Abnormal voluntary cough, Abnormal phonation quality, Reduced level of consciousness, Reduced laryngeal elevation or swallow, If any of the above signs of possible aspiration are present or if level of consciousness is impaired then patient should be kept nil per mouth till speech therapist consulted……..” ***(late consultation of ST)***

“…….TPA Procedure preparation: take baseline level (5ml edta tube) and place on ice immediately, give the patient methionine (0,1 g/kg body weight) in 200 ml orange juice. Note the time. Patient may have black tea or black coffee with sugar but no other food for 6 hours after the methionine was given. Deliver the first sample to the chempath c20 lab within one hour. Do not use the chute: this is important
Take the 6 hour sample (5ml edta tube) and place on ice immediately.
Deliver the sample to the chempath c20 lab within one hour. Do not use the chute: This is important……..” ***(lack of team in preparation for surgical procedure)***

“……..Water swallow test:
To be done at bedside preferably by speech therapist or doctor.
Ensure patient well supported and alert: Give 5 ml tap water. If coughing or choking results then speech therapist to be consulted and patient remain on ivi fluids until nasogastric tube inserted in the interim for

feeding……..” ***(Late consultation post complications)***

6.2.1.2. Multidisciplinarity

The theme “multidisciplinarity” emerged because the term multidisciplinary team was used more than once for instance while listing the professionals involved in the management of the patient. Also, the protocol, did not elaborate on the group dynamics that would qualify their working relationship to be collaborative and coordinated. A more formal form of communication is further empasised.

“……*Stroke Unit Consultant staff: A list of seven doctors by names and extension phone numbers provided. (confidential) i.e. :*
Community Liason Professional Nurse; Physiotherapy; Occupational Therapy; Speech Therapy; Social Work:
There are daily stroke ward rounds and the multidisciplinary team meet twice weekly on Monday and Wednesday at 13h30 to discuss all stroke patients in the hospital…….”

“……..Senior stroke registrar to be notified of all stroke admissions and multidisciplinary team informed……”

6.2.1.3. Unclear task allocation to members of the team Statement

Due to possible lack of co-competences among the designers of the referral pathways, most likely physicians, it was difficult to highlight clear roles for other health practitioners hence lack of clarity with regards to what management/treatment the professionals were supposed to offer. This compared to how the role of the physicians was stipulated, there was a stuck difference

“……*Multidisciplinary stroke team continues with management and rehabilitation……”****(no clarity of role)***

*“…….If possible, passive full range motion exercises for paralysed limbs can be started within first 24 hours 1……..”****(no clarity of role)***

*“……..Multidisciplinary stroke team continues with management and rehabilitation……..”****(no clarity of role/allocation)***
“…….The completion of the comprehensive inpatient rehabilitation programme qualifies the SCI patient

for discharge from the Rehabilitation Centre with regular follow-up as stipulated above……"(no role clarity/allocation)

"…..all clients should be explained as well as the expected or envisaged outcome of the assessment……"(no role clarity/allocation)

6.2.1.4. Facilitation of silo practice and lack of common goal

On occasions where the role of a specific discipline was highlighted, there was a conspicuous lack of a forum created to engage with other professionals in order to manage the case at hand holistically. The components of practice highlighted above therefore were assigned to the above theme because it was thought that sole assignment of duties in the protocol without a forum for coordinated collaboration would encourage silo practice**.** The danger of isolated roles (no forum for deliberation) is blinding of colleagues of what other discipline role is hence pausing the danger of duplication, failure to refer and falling short of capacity when an individual instead of a team experiences a solvable clinical problem.

"……..Physiotherapy, occupational therapy, speech therapy to evaluate potential rehabilitation needs and to instruct patient and caregivers regarding mobility, range of movements and psychosocial issues……..."(isolated roles)

"……Speech therapists involved in stroke rehabilitation are required to fully assess and teach an individual to communicate effectively and swallow safely…….".(isolated roles)

"…….Whilst patients are in the acute phase post stroke the speech therapist has the following objectives: Assessment, Implementation of therapy, Education, Referrals to other professionals, Discharge planning……..."(isolated roles)

objectives of occupational therapy:

"…….To provide occupational therapy services to a patient who has had a CVA; to assess the patient comprehensively with the aim of formulating realistic short and longer term goal directed treatment aims; to commence treatment with the aim of achieving reduction of impairment and increased functional independence……."(isolated roles)

"……..Rehabilitation patients for discharge should be assessed by Social Work to ensure availability of carers/referral to care centre……"(isolated roles)

6.3. Protocol Three:

The third protocol that was analysed in this study was sourced from a specialised rehabilitation Centre. The name accorded to the protocol is a "patient management plan". The Centre handles referrals from all levels of rehabilitation services i.e. tertiary, secondary, district and primary. The rehabilitation of people with physical disability is the main focus of the institution. This plan claims to follow an interdisciplinary team approach and also empowers partnerships with the broader community. The team that is tasked with accomplishment of rehabilitation services is composed of Client/Carer, Case Co-coordinator, Social Worker, Doctor, Physiotherapist, Nurse, Occupational Therapist and Speech Therapist. The Centre is designed and staffed for rehabilitation services and therefore the environment of practice is non-emergency and long term. The plan is simple with not much detail of prescriptions or procedures but has a framework that reveals the flow of events and culture of practice in the institution. It is a requirement that patients get examined to ensure that they are physiologically stable prior to admission to the Centre. The management plan demands therefore that the state of the patient be described before admission as highlighted in a simple sentence below. The model of practice as explained by the Centre's manager is interdisciplinary and patient centered. Further, the Centre operates under the outcome based practice philosophy that utilises the International Classification of Function and Disability (ICF) as an outcome measure tool.

"……Description of client and discharge environment……..."(management plan requirement)

"…….. If you look at my brochure, in our policy of admission...we are client-centered, outcome based but we follow a interdisciplinary team approach. That is our institutional policy. We also have a centre philosophy document because when we moved to here we were a collaboration of two facilities. So we had to establish who are we, and that is the one thing, and we have our centre philosophy that basically we tie

into outcomes based, client-based, client-centered, inter-disciplinary ICF approach……"(Institution Manager).

6.3.1. Friendliness to ethos of interprofessional collaborative practice

6.3.1.1. Patient centered care

As described earlier in this chapter, managing a patient based on his/her holistic set of goals and considering various factors that determine their health status being personal or environmental is a competence of interprofessional collaborative practice. In the analysis of this protocol, some action pathways as highlighted below were considered to be friendly to patient centered care. Indications of patient's goal driven management were evident in the protocol.

In the plan, the patient is meant to be assessed in order to ascertain;-

……. *Barriers or resources with regards to:*

Environmental factors such as

"…….Physical (products & technology for personal use, communication, education, employment, mobility, buildings)

- *Natural environment (terrain population, climate, light, air quality)*
- *Support, relationships & attitudes (family, carers, friends, people in authority, health care providers)*
- *Services, systems, policies (housing, shops, town planning, transport, legal systems, social services, media, health services, health funders, political, economic service*

Or personal factors such as:

Gender, race, age, other health conditions, premorbid functioning, fitness, habits, lifestyle, risk factors, social background, Education, past experiences, religion, personality, coping style……."(Patient centered care).

……I……*the undersigned, hereby confirm that I have discussed a rehabilitation programme with the WCRC rehabilitation team……(Patient centered care)*.

Client's goal (measurable, time frame, acceptable to client and team, expression of participation):……. *(Patient centered care)*

6.3.1.2. Team functioning

Considering team functioning to be a working relationship that is sustainable and fosters independence of practice though collaborative and accompanied by respect for each others contribution and shared decision making, protocol three was seen to be collaborative friendly in a number of practice components. For instance, the "plan" provides for every patient to be part of a rehabilitation plan that comprises of all the team members while the professionals plan as well is documented in such a way that it is geared towards achieving the patient's goal.

…….I……the undersigned, hereby confirm that I have discussed a rehabilitation programme with the centres rehabilitation team for……(Client) who commits to participate in this programme. I accept that the programme may change during the course of admission as will be documented by the team members and discussed with myself.

***Client/Carer signature**: ……Date……*

***Case Coordinator**:……Date……*

Social Worker:……Doctor:……Physiotherapist:……Nurse:……

Occupational Therapist:……Speech Therapist:……(Team functioning)

…Interdisciplinary team plan to achieve goal

Activity	*Comment*	*Date*

6.3.1.3. Communication

A care pathway that link professional's ideas/contributions/roles and focus on a common goal was considered to be an attribute of good communication that would enhance sustainable collaboration between all the professionals involved in providing health care through that pathway. The pathway below as represented in the management plan was a clear illustration this attribute.

Listed areas of rehabilitation such as :-	*Responsible team member*	*Target date*	*Date achieved*
Cognition, Perception,			
Sensation, Vision			
Communication			
CVS, Haematological, Immunological			
Nutrition, Hydration,			
Reproduction: Sexuality Family Planning,			
Mobility: Bed mobility, transfers, seating, balance, gait, handling objects,			
Self care: wash, dress, feed, grooming. Etc.			

6.4. PROTOCOL FOUR

A fourth protocol was accessed from an institution of medical care for children. Although not very detailed, some processes that take place during outpatient care, surgery and inpatient were highlighted. The protocol portrayed its uniqueness in several aspect of management. This attribute accorded the protocol a unique identity during the analysis especially due to the fact that the institution has a unique way of handling the special clientele. It considers explanation of every procedure to the child and the involvement of the parents/guardians' to be a huge factor in enhancing the success of all procedure. Furthermore, the culture of practice in the institution is constructed by the fact that the workers work with and beyond the children in order to reach out to their carers as pointed out by the manager in a quote below. This allowed patient centered care to stand out. Generally, the institution functions under both emergency and general opinion circumstances at the out patient sections. A wide variety of specialised clinics such as Allergy clinic, Anorectal and stomatherapy clinic, arthritic clinic, Cardiology clinic, Cardiothoracic Surgery clinic, Cerebral palsy clinic, Clubfoot clinic, congenital hand clinic, cranial facial clinic, developmental assessment clinic, diabetes clinic, fracture

clinic, Gastroentorology clinic and others are run. The institution manager expressed is view of the culture of service delivery in the institution as follows:

…….. "And, pediatrics, for me... pediatrics itself is a specialty. So what you in physiotherapy, OT, speech and language at an adult level, you can't equate with pediatrics. It's something extra that you got to have to have. So, the motivation there must be even stronger. We deal with beyond the child in this hospital, we have to reach out to those who care for them"……… ..(managers opinion)

6.4.1 Friendliness

As discussed earlier in this chapter, friendliness to ethos of interprofessional collaborative patient care was assessed in all the protocols hence the identification of any existing unfriendliness to the same. The only theme related to friendliness was:-

6.4.1.1 Patient centered care

The only friendly attribute to interprofessional collaborative practice ethos of practice in the fourth protocol was patient centered care.

Considering the patient participation attribute of patient centered, it became interesting to assess how an institution whose patients are children attempts to practice patient centered care being a competence necessary in interprofessional collaborative practice. In this particular case, it is evident that the institution attempts to involve the children by communicating with them about every procedure that they undergo particularly with regards to surgery. Furthermore, the involvement of parents and caretakers in decision-making was noted. In addition the parents/care takers welfare formed part of the protocol.

……Dad and mom, it is important that you stay healthy and rested. Don't feel bad to go home and catch up on sleep Take a walk around the hospital/ and outside or sit out in the sun Meet up with a friend for tea or coffee……..(caretakers welfare)

……Friends of the hospital: Friends are a group of volunteers who support the hospital in different ways. You may meet some of these volunteers when they bring toys to the ward every morning. Friends also run a Family Resource Centre where you may be able to find out more information about your child's condition. Ask the staff to direct you there……(caretakers welfare)

…….Being with your child is very important for his/ her recovery, but rest and sleep is just as important for you: There is a comfortable chair for one parents to stay with your child overnight. If you stay at home feel free to first settle your child at night before leaving the ward……..(child and parent welfare)

……..A group of doctors may come around on a ward round and discuss your child's condition. These are good opportunities to ask the team any questions you may have……(patient centered care)

……..If your child is having surgery or a procedure, you may be asked to sign a consent form (a form giving the medical team permission to perform the procedure). Take your time reading through the whole form before signing. Feel free to ask about anything you may be unsure of……..(patient centered care)

A child information plan forms part of the protocol and is designed artistically to communicate with the child especially those that are able to read while parents are advised to read for the younger ones. The information below is in drawn bubbles.

"……Parents or guardians, it would be very helpful if you could read and explain this pamphlet to your child before their operation. This will help you all feel at ease about what will happen in theatre….."

…….On the day of your operation, the porter will come and fetch you in the ward and take you to theatre with one of the ward nurses. No need to be scared, your parent or caregiver may come with you. When you get to theatre the ward nurse will hand you over to the theatre nurse……..

"…….In the theatre room there are many different machines. The nurses will put little stickers on your chest so that we can see how your heart is beating. An armband will be placed on your arm so that we can check your blood pressure. We'll also put a small little light on your toe or finger to make sure you are getting enough oxygen.

The 'Sleep doctor' (Anaesthetist) will hold a mask over your nose and mouth and tell you to breath deeply. This will slowly make you go to sleep……"

"……In the ward, the nurses will check your pulse, blood pressure and a few other things every 30 minutes for the first few hours. If you feel sore please tell a nurse so she can give you medicine to make you feel better. Your parents/carers will usually be with you now. As soon as the operation is over you will wake up in a different room called 'Recovery'. You may have a plaster on your operation site……."

6.4.2. Unfriendliness to ethos of interprofessional collaborative practice

As indicated earlier in this chapter, the study sought to identify components of practice in the protocols that limit collaboration during patient care or use of terms that would indicate that the mode of practice is silo. Inability to create a forum for a coordinated contribution of professionals was also considered a derailment to collaborative practice. The themes below were developed in consideration of these facts.

6.4.2.1. Un-intended facilitation of silo practice

The outpatient care framework in this protocol portrays a multi-clinic scenario each with a guide of how patients are managed per clinic. The majority of the guides indicate that the activities of the clinics are lead by medical doctor with no forum for team function. Telephonic consultations were highly encouraged. In some occasions, a multidisciplinary team is mentioned for example in a cerebral palsy and cystic fibrosis clinics. The possibility of there being a prior knowledge of what the members of the teams mentioned in these clinics can contribute to the cases managed in these clinics was assumed to have existed. Below are some of the guides' utilised by the clinics and reflect the earlier description of interprofessional collaborative practice unfriendliness.

ALLERGY CLINIC
***Head**: Professor ……..(named)*
***Consultant**: ……(named)*
***Telephonic consultations:** ……(named same as 2)*

Number provided

Appointments: *Name and number provided*

Types of patients catered for:

1. Asthma

(a) *Moderate asthma not responding to regular medication* ***(b)*** *Severe asthma (steroid dependent)*

(c) *Previous admissions for status near fatal asthma* ***2.*** *Moderate to severe persistent Allergic Rhinitis*

(3) *Atopic eczema and urticarial, Atopic eczema associated with asthma and/or allergic rhinitis.*

All other cases of eczema are seen at the Dermatology Clinic. Children with recurrent or chronic urticaria may be referred for

Evaluation. ***(4)*** *Suspected food allergy:-*

(a) *In infants* ***(b)*** *Life-threatening and other significant reactions to foods* ***(c)*** *Food allergy of unclear cause*

(5) *Drug allergy, Allergic and life-threatening reactions to drugs e.g. anaphylaxis or bronchospasm. etc*

Venue: *……Room named*

Days and times: *Monday 08:30-13:00*

CEREBRAL PALSY CLINIC

Head: *Dr ……..*

Telephonic consultations: *Attending doctor: ……number provided*

Appointments: *number provided*

Type of Patient catered for: *Children with cerebral palsy. The clinic provides physiotherapy, occupational therapy, speech and feeding therapy, social intervention and educational placement.*

Venue: *Room named*

Days and times: *Monday, Wednesday, Thursday and Friday at 09h00*

CYSTIC FIBROSIS CLINIC

Head: *Professor……..(named)*

Team: *Dr . named, Prof . named*

Ms. Named (Physiotherapy)

Ms. Named (Dietician)

Telephonic consultations: *number provided (ask for consultant on call)*

Appointments: *number and name provided,*

Ward: labeled

New cases as well as urgent problems will be referred to the Cystic Fibrosis Consultant on call for pre-referral arrangements.

Type of patient catered for: *Proven cases of Cystic Fibrosis only*

Venue: named

Days and times: Tuesdays 14:00-16:30.

DIABETES CLINIC

Head: *Dr. named*

Consultant: *Dr. named*
Telephonic consultations: *Dr. name and telephone number provide*
Appointments: *Telephone number provided*
Type of patient catered for: *All patients under 18 years with diabetes.*
Venue: *named*
Admissions: *All diabetic ketoacidosis admissions to ward*

FRACTURE CLINIC
Head: *named*
Telephonic consultations: *(telephone number provided) during clinic hours*
Appointments: *number provided*
Type of patient catered for: *Clinic caters for follow-up of fractures. Acute Fractures are dealt with at all hours in the Trauma Unit.*
Venue: *named*
Days and times: *Tuesday and Thursday 13:00-16:00*

6.5. Summary of chapter seven

The rehabilitation institution patient care protocol was found to be friendlier to IPC than the other three protocols that were analysed. The three were from acute care institutions including a pediatric one. There were some attributes of IPC friendliness in them but the lack of reflection of the same in their preambles, objectives, managers' views and actual statements on the protocols, created a sense of happenstance as compared to the rehabilitation institution whose statements on paper represented more communication, patient participation, team work while the managers views reflected the same.

CHAPTER SEVEN

HOSPITAL MANAGERS' VIEWS AND PERCEPTIONS

7.1. Introduction

This chapter provides a qualitative analysis of the sampled hospital managers' views and perceptions regarding interprofessional collaborative practice within their institutions. Only those institutions where the UWC Faculty of Community Health and Health Sciences places more than one disciplines of health students for practice placements were selected to participate. In this regard, five managers took part in semi-structured interviews. General questions seeking to explore their view with regards to possible frameworks guiding IPCP, the culture of this form of patient care, its practicability and the power and leadership dynamics surrounding the same were asked. These questions lead to development of themes highlighted below while other themes also emerged from the content of the transcripts as the researcher read them several times.

7.2. Guiding protocol for interprofessional collaborative practice

The current study sought to find out whether the selected institutions had policies or guiding protocols that they would attribute to facilitation of interprofessional collaborative practice. There was only one institution whose manager considered its patient care guide to be a facilitator to interprofessional collaborative practice. On most occasions, the managers indicated that their patient care modalities were not specifically guiding collaboration. These deductions are reflected in the following statements as explained by the managers.

"All right, there is no written policy, as far as that's concerned" (Acute care institution)

"As I said in the beginning, there is no written policy around that. You see, I think... I was thinking about that, reflects the fact that I don't think that such a document exists anywhere. And I tell you why because now I'm also involved in planning at a higher level for the health services in the Western Cape and just last week I went to an allied health worker meeting at hospital x. It was the first meeting, to say how do we actually work together? And how do we take our needs higher?" (Acute care institution)

" Our documentation. Staff performance appraisals. We have also included the core values of the Department of Health, what is it: caring, competency, accountability, integrity, responsiveness. Ja. But basically it's those, because interdisciplinary teams take a lot of social skills. So, to encourage that, at management, what I've done for my staff, is to acknowledge the task-orientated people versus the people-orientated people to build relationships and stuff and they acknowledge that that is just as important as getting the job done" (Rehabilitation institution)
"I'm not aware of a formal policy" (Acute care institution)

"I'm not aware particular document that says that, in so many words, that various professionals must work together in a team. So I can't haul out such a document, I think it's sort of standard knowledge," (Acute care institution)

7.3. The culture of interprofessional collaborative practice among workers

Several managers did not admit to the existence or non-existence of the culture of health workers breaking the professional boundaries and stereotypes in order to coordinate their practice as a way of adding value to patient care. The managers, however, mostly indicated that they often encouraged working together in various ways. Among the methods that were used to encourage this was gathering the professionals who are a minority and encouraging them to use their lesser numbers to work together instead of

extending the alienation to their smaller groups. Cost effectiveness of collaboration was also highlighted as a facilitator for encouraging teamwork.

"I've been telling them that they are not an add-on in health. They are part of a management team to manage a patient. And they need to be part of a decision-making body, although it's led by the doctor, each person has got his own say in the management of that team and needs to be heard. That is my philosophy" (Acute care institution)

"That's something that I encourage. Because the allied health workers are such small groups to start off with, I actually get them together, the heads of the departments together to actually meet and discuss common issues and to emphasize the importance that we work as part of a team. They must not... because if you, if you as a physiotherapist are feeling alienated from a medical person, it will be worse if you're also alienated from other allied health workers. But in fact we are all part of the same team. We've got different roles, but our responsibilities are the same in terms of looking after the patient, number one" (Acute care institution)

"Yes, it is supported because it is also cost-effective. And of course, when we talk about administration, the management of it, you always have to bring in the financial aspects. So it's got definite financial advantages working as a team, rather than as individuals struggling. And part of that, you know, from my perspective also is to build up the individual, and the individual groupings, the individual sub-disciplines to make... to ensure that they in fact feel that they're acknowledged" (Acute care institution)
" I've been trying to discourage that and say look at the need of the hospital, and let's look at what is it that we need to do together. It's a mindset and it takes time to work through that. It's not something that you can impose also. It's something that you got to work through all the time, and encourage and just" (Acute care institution)

Nevertheless, one of the managers that was interviewed was more confident that the culture of collaboration existed in the institution in question. As stated in the statement below the manager indicated that protection of staff through ensuring that they have a right to consultation and referrals was a priority.

"We have a system where patient gets admitted, nursing-medical sees every patient, every patient gets seen by physio, OT, social work. If there's a need, the patient gets referred to the dietician and then the social worker is the gatekeeper for the clinical psychologists possibly. Because we only have one psychologist, we've got three social workers, two physiotherapists and sessional dietician. For the whole institution, she comes for fourteen hours a week, the dietician. So that's why we need to protect the staff and actually and make sure they get the right the right referrals, so ja... The other thing is why I say that all the other disciplines are involved with every patient and we're doing it with outpatients as well, is that because our patients are at high risk of developing complications, that at every opportunity, we just do a quick... say you get a re-admission... a quick re-assessment, are all systems in place, and they're basically making sure in terms of your outcomes levels, that the patients don't slide down, are systems in place to maintain it. Yes, tick, fine, carry on. O, here there's a problem or the patient's actually improving, you know" (Rehabilitation institution)

7.4. The role of workload versus resources

It was in the managers' view that there was a huge disparity in the ratio of health workers to patients. A manager indicated that at times it becomes difficult to distribute specific professional to all the areas where they are required. In that regard, it becomes difficult for concrete teams to be formed in order to coordinate interprofessional care. Tertiary/ referral hospitals, in particular, often find themselves not being able to cope with lack of lower level hospitals. Hence an influx of patients who do not need tertiary care. This further increases the disparity in the patient to health worker ratio hampering collaboration. These sentiments were highlighted as below:

" One of the problems that I'm finding at the hospital is that our allied health workers are in very, very small groups. We don't have sufficient staffing that caters for the needs that are being, for the service that are being dished out, or serviced here at the hospital. So, for example, I would like each ward to have a health care worker, as part of their routine ward round. We don't have the staff numbers to deal with that. They need to identify the cases, and deal with the cases. There's a massive out-patient load as well, so because of the small numbers we have, it's impossible to service everybody. So that kind of collaboration that I'm looking for, it happens in some cases, but not to the extent that I would like it to happen" (Acute care institution)

" There's a human resource limitation" (Acute care institution)

" Each unit has got its own special policies or protocols around how they manage patients and when they discharge patients. What criteria they use for accepting referrals. I've asked them each to draft that and to stick to that because of our small numbers our needs have been growing exponentially and we're finding, for example, in speech and language therapy... they cannot cope with the volume that has been referred to them, because they've been accepting everything that just comes in, we'll see... we'll see... but we have to draw a line, and have specific criteria of who we actually accept and who we can't accept" (Acute care institution)

" And it's been driven purely by numbers. Just the numbers of patients that are coming in for referral has just been overwhelming. The other part... one of the reasons for this, why it is so busy, is that the district, the lower levels of care have very few allied health worker to accommodate, so even when we discharge patients, you find that they bounce back to the hospital. There's nobody to accommodate them down there" (Acute care institution)

7.5. Power, leadership and supportive attitudes

In the context of interprofessional collaborative practice, leadership forms an integral part of its success. The management is assumed to have a role while the team providing care is also expected to have a coordinatory leadership rather than an authoritarian leadership. Maintaining collaborative relationships also require supportive attitudes towards the same. In a certain institution, the manager expressed a sense of provision of leadership

geared towards elimination of a stereotype of superiority and inferiority. In addition to that form of administrative leadership, another form of leadership was expressed where by the management and the clinical staff are all meant to work together as a means of strengthening the team. It was also clear from one of the managers' accounts that maintaining a working relationship that assumes equality was a challenge especially in a specialised institution where the medical doctor was not necessarily the leader of the team particularly in rehabilitation services. A manager also reported that in order to sustain positive attitudes towards collaborative practice some specific core values as indicated in one of the quotes below needed to be practiced in the institution. With regard to leading health teams in patient management, issues of who is trained to take management risks as well as who takes the medical legal responsibility were raised.

" As an example, I had a discussion with the head of dietetics the other day, who said that she has particular problems with one of the clinicians, who thinks he's... because he's the doctor, he knows more about, it's to do with allergies... food allergy. And she would recommend something and he would disagree – and how would we deal with those issues? Now, she's worked out a way of actually dealing with that and I said, well, keep me informed because if it's not dealt with properly, we may need to call a meeting and discuss these issues" (Acute care institution)

" But what we are also trying to implement is that at management level, because our management is managed on a nursing, therapeutic, medical, administrative hierarchy. Then you get your staff and now they are all expected to work inter-disciplinarily. So what I try to create is a very strong inter-disciplinary approach especially between nursing, therapeutic and myself so where we need these things, we do it, the three of us together. And now what we've introduced is our middle managers, so that when you have... if you want to know what is going on with the budget, if you want to know what happened with that death, or that incident, it's not the doctor or the nurse, or the therapist. It's you three together, you tell us what

happened. So, the joint accountability... I try and bring the idea...We all have different strengths, our different weaknesses, but how do we utilise that to have a rock-solid little management team"(Rehabilitation institution)

" When we moved here, it was made very clear to them in no uncertain terms that we are all equal. To the extent that, to be fairly honest, somewhat doctors still say that we don't have a say here. We might have a higher salary level, but we're a surgeon-run facility, and if the surgeon says jump, the doctor says jump, which is also not very healthy. And it has taken a while to achieve a better balance and as I say, that's the importance of middle management because the doctors naturally fall into middle management, but at the end of the day they're also the clinicians. Whereas the surgeons have got a slightly more hierarchal structure and nursing is very hierarchical structure because there's much more of them. Ok. And its a case of, we are all equal, but some are more equal than others, ok. So I think we need to work hard on building up the doctors again, because at the end of the day, they do take the medical legal accountability" (Rehabilitation institution)

" We have also included the core values of the Department of Health in our staff performance appraisals: caring, competency, accountability, integrity, responsiveness. Ja. But basically it's those, because interdisciplinary teams take a lot of social skills. So, to encourage that, at management, what I've done for my staff, is to acknowledge the task-orientated people versus the people-orientated people to build relationships and stuff and they acknowledge that that is just as important as getting the job done" (Rehabilitation institution)

" A nurse's point of view is, in general, she takes instruction from the doctor, so she won't do that unless a doctor says do it. If the doctor says do it, she may do it. But she's not taught to take risk. And this is why it's... depending on the circumstances, it's quite difficult to have a nurse as the head of a team. A nurse might be a suitable leader in a situation where there's no big waves, you know. She'll stick to the routine and make sure all i's get crossed, I mean dotted and t's crossed and all that stuff. Which is fine, but if you got... if the ship is about to sink, you need a different way of thinking and often they can't adapt to that because they're taught not to take risk. While the doctor is. Why I say the question is interesting, I don't know where a physio... I'm picking on a physio, it could be anyone in that group, I don't know where... how their thinking is. My feeling is that, to some extent, the physio tends to follow, not to lead because she...let's say it's she... she will be told by the doctor give physiotherapy for this. On the other hand, the doctor, most of the time, hasn't got a clue what the physiotherapist is actually meant to do, so he leaves it to the physiotherapist to decide what to do" (Acute care institution)

" Where... so whether a physio would be the right one to lead a team, I would say... my guess is an acute hospital, probably not. In certain specialised areas, maybe yes, like some rehab sort of an area, we said we've got a clear example of it, Jenny Henry leading that set-up" (Acute care institution)

7.6. The role of health professionals in ensuring collaborative practice

The managers observed that it was very important for every member of the health team to be trained properly and understand the value of their profession prior to engaging in collaboration. Ability to explain the role of one's own profession was considered important. Further, managers thought that it was vital for all health professionals to conduct presentations that would enlighten other colleagues about each other's roles. The understanding of teamwork among the managers appeared to have been more advocatory than team building. In the following quotes, although managers indicated that health professionals needed to professionally educate colleagues about their roles, they also seemed to indicate that some professionals were not doing enough to be recognised.

" Workers need to do the best of their abilities. They must'nt under-value themselves. So they need to go through their studies diligently. They need to pass, pass, pass well to get experience and to actually apply their experience in a situation. And they need to support one another. I think the whole thing about something like this is, it would be terrible if you as a health care worker feel so isolated and alone, become totally demoralised that you want to leave the profession, let alone the institution. So it's important, you know, for what they can do themselves is to recognise their value" (Acute care institution)

"And then they also attend at the hospital where they have a clinical meeting on a Wednesday morning. It's usually presented by the doctors, but each of them would also have a slot during the year. So physio or psychologists can have a slot on a Wednesday morning when they present cases relevant to physiotherapy and the discussion that happens with everybody concerned, so that is accommodated" (Acute care institution)

"I think of one ward where, in consultation with the doctors, the allied health staff actually drove something, you know, so it's also how they promote themselves. But if you want to be at the forefront of things then, you know, and advocating for your profession. And generally, managers would welcome input

from everybody, just use the channels, confer with all the people you need to know, and you know, you won't have a problem getting an idea sold, if it can be sold. You know there may be a little bit of rigmarole in going through the channels and whatever, but if you push hard enough..." (Acute care institution)

" But I think you have to advocate and you have to sell how you can make a difference, in-patient care, quality patient care, cost-effectiveness, efficiency, all of those things. You've got to make sure how you can actually make a difference because everybody's looking at quality of care and costs. If you're going to drive costs, maybe not. But if you're going to, you know, drive costs, but improve quality greatly, you know. So you've got to sell yourself "(Acute care institution)

" They have to distribute themselves in the departments and confer at local level with the divisional heads, etc etc, as to where the needs are. You know, they, as professionals, they would have... they should know where the needs are then at local level they have to confer. And they have to talk to people on the ground, they have to talk to people at each level and they have to decide how they're going to prioritise themselves and spread themselves. So it's a two-way street, you know" (Acute care institution)

7.7. Training and socialization of interprofessional collaborative practice

Managers also expressed views with regard to the role of training in building the competences of interprofessional practice. Among these was a suggestion that collaborative practice requires interprofessional socialization, which can be achieved through training. Informal learning interaction and combination of lectures with practical work were proposed as methods of teaching. Early, frequent and continuous exposure to collaboration during training was perceived to be important ways of entrenching interprofessional practice competences and attitudes during training and beyond. Lack of an IPE curriculum especially in medical training was cited as a barrier to working as a team during practice.

" *The other thing that I've read up about is interprofessional socialisation and whether it's formal, so you combine lectures and activities and stuff like that, or informal, so there actually opportunities like in residences and milling together and stuff like that. And just more and more and more exposure to the other disciplines for example we have a doctor who in her internship stayed up... in a house together with speech*

therapist and an OT and a dietician and somebody else. And she said from there she learnt so much about the other disciplines" (Rehabilitation institution)

"And so the bottom line is early and frequently. But there's a lot of variability in terms of retention of that attitude because it depends on whatever the student gets exposed to at a later stage. So it depends on what they get exposed to at a later stage, like I said early and frequently counteracts all that other" (Acute care institution)

" As I've just mentioned, I think most doctors haven't a clue what physio's and some other colleagues actually do, other than they come there and they treat the patient and the patient gets better. So I think certainly a bit more teaching, look I'm an old guy now, but I don't think it has changed much. I just think the average medical student knows very little about what physiotherapy or occupational therapy or social work.. If there are any lectures or any curriculum, that... I'm not aware of... I'm not on that side, they might know better. I think it's a bit of a gap in knowledge" (Acute care institution)

" I don't know, my thoughts would be you've got to start off at the... where the, say doctors for the moment, where the doctors are getting trained and so on, as young medical students, that you have... perhaps have more visits by colleagues from the other disciplines, you know. And the medical, or whatever the right term is to call it and anything else. You know, that there should be more collaboration at that level that they understand better what the others lot do. Other health experts should do the same… you know this will ensure that they have perhaps more exposure... before they get employed, while they're learning and so on. Get a better understanding of, you know, what the doctor's issues are, and what his or her outlook is to things, as opposed to the OT's outlook for example. So, that would sort of be at the teaching level" (Acute care institution)

7.8. Patient centered care

The rehabilitation institution manager expressed a strong characteristic of patient centered care:

" And then the new patients get discussed, and then its decided this is who he is, and who we want to get him back to, that's our plan, that's our goal for him, and then we discuss in the team and then that.... The initial meeting runs without the patient, and then that certain team sometimes differs a little bit, and it's not applicable for each patient, if their cognitively impaired or what. So either a discussion with the family members, or with the patient themselves, to say: this is our professional opinion" (Rehabilitation institution)

7.9. Shared decision-making

Decisions in various institutions, as expressed by the managers, are shared in different forms. In some institutions, the working pathways are structured in such a way that decisions regarding patient care are shared among formulated teams while in other institutions, the process was informal but leaning more towards a physicians who is tasked with responsibilities such as patient discharge.

" And then the new patients get discussed, and then its decided this is who he is, and who we want to get him back to, that's our plan, that's our goal for him, and then we discuss in the team and then that.... The initial meeting runs without the patient, and then that certain team sometimes differs a little bit, and it's not applicable for each patient, if their cognitively impaired or what. So either a discussion with the family members, or with the patient themselves, to say: this is our professional opinion" (Rehabilitation institution)

"We have a system where a patient gets admitted, nursing-medical sees every patient, every patient gets seen by physio, OT, social work. If there's a need, the patient gets referred to the dietician and then the social worker is the gatekeeper for the clinical psychologists possibly. Because we only have one psychologist, we've got three social workers, and two physiotherapists and sessional dietician for the whole institution, she comes for fourteen hours a week, the dietician. So that's why we need to protect the staff and actually and make sure they get the right the right referrals, so ja... The other thing is why I say that all the other disciplines are involved with every patient and we're doing it with outpatients as well, is that because our patients are at high risk of developing complications, that at every opportunity, we just do a quick... say you get a re-admission... a quick re-assessment, are all systems in place, and they're basically making sure in terms of your outcomes levels, that the patients don't slide down, are systems in place to maintain it. Yes, tick, fine, carry on. O, here there's a problem or the patient's actually improving, you know" (Rehabilitation institution)

"In terms of, if you grow within projects, it a bit of unwritten agreement that there will be representation from all areas, in-patient areas and out-patient areas and all disciplines, as far as possible. So, I think pretty much all our practices, no matter we do, whether we're organising a wheelchair race or a fundraising event or whatever, then there is interdisciplinary involvement" (Rehabilitation institution)

" In many cases, the patient is medically discharged and we're waiting for the social worker to give a report, I mean she reports on social issues, and then we are only too happy to have somebody give input on that. But I'm saying, the ultimate decision, the decision to medically discharge the patient still lies with the doctor. He can never transfer that responsibility. So there are separate roles and I don't think that the doctor would not want to take input. You know the physio may say this patient is fit to go home, but the doctor may say that the patient is not fit to go home and they won't fight on that, I don't think there will be a be a disagreement because the doctor will say, well, you know I'm uncomfortable to send the patient home because you know, … and I don't think there will be any disagreement on that. No, the type of care that they look at, physicians are different…"(Acute care institution)

7.10. Type of institution

Distinct difference between pathways of collaboration or views towards the same for acute care institutions and rehabilitation centers was realised. Some managers clearly indicated that in acute care institutions health professionals other than nurses and doctors are considered as support staff rather than partner with equal contribution to patient care. They would possibly argue that there would not be enough time to discuss a case in a manner that was expressed by a rehabilitation centre manager in the second quote below.

"And because of the heavy medical legal accountability and risk, the therapists are therefore considered an add-on. So then basically therapist will receive a referral, but the process is driven by medical and nursing" (Acute care institution)

" As I say, we use the ICF, and we trust that we have a global understanding of the patients and all the aspects will be covered, and the team will say: you know what, I'll do this, you do that" (Rehabilitation institution)

"It's one thing to say that you know, it's another to do something about it when people are pressured and overwhelmed with work, often they just say: I don't care, I just want to get to the next patient. I don't have time for the nice things of life and you can't run this place, unfortunately like a rehab, where you've got often a bit more time, a more gentle pace, the patient's often there for a month at a time. You know, you can do things a bit more... here, you know, it's next next next sort of thing. It's always going to be. The ideal will always be quite far from the practical. And the practical quite far from the ideal. But nevertheless, it's worth trying. Champions in all of these things and you can be a champion, just like I've been a champion, you can be a champion in improving this sort of collaboration" (Acute care institution)

"It's not our main focus. Rehab is not the main... we're meant to... you know if you're in an acute hospital you need to get these patients out to make space for more acute ones. So in general we would be reluctant to keep a long term patient here. So, while I say it's obviously good to start off on the right foot and get... while the patient is here anyway" (Acute care institution)

Nevertheless, one of the managers suggested that it would be better for acute care institutions to commence setting broader goals that involve all team members early enough in order to avoid consultations at the blink of discharge where implementation of any health program would be jeopardised by the need of an empty bed. In addition, one more manager illustrated a teamwork approach that she had experienced in an acute care hospital hence illuminating the possibility of teamwork in such a setting.

"But I understand also that in terms of an acute facility, that the drive is to save people's lives, but somehow acknowledging that the other disciplines, like x-ray, pharmacy, and the therapy students have actually got a role to play. I attended a flow management forum, basically looking through X hospital, and everything, and they decided oh, patients are ready for discharge. It's too late then to refer them to social workers and to pharmacy and so on, you actually have to start on day one. But that's also what I'm talking about, when processes and stuff get designed, then you actually have to build in all your components. Try a inter-disciplinary approach to management" (Acute care institution)

"I can only speak from past experience, that was when I was still doing clinical work where we worked in a rehabilitation unit at N hospital and there was a team... management, no not a management, a treatment team whatever who got together, these were patients who had strokes and so on, and there was people from different disciplines that got in the team, and as you said: one said yes, his movements and all the rest are okay, but he's got social work problems. Social worker, you sort out the social work and physio, you sort out the movements, whatever" (Rehabilitation institution)

7.11. Medical legal responsibility

When the managers were probed with regards to leadership of teams and decision-making, the issues of medical legal responsibility arose. Since the doctor is legally held accountable of health procedures performed by all health care personnel, the managers

considered it important for the doctor to oversee the procedure. The type of leadership that they offer was however not discussed.

"And because of the heavy medical legal accountability and risk, the therapists are therefore considered an add-on. So then basically therapist will receive a referral, but the process is driven by medical and nursing" (Acute care institution)

" And there are varying levels of power and people do confer with each other. But I think it's also a medical legal responsibility issue where a patient will not be discharged until the doctor okays the discharge, there are a lot of medical legal issues which actually probably necessitates that the doctor be the leader, you know the doctor has to make the discharge and he has to make sure that the doctor has made the medical legal decision that this patient is ready to leave the hospital" (Acute care institution)

7.12. Evolving goals

Regardless of the fact that the managers considered interprofessional collaborative practice a difficult form of practice especially in the acute care institutions, some of them contemplated the possibility of commencing the practice of incorporating all the team members as early as possible in order to make sure that the patients receives holistic care throughout the period that they are under the care of the institution. This means that the goes of all professionals would be continuously discussed (evolve) and used to form a common goal hence lowering the threshold of complications brought about by delayed consultation of a team member.

"We have a system where patient gets admitted, nursing-medical sees every patient, every patient gets seen by physio, OT, social work. If there's a need, the patient gets referred to the dietician and then the social worker is the gatekeeper for the clinical psychologists possibly. Because we only have one psychologist, we've got three social workers, two physiotherapists and sessional dietician. For the whole institution, she comes for fourteen hours a week, the dietician. So that's why we need to protect the staff and actually and make sure they get the right the right referrals, so ja... The other thing is why I say that all the other disciplines are involved with every patient and we're doing it with outpatients as well, is that because our

patients are at high risk of developing complications, that at every opportunity, we just do a quick... say you get a re-admission... a quick re-assessment, are all systems in place, and they're basically making sure in terms of your outcomes levels, that the patients don't slide down, are systems in place to maintain it. Yes, tick, fine, carry on. O, here there's a problem or the patient's actually improving, you know" (Rehabilitation institution)

"But I understand also that in terms of an acute facility, that the drive is to save people's lives, but somehow acknowledging that the other disciplines, like x-ray, pharmacy, and the therapy students have actually got a role to play. I attended a flow management forum, basically looking through X hospital, and everything, and they decided oh, patients are ready for discharge. It's too late then to refer them to social workers and to pharmacy and so on, you actually have to start on day one to think about their role. But that's also what I'm talking about, when processes and stuff get designed, then you actually have to build in all your components. Try a interdisciplinary approach to management commence the consultations early" (Acute care institution)

" So, while I say it's obviously good to start off on the right foot and get it right... while the patient is here anyway" (Acute care institution)

7.13. Summary of chapter seven

Institution managers discussed various issues as they affect or would affect IPC in their institutions. Among these were issues of training of health professionals to possess IPC skills, role of each profession in enlightening other professions of their roles, competence of leadership of teams, type of institution, patient centered care and the role of professional regulation and medical legal responsibility in impacting on IPC. The mangers further made recommendations about how they thought IPC could be improve. These include early commencement of consultations and seamless recruitment of team members to intervene all along the period that the patient is under the care of the

institution. A discussion of the results presented in the previous four chapters and a comparison with similar studies is presented in the next chapter.

The main aim of this study was to develop a model for an interdisciplinary approach to patient care. To assist in this, the study analysed the existing patient care protocols and explored the health institutions managers' views and perceptions with regards to interdisciplinary practice. However, the researcher also deemed it necessary to investigate the training component of IPE at UWC being major enabler in facilitating students to acquire competencies for IPC. These included the curriculum analysis and the exploring of students' perceptions regarding IPE. Recommendations for curriculum development based on the analysis of those components are made in chapter ten of this thesis. The findings of all the analyses including the components that informed the development of the model particularly from the sixth and seventh chapter are discussed in chapter eight below. The process of model development then follows in chapter nine.

CHAPTER EIGHT

DISCUSSION OF RESULTS

8.1. Introduction

This study sought to analyse the interdisciplinary core courses' curriculum, explore the FCHS students' perceptions with regards to the interdisciplinary core courses that they studied together, analyse the patient care protocols of the institutions where UWC students are placed for practice and finally explore the perceptions of institutions managers with regards to IPC in their institutions. The results of the study are discussed and compared with previous studies and partly used to inform the development of a model for interdisciplinary approach to patient care.

8.2. Interdisciplinary core courses curriculum

The interdisciplinary core courses' curriculum of the UWC FCHS tasked with delivery of interprofessional competencies was analysed for content and delivery methods. Oliver et al., (2008) describe a curriculum as a planned learning experience whose principles influence the structure and the teaching methods that fit the subjects being taught and the distribution of time across the activities that need to be mastered by the students. The curriculum in this case had its content analysed for cognitive rigor through the depth of knowledge tool (DOK) and its stipulated methods analysed in relation to the global scope of methods utilised for IPE.

8.2.1. Methods of IPE delivery

The UWC curriculum delivery methods when matched with global perspectives as reported in a systematic review by Payler et al., (2008) was found to make use of over half (nine, 64 %) of the global scope of the methods in use for IPE delivery. The

curriculum at UWC clearly stipulated methods such as team building (teams with leaders and role allocation), problem based learning where students as interprofessional teams worked in community projects, web based community networks, lectures and others as illustrated in table 4.1. The heterogeneity of IPE delivery points may include short joint sessions at the undergraduate level, a fully entrenched IPE during the entire undergraduate course and post-registration continuous professional development (CPD) hence broadening the scope of pedagogic approaches utilised in IPE delivery.

In the current research, however, we shall discuss the undergraduate pedagogic approaches, as it is core to this study. A number of IPE delivery pedagogies have been debated in the literature some of which were utilised at UWC. For instance, the problem based learning that Schwartz (2013 p 1) describes as "a method of learning where the learner first encounters a problem then it is followed by a systematic student centered inquiry" was tested by Goelen, De Clercq, Huyghens and Kerckhofs (2006) in order to verify the methods role in influencing the attitudes of an interprofessional group of students with regards to the competence and autonomy of individuals in their own profession. The study identified statistically significant positive change of attitude among male students and not among the control group. Thompson (2010) conducted a systematic review that gathered favorable evidence that IPE, delivered through problem based learning as a method improved attitudes towards other professional groups. In fact, Thompson (2010) argued that delivery of IPE using problem-based learning would go a long way in fulfilling interprofessional relations and improving patient care. The UWC curriculum provides for interprofessional groups of students to conduct community health

profiling, assessment of institutions of care adherence to ethics of care and a systematic health promotion project planning and evaluation based on schools. These three tasks are, of course, based on the content of the modules that they cover. During the fulfillment of these tasks various methods including problem-based learning, reflections, lectures and small group activities are utilised in the process of enabling the students to complete the required interprofessional tasks that they are assessed on.

Use of technology is yet another method of IPE delivery that has been discussed in the literature in the context of whether it is possible to learn with, from and about each other using technology Porter (2013 p 31). Nevertheless, Porter (2013 p 31) indicates that technology has become an important means of interaction and communication today and has been endorsed as e-learning suitable for preparation of learners for collaboration. The barriers that technology has been seen to overcome include time and distance especially when geographical locations of learners is unfavorable (Atack, Parker, Rocchi, Maher & Dryden 2009). One way of utelising technology is for example the Atack et al. (2009) scenario where by a disaster management course was taught online among six professional groups and had positive results. The UWC use of technology as a method was, in addition to lectures, small groups, reflections and community projects. The technology in this case occurred in blogs format whereby students had a forum to share experiences, lecturers to upload materials and administrative management of the whole course. Use of technology for interaction purposes among students as utilised in UWC brings into focus the "students-led interprofessional learning" a method that has been discussed by Clouder, Krumins and Davies (2010). They investigated the role of web-

based student mentorship across a range of disciplines and reported that the online student mentor added value to the learning process due to his/her ability to empathise and relate to the contemporary issues affecting students as compared to a professional mentor. Technology was a golden opportunity for Atack et al. (2009) considering the distance barrier. A comparison drawn from Atack et al. (2009); UWC scenario with Clouder et al., (2010) that both utilised technology as a method would be substantiated by Barr, (2002) who encouraged the use of multiple methods for delivery of IPE in occasions where there are minimal barriers.

Literature also reveals interest in IPE delivery methods that would enhance practical skills for the students, for instance, "simulation" of clinical wards (Ker, Mole & Bradley, 2003) and more realistic "practical learning" as documented by Ponzer et al. (2004) in their study on interprofessional training on clinical education wards (CEWs). In the Ponzer et al. (2004) study, students goals included "to provide the patients with good medical care, nursing and rehabilitation; to develop their own professional roles; to enhance their level of understanding of the other professions; to stress the importance of good communication for teamwork and for patient care; to enhance understanding of the role of the patient, and to become more aware of ethical aspects of health care" (Ponzer et al. 2004 p 727). With some focus remaining on Ponzer and colleagues interprofessional practical learning case that reported statistically significant improvement in most of the students indicators, I reflected on the difference between this case and the UWC case where the practical interprofessional learning was community based and mostly on health promotion projects. The challenge for the UWC trained learners would possibly be on

how to practice collaboratively in institutionalised patient care. As pointed out earlier in the review of literature in this thesis, among the challenges faced by IPE include the lack of time and space in the curricula for incorporation of all necessary input (Baldwin and Baldwin, 2007). In the same context, this study found the UWC curriculum to have lacked the clinical practice component for institutionalised patient care.

8.2.2. Content of IPE delivery

After analysing the methods of IPE delivery at UWC, the current study went further and analysed the content of the same curriculum. Literature highlights the importance of anlysing the content of a curriculum for the cognitive rigor of the content by indicating that that would reflect on the competencies developed among the students. "Cognitive rigor encompasses the complexity of content, the cognitive engagement with that content, and the scope of the planned learning activities" (Hess, n d p 1). Hess, (n d) further argues that ensuring alignment of a curriculum to suit rigorous grade level content standard is in itself inadequate for preparing students for the challenges of the 21st century until the educational outcomes are set to expose the students to activities that require complex thinking and application of knowledge. Norman Webb is known to offer possibly the best perspective of cognitive complexity through the use of the Depth of Knowledge framework. The tool gives room for assessment of content alignment and the intended cognitive demand expected from a student. (Hess, Carlock, Jones & Walkup, 2009). The DOK framework was used to analyse the content of the three modules that form the curriculum.

The three modules that form the interdisciplinary core courses at UWC rated highly with regard to the specific outcomes that were a summary of content experienced by students throughout the course. For IPOC, for example, the majority of the specific outcomes were rated in the third and fourth levels with only one in level two. The mean DOK rating was 3.25 and level four appearing most frequently. This was not very different from PHC whereby the mean DOK rating for the specific outcomes was 3.2 and level four appearing most frequently. Health promotion also had most of its specific outcomes rated highly (mean DOK level 3.0) though with two of them rated at level two hence a lower mean compared to IPOC and PHC. High DOK ratings (levels 3 & 4 or mean close to 4) points to an intended curriculum with learning content that provides the students with opportunities to gain significantly from the curriculum. It enables the students to reason, developing a plan or sequence of steps to approach problems; make decisions with valid justification; approach problems non routinely while focusing on more than one possible answer. One whose testing exposes students to extended thinking requiring them to conduct investigations or applications to real world; requires time to research, solve problems, and process multiple conditions of the problem or task (Hess et al., 2009).

What becomes very important in the implementation of any curriculum is the link between an intended curriculum (specific outcomes) and the enacted curriculum (assessment criteria). When an alignment exists between the two, the content learnt is of a better quality. This "synchronizing/alignment/agreement between the content set and the assessment content has been discussed widely as a factor important for students to achieve the learning outcomes (Bhola, Impara & Buckendahl, 2003; Ananda 2003).

Poter's, (2006) Depth of Knowledge analysis indicates that alignment will be satisfactory hence qualifying the cognitive rigor if at least half of the assessment criteria content is rated the same or higher than the DOK level of the corresponding specific outcomes. The UWC curriculum throughout the three modules achieved alignment in only five specific outcomes out of a total of 14, which accounts for 36% alignment. A different objective measure would be to look at a frequency of assessment criteria per DOK level. In this case, the majority (44%) was rated at level two. Only 9 % of the criteria were rated at level four and 24 % at level three.

This study found the UWC curriculum to be well positioned in terms of the IPE delivery methods in place as discussed earlier and also having specific outcomes that are cognitively rigorous. In fact, the curriculum was rich in the community based practical learning that borrowed heavily from primary health care and health promotion principles. It is worthwhile at this point to note that the UWC has a strong and proud history during the liberation struggle from which the University draws its experience to fulfill its academic role in helping build an equitable and dynamic society (UWC, 2013). The content of the interdisciplinary core courses curriculum as depicted in the specific outcomes of the modules in chapter four was scored highly through the DOK and clearly highlights the intention of the curriculum to provide learners with knowledge and skills to enable them to ethically engage with the typical South African communities' determinants of health during service delivery. Dunston (2012) challenges IPE curriculum developers not to ignore the role of a curriculum of engaging with a range of social-political and economic factors of a society. The process of creating a curriculum

dictates that these factors be considered in educating graduates who will serve in that community. The strength of the cognitive demand for the specific outcomes of the UWC curriculum was interpreted as the Universities achievement in the resolve to develop graduates who can relate to the South African society particularly the historically disadvantaged and beyond.

However, the alignment between the assessment content and the intended content is minimal. The acquisition of IPE competencies in this case may not be well achieved. It was difficult to find prior studies that had analysed IPE curriculum content for cognitive rigor. Further research with regards to assessment criteria for curriculum content that intend to deliver IPE competencies is necessary. This may facilitate restructuring of assessment, which will further inform methods and specific outcomes. It was difficult to identify studies that have attempted to assess the cognitive rigor of the curricula.

8.3. Interprofessional education students' perceptions

The current study sought to identity the perceptions of the final year students of the FCHS following completion of the interdisciplinary core courses at UWC. The Interdisciplinary Education Perception Scale by McFadyen et al. (2007) was used based on its ability to explore how students view professionals in their own profession, need for cooperation and their view of actual collaboration during their placements for practice. The views with regards to own profession's competency and autonomy after the course remained strong. This was the first subscale of IEPS. These views were expressed in the areas of training, professional goals and objectives, contribution and accomplishment, trust for professional judgment and sense of competence. In all these areas, majority of the students expressed a form of agreement (positive perception). Individuals in their own

profession attracted most students (27.3%) in the strong agreement level. More female students expressed more positive perceptions towards colleague's competence and autonomy as compared to the male counterparts.

Perception towards the need for interdependence and commitment to common goals (need for collaboration) prompted mixed results with slightly more negative perceptions than agreement. For instance, the majority of the students did not feel that their colleagues are obligated to depend on other professions. On the other hand, agreement with there being a need for individuals in their profession to cooperate with other professions was noted. However, the general students perceptions towards need for cooperation was more balanced between positive perceptions and negative perceptions (50.8% and 49.2% respectively) contrary to their perception towards their own profession competence and autonomy that was overwhelmingly positive 96.5%. In the same subscale, a statistical significance was identified between "need for cooperation" and demographic characteristics of "gender" and "department". It was the female gender just like in the previously discussed subscale that was more positive about the need for cooperation than the males. It was also identified that Physiotherapy students more than any other group of students, held a more positive perception regarding need for cooperation. More nursing students held a negative perception.

The study also sought to explore the students' perceptions regarding actual cooperation in placements. Indicators such as ability to work closely together with other professionals,

willingness to share information, interprofessional relations, attitudes towards other professions and perception about working together were used. They reflected a cumulative agreement (positive perception) of 62.1% while those who held a negative perception regarding existence of actual cooperation were more than a third of the sample group (37.9%). Interestingly, the trend for physiotherapy students depicting more positive perception towards the existence of actual cooperation and similarly for female students was noted. Both "department" and "gender" depicted statistical significance when correlated with the "actual cooperation" variable. In a study by Williams and Webb (2013) similar findings with regards to more trust in own profession with regards to competence in training and the need to cooperate with other students were noted among paramedic undergraduate students who were involved in an interdisciplinary course. In a community based setting, Neill, Hayward and Peterson (2007) identified positive change of perception in interdisciplinary groups in the US across the three subscales of IEPS i.e. competence and autonomy, need for cooperation and actual cooperation. Differences were noted between this study and the UWC scenario whereby students perceived their own profession as strongly competent and autonomous but had a relatively moderate agreement (positive perception) that there was need for cooperation. A difference was noted in the method that was used in the interprofessional learning by Neill et al. (2007) in their study. They utilised the principles of servant leadership by Spear and Lawrence (2002) that include "listening, awareness, conceptualisation, foresight, stewardship, commitment to the growth of people, and community building". Relationships of interdependence are encouraged in planning interventions. "Students are encouraged to listen actively to varying viewpoints, reflect on the learning experience, develop trust

within the team and community". The use of the servant leader principle as a method possibly provided the student with a better forum to develop positive attitudes across the subscales of IEPS as compared to the UWC scenario where methods that enhance interdependence were not utilised. Although Neill et al. (2007) did not highlight the year of study for the students who participated in the study, it was clear that the coordination and the activities undertaken such as health assessment, health education, medication management, foot care, home safety evaluation, fall prevention intervention, nutrition assessment and teaching were at an advanced level of learning compared to UWC where the interdisciplinary courses were conducted in the first year and with less practical activities of learning. It was in the researcher's view therefore that students at UWC would possibly continue to develop strong uniprofessional autonomy as they advanced in their training since the courses had been conducted too early and with less practical activities. In fact, providing the students with further cooperation opportunities out of class provided them with more intergroup cooperation and further opportunities to share information, solve problems together and reduce the chances of stereotyping over each other as professionals. Allport's intergroup contact hypothesis requirement of "intergroup cooperation" as one among the basis for reduction of prejudice informs the latter argument well. Another study that reported overall positive attitude change in a randomised control trial was that by Goelen, De Clercq, Huyghens and Kerckhofs (2006) where the intervention group managed patients in an institutionalised setting using the problem based learning approach. In this study, positive views from the patients were gathered. Again, in Goelen et al's study students were involved in more practical learning after the theoretical courses. That study is a good example and a motivation for the UWC

curriculum to consider incorporating institution based collaborative practical work for students in order to improve their attitudes towards working together. Having discussed the curriculum earlier and now focused on the students' perceptions in the context of UWC, it would be reasonable link the two focusing specifically on the findings of the students' perceptions. In doing that, this study questioned the ability of IPE competencies delivery by a curriculum whose content is not entirely focused on specific IPE competencies but uses methods that bring students together. Barr (2002) highlighted that many writers recommend topics such as epidemiology; health promotion; ethics; critical appraisal skills; clinical skills; decision-making and care planning that help to clarify thinking but omit topics that specifically train on collaborative practice. The researcher in the current study clearly deduces that the UWC's curriculum has the structure that is described by Barr (2002). This inference prompted the researcher to look at the IPE designs that led to students reporting positive attitudes across the three subscales of IEPS in some of the studies discussed earlier. The Neill et al. (2007) study for example where the concept of servant leadership that encourages students to value expertise contribution of other disciplines, listening and reflecting upon varying viewpoints, developing trust within teams and clients was seen to deliver IPE more effectively. In addition, the Goelen et al. (2006) study where by the educational module was 10 hours seminars two hours per week during the spring semester weeks, there was a deliberate structure to enable students to get acquainted to each other in a practical process of patient care while adhering to the principles of problem-based learning that enables students to activate prior knowledge with specificity and in this context as a team. Training institutions have attempted to achieve an IPE specific training curriculum without depending on existing

courses. The continuation of that trend would possibly narrow the heterogeneity of IPE and lead to development of more positive attitudes/perceptions among the students.

8.4. Patient care protocols

The analysis of patient care protocols sought to identify their friendliness or unfriendliness towards collaborative practice. The protocols are considered as being well positioned to offer guidelines for a culture of working together in the institutions where they were designed and utilised. The target institutions are the clinical placement settings for the UWC students who are trained using the interdisciplinary core courses curriculum discussed earlier in this chapter. The analysis process identified a number of areas that are highlighted in literature as pillars of interprofessional collaborative practice. Some of the institutions that were approached did not have protocols guiding patient care in the whole institution but provided those for specialised units of the same institution. One institution provided a protocol for spinal cord injury care while another one was for stroke management. The other two protocols analysed guided the entire institutions. The preambles, the objectives of the protocols and the hospital managers' views were first assessed for inclusion of interprofessional practice guidelines. These were not identified either in the preamble, objectives or managers views of the spinal cord injury care protocol or the stroke management one. In fact, the objectives indicated that a multi-disciplinary team implements the framework. According to the hospital manager for the spinal cord injury institution, the medical legal responsibility accorded to medical doctors mandated them to lead and appeared to have been a barrier to other team members to assume any form of leadership responsibility for an interprofessional teams. Areas of friendliness to interprofessional collaborative practice that were identified in the spinal

cord injury care protocol included patient centered care, goal setting, team functioning and communication and referrals from the spinal cord injury protocol. Practices such as commencing the planning of discharge from the first day, making the discharge and follow up to be individualized according to patients needs, the involvement of patient and family and the team that set goals for the patient management were clearly highlighted. In addition, some aspects of team functioning for example in situations whereby the surgeons acknowledged the benefits of other team members were identified. The protocol was also entrenched with various requirements that facilitated good communication. These included the demand for feedback about patient progress within the team and pathways for referral. The stroke care protocol did not depict any areas of friendliness to interprofessional practice.

One other protocol that was accessed for analysis was from a rehabilitation centre. The protocol indicates that patient care in the institution is handled by an interdisciplinary team and further lists the professions involved. The manager of the institution confirmed the same. The protocol portrayed friendliness to practices such as patient centered care, team functioning and communication. There are clear guidelines for a holistic assessment of the patients and their participation as well. They are required to commit in writing that they participated in the discussion that came up with their plan of treatment. The protocol provides for all members of the team to document their contribution. A form used to show the area of rehabilitation, responsible team and what is achieved was seen as a good tool for communication particularly on the gains made on the patients condition.

The last protocol was accessed from a pediatric institution. Patient centered care based on sharing of information with the child and caretakers was the only evident pillar of collaborative practice noted. This attribute was seen to be further entrenched in extension of welfare to parents and guardians considering their role in effective child health care.

Limited literature exists on institution based protocols/ frameworks for interprofessional care. However, literature was available covering the areas of friendliness or unfriendliness towards collaborative practice. For example, contrary to "multi-disciplinary team and patient centered care" scenario identified in the first protocol, Papadimitriou and Carpenter (2013) explain that interdisciplinary teams are the ones that relate best to patient centered practice. The question would then arise, "is the patient centered care identified in the first protocol similar to the one that Papadimitriou and Carpenter (2013) found to have been relating best to interdisciplinary teams rather than multi-disciplinary teams? The answer lies in the description of Papadimitriou and Carpenter (2013) that revolves around enhancing a biopsychosocial approach, client autonomy, sharing power and responsibility, patient-therapist collaboration and respect for clients values and rights as what defines patient centered care. Giving particular interest on communication as a pillar to interprofessional collaborative practice, the research noted that the protocol attempted to incorporate, written communication, verbal communication, frequency of feedback, clear referral pathways as well as communication skills being part of the requirements for being part of the multi disciplinary team. Although the team was multi disciplinary this study considered that approach as being friendly to collaborative practice. However, as supported by Caldwell and Atwal (2003)

in a case study, the implementation of these approaches of communication needs to be synchronized to avoid communication gaps. Gaps in this case for example would arise from non-detailed case notes, referral notes not channeled to the concerned team members, lack of timely face-to-face meetings to elaborate the details of the case and review of goals. This form of communication would possibly best occur in a protocol whose objectives indicate the intended culture of practice in that institution. Institutional leadership would facilitate the accomplishment of the same. Caldwell and Atwal (2003) cited a case in an acute hospital where a non-insulin dependent diabetic patient with low serum albumin was questioned by a doctor hence noting a low diet of protein. The doctor left a message on the dietician's answerphone to review and advise. On seeing the patient, the dietician realised that the nurse was not aware of the referral and the blood sugar at that time was also normal. The dietician did not know about the low protein diet intake and it was not indicated in the file either. The dietician did not see the patient on those grounds. Communication lapses are evident in that case mainly facilitated by lack of details in the doctors note, the pathway for referral being incomplete, the patient being left out on the reasons for the questions paused to him/her and lack of face to face briefing for case progress.

The protocol accessed from a rehabilitation institution was unique in the sense that there was no "unfriendliness" theme identified from it. The protocol adheres to the description of Behm and Gray (2011) that describes an interdisciplinary rehabilitation model as one that allows for a more holistic, collaborative, and patient-focused approach. One that from admission to discharge, the interdisciplinary team and the patient work together to

establish, evaluate and accomplish goals that they set together. Although arguments exist that depict rehabilitation institutions as convenient settings for interprofessional practice due to lack of sense of emergency, a study by Bristowe et al. (2012) demonstrated that interprofessional team work in clinical emergencies is possible and necessary. Clinicians who participated in the Bristowe et al. (2012) study provided important information regarding what they considered as characteristic thoughts for enhancing interprofessional teamwork in emergency care setting. These included "clear understanding of the nature of the emergency, the management plan, and the required tasks (clinical situation awareness), as well as awareness of the team members' names and abilities (team awareness) and the patient's needs (patient focus/involvement)" Bristowe et al. (2012 p 1385). The clinician's valued strong and competent leadership that would communicate clear objectives with family and team members. The current study only identified the rehabilitation institution as the one whose protocol cultivated the culture of IPCP through participation and detailed communication. We, however, consider it important to recommend that emergency care institutions consider contextualizing communication and leadership in any interprofessional teams formed. This would possibly change their perception towards considering the benefits as much as the risks involved in working in interprofessional teams. As per the pillars of Allport's intergroup contact hypothesis for eradication of prejudice, equal status and common goals are key. It is highly possible in a big emergency care setting that clinicians do not know one another. That jeopardises equal status and equally setting of goals in the occasion where clinicians find themselves working together. To overcome this scenario, we encourage formation of interprofessional teams in any setting prior to getting together to work together. Teams

formed early will enjoy the benefit of interaction and clear understanding of each other's roles during emergencies.

Three of the four protocols assessed depicted certain areas of unfriendliness to interprofessional collaborative practice. For example, the spinal cord injury protocol and that of stroke management showed "objectives insufficiency towards professional interdependence". It was evident that neither the preamble nor the objectives cultivated the culture of collaborative practice. The managers' views in both instances did not project the existence of a culture of interprofessional teamwork. Other areas of protocol unfriendliness for instance in the pediatric institution were in occasions where "silo practice" was facilitated possibly ignorantly, with clinics being set up with no room at all for input from other professions. The same was observed in the stroke protocol where responsibilities would be allocated to certain clinicians without opportunities for sharing of information and common goal setting. Furthermore, the stroke protocol made use of the term "multi-disciplinary" teams while referring to the clinicians involved in stroke patient care. The allocation of duties further in the protocol portrayed the same approach whereby vertical communication was used. Having experienced a marked scarcity of literature specifically on analysis of institutions of health care protocols, we could only relate the arising issues of multidisciplinarity and silo practice to the widely discussed fragmentation of health care. The form of practice noted from some of the protocols would closely relate to Stange (2009) description of a health care system that does not deliver healing but delivers a commodity that can be quantified instead of collaboratively focusing on the relations to the whole. In simple terms, there is more focus on the

pathology than the ailing individual and their surrounding. Interprofessional collaborative practice advocates for holistic patient centered approaches to care, which is partly the approach that UWC teaches through the interdisciplinary curriculum. As mentioned earlier, the health institutions that provided their protocols for analysis, are training institutions where UWC places students for practice. In order for training to be progressive, it would be important for the institutions to provide opportunities for a non-fragmented system of patient care such as IPC for students to learn from. Casimiro et al. (2011) summarizes these ideas well by highlighting the Canadian managers' views with regards to organisational working protocols. They indicated that "having organisational mechanisms in place for the coordination of care and of communication with patients, residents and families, strongly influenced the efficacy of the interprofessional teams" in selected hospitals in Canada.

The patients care protocol analysis process provided a number of lessons that were carried forward to develop the model for interdisciplinary collaborative practice. These included the importance the existence of an interdisciplinary practice culture cultivated by leadership and practice guiding documents. The institution whose manager articulated an understanding of IPC also had their patient care protocols being more friendly to IPC hence creating an enabling environment to collaborate. Secondly, considering that IPC is a practice model that requires teamwork, the protocol analysis informed the model development in the sense that team formation should be contextualised. Pre-formed teams can exist in non-emergency settings and manage cases collaboratively in a coordinated manner or they can also be formed through the principle of "evolving goals" in the

context of emergencies. Thirdly, the need to broaden the scope of communication methods to include those that are informal was identified. Some protocols had clear formal communication channels that did not offer flexibility for informal communication that would provide clarity to the clinical or social information being communicated. Furthermore, the study cited in the protocols cases of patient participation in goal setting while in other that was lacking. These components were therefore factored in the model development.

With an aim of understanding the environment under which students were expected to practice their IPE knowledge and skills, this study sought to interview the hospital managers from the same institutions where the protocols were accessed. The findings of their views are discussed in the next section.

8.5. Institution Manager Perceptions

This part of the research explored the policy framework, the culture of interprofessional teamwork, leadership, type of institution and patient centered care. Other themes that developed form the interviews included the role of workload in influencing IPC, medical legal responsibility, the role of specific disciplines and the role of evolving goals in ensuring IPC. It was identified that the general tertiary institutions found it difficult pin point a consolidated framework in their institutions that guide IPC. It was clear that some managers perceived IPC as an effective practice but considered this to be the responsibility of clinicians on the ground. However, the specialised institutions managers such as pediatric and rehabilitation had more inclination towards an administrative support. In fact, the rehabilitation institution manager considered their patient care

protocol analysed earlier as their policy framework supporting IPC. This study therefore noted a difference between administration commitment and what exist in form of protocol/ framework. For example, although areas of friendliness to IPC in the protocols accessed from units of tertiary non-specialised institutions, these friendly areas were more of happenstance than actual plan to collaborate in patient care. Some administrative support such as identified in the rehabilitation centre institution would have made a difference. A very close link to this part of the discussion is what D'amour and Oandasan (2005) refer to as systemic factors that influence the outcomes of IPE. They strongly highlighted the interdependence of IPE at university level and IPC at university training health institutions (hospitals). D'Amour and Oandasan (2005 p 17) recommend, "creating a shared vision for health, social and educational systems that would be keeping with interprofessionality". Health institutions as stakeholders of promoting interprofessionality must understand the interdependences between education and practices that are the systemic factors that influence outcome (D'Amour & Oandasan, 2005). In a large study conducted by Casimiro et al, (2011) over a two years period in Canada where IPC was being practiced in several hospitals, it was identified that administrators saw many benefits of IPC that included better delivery of care adopted to patients needs, lowering of professional barriers as a result of adopting patient needs as a common goal; and increased work satisfaction. Furthermore, they also thought that having interdisciplinary teams in place was conducive for information sharing (Casimiro et al., 2011). The only manager in the current study who expressed such positive attitude towards IPC was the one in the rehabilitation centre whose institution was seen to be practicing IPC and the culture of practice was built on interdisciplinarity. In their description of "administration

support" in Allport's framework of the contact hypothesis, Pettigrew and Tropp (2005) described it as a "social sanction that promotes acceptance and has more effective impact. As reported earlier in this study, students of UWC still maintained strong sense of autonomy and competence for their own professions. Now according to a systematic review by Ginsburg and Tregunno (2005) there is a risk to interprofessionalism paused posed by strong uniprofessional cultures constructed during training. If the institutions of practice placement only offers systemic uniprofessional training, the cycle of interdependence as described by D'Amour and Oandasan (2005) is incomplete and the turf protection of specific disciplines may be carried over to post-licensure practice.

Managers also cited the role of workload versus human resource as a barrier to IPC. They discussed the trend to fast tracking discharge to make way for a next client as a common phenomenon that limited time for meetings to share information. Health care providers expressed the same sentiments in Canada. They found IPC to have been friendly to less workload.

Two forms of leadership arose from the discussion with the managers. These included leadership from the administration to ensure some form of collaboration and the leadership among the clinicians. From the administration, a vertical leadership strategy to conflict resolution in the pediatric institution was noted. In the rehabilitation centre, a middle level management team that relates more to the clinicians was reported to be in place to enable them to handle teams matters more closely to themselves and be able to report to senior management more comprehensively. However, the manager in the rehabilitation centre also noted the negative role of the type of institutions in trying to assume equal status of a team. The medical doctors in this institution felt inferior since

there were more rehabilitation cases handled by therapist than medical conditions handled by medical doctors. When issues of leadership in teams were further discussed, managers heading the acute care institutions became keener to discuss the medical legal responsibility of care provided to patients as well as who is well trained to lead the team. In our view, the managers expressed a variety of types of leadership without a clear focus of interprofessional teams leadership that is foster horizontal relations, is more coordinatory/facilitatory than supervisory, is flexible to accommodate both professional sharing of opinions and situational leadership. The competencies necessary for interprofessional leadership as just stated are not necessarily under the scope of a single profession but can be acquired through IPE. Kapral and Gamble (2012) conducted a study in Canada in attempt to establish the views and experiences of health care leaders with regards to the health care system and the necessary competencies of leading interprofessional teams. The leaders indicated that human resources skill, interpersonal understanding and people skills, systems thinking, communication, flexibility, analytical and innovative thinking as the most important skills required in health leadership (Kapral & Gamble, 2012). In fact, according to Orchard (2010), such skills are meant to support collaborative practice in such a way that the team members are able to collaboratively determine who will be able to provide the team leadership in any given situation. When managers were interviewed about leadership in their institutions, none of them projected a horizontal style of leadership that would facilitate collaboration, shared decision-making and shared goal setting. They were rather quick to inform about competence to lead, self-regulation and the medical legal responsibility. Lahey and Currie (2005) found it important to explore the role of regulatory and medical legal barriers to

interprofessional collaborative practice. They highlighted that despite the widespread evidence based need for more integration in the health sector, the extent to which each profession regulates in protection of its self-interest has been a barrier. The important legal/policy aspects that are thought to represent the barrier aspect to IPC include those that govern professional malpractice as applied under the legal enclosure of negligence (Lahey & Currie, 2005). Country specific regulations may vary and therefore pose different scenarios with regard to their role as barriers to IPC. In South Africa, for example, there are statutory bodies such as The Allied Health Professions Council of South Africa (AHPCSA, 2010), Health Professions Council of South Africa (HPCSA, n d) established under the constitution in order to regulate practice for multiple professions. However, this has not restricted the specific professions from exercising their own licensure authority and self-regulation. Though in a Canadian context, Lahey and Currie (2005) express concern that licensing and regulatory authorities have in some occasions gone beyond regulating for public safety and regulated more for economic security. Lahey and Currie's argument and recommendation is that legal regulations and public protection must not be restrictive to a course that the same laws seek to advance. Reviews should therefore take place to allow and educate about practice mechanisms that ensure patient safety such as interprofessional collaborative practice.

When the managers were engaged in discussions with regards to how best they thought that interprofessional collaborative practice could be practiced in their institution, a theme named “evolving goals” was developed. This was put into the context of starting to think beyond own profession as early as when one practitioner or a team attends to a patient.

One manager perceived this as a remedy to prevent complications to patients who are at risk while another considered this approach as a means to prevent late consultation of professional. Such complications that arise as a result of a certain profession not attending to a patient, as well as the treatment that a patient fails to get when the attention of a professional is called at the verge of discharge amounts to lack of efficiency and low quality of care that is paused by a fragmented systems of practice. In a study conducted by Mahmood-Yousuf, Munday, King and Dale (2008) nurses reported that early referral of patients to them enabled them to develop a relationship with patients earlier in the illness trajectory hence increasing the possibility of providing holistic care. As suggested by Reese and Sontag (2001) interprofessional teams may find it important to develop a screening tool that will be used during primary and progress evaluation assessments hence assisting to signal the need of a specific professional to be a member of the team. This would be appropriate for emergency and acute care being support by the administration and proper leadership in the team.

From the managers' view and perceptions, this study identified the need for institutional administrative support in two fold. First in understanding how IPC works and therefore provide incentives such as continuous education regarding new ways of the same. Secondly, the administration of the institutions should be in a position to support championing of IPC initiatives by professional groups. These two ideas were incorporated in the model development as well.

8.2. Summary of chapter eight

This chapter presented a discussion of the result arising from the information collected to answer the four objectives of the study. The chapter provides a clear understanding of how IPE is provided at UWC, giving details of, and discussing the curriculum's delivery methods and content. Further discussion in this chapter includes the students' perceptions towards learning together through the aforementioned curriculum. In addition, the patient's care protocols from four institutions where UWC students are placed for practice and the institutions' managers' perceptions towards IPC were discussed. Where similar studies were found, they were used to compare the results of the current study while seeking to identify the factors that may have contributed to a certain trend of results.

This study ultimately aimed at developing a model that would guide health institutions to plan and role out IPC in their institutions. The information gathered from the investigation done in part of the study, particularly the patient care protocol analysis and the managers views together with expert's opinion gathered through a Delphi study was used to design the model as illustrated in the next chapter.

CHAPTER NINE

THE DEVELOPMENT OF AN INTERPROFESSIONAL COLLABORATIVE PRACTICE MODEL FOR INSTITUTIONALISED PATIENT CARE

9.1. Introduction

This chapter presents the processes followed to development an interdisciplinary collaborative practice model for institutionalised patient care. The information gathered from the results of the entire study together with the experts input from the Delphi study were incorporated in coming up with the practice model.

9.2. Background

Calls for improvement of health services, not only through access but also through effectiveness, efficiency and value for money (Virani, 2012), have been on the rise around the world. Patients expect access to skills and competences not only from primary care services but also specialised services from the wide range of health care professionals. Most importantly, they do expect coordination between the providers of these services (Nolte, Tremblay & EICP, 2005). Among the fundamental characteristics of recent health care reforms is the emphasis on IPC in most models of service delivery (Sicotte, D'Amour & Moreault, 2002). As enlightened by Nolte et al., (2005), models of interprofessional care should encourage change towards more collaboration and provide principles that will enhance prospects and options to work together across settings. The literature as well as the findings of this study acknowledges that the intensity and the coherence of interprofessional collaborative practice depend significantly on the nature of health task and context of service delivery in question (Sicotte et al., 2002). Sicotte et al.,

(2002) point at long duration interventions involving long term morbidity and likelihood of multiple pathologies as favorable working environments for interprofessional collaboration as opposed to what they describe as stand alone professional interventions in ambulatory walk in clinic programs where there is low morbidity and patients with fewer needs. In fact, it is acknowledged in literature that IPE and interprofessional collaboration are not homogenous (Payler, 2007) and therefore models of practice that intend to include interprofessional collaboration competences should consider the setting scenarios.

The author of the current research supports the idea that in order to enable graduates to practice in teams as they are trained, it is important to provide for them mechanisms within the institutions of care that provide pathways that can enable transition from school to post-licensure work and continuation of the same. Institutions of care should support the practice while taking care not to provoke "uniprofessional turf protection" in occasions of formalizing the practice (Sicotte et al., 2002). More support may be provided by the institution by deciding to broaden its mission and vision to include "development of working relationships and producing of new knowledge" as a way of building the spirit of collaboration.

The model was informed by a thorough engagement with institutional health practice being major stakeholders of health care, together with a Delphi study that was characterised by a structured communication process with a panel of experts who

gradually provided expert input to proposed structures of the model until a pre-determined blinded consensus was reached.

9.3. Methodology

A three round Delphi was used whereby experts in the field of interprofessional education and collaborative practice took part in the study.

9.3.1. Procedure

A panel of experts who were purposefully selected was invited to participate in the Delphi study. This group comprised of health practitioners from multiple professions such as nursing, social work, occupational therapy, physiotherapy, physicians etc. These were selected based on their contribution in terms of publications, work experience or academic qualification in the field of IPE and IPC. Electronically mailed invitations were sent to 17 experts from various parts of the world as shown in table 9.1. In these emails, a copy of an information sheet (Appendix T) and a consent form (Appendix U) were attached. The information sheet explained the purpose of the study and what was expected of the panelist while also requesting them to sign the consent forms if they would be willing to participate. Ten (10) (59%) of the panelists indicated through signing of the form that they were willing to participate. Five of those contacted did not respond, one apologised citing academic workload while one indicated that she was no longer researching in this area. Table 9.1 shows the panelists' social-demographic characteristics. The mean age of the panelists was 49.7 year while their mean experience in the IPE and IPC field was 10.6 years. At this point, round one of the study was distributed.

Table 9.1 Demographic characteristics of the Delphi study panelists

	Age	Gender	Highest level of qualification	Experience	Current roles	Role in IPE and IPCP	Countries served
1	67	M	PhD	10	Education consultant	IPE & IPCP project manager	Denmark
2	44	M	PhD	14	Professor	Facilitation of IPE evaluation projects	Canada, USA, New Zealand
3	39	M	PhD	14	IPE Researcher	IPE clinical practice, teaching and research	Canada, USA, UK.
4	43	M	PhD	8	IPE researcher	IPE research	Canada
5	42	M	PhD	4	Associate Professor	IPE Training of trainers	Spain
6	62	M	PhD	12	Statistical consultant	Development of IPE research strategy, instruments and analysis	UK
7	45	M	PhD	20	Professor	IPE research, mentoring and administration	UK, US, Canada, Norway, Sweden, Japan, South Africa, Taiwan, Germany, Iceland, Australia
8	32	M	MSc	2	Medical education	Research	Iran
9	71	F	PhD	15		IPE researcher and scholar on competency frameworks	Canada
10	52	F		7		National director of IPC and research	Australia and multinational IPE consultation

9.4. Delphi study round one

The panelists, who consented to participate in the study, were supplied with a two-section questionnaire. The first was a social-demographic information section that sought to identify the panelists in terms of their age, gender, highest qualification, current position, experience in the field of interprofessional education and collaborative practice, their role in the same and the global regions where they had served in IPE and IPC. The second section presented the panelists with three general questions that inquired about their opinions on:

1. *The importance of having an interdisciplinary patient care model for health care for institutions such as hospitals and rehabilitation centers*
2. *What health benefits to the patients would such a model offer*
3. *What considerations should a health professional attending to a patient in a health institution make in order to facilitate a coordinated interdisciplinary care to the patient*

The responses from the panelists were summarised into nine areas that they considered as reasons to have an interprofessional collaborative practice model for patient care in health institutions. The frequency of each being mentioned by the panelists in presented in figure 9.1.

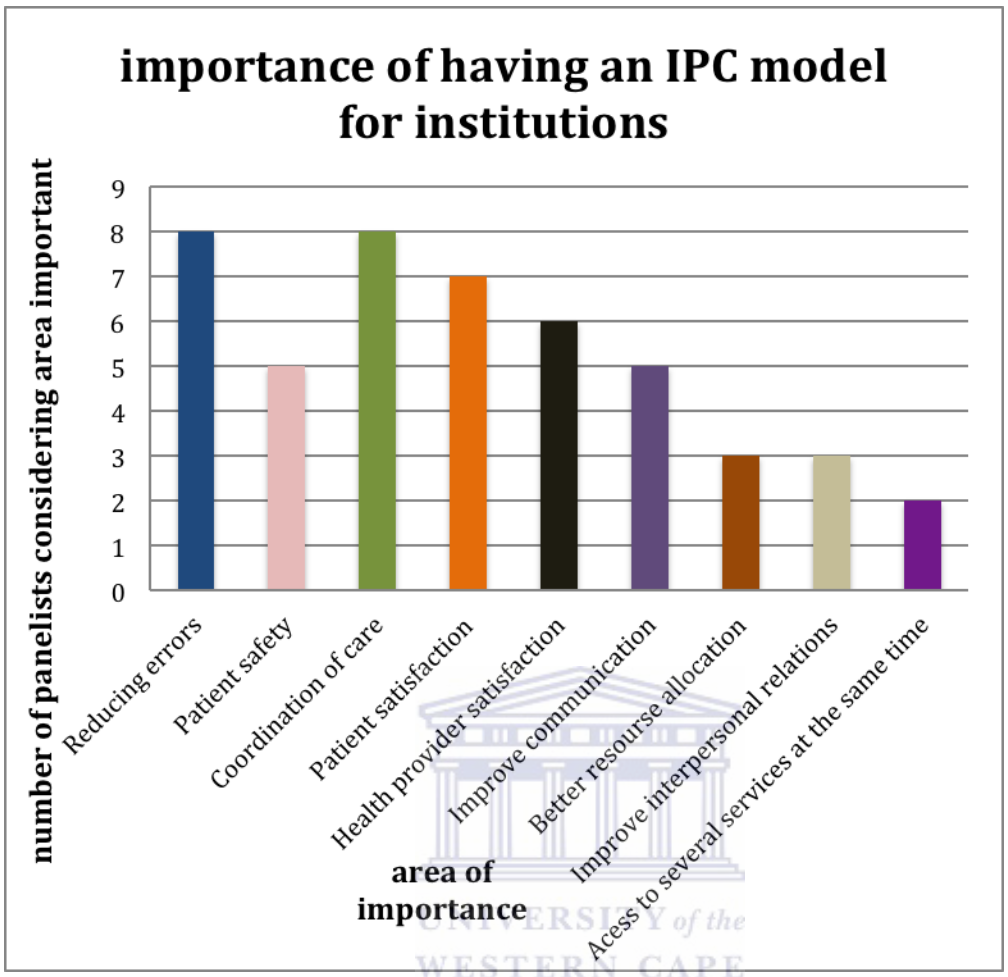


Figure 9.1. Importance of having an IPC model for institutionalised patient care

All the areas mentioned by the panelists together with their suggestion in the answers to question three of round one (Table 9.2) were considered during the drafting of proposed principles that would guide the model. These principles were presented to the panelist in round two. They were requested to scale them on a three point Likert scale (agree, neutral, disagree) and provide comments for the same.

Table 9.2. Proposed considerations to be made by health care professionals to facilitate a coordinated interdisciplinary patient

Professional considerations	Frequency	Percentage
Identify communication areas with colleagues	5	71
Organise themselves for common goal	4	57
Awareness of value of other professions	6	86
Holistic Patients needs and their participation	4	43
Creating awareness of own role	2	29
Open to learning others' roles	2	29
Garner for administration support and policy	2	29
Special time for meetings	1	14
Professional development as teams	3	43
Conflict resolution through communication	1	14

10.5 Delphi study round two

After anlysing the panelists feedback from the questions of rounds one, together with the lessons gathered form the results of chapter six and seven the researcher drafted seven principles that he considered effective for addressing the areas that the panelist indicated that would be addressed through an interdisciplinary collaborative practice model. The panelists were presented with the principles and were requested to scale them on a three point Likert scale of " agree, neutral and disagree" In order to add value to their input on the same, the panelists were also requested to provide a comment about the scaled view for each principle provided. Table 9.3 below presents the Likert scale views of the panelists.

Table 9.3 Panelists views on principles at round two

Principles		Agree	Neutral	Disagree
1	Teams led by a health expert who is aware of other professions roles in the care of specific cases should be formed with the support of institutional management	9(90%)	0 (0%)	1 (10%)
b	Teams shall factor in the use of informal communication such as sticky notes, social media chats and face to face chats in order to fill the gaps created by delays in formal communication such as file notes and occasional ward rounds.			
2	In emergency care setting, early teams that stabilise the patient, through the leadership of a team member should ensure evolving/budding/growing of their goals hence recruiting other professionals into care discussions and participation early to avoid gaps that can lead to complications and duplication of duties.	8(80%)	1(10%)	1(10%)
3	In occasions of inability of a patient to participate in goal setting teams guided by team leader shall involve a relative or next of kin to assist in goal setting and immediately recruit the patient into the goals set when able to participate. This would be expected in emergency and children care settings.	8(80%)	2(20%)	0(0%)
4	Where possible teams should use technology to create databases documenting cases of success and challenges handled by various teams for reference purposes. Use the forum still to enlighten each other of their roles in the cases	6(60%)	3(30%)	1(10%)
5	For sustainability purposes, champions on interprofessional practice shall progressively lead health providers into a sustainable lifecycle of working in teams with the support of the management	5(50%)	4(40%)	1(10%)
6	In non-emergency settings such as rehabilitation centers, primary screening encounter with the patient should be followed by consecutive team meetings with the patient included in order set evolving goals including for discharge and follow up. This should take the framework of first stage being exploratory followed by a second stage of planning. This informs the reason as to why meetings of teams should take place.	7(70%)	3(30%)	0(0%)
7	Members of the teams shall have outcome measures/indicators that should include those of the patient in order to be able to evaluate the procedure	5(50%)	5(50%)	0(%)

The comments and suggestions that the panelists provided improved the terms used and restructured some of the principles designed by the researcher. The restructuring of the principles was intended to make them suit their role of ensuring effective interprofessional practice in institutionalised care. The panelists in their comments clarified why they either disagreed or were neutral about a certain comment. It was

suggested that principle 1b above should be an independent principle hence ending up with eight principles. The three principles that did not attain a 70 % consensus during this round had panelists suggesting on how to restructure them and keep them in the model. The input from the panelists' comments was incorporated hence ending up with the version that formed the second draft of the principles. The panelist subjected these to scrutiny in round three.

9.6. Delphi study round three

The restructured format of the principles were coupled with an inforgraphic representing all the principles simplified into seven items in the inner circle while the surrounding circles represented different types of institutions that can borrow specific principles based on their institutional context to enable them engage in IPC. In addition, four instructions for the model use were included in the draft model that was subjected to panelists' opinion. The panelists were requested to indicate whether they thought that the instruction was necessary (yes or no) or if the instruction should be "rephrased". There was room for open comments for each instruction as well. The following were the proposed guidelines/instruction: The panelists' response (consensus) for the "necessity of instructions" is presented in table 9.4.

1. ***Institutional support:*** *The administration of health institutions has a shared responsibility to contribute to effective health care efforts initiated by staff. They have opportunities to understand interprofessional care and provide support as recommended by the interprofessional teams. Encouraging the culture of IPCP through the institutions mission, vision and care objectives would be appropriate.*
2. ***Interprofessional practice attitudes:*** *Possessing professional respect and value for other professions' contributions facilitate working together interprofessionally. The principles of this model will enable the application of*

interprofessional practice if the professionals forming the teams possess these attitudes

3. ***Leadership:*** *Situational leadership is encouraged where by professionals who are equipped to coordinate the management of a certain condition should guide the interprofessional team through horizontal relations and information sharing. An interprofessional team leader should be professionally competent and possess team dynamics management skills.*
4. *Interprofessional teams shall consider the context in which they work prior to choosing principles of this model to guide them their practice.*

The panelists' were also requested to read through the principles again in the draft model and give comment.

9.6.1. Results for round three

All the ten panelists responded to the questions for round three. Their input on the model instructions and their final review on the principles led to finalising of the model as it is on figure 9.2 accompanied by the instructions (table 9.5). There was only one comment in round three referring to the principles. The panelist making the comment recommended combining of principle 4 and 5 at the inforgraphic inner circle level to be referred to as settings.

Table 9.4. Panelists' consensus of necessity of instructions

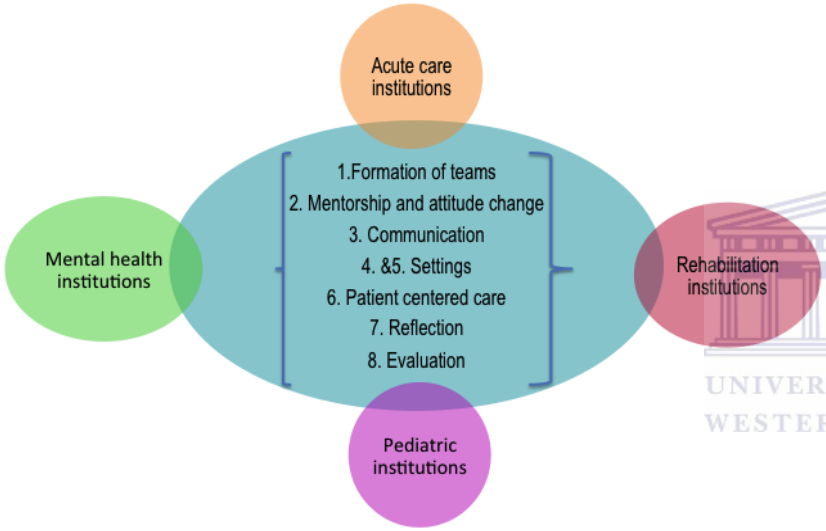
Instructions being necessary or not			
Instructions	**Yes**	**No**	**Rephrase**
One	10 (100%)	0 (0%)	0 (%)
Two	10 (100%)	0 (%)	0 (0%)
Three	9 (90%)	0 (0%)	1 (%)
Four	8 (80%)	2 (20%)	0 (0%)

Table 9.5. Instructions for use for the model by institutions of care

Instructions for health institutions using the model
Institutional support: The administration of health institutions has a shared responsibility with the health providers to contribute to researched health care efforts initiated by staff and champions. They have responsibility to understand interprofessional care by, for example, monitoring outcomes set by interprofessional teams and provide necessary support such as staff development on IPC. Encouraging the culture of IPC through the institutions mission, vision and care objectives would be appropriate. **Interprofessional practice attitudes:** possessing professional respect, value, awareness of knowledge and skills about other professional contributions enables Working together interprofessionally. The principles of this model will enable the application of interprofessional practice only if the professionals forming the teams possess these attitudes. **Leadership:** Situational leadership, i.e. based on patients' diagnosis or stage of management, is encouraged. Professionals who are equipped to coordinate the management of a certain condition should guide the interprofessional team through horizontal (non-hierarchical) relations and information sharing. An interprofessional team leader should be professionally competent and possess team dynamics management skills, e.g. easing tensions, facilitating participation of inactive members etc. **Institutional context:** Interprofessional teams shall consider the context in which they work while using this model to guide their practice. For example in emergency settings, the concept of evolving goals where primary teams seamlessly recruit other professionals into sharing of information and planning would be appropriate while in non-emergency settings, initial assessment, intervention and evaluation should be done through a coordinated collaboration

The model for interdisciplinary approaches to patient care

Health institutions and interprofessional teams shall borrow principles of IPC from the inner circle of the model below as they suit their institutional context. The inner circle contains principles in brief denoting the elaborated version aside. These shall be utelised to foster interprofessional positive attitudes and enhance effective IP teamwork in patient care



PRINCIPLES FOR GUIDING IPC IN INSTITUTIONALISED PATIENT CARE

1. Interprofessional teams consisting of members who are aware of other professions roles led by a clinically trained health professional who is situationally equipped for the case being managed should be formed with the support of institutional management
2. Interprofessional collaborative practice is grounded on positive attitudes towards teamwork. Champions of interprofessional practice supported by the institution shall work with the interprofessional teams through mentoring to achieve results based positive attitudes
3. Interprofessional teams shall design a communication framework meant to overcome institutional language barriers "jargons". The framework should utelise both formal and informal communication in order to optimize sharing of information so as to address patient's needs. Patient's confidentiality should be maintained. The modes of communication shall be selected on the bases of the institutions context. Modes of communication such as face to face such as sticky notes telephone calls or emails may be appropriate.
4. In emergency care setting, early teams that stabilize the patient, should ensure evolving of their goals hence seamlessly recruiting other professionals into care discussion and participation. This will avoid intervention gaps that can lead to complications and duplication of duties. An interprofessional team member recognized by the administration should facilitate this process.
5. In non-emergency settings such as rehabilitation centers, primary screening encounter with the patient should be followed by consecutive team meetings with the patient included in order set evolving goals including for discharge and follow up. This should take the framework of first stage being exploratory followed by a second stage of planning and a third stage of evaluation. This informs the reason as to why meetings of teams should take place
6. In occasions of inability of a patient to participate in goal setting interprofessional teams shall involve a relative or next of kin to assist in goal setting and understanding their beliefs and values. Patients shall be immediately recruited into the goals setting when able to participate. Otherwise, goals shall be set before hand. This would be expected in emergency, mental health and children care settings. Patients' relations experts may be involved where possible
7. Interprofessional teams shall anonymously document patient cases of success and failures in order to transform lessons learnt into action. Quarterly meetings to review lessons learnt would be appropriate. Such review meetings can be used to pause research questions for failures experienced and possible solutions. The documented cases can be used to mentor future interprofessional teams.
8. Members of the interprofessional teams shall design a common framework for evaluating performance as a team. The goals set between the professionals and the patient shall be used as

Figure 9.2. The model for interdisciplinary approaches to patient care

9.7. Summary of chapter nine

This chapter entails the details of the procedure that was followed to develop the model for interdisciplinary approach to patient care. The chapter highlights the sources of information that was used in this process that includes results from part of the study as well as the input from IPE and IPC experts who responded to a series of three rounds of successive questioning. The chapter also describes the selection criteria for the Delphi study panelists/experts. The results of each round and how they were utelised to develop the model are presented. Details of the final model that was developed and how the consensus between the panelists regarding the three rounds is provided.

CHAPTER TEN

CONCLUSION AND RECOMMENDATIONS

10.1. Conclusion

This study was conducted in an attempt to reconcile the determinants of collaborative practice in the context of efforts made by UWC to train graduates with competences of IPC. As cited by several authors in the IPE and practice field of study, interprofessional collaborative practice is capable of reducing health disciplines fragmentation that ignores holistic care and patient centered practice. The means to arrive at IPC at various settings include IPE. The IPE curriculum content comprises of theory and practice. Inadequacies in those sections of IPE curriculum become barriers to achievement of IPC. Having considered that, this study conducted empirical investigations on the above-mentioned determinants of efficient IPC. This included the curriculum content analysis, exploring of students perceptions regarding IPE, institutions of care protocol analysis for IPC friendliness and finally the managers' perceptions with regards to IPC in their institutions.

The UWC curriculum was found to be using most of the globally utilised methods though not providing interprofessional practical placements in institutionalised care. According to the DOK tool that was used for the analysis, the assessment content was found to be less demanding to enable students to learn from the intended curriculum content that was rated highly.

The students' IPE perceptions indicated that they had strong sense of autonomy and competence for own profession, a moderate perception of need for collaboration and a below average perception of actual collaboration. The methods of IPE delivery as cited in literature were seen to influence how students perceived IPE. For example, those institutions that utilised methods with particular practical activities to enable students learn the competencies of working together were more successful. While comparing the UWC scenario with other cited in the literature, it was noted that the IPE commencement and ending time of the course could have an influence on the students' perceptions. The UWC curriculum commenced in the first semester of first year whereby not much practical activities could be done compared to other studies in literature where IPE in a later stage of the undergraduate course, was accompanied by practical activities that influenced the students perceptions more positively.

This study further analysed institutional possible friendliness to collaborative practice as documented in the practice protocols of the institutions where UWC students are placed for practice. We intended to find out whether UWC students conduct their practice activities in an environment that would advance the IPE knowledge provided through the curriculum. In the first place, the analysis sought to explore the protocols' objectives and preamble seeking to find out whether working in interprofessional teams was part of the protocols' goals.

The interviews with the manager's of these institutions also inquired about the culture of interprofessional practice. Two of the institutions preambles and objectives stated that

multidisciplinary teams implement their protocols. Three of the managers were not found to express a culture of interprofessionality in the interview. Although various components of friendliness to IPC such as commonly planned discharge, regular communication with the patient and parents in the pediatric institution and regular meetings, were identified, a grounded culture or leadership steering all the competencies of IPC did not support them. This was seen as happenstance not based on any planning. However, the manager of the rehabilitation centre elaborated on their policy of interdisciplinary practice that was coupled with a protocol that clearly stipulated the teams, their roles, roles of patients and paths of communication that would enhance IPC. This was the only institution according to our analysis that had a framework and an administration that would offer students a learning environment suitable for practicing IPC skills. On their part, the managers discussed a number of issues with regards to their perception of IPC in their institutions. They cited workload lack of specific profession awareness creation with regards to their roles as barriers to IPC. They further discussed leadership of teams in the context of competence and medical legal liability. Although they strongly felt that some health professionals were not championing their role in health, they still considered leadership of teams to be a preserve of the professionals who are legally liable to all incidences of health practice. IPE researchers have cited medical legal laws and professional regulations as barriers to collaboration. However this study concurs with the fact that regulation and medical legal liability may be restrictive to beneficial initiatives such as IPE and therefore should be reviewed to also protect modalities of practice that are beneficial to patients. Finally, the institutional managers made suggestion, which they considered progressive for IPC if it were to be practiced in their institutions. Early

commencement of “thinking” around who else can provide valuable care to a patient should be practiced. The process of continuously placing an assessment finding on a teams platform and sharing that information in order to arrive at a common goal is the concept that this study refers to as “evolving goals”. Some studies and one of the managers suggested use of tools to screen patients while identifying appropriate professionals to work with in the treatment. This form of practice would prompt team members to collaboratively allocate the leadership role to a professional suiting the prevailing patient condition for coordination purposes. There would be occasions when existing prior formed teams would work well with the concept of evolving goals while in occasions where structured teams do not exist, then the concept would bring professionals together through formal and informal communication to attend to arising needs of the client.

10.2 RECOMMENDATION

10.2.1 Recommendation for the curriculum

- **Training of course trainers**

  On occasions where IPE is coupled with other professional programs, the facilitators may not be adequately trained to steer students into understanding the concepts of the core competencies of IPE. This does not mean that free standing IPE is always delivered by competent facilitators. Hence the need for IPE and IPC based continuous teaching staff development.

- **Inclusion of IPE practice activities in the health institutions**

  Students whose career profiles include clinical work in institutionalised patient care may miss the opportunity to practice in interdisciplinary teams if an

interprofessional clinical practice component is not included in the curriculum. Training institutions that did simulation of IPC in hospitals positively influenced the attitudes of students toward IPC. Universities need to work with teaching hospitals in order to include interprofessional clinical practice. This will actually increase contact among different student professionals at practice levels and hence reduce professional prejudice as explained in the inter-group contact hypothesis that "The more the contact the less the prejudice".

- **Review of IPE commencement time**

  First semester of the first year for the students in UWC was considered an early stage to deliver both IPE competencies through the professional content in the curriculum. The chances of learning one and dropping the other are high due to the newness to their own programs. The same timing i.e. commencing the interdisciplinary courses in the first semester may still be used, however, follow up courses/seminars/workshops using a free standing IPE curriculum either later or earlier may be appropriate.

- **Improve assessed content.**

  Since the UWC interdisciplinary core courses curriculum was found to have strong specific outcomes, the study recommends that the content of the assessment criteria should be reviewed in order to improve their alignment with the corresponding specific outcomes. This will improve the cognitive demand for the students hence prompting them to research further in an attempt to respond to the content of the assessment criteria.

10.2.2. Recommendations for institutions of care

- **Administration support**

  The administration of the institutions of health care should portray interest in understanding how IPE and IPC works to improve the quality of health care hence provide resources and organisational support. IPE based training for staff development and facilitation of championing roles should be supported.

- **Communication**

  No one form of communication can be claimed to satisfy interprofessional practice. A combination of formal and informal is appropriate. The important details must be included in any information being communicated through whichever form of communication through the stipulated pathways such as referral notes, phone calls, emails, corridor chats, sticky notes or meetings to avoid detrimental misinterpretation of patient information which can lead to errors such as wrong prescriptions.

- **Formation of interprofessional teams**

  This study recommends that interprofessional teams be formed in two ways

  1. Interprofessional teams may be formed prior to any intervention. This team will be organised in such a way that they are clear on their assessment, intervention and evaluation pathways geared towards formulation of a common goal specific to a patient. The team may review assessment, intervention and evaluation strategies circumstantially.
  2. Teams may also be formed based on the need to intervene. In this situation, the communication pathways must be clear and efficient since

there may be need to act spontaneously. The concept of evolving goals will best apply in this situation since the first team members attending to the patient will assess and intervene while taking note of the patient's needs that can be attended by an absent professional. Modes of communication agreed upon by the team should be used to recruit the other team members to join the network of communication, meetings, assessment intervention and evaluation. At no point should the role of the patient be ignored.

- **Leadership**

  All interprofessional team members should understand that a team leader is not an authoritarian and does not fit in a hierarchical position but rather is a coordinator of the team's activities. Any other team member depending on prevailing situation of the patient can play this role. For example, it would be expected that a social worker should lead the team when a patient is undergoing community re-integration after a long period of hospital based rehabilitation.

- **Future research**

  In future, scholars should seek to empirically explain the difference in impact of a free standing IPE curriculum as compared to a professional program being utilised to deliver IPE competencies.

  Barriers for IPC in health institutions should further be explored.

  Factors not associated with interprofessional courses but influencing the perception of IPE either negatively or positively warrant further investigation.

10.3. Summary of chapter ten

This chapter presents conclusive remarks that include a briefing of the significance of the study and the areas that were researched in order to reach the intended objectives. In the conclusion, it is also highlighted in summary the results of each objective and how they were discussed. It also provides summarised details of how the results were compared with similar studies and the lessons learnt this engagement. The chapter goes further to propose recommendations for training and practice as well as areas of research that the researcher feels should further be investigated.

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List of Appendices

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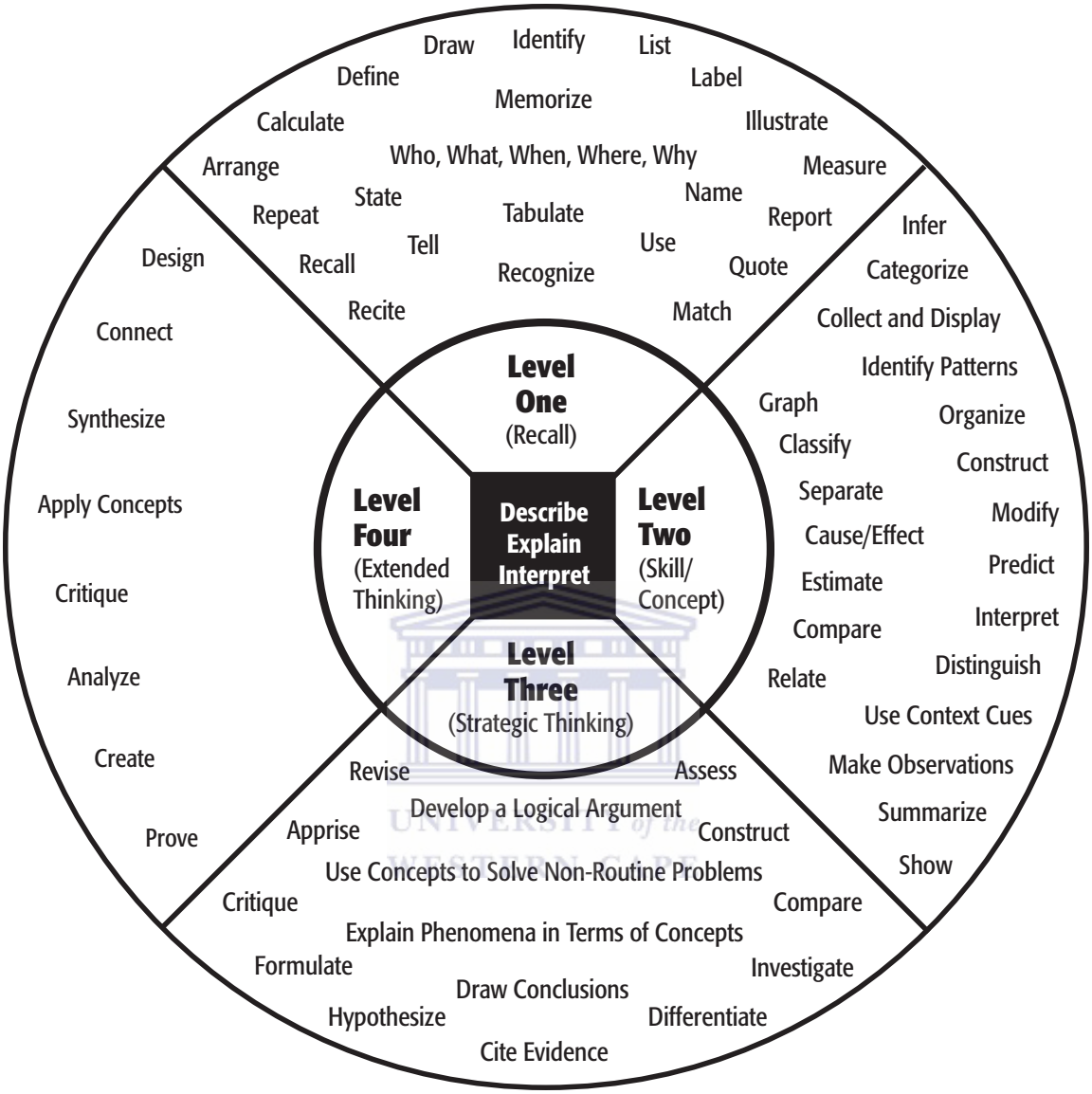
Depth of Knowledge (DOK) Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.	Identify and summarize the major events in a narrative.	Support ideas with details and examples.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions.
Conduct basic mathematical calculations.	Use context cues to identify the meaning of unfamiliar words.	Use voice appropriate to the purpose and audience.	Apply mathematical model to illuminate a problem or situation.
Label locations on a map.	Solve routine multiple-step problems.	Identify research questions and design investigations for a scientific problem.	Analyze and synthesize information from multiple sources.
Represent in words or diagrams a scientific concept or relationship.	Describe the cause/effect of a particular event.	Develop a scientific model for a complex situation.	Describe and illustrate how common themes are found across texts from different cultures.
Perform routine procedures like measuring length or using punctuation marks correctly.	Identify patterns in events or behavior.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	Design a mathematical model to inform and solve a practical or abstract situation.
Describe the features of a place or people.	Formulate a routine problem given data and conditions.	Apply a concept in other contexts.	
	Organize, represent and interpret data.		

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APPENDIX B

THE INTERDISCIPLINARY EDUCATION PERCEPTION QUESTIONNAIRE

SECTION 1 (Demographic characteristics)

Instruction: Please insert a **(√)** symbol to indicate your answer. **You can copy this tick symbol and paste it on the option you chose.**

A. In which Department in the Faculty of Community and Health Sciences do you belong?

1. Social Work ☐
2. Occupational Therapy ☐
3. Physiotherapy ☐
4. School of Nursing ☐
5. Sports and recreation ☐
6. Dietetics ☐
7. Human Ecology ☐
8. School of Public Health ☐
9. School of Natural Medicine ☐
10. Psychology ☐

11. Other (Specify):……..

B. Gender

1. Male 2. Female

C. Year of your health science studies:

1. 3rd 2. 4th 3. 5th 4. 6th

D. Are you:

1. South African citizen (including South African citizen with dual citizenship)
2. Temporary entry permit
3. Status other than one of the above: Please specify:……

SECTION 2: Please indicate the degree to which you agree or disagree with the statements below by inserting the symbol √ in the corresponding box

	STATEMENTS	Strongly agree	Agree	Some what agree	Some what disagree	Disagree	Strongly disagree
1.	Individuals in my profession are well-trained						
2.	Individuals in my profession are very positive about their goals and objectives						
3.	Individuals in my profession are very positive about their contributions and accomplishments						
4.	Individuals in my profession trust each other's professional judgment						
5.	Individuals in my profession are extremely competent						
6.	Individuals in my profession need to cooperate with other professions						
7.	Individuals in my profession must depend upon the work of people in other professions						
8.	Individuals in my profession are able to work closely with individuals in other professions						
9.	Individuals in my profession are willing to share information and resources with other professionals						
10.	Individuals in my profession have good relations with people in other professions						
11.	Individuals in my profession think highly of other related professions						
12.	Individuals in my profession work well with each other						

End of questionnaire. Thank you for participating.

UNIVERSITY of the WESTERN CAPE

APPENDIX C

OFFICE OF THE DEAN
DEPARTMENT OF RESEARCH DEVELOPMENT

17 February 2012

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by: Mr WM Karuguti (Physiotherapy)

Research Project: **The development of a model for an interdisciplinary approach to patient care; a case for curriculum development**

Registration no: 11/10/33

Ms Patricia Josias
Research Ethics
Committee Officer
University of the
Western Cape

Private Bag X17, Bellville 7535, South Africa
T: +27 21 959 2948/2949 . F: +27 21 959 3170
E; pjosias@uwc.ac.za. www.uwc.ac.za

APPENDIX D

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WESTERN CAPE

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DEPARTMENT OF PHYSIOTHERAPY

The Director
Interdisciplinary Teaching and Learning unit
University of the Western Cape
Private Bag X17
Bellville 7535
Republic of South Africa

Dear Dr Waggie

REQUEST FOR PERMISSION TO UNDERTAKE A STUDY AMONG STUDENTS UNDERGOING TRAINING IN YOUR UNIT.

I am a student pursuing the degree of Doctor of Philosophy in Physiotherapy at the University of the Western Cape in South Africa. I am required by the University to conduct a research study as a partial fulfillment of the PhD. The proposed title of my thesis is **A model development for an interdisciplinary approach to patient care: A case for curriculum development**'. I request that you allow me to collect the necessary information as per my study. From your unit I will require to liaise with the students who have completed the interdisciplinary core courses curriculum and have already commenced their clinical practice placements in various health care institutions. Furthermore, the interdisciplinary core course curriculum being implemented by your unit will be analyzed.

The participation to the study will be anonymous, voluntary and issues of confidentiality and respect will be highly maintained. The gathered information will only be used for the research purposes. The results of this study will be made available to your institution.

Please find herewith attached a copy of my proposal and a letter of ethical clearance from the University of the Western Cape.

Yours Faithfully

Wallace M. Karuguti
(Student number 2968893)
UWC Physiotherapy student.

Prof. Julie Phillip and Prof. Ratie Mpofu
Supervisors.

APPENDIX E

FACULTY OF COMMUNITY AND HEALTH SCIENCES

Interdisciplinary Teaching & Learning Unit
Private Bag X17, Bellville, 7535
South Africa
Tel: +27 (0) 21 959 2062/3627
Fax: +27 (0) 21 959 2606
E-mail:cfester@uwc.ac.za
Website: www.uwc.ac.za

5 June 2012

Dear Mr WM Karuguti (student number 2968893)

The Interdisciplinary Teaching and Learning Unit (ITLU) grant you permission to conduct your study among the students participating in the interdisciplinary core courses that the unit offers. Permission is also granted for you to have access to the curriculum and teaching and learning materials of the interdisciplinary core courses.

We wish you success in your study.

Yours Faithfully

Dr F Waggie
(Head of ITLU)

Cc Mr Gerard Filies (Service-learning Co-ordinator)
Cc Ms Nariman Laattoe (Core Courses Co-ordinator)

APPENDIX F

UNIVERSITY of the
WESTERN CAPE

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Website: www.uwc.ac.za

DEPARTMENT OF PHYSIOTHERAPY

The Director

The Western Cape Provincial Research Health Committee.

Department of Health

Dear Sir/Madam

Re: Request for permission to collect data for a PhD research in five health care institutions in the Western Cape.

I am a Doctorate student pursuing a PhD degree in Physiotherapy at the University of the Western Cape in South Africa. I am required by the University to conduct a research study as a partial fulfillment of the PhD program in Physiotherapy. The proposed title of my thesis is **A model development for an interdisciplinary approach to patient care: A case for curriculum development** I am requesting permission to collect the necessary information as per my study in five health institutions in the Western Cape which include **Tygerberg hospital, Groote Schuur Hospital, Lentegeur hospital, Red Cross hospital and the Western Cape Rehabilitation Centre**. Permission will be sought from the specific institutions administration as well. The Hospital managers who will form part of the study will be provided with an information letter indicating that their participation in the study will be anonymous, voluntary and that issues of confidentiality and respect will be highly maintained. Informed consent will be obtained from the participants and the gathered information will only be used for research purposes. The results of this study will be made available to the Western Cape Department of Health as well as the specific institution/hospital.

Please find herewith attached a copy of my proposal and a letter of ethical clearance from the University of the Western Cape. A copy of the letters that will be sent to specific institutions is also attached.

Yours Faithfully

Wallace M. Karuguti
(Student number 2968893)
UWC Physiotherapy student.

Prof. Julie Phillip and Prof. Ratie Mpofu
Supervisors.

APPENDIX G

UNIVERSITY of the
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DEPARTMENT OF PHYSIOTHERAPY

THE DIRECTOR (RESEARCH)
TYGERBERG HOSPITAL
WESTERN CAPE
.....

Dear Sir/Madam,

Re: REQUEST FOR PERMISSION TO UNDERTAKE A STUDY AT YOUR HOSPITAL/INSTITUTION.

I am a Doctorate student pursuing the degree in Physiotherapy at the University of the Western Cape in South Africa. I am required by the University to conduct a research study as a partial fulfillment of the PhD program in Physiotherapy. The proposed title of my thesis is **A model development for an interdisciplinary approach to patient care: A case for curriculum development**". I am requesting you to allow me to collect the necessary information as per my study. I am requesting permission to review your hosptital/institution's patient care protocol. I further would like to extend an invitation to you to participate in an in depth interview aimed at discussing interdisciplinary practice in the institution as well as exploring your perceptions and recommendations towards this form of practice. I will provide you with an information letter containing all the relevant information regarding the study and the assurance that your participation in the study will be anonymous, voluntary and that issues of confidentiality and respect will be highly maintained. You will be requested to sign an informed consent form showing your acceptance to participate in the study. The gathered information will only be used for the research purposes. The results of this study will be made available to your institution/hospital.

Please find herewith attached a copy of my proposal and a letter of ethical clearance from the University of the Western Cape.

Yours Faithfully

Wallace M. Karuguti
(Student number 2968893)
UWC Physiotherapy student.

Prof. Julie Phillip and Prof. Ratie Mpofu
Supervisors.

APPENDIX H

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DEPARTMENT OF PHYSIOTHERAPY

THE DIRECTOR (RESEARCH)
GROOTE SCHUUR
HOSPITAL
WESTERN CAPE

Dear Sir/Madam,

Re: REQUEST FOR PERMISSION TO UNDERTAKE A STUDY AT YOUR HOSPITAL/INSTITUTION.

I am a Doctorate student pursuing the degree in Physiotherapy at the University of the Western Cape in South Africa. I am required by the University to conduct a research study as a partial fulfillment of the PhD program in Physiotherapy. The proposed title of my thesis is **A model development for an interdisciplinary approach to patient care: A case for curriculum development**. I am requesting you to allow me to collect the necessary information as per my study. I am requesting permission to review your hosptital/institution's patient care protocol. I further would like to extend an invitation to you to participate in an in depth interview aimed at discussing interdisciplinary practice in the institution as well as exploring your perceptions and recommendations towards this form of practice. I will provide you with an information letter containing all the relevant information regarding the study and the assurance that your participation in the study will be anonymous, voluntary and that issues of confidentiality and respect will be highly maintained. You will be requested to sign an informed consent form showing your acceptance to participate in the study. The gathered information will only be used for the research purposes. The results of this study will be made available to your institution/hospital.

Please find herewith attached a copy of my proposal and a letter of ethical clearance from the University of the Western Cape.

Yours Faithfully

Wallace M. Karuguti
(Student number 2968893)
UWC Physiotherapy student.

Prof. Julie Phillip and Prof. Ratie Mpofu
Supervisors.

APPENDIX I

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DEPARTMENT OF PHYSIOTHERAPY

THE DIRECTOR (RESEARCH)
RED CROSS HOSPITAL
WESTERN CAPE
.....

Dear Sir/Madam,

Re: REQUEST FOR PERMISSION TO UNDERTAKE A STUDY AT YOUR HOSPITAL/INSTITUTION.

I am a Doctorate student pursuing the degree in Physiotherapy at the University of the Western Cape in South Africa. I am required by the University to conduct a research study as a partial fulfillment of the PhD program in Physiotherapy. The proposed title of my thesis is **A model development for an interdisciplinary approach to patient care: A case for curriculum development** I am requesting you to allow me to collect the necessary information as per my study. I am requesting permission to review your hosptital/institution's patient care protocol. I further would like to extend an invitation to you to participate in an in depth interview aimed at discussing interdisciplinary practice in the institution as well as exploring your perceptions and recommendations towards this form of practice. I will provide you with an information letter containing all the relevant information regarding the study and the assurance that your participation in the study will be anonymous, voluntary and that issues of confidentiality and respect will be highly maintained. You will be requested to sign an informed consent form showing your acceptance to participate in the study. The gathered information will only be used for the research purposes. The results of this study will be made available to your institution/hospital.

Please find herewith attached a copy of my proposal and a letter of ethical clearance from the University of the Western Cape.

Yours Faithfully

Wallace M. Karuguti
(Student number 2968893)
UWC Physiotherapy student.

Prof. Julie Phillip and Prof. Ratie Mpofu
Supervisors.

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WESTERN CAPE

APPENDIX J

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Website: www.uwc.ac.za

DEPARTMENT OF PHYSIOTHERAPY

The Director
Western Cape
Rehabilitation Centre
.....

Dear Sir/Madam,

Re: REQUEST FOR PERMISSION TO UNDERTAKE A STUDY AT YOUR HOSPITAL/INSTITUTION.

I am a Doctorate student pursuing the degree in Physiotherapy at the University of the Western Cape in South Africa. I am required by the University to conduct a research study as a partial fulfillment of the PhD program in Physiotherapy. The proposed title of my thesis is **A model development for an interdisciplinary approach to patient care: A case for curriculum development**. I am requesting you to allow me to collect the necessary information as per my study. I am requesting permission to review your hosptital/institution's patient care protocol. I further would like to extend an invitation to you to participate in an in depth interview aimed at discussing interdisciplinary practice in the institution as well as exploring your perceptions and recommendations towards this form of practice. I will provide you with an information letter containing all the relevant information regarding the study and the assurance that your participation in the study will be anonymous, voluntary and that issues of confidentiality and respect will be highly maintained. You will be requested to sign an informed consent form showing your acceptance to participate in the study. The gathered information will only be used for the research purposes. The results of this study will be made available to your institution/hospital.

Please find herewith attached a copy of my proposal and a letter of ethical clearance from the University of the Western Cape.

Yours Faithfully

Wallace M. Karuguti
(Student number 2968893)
UWC Physiotherapy student.

Prof. Julie Phillip and Prof. Ratie Mpofu
Supervisors.

APPENDIX K

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DEPARTMENT OF PHYSIOTHERAPY

The Director
Tentegur Hospital
Western Cape

Dear Sir/Madam,

Re: REQUEST FOR PERMISSION TO UNDERTAKE A STUDY AT YOUR HOSPITAL/INSTITUTION.

I am a Doctorate student pursuing the degree in Physiotherapy at the University of the Western Cape in South Africa. I am required by the University to conduct a research study as a partial fulfillment of the PhD program in Physiotherapy. The proposed title of my thesis is **A model development for an interdisciplinary approach to patient care: A case for curriculum development**, I am requesting you to allow me to collect the necessary information as per my study. I am requesting permission to review your hosptital/institution's patient care protocol. I further would like to extend an invitation to you to participate in an in depth interview aimed at discussing interdisciplinary practice in the institution as well as exploring your perceptions and recommendations towards this form of practice. I will provide you with an information letter containing all the relevant information regarding the study and the assurance that your participation in the study will be anonymous, voluntary and that issues of confidentiality and respect will be highly maintained. You will be requested to sign an informed consent form showing your acceptance to participate in the study. The gathered information will only be used for the research purposes. The results of this study will be made available to your institution/hospital.

Please find herewith attached a copy of my proposal and a letter of ethical clearance from the University of the Western Cape.

Yours Faithfully

Wallace M. Karuguti
(Student number 2968893)
UWC Physiotherapy student.

Prof. Julie Phillip and Prof. Ratie Mpofu
Supervisors.

APPENDIX L

Western Cape Government
Health

Tygerberg Hospital

REFERENCE: Research Projects
ENQUIRIES: Dr M A Mukosi

ETHICS NO: 11/10/33 (University of the Western Cape)

A model development for an interdisciplinary approach to patient care: A case for curriculum development

Dear Wallace M Karuguti

PERMISSION TO CONDUCT YOUR RESEARCH AT TYGERBERG HOSPITAL

In accordance with the Provincial Research Policy and Tygerberg Hospital Notice No 40/2009, permission is hereby granted for you to conduct the above-mentioned research here at Tygerberg Hospital.

Please note: It is your responsibility to secure the appointment with the managers you want to interview.

DR D ERASMUS
CHIEF DIRECTOR: TYGERBERG HOSPITAL

Date: 9 May 2013

Administration Building, Francie van Zijl Avenue, Parow, 7500
tel: +27 21 938-5966 fax: +27 21 938-6698
Private Bag X3, Tygerberg, 7505
www.capegateway.go.v.za

APPENDIX M

Western Cape Government
Health

GROOTE SCHUUR HOSPITAL

Enquiries: Dr Bhavna Patel
E-mail : *Bhavna.Patel@westerncape.gov.za*

Mr Wallace Mugambi
University of the Western Cape
Private Bag X17
BELLVILLE
7530

E-mail: mugambiw80@gmail.com

Dear Mr Mugambi

RESEARCH STUDY: ***A model development for an interdisciplinary approach to patient care: A case for curriculum development***

Your recent letter to the hospital refers.

You are hereby granted permission to proceed with your research.

Please note the following:

a) Your research may not interfere with normal patient care.
b) Hospital staff may not be asked to assist with the research.
c) No hospital consumables and stationary may be used.
d) No patient folders may be removed from the premises or be inaccessible. Please liaise with Mr Noel Weeder in this regard on ext. 4058 or 4066.
e) Please introduce yourself to the person in charge of an area before commencing.

I would like to wish you every success with the project.

Yours sincerely

Patel

DR BHAVNA PATEL
SENIOR MANAGER: MEDICAL SERVICES
Date: 15th August 2012

APPENDIX N

Western Cape Government
Health

Dr TA Blake
Manager: Medical Services
Email: Thomas.Blake@pgwc.gov.za
Tel: +27 21 658 5788 fax: +27 21 658 5166

Mr MW Karuguti
University of the Western Cape

Dear Mr Karuguti

APPROVAL OF RESEARCH

PROJECT: The Development of a model for interdisciplinary approach to patient care: A case for curriculum development

Approval is hereby granted to conduct the above-mentioned research at Red Cross War Memorial Children's Hospital.

Yours sincerely,

Dr Thomas Blake
Manager: Medical Services

05 April 2013

APPENDIX O

Western Cape Government
Health

STRATEGY & HEALTH SUPPORT
healthres@pgwc.gov.za
tel: +27 21 483 9907; fax: +27 21 483 9895
1st Floor, Norton Rose House., 8 Riebeek Street, Cape Town, 8001
www.capegatewgov.gov.za)

REFERENCE: RP 113/2012
ENQUIRIES: Dr Sikhumbuzo Mabunda

UNIVERSITY OF THE WESTERN CAPE
DEPARTMENT OF PHYSIOTHERAPY
Private Bag X17, Bellville 7535, South Africa

For attention: Wallace Mugambi Karuguti

Re: *A model development for an interdisciplinary approach to patient care: A case for curriculum development*

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.
Please contact the following people to assist you with any further enquiries.

Western Cape Rehabilitation	**Jenny Hendry**	**(021) 3702313**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final report within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (healthres@pgwc.gov.za).
3. The reference number above should be quoted in all future correspondence.

We look forward to hearing from you.

Yours sincerely

DR NT Naledi
DIRECTOR: HEALTH IMPACT ASSESSMENT
DATE: 7/8/2012

APPENDIX P

INFORMATION SHEET FOR STUDENTS

Project Title: A MODEL DEVELOPMENT FOR AN INTERDISCIPLINARY APPROACH TO PATIENT CARE: A CASE FOR CURRICULUM DEVELOPMENT

What is this study about?

This is a research project being conducted by **Karuguti M Wallace** at the University of the Western Cape. We are inviting you to participate in this research project because you are a student at UWC and have completed the Interdisciplinary Core Courses Curriculum undertaken at the Faculty of Community and Health Sciences. The purpose of this research project is to gather information that will enable the researcher to design an Interdisciplinary Approaches of Patient Care Model for health institutions to be used in institutionalized patient care and for teaching purposes in Universities.

What will I be asked to do if I agree to participate?

You will be asked to answer a 12-item questionnaire, which will take you a maximum of 30 minutes to answer. The researcher will bring these questionnaires to you just before the end of one of your lectures in UWC and an arrangement will be made after that about how to collect them during another lecture. The questions are only inquiring about your perceptions towards interdisciplinary education.

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality, the questionnaire will not require you to put your identity neither shall we require any information that identifies you in person. If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning child abuse or neglect or potential harm to you or others.

What are the risks of this research?

There are no known risks associated with participating in this research project.

What are the benefits of this research?

The benefits to you are considered to be in the future when you will be in a position to practice in a health institution using a collaborative practice friendly model. This will be a convenient practice since your training entails interdisciplinary education.

This research is not designed to help you personally, but the results may help the investigator learn more about interdisciplinary approaches of patient care and eventually design a model that may be helpful in health practice and teaching. We hope that, in the future, other people might benefit from this study through improved understanding of interdisciplinary approaches of patient care. Since collaborative teamwork is important for addressing of the complex health needs in our society, the outcome of this research will contribute towards this endeavor.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify

What if I have questions?

Karuguti M Wallace a PhD student at the University of the Western Cape is conducting this research. If you have any questions about the research study itself, please contact:-

Mr. Karuguti. M. Wallace

Department of Physiotherapy

University of the Western Cape

Private bag x17

Bellville 7535

Cell phone +255753016019 or +27799751600

E-mail wallacem80@yahoo.co.uk and mugambiw80@gmail.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof. J Phillips

University of the Western Cape

Private Bag X17

Bellville 7535

The University of the Western Cape's Senate Research Committee and Ethics Committee has approved this research.

APPENDIX Q

INFORMATION SHEET FOR MANAGERS

Project Title: A MODEL DEVELOPMENT FOR AN INTERDISCIPLINARY APPROACH TO PATIENT CARE: A CASE FOR CURRICULUM DEVELOPMENT

What is this study about?

This is a research project being conducted by **Karuguti M Wallace** at the University of the Western Cape. We are inviting you to participate in this research project because you are a Manager in a Health institution that the University of the Western Cape (UWC) places students for fieldwork. The purpose of this research project is to gather information that will enable the researcher to design an Interdisciplinary Approaches of Patient Care Model for health institutions to be used in institutionalized patient care and for teaching purposes in the Universities.

What will I be asked to do if I agree to participate?

You will be asked to answer some questions in a interview which will take you approximately 30 minutes to answer. The researcher will visit you in your office at your own convenient day and time in order to conduct the interview. This conversation will be recorded to enable the researcher to listen to the conversation once more during data analysis. The questions are only inquiring about your views and perceptions about collaborative interdisciplinary. Questions such as "How would you regard collaborative interdisciplinary practice in your institutions?" In your view do you think health professionals coming together as a team to derive a management plan for a patient is workable?", "what are its advantages and disadvantages?"

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality, the principal researcher and the colleague who will assist in triangulation will only access the interviews. These interviews will be locked in a cabinet and will be destroyed after the data is analysed. If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning child abuse or neglect or potential harm to you or others.

What are the risks of this research?

There are no known risks associated with participating in this research project.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about interdisciplinary approaches of patient care and eventually design a model that may be helpful in health practice and teaching. We hope that, in the future, other people might benefit from this study through improved understanding of interdisciplinary approaches of patient care. Since collaborative teamwork is important for addressing of the complex health needs in our society, the outcome of this research will contribute towards this endeavor as well as better outcomes for your institution.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any

time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify

What if I have questions?

Karuguti M Wallace a PhD student at the University of the Western Cape is conducting this research. If you have any questions about the research study itself, please contact:-

Mr. Karuguti. M. Wallace

Department of Physiotherapy

University of the Western Cape

Private bag x17

Bellville 7535

Cell phone +255753016019 or +27799751600

E-mail wallacem80@yahoo.co.uk and mugambiw80@gmail.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof. J Phillips

University of the Western Cape

Private Bag X17 Bellville 7535

The University of the Western Cape's Senate Research Committee and Ethics Committee has approved this research.

APPENDIX R

CONSENT FORM FOR STUDENTS

Title of Research Project:

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name……..

Participant's signature…….

Witness…….

Date……

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Mr. Karuguti. M. Wallace

Department of Physiotherapy

University of the Western Cape

Private bag x17

Bellville 7535

Email mugambiw80@gmail.com. Phone +2799751600

APPENDIX S

CONSENT FORM FOR MANAGERS

Title of Research Project:

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name……..

Participant's signature…….

Witness……..

Date……

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Mr. Karuguti. M. Wallace

Department of Physiotherapy

University of the Western Cape

Private bag x17

Bellville 7535

Cell phone +255753016019 or +27799751600

Email: Mugambiw80@gmail.com

APPENDIX T

INFORMATION SHEET FOR PANELIST

Study Title: A MODEL DEVELOPMENT FOR AN INTERDISCIPLINARY APPROACH TO PATIENT CARE: A CASE FOR CURRICULUM DEVELOPMENT.

Invitation

You are being invited to take part in a research study conducted by Karuguti Wallace (PhD candidate) of the University of the Western Cape. It is important that you understand why this research is being done and what it will involve before you decide if you will participate in the process. Please read the following information carefully and if there is anything that is not clear or if you require more information, kindly inquire from me.

What is the purpose of the study?

The complexity of human health and the need to establish practice mechanisms to improve on the quality and safety of health care is at the helm of discussion among health stakeholders in the world. It has been established that solutions to the fragmented state of health services do not rest within the scope of a single health career establishment. Approaches that unite health professionals to deliver on health demands collaboratively such as learning together (Interprofessional Education) to work together (Interprofessional Collaborative practice) are highly encouraged. Health graduates who have undergone interdisciplinary competency training is expected to join a team of other health professional to practice collaboratively in

various settings. Institutional settings such as hospitals and rehabilitation centers are examples of settings where interdisciplinary collaborative practice aught to be practiced. The researcher in this study has identified the need to develop a guiding model to facilitate this form of practice in institutionalized patient care. The purpose of this research project therefore is to design an "Interdisciplinary Approaches to Patient Care Model" for health institutions to be used in institutionalized patient care.

Why have I been chosen?

You have been requested to participate in this research because you have been identified as an expert in the field of interprofessional education and collaborative practice or is experienced in overseeing collaborative health practice in various settings. The purpose of this research is to develop an Interdisciplinary Approaches to Patient Care Model that can be implemented in health institutions where more than one discipline of health participates in health care. The model will be developed base on results of qualitative and quantitative data from final year students studying different health course, hospital managers, patient care protocol analysis, interdisciplinary core courses curriculum analysis, literature review and a Delphi study.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you

otherwise qualify. If you agree to participate, you will be asked to sign a consent form which will be sent to you via email.

What will happen to me if I participate?

If you agree to participate you will be first asked to sign a consent form and return it via email. Then the research will commence using the Delphi technique consisting of two or three rounds (questionnaires) aimed to achieve consensus. With your permission, the questionnaires will be emailed to you with simple instructions and specific instruction for each question. The amount of time necessary will vary from one expert to another but will range between 10-15 minutes per round. There are no right or wrong answers to the questions. Every aspect of your opinion is important.

It is important for you to note that:-

- Your participation is voluntary
- You may decline or withdraw from the study at any time
- All records are confidential and your name will only appear on the consent form and not the questionnaire. All the information will be available to members of the research team.
- The reporting of the results of this study will not identify you in any way.
- After the completion of the study, the information gathered will be sent for publication in professional journals while still maintaining anonymity of the information that you provided.

What if something goes wrong?

I am not aware of any complications that may arise from participating in this study. However, if you agree to participate, you will be provided with information detailing the names and telephone numbers to contact should you have any complaints or difficulties with any aspect of this study.

Will my participation in this study be kept confidential?

If you consent to participate, your name will not be disclosed and would not be revealed in any report or publication resulting in this study other than the consent form. Your name will not be recorded on Delphi rounds. Each participant will be allocated a unique code. You will remain anonymous to the other participants throughout the Delphi study and only the researcher will be able to identify your specific answers.

What will happen when the study stops?

The results of this study will be used to develop an Interdisciplinary Approaches to Patient Care Model for health institutions in South Africa and beyond. The findings will also be published in professional journals and or presented in conferences.

The research has been approved by the University of the Western Cape's Senate Research Committee and Ethics committee (reg No 11/10/33). If you have any further questions about the research study itself, please contact:-

Mr. Karuguti. M. Wallace

Department of Physiotherapy

University of the Western Cape

Private bag x17

Bellville 7535

Cell phone +27842828533

E-mail mugambiw80@gmail.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Study supervisor

Prof. Julie Phillips

University of the Western Cape

Tel; 021 959 2549

Private Bag X17

Bellville 7535

Email; jphillips@uwc.ac.za

APPENDIX U

CONSENT FORM FOR PANELIST

Participant identification number……

Title of the study

A MODEL DEVELOPMENT FOR AN INTERDISCIPLINARY APPROACH TO PATIENT CARE: A CASE FOR CURRICULUM DEVELOPMENT

1.	I confirm that I have read and understood the information sheet dated for the above study. I have had the opportunity to consider the information, ask questions and have these answered satisfactorily	☐
2.	I am willing to participate in all the rounds of the Delphi study.	☐
3.	I understand that my participation is voluntary and that I am free to withdraw at anytime without giving any reason. However, I understand that the success of this study depends on all participants completing all the Delphi rounds.	☐
4.	I understand that I will remain anonymous to the other participants or experts throughout the Delphi study and only the researcher will be able to identify my specific answers.	☐
5.	I understand that the researcher will hold all information and data collected in a secure and confidential manner	☐

…….. …… ……..

Name of participant Date Signature

Not consenting

1.	I' m not willing to participate in this study	☐