FACTORS INFLUENCING INTER-PROFESSIONAL COLLABORATION AMONG HEALTHCARE WORKERS IN PRIMARY HEALTH CARE FACILITIES. A CASE OF NAKURU COUNTY KENYA

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DECLARATION AND RECOMMENDATION

Student

This thesis is my original work and has not been presented for a degree or any other award in any other University.

22nd, October, 2020

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DEDICATION

I dedicate this work particularly to my family members for their kind support. I also dedicate this to entire Health System management staffs of Kenya Methodist University. God bless you abundantly.

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I am grateful to God who is faithfully and always standing by my side. He has kept me in wellness and enabled me to complete the course. My sincere thanks goes to my supervisors, Dr. Kezia Njoroge and Madam Lillian Muiruri who were very patience with me during the whole period of the program always ready to give advice and guidance. Special thanks to my family, friends and masters' Health System Management students of the year September 2017 for the support and exceptional relationships we had.

ABSTRACT

Professionals from varying disciplines work collaboratively to serve patients. Although inter-professional collaboration is essential, existing barriers can prohibit inter-professional teams from working together effectively and efficiently. Inter-professional collaborative education and practice can prepare health workers to work on inter-professional teams by educating them about key concepts related to inter-professional collaboration. Therefore, the study sought to establish factors influencing inter-professional collaboration among the healthcare workers in primary healthcare facilities in Nakuru County. The specific objectives were to establish patient-related, professional-related, interpersonal and organizational factors influencing inter-professional collaboration in Nakuru County, Kenya. The study employed a Cross Sectional Survey Research Design and Self-Administered Questionnaire to collect data from 146 healthcare workers. Purposive sampling, Stratified sampling and Simple random sampling techniques was used to sample the Sub-Counties, Primary healthcare facilities and respondents respectively. Data was analyzed using SPSS and relationships between variables were tested using correlation analysis and multiple regression. The study established that Patient-Related Factors ($\beta = 0.263$, $p = .006 < p = 0.05$) had a statistically significant effect on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County when a joint regression model was considered. However, there was no statistically significant effect between Professional-Related Factors ($\beta = 0.054$, $p = .606 > p = 0.05$), Interpersonal Factors ($\beta = 0.072$, $p = 0.491 > p = 0.05$) and Organizational Factors ($\beta = 0.187$, $p = 0.103 > p = 0.05$) on inter-professional collaboration among healthcare workers in the joint model. The study concludes that patient-related factors determined as role of the patient, language of patient and team membership significantly influenced inter-professional collaboration among healthcare workers. The study, therefore, recommended that the County Governments should strengthen Inter-professional collaboration among the healthcare workers through adequate sensitization and provision of more resources in terms of financing. The study also recommends that the professional group leadership should include a member conversant with the language of the patients and that Sign Language should be taught in Medical training institution in order to improve communication efficacy. Moreover, the study recommends that Primary healthcare facilities should organize team building sessions among the healthcare professionals to enable good working relations.

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ABBREVIATIONS AND ACRONYMS

AIHC	: American Inter-professional Health Collaborative
CAB	: Collaborating Across Borders
CAIPE	: Centre for the Advancement of Inter-professional Education
CAN	: Canadian Nurses Association
CIHC	: Canadian Inter-professional Health Collaborative
GPs	: General Practitioners
HPCSA	: Inter-professional Collaboration South Africa
HPCSA	: Inter-professional Collaboration South Africa
IOM	: Institute of Medicine
IPC	: Inter-professional Collaboration
IPCTs	: Inter-professional Primary Care Teams
IPE	: Inter-professional Education
IPEC	: Inter-professional Education Collaboration
IPECP	: Inter-professional Education Collaborative Practice
OECD	: Organization for Economic Co-operation Development
SDM	: Shared Decision Making
WFME	: World Federation of Medical Education
WFME	: World Federation of Medical Education

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Inter-professional collaboration among health care workers implies the working together of professionals from different specialties, disciplines or sectors. Practically, the effort requires an integrated and translated themes and schemes sharing by different professional groups; their processes of decision-making, the integration of professionally specialized skills& knowledge, and shared ownership of goals (Downe et al., 2010; Gocan et al., 2014).Inter-professional collaborative practice can reduce; Tension and conflict among caregivers, patient length of stay in hospital, patient hospital admissions, patient complications, turnover rate of staff, clinical error rates and mortality rates (Barr et al., 2005; Reeves et al., 2013).

Globally, health care system is charged solely with the responsibility of treating patients comprehensively. The mandate of Primary health care is service delivery through inter-professionals collaborative team that lay emphasis on the quality of care and health status of the client (Dufour & Lucy, 2010). For this mandate to be achieved, it demands for knowledge, skills, and expertise that are far beyond one professional scope. For instance, managing a serious mental patient would require the services of not only; nurses, a psychiatrist, physician, pharmacists and case managers forming the core professional team members, but also might include dieticians, lab technicians, chaplains and occupational therapists (Steihaug et al., 2016). In the US, an admitted patient in hospital could interact with more than 50 different hospital caregivers during a stay in hospital for four days (O'Daniel & Rosenstein, 2008). It is not a new phenomenon currently for a health system to demands for inter-professional collaboration practice. Today's client typically because of the increase in health needs requires inter-professional collaboration to solve issues concerning their status of health. Inter-professional approach allows expertise with differing perspectives to develop common goal for improving, maintaining and restoration of client health outcomes by cost-effectively combining resources (Barker & Oandasan, 2005; Lumague et al., 2008).

According to Saba et al. (2012), the models of primary health care incline toward a shift in practice, from a historically lone physician system to that of a functional primary health care team. The World Health Organization (WHO,2007) meeting developed a frame work that describes health systems in six terms "building blocks" or core-components: Health workforce; Health information systems; Service delivery; Access to essential medicines; Health financing; and leadership/governance. The WHO monitoring framework that subsequent followed recognized that a sound and reliable information forms the basis of decision-making cut across the entire health system six building blocks.The nature of information-sharing systems and communication tremendously changed since the introduction of WHO framework of health systems. Similarly, the thinking and knowledge about patient participation in health care has evolved increasingly. Furthermore, patients who actively participated in their health care management tend to demonstrate better outcomes (WHO, 2010). The outcome of this research on factors influencing inter-professional collaboration among healthcare workers in primary health care facilities is significant in addressing issues in leadership /governance, or health workforce core components in Health Systems Strengthening (HSS).

WHO (2007) indicates that collaborative practice among a number of health care providers promotes the strengthening of health systems though; improved patient satisfaction, increased care acceptance and robust patient outcomes. There is further suggestion that inter-professional collaboration promotes access to health care and client outcomes (WHO, 2010; Archer et al., 2012). In addition, health care providers who form parts of a professional team were had high job satisfaction and worked effectively than those who were not (Raab et al., 2013). Policy-makers in many countries, with a view to support the increasing complex needs of populations suffering from chronic diseases have focused their attention towards promoting health care by enhancing inter-professional collaboration and service delivery within inter-professional primary care teams (IPCTs) (Xyrichis & Lowton, 2008). However, misunderstanding of professional identities, professional roles and responsibilities were barriers to overcome to ensure success in integration of health care among professionals (Hellesø & Fagermoen, 2010). Inter-professional collaboration is deemed practiced when more than one health care professional with different backgrounds

provide quality and comprehensive service delivery with the participation of patients, caregivers, their families, communities and population across settings (WHO, 2010).

Regionally, Agyepong et al. (2018) stated that a strategic health leadership is required in a report undertaken in Uganda, South Africa and Ghana on assessment of needs and preparatory work, to develop a pan-African professional Doctorate in Public Health (DrPH), as inter-professional terminal degree.A South African analysis of two hospitals case study (Mathole et al., 2018) showed that leadership style and practices could make a difference in hospital performance. Another study in South Africa by Ellapen et al., (2018) indicated the existence of range of diverse opinions of perceptions pertaining inter-professional collaboration owing to a lack of knowledge in inter-professional across the various healthcare and medical disciplines. Carin and Heila (2016) in South African on studying inter-professional health education to enhance collaboration showed that inter-professional health education at an earlier stage of professional development was important in cultivation of a culture of teamwork and inter-professional collaboration among healthcare providers.

Hammick et al., (2007) postulated that multi-professional approach occurred when professionals from two or more discipline/professions side by side practice for whatever reason, whereas inter-professional collaboration has a component of interaction among healthcare professionals where they learn from, with and about one another. Inter-professional collaboration implies inter-dependence involving surrendering some aspects of their own professional role or crossing into another's sphere by inter-professional team members with alteration of professional boundaries among team members (Pirrie et al., 1998). According to Wilmot (1995), inter-professional collaboration demands an approach with integrated thus leading to a greater degree of flexibility and maturity with regards to health provider's knowledge base.

The report on Health Systems (WHO, 2000) introduced the essential element of 'stewardship' as important in every health system. This was later labeled 'leadership and governance' (WHO,

2007). The element has gained recognition increasingly as a lever critical in developing health system (Frenk, 2010; Savigny & Adams, 2009). Balabanova et al., (2013) described leadership/governance as a core component of health system as 'an aggregation of normative values such as equity and transparency within the political system in which a health system functions. Governance has increasing received attention over the last few decades due to accelerated efforts of strengthening of health systems and service delivery have described Governance has been described by international development partners as an important factor in development and alleviation from poverty (Graham et al., 2003). Furthermore, leverage role of governance has Indeed been supported by change in health system in specific setting in Thailand (Balabanova et al., 2013;Tangcharoensathien et al., 2018). A South African two hospitals rural case study shows how hospital performance is influenced by leadership style and practices (Mathole et al., 2018).

Human Resource for Health is among the six Health Systems Strengthening (HSS) building blocks according to WHO (2007) which has recommended a minimum ratio of 2.3 health workers per 1000 people. Inter-professional education is seen as a strategy to address the need for scaling up health workforce production to ensure an appropriate supply, mix and distribution of the health work force leading to collaborative practice (WHO, 2010). Kenya however is still below this, at 1000 people per 1.5 health workers. In Kenya, the total number of the health workers currently employed in the County government as well as in the public, private-for-profit health facilities and faith-based organization is approximated at 31 412 less below the required 138 266 by Norms and Standards Guidelines by the Ministry of Health [MoH] per the training needs assessment.

Kenya devolution and Vision 2030 framework in the 2010 Constitution of Kenya, which is the country's economic development blueprint, made a target of decreasing the shortages of health workforce by 60% so as to effectively and efficiently offer equitable, affordable and quality health care services to the all population (Kenya Health Financing System Assessment [KHFSA], 2018). The capability to achieve this target depend on Inter-professional collaboration which is a mechanism that enhances resolving of the challenges facing health care system through; reducing costs, improving quality of care, and enhancing staff retention and job satisfaction (Byrnes et al.,

2012). Computerized staff tracking systems facilitates the monitoring of the health workforce effectiveness by ensuring sealing of critical gaps in deployment of employees and production (Ministry of Health [MoH], 2005).

In Kenya, the inter-professional collaboration is still practice using the old concept of multi-professional approach which imply professionals independently working, but with related roles, towards same goal, each group member responsible for a part of the patient's treatment with no or little professional roles overlapping. A study done in Nairobi County on Collaborative model in support with shared healthcare in Kenya found an associated between poor inter-professional in health care professionals and fragmentation in the process of primary healthcare delivery (Heroe, 2017). In Kenya, professionals still uses multi-professional model in the form of Joint ward rounds, shared care schemes, continuous professional development(CPD), and intra-professional and inter-professional patient referrals (Catherine et al., 2015).

1.2 Statement of the Problem

Despite the WHO (2010) elevation of inter-professional Education and Collaborative Practice to the global education and health agenda as an essential component to training every health professional, both the Central and County governments of Kenya are yet to formulate a guideline to promote the practice. In Kenya, there is evidence of lack of knowledge on the concepts, elements and components of inter-professional collaboration at primary healthcare level thus majority of healthcare workers still use the old concept of multi-professional approach. Consequently, the approach has resulted to a marked increase in the inefficiency use of resources, medical errors, poor patient outcomes and even unnecessary harmful services which degrades and reduces the cost-effectiveness within the primary health care delivery. Moreover, multi-disciplinary approach is associated with compartmentalization and fragmentation especially in the Kenyan largely populated Counties, Nakuru included. Therefore, the study sought to determine factors influencing inter-professional collaboration among health care worker in primary healthcare facilities in Nakuru County.

1.3 Purpose of the Study

The outcome of this study is meant to help stakeholders to have a firm understanding of the workings of inter-professional collaboration among healthcare workers in primary healthcare and how they can build a long-lasting professional workforce to deliver high quality patient care. Significantly, it will help both the management and medical staff of the public hospitals in the area to understand how to deal with issues arising from inter-professional collaboration having known their characteristics. Other stakeholders may also find the outcome of this study important in enabling them explore ways of handling and encouraging inter-professional collaboration in the medical sector. Policy makers at both county and national governments levels may also find the outcome of the study useful in addressing some of the challenges they have in encouraging inter-professional collaboration among health workers. Future researchers will also use the information gathered in this study and build up their studies on it as the outcome of this study may expose both empirical and theoretical gaps that they may find useful in basing their future studies on.

1.4 Objectives of the Study

1.4.1 Broad Objective

The aim of the study was to determine factors that influence inter-professional collaboration among healthcare workers in primary health care facilities in Nakuru County.

1.4.2 Specific Objectives

i. To determine the influence of professional-related factors on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.
ii. To examine the influence of patient-related factors on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.
iii. To establish the influence of interpersonal factors on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.
iv. To establish the influence of organizational factors on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.

1.5 Research Questions

i. What professional-related factors influence inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County?
ii. What patient-related factors influence inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County?
iii. What interpersonal factors influence inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County?
iv. What organizational factors influence inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County?

1.6 Justification of the Study

Inter-professional collaboration is still a new concept in Kenya since many health practitioners are still engaging multi-professional model in the management of the patients. This is supported by recent evidence on an environmental scan which affirmed that Inter-professional Education and Collaborative Practise (IPECP) occurred in a number of countries including the U.S., Australia, Finland, Norway, Belgium, England, New Zealand, Greece, Poland, Malaysia, Canada, Denmark, Ireland, Hungary, Iran, Japan, and South Africa (Farnsworth et al., 2015) with Kenya not among the list.

The challenge with multi-professional approaches such as shared care schemes in Kenya is its lack of ability to bring together a larger percentage of healthcare workers across organizational boundaries. This results to ineffective collaboration which as a consequence leads to a poor coordination among healthcare professionals during patient's health care treatment process thus resulting to a fragmented healthcare delivery process which compromises the continuity, safety, and quality of patient's care (Adwok et al., 2013).

Adeley and Ofili (2010) on their study undertaken in developing Countries on Inter-sectoral Collaboration strengthening for Primary Health Care reported that, more than 60% of clients cited

lack of inter-professional collaboration and poor communication amongst their primary and secondary healthcare providers as the major source of medical error in their care. Another study by Nzinga et al. (2018) working in two sub-county hospitals examined clinical leadership in Kenyan and revealed that individualized clinical heads decision-making, middle level managers and nurses in charge of inpatient wards practise intimidatory leadership style. The concept of "inter-professionalism," was formulated by D'Amour and Oandasan, (2005) to respond purposely to fragmented health care services thus the study aimed at establishing factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, Kenya.

1.7 Limitations of the Study

The main limitation of the study was its scope. As such, the findings may not necessarily hold in other different contexts without some assumptions and modifications. However, this limitation was addressed by ensuring every care was taken in the sampling and instrumentation to make the findings more generalized to other areas of interest for future researchers and other stakeholders. Co-operation was also one of the limiting factors anticipated in the study in that some of the respondents were reluctant to participate in the study when approached. The researcher, however, sought to address this limitation by creating a good relationship with the respondents and inform them of the significance and value of their participation in the study.

1.8 Delimitation of the Study

The study focused on factors influencing inter-professional collaboration among healthcare workers only in primary health care facilities (level 3 & 4) in Nakuru County. The study was conducted over a period of 3 months and obtained data from randomly selected healthcare workers in primary healthcare facilities.

1.9 Significance of the Study

Communications between professionals in the medical field while handling patients is emerging as very critical aspects of health care management that could potentially improve the quality and efficiency of healthcare outcomes of the patient. Therefore, the findings of the present study are meant to address the knowledge and practice gaps that exist in inter-professional collaboration in the medical fraternity and as such strengthen the practice of inter-professional collaboration. Specifically, it is intended that the findings of this research will be useful to the medical professionals in Nakuru County as it will enable them to develop protocols of communication that will improve their practice. Patients all who have the right to participate in their healthcare management may also find the outcome of the study useful in understanding the communication challenges surrounding inter-professional collaboration. The study may together with other similar studies be instrumental in informing government policy on inter-professional collaboration in healthcare management in both public and private healthcare sectors. This can culminate into additional trainings for medical professionals on inter-professional collaboration aspects especially communication. The study outcome is also meant to be of benefit to future researchers who could gain both theoretical and empirical information and build on knowledge gaps to form basis for further academic research on inter-professional collaboration among medical professionals.

1.10 Assumptions of the Study

The assumption in the establishment of inter-professional teams assumes that inter-professional teams can perform better than an individual when the task is complex; members have a stake in the outcome, and where efficient use of resources is necessary for the completion of a task. Since all the health care workers employed in both private and public health care facilities underwent the same training, this study therefore assumes that they are all expected to collaborate equally. This study also assumed that as the level of primary health care facilities increase the number of health care workers also increases.

1.11 Operational definition of terms

Client – in this study this term refers to an individual, families, groups, communities and/or populations who sought primary healthcare service at health facilities in the County

Health and education systems – in this study this term was used to all the organizations, individuals and actions whose intention primary is to promote, maintain or restore health and learning facilitation, respectively. These include efforts to influence determinants of health, direct activities leading health-improving, and any learning opportunities stage of a health professional development.

Health worker– in this study this term refers to primary healthcare provider involved in actions whose primary intentions were to promote health. Included in this definition were those who prevent, promote and preserve health, those who diagnose, treat, refer, and rehabilitate condition(s)/disease(s).

Inter-professional collaboration – in this study this term was used referring to interaction between/among two or more professions of different backgrounds, organized with goal/effort of addressing common issues with the involvement of the patient so as to provide quality, and comprehensive service delivery across the various societal settings.

Inter-professional collaborative education– in this study it refers to two or more professions learning about, from and with each other to enable effective collaboration and improve health outcomes i.e. during inter-professional development programme

Inter-professional team/group– in this study this term refers to a group of healthcare professionals who work together with a purpose of achieving a common goal for which each team member hold himself/herself mutually accountable.

Professional role construction– in this study this term referred to negotiation and creation of task work, where task work implies the functions that must be performed by an individual in order to accomplish team's task.

Shared care models– in this study this term was used referring to primarily models which involves two healthcare providers (for example, a nurse and a physician, nurse and pharmacist or nurse and

community health worker) share or have joint role and responsibility for specific groups of patient or programs. Other providers are engaged, but to a lesser degree.

CHAPTER TWO

LITERATURE REVIEW

2.1Introduction

This chapter outlines the outcome of a rigorous literature search process on previous published studies on factors influence inter-professional collaboration among healthcare workers. Empirical literature was reviewed and gaps filled by the study were identified.

2.2 Inter-professional collaboration in healthcare

The Canadian Inter-professional Health Collaborative (CIHC,2010) defines inter-professional collaboration as a coordinated participatory and collaborative partnership approach between a team of health providers and a patient to shared decision-making in health and social issues. According to Kasperski (2000), Inter-professional collaborative practice was defined as a process that involves communication and decision-making, enabling an influence by synergy of grouped knowledge and skills.

2.2.1 Evolution of inter-professional education and collaboration

Rooting to 1960s and 1970s, precisely across the United Kingdom (UK) and United States (Barr, 2009; Baldwin, 2010) the IPECP mobilisation became stronger in the late 1980sfollowing a support by two WHO reports, Continuing Education for Physicians (WHO 1988b) and Learning Together to Work Together for Health (WHO 1988a). Early efforts of Inter-professional education were not only based broadly on collaboration and teamwork to help in conflict resolution among professions working in close proximity but also to help better meet patient's needs (Barr, 2009). In the UK, initiatives unknown largely to each other cutting across professional practice led to the formation of IPECP (Oandasan & Reeves, 2005). The Centre for the Advancement of Inter-

professional Education (CAIPE) created in 1987, promoted the efforts of IPE in the UK (Blue et al., 2010) which was further complemented by creation of the 1992Journal of Inter-professional Care (Barr, 2009), which itself fully committed to Inter-professional education. World Health Organization has instrumentally fostered IPE internationally during the early 1970s. The Organization for Economic Co-operation Development (OECD) and the World Federation of Medical Education (WFME) were among the other international organizations that were proactive in enhancing the interests of Inter-professional education and collaborative practise (Oandasan & Reeves, 2005). Recently, there is a stronger IPE movement facilitated by creation of the Canadian Inter-professional Health Collaborative (CIHC), American inter-professional health collaborative (AIHC) (Blue et al., 2010), and Collaborating across borders (CAB) (Solomon, 2011) all formulated to express the need for promotion of inter-professional education and collaborative globally.

The Report of World Health Organization's 2010 that yielded to a framework for action on Inter-professional education and collaborative Practice elevated IPECP to the global health and education agenda through recognizing it as a component necessary to every health professional's education and practise. There is a wide variation in the degree at which educational institutions across the globe implement the evidence-based practices associated with sustaining and implementing IPECP with Further global revelation that utilization of IPECP is to varied degrees across developed and developing countries (Rodger & Hoffman, 2010). The formation of the CIHC, AIHC, CAB and other associations mentioned earlier have facilitated optimal integration known previously as fragmented community of IPECP scholars, teachers and practitioners. The largest representation in engagement comes from nursing followed closely by physicians then social workers (Rodger & Hoffman, 2010).

2.2.2 Concepts, elements and components of collaboration

Collaboration as a process requires a willing and meaningful communication between people. The key concepts highlighted in inter-professional collaboration include; interdependency, power, sharing and partnership (D' Amour et al., 2005; Tsasis et al., 2012). Bronstein (2003) on the other hand, outlined constitutional factors which influence inter-professional collaboration to including; interdependence, flexibility toward collaboration and shared ownership of goals. The diversity and type of clinical experts who are engaged in professional teams influence the promotion of effectiveness of an organizational and client health care (Lemieux-Charles et al., 2006).

Collaborative practice comprises elements that include; accountability, autonomy, responsibility, communication, assertiveness and mutual trust, coordination, cooperation and respect (Kasperski, 2000). Partners designs an inter-professional team that works on common goal(s) which s aim at quality and cost-effective patient outcomes. Interactions within Collaborative teams results to a professional culture blending achieved by knowledge and skills sharing that promote the patient care quality (Morrison, 2007). More mileage has been gained by Inter-professional collaboration during the last decade in both education and in practice. However, integration of IPECP in health education curricula and health care practice remains hindered by both actual and perceived barriers. Models for IPECP infrastructure, educational and practice standards are strengthening and are already in place (Smolowitz et al., 2015).

The level of interactions of among members of the team in professional team studies is more characterized by 'autonomy' and 'collaboration' terminologies. According to Cameron (2011), autonomy refers to an independent and self-determined practice while collaboration involves an inter-personal process that engages team approach in dealing with intellectual activities. Inter-professional work entails the practice of both independent and interdependent elements though the two concepts might appear to oppose each other in definition. The trend accompanying teamwork is issues pertaining management of relationship among professionals in health care and role construction (Health Professions Regulatory Advisory Council [HPRAC], 2008).

2.2.3 Benefits of inter-professional collaboration

Numerous reviews reported a number of benefits related with IPECP (Hammick et al., 2007; Reeves et al., 2010). The benefits of collaborative practice and inter-professional education were better expressed in World Health Organization (WHO, 2010). After an inquiry that lasted almost five decades, sufficient evidence now exist postulating that inter-professional education promotes effective inter-professional heath collaboration which in turn results to optimal health services, strengthened health systems, and enhances health outcomes. There exist research evidence in a study done in Englandindicates that collaborative practice could results in; coordination and access to health-services; proper use of specialist; improve health outcomes in chronic diseases patients; patient safety and quality care (Hammick et al., 2007; Reeves et al., 2010). Research relating inter-professional health education and inter-professional collaboration with enhanced patient outcomes is energizing. Studies have associated IPECP with several patient outcome measures that include fewer clinical errors, decreased length of hospital stay, and improved patients' symptoms (Capella et al., 2010).

2.3 Professional-Related Factors

2.3.1 Inter-Professional Education

In recent years, inter-professional health education has gaining more prominence and integration in health care training. A framework for interactive learning was formulated in 2011 which encouraged students from different professions to engage together their education (Inter-Professional Education Collaboration [IPEC], 2011). Professionals are urged to embrace the current trend by becoming continuous learners who "retrain and up skill" (Currie et al., 2015) through continuing professional development. Also attending inter-professional health education programs is widely viewed as a channel to become "collaborative-practice ready". Inter-professional health education occurs when students of two or more professions associated with social and/or health care, participate in learning with, from and about one another (Barr et al.,

2005, Craddock et al., 2006). Collaborative practise provides the basis of sharing knowledge and skills amongst professionals thus allowing better understanding, shared values and respect for the roles and responsibilities of assigned to other healthcare practitioners (Karim & Ross, 2008). Engaging students in collaborative learning activities earlier during their studies has been found to bring an inter-professional collaborative approach when they later become healthcare providers (Speakman, 2015). The end result desired developed collaborative approach that enhances patient outcomes and their quality of care derived from a nurtured health care team (Young et al., 2007).

Moreover, in order to deliver quality care, clinicians are required to use knowledge and skills from numerous disciplines during patients' management and inter-professional approach coordination (Benner et al., 2010; WHO, 2010). However, reports recently were concerns on the capacity of nursing education merging the demands, factoring the shortage of faculty nursing mentors and educators (Benner, et al., 2010). In addition, a critical challenge is scheduling for IPE programs as different health profession programs have varying curriculum specific requirements, duration, and accreditation standards (Aye & Rillera, 2020).

2.3.2 Individual Competencies

IPE Program promotes a functional participation in health-care team by introducing learners to essential knowledge and skills. The developed competency in this process is deemed necessary to equip experience of learners on patient-centered approach to problem solving and inter-professional collaboration. Inter-professional competencies are categorized broadly into four; communication, teamwork, process reflection, and roles and responsibilities.

However, according to the Inter-Professional Education Collaborative Expert Panel (IPECEP ,2011), these competencies are further subdivided through co-competency statements specific in nature that include: Ethical practice; acknowledging that the views of other health practitioners are equally valid and important through understanding these views held by self and others might be

stereotypical. Teamwork; This is the ability to participate as a team member as well as team leader having knowledge of the barriers to teamwork; Relationship and recognizing of the needs of patient: - collaboratively working based on patient centered- care by enhancing patient participation acting as a partner in their healthcare management. Roles and responsibilities; understanding not only one's own roles, responsibilities and expertise but also those of other varying health care providers; Communication; expressing of one's opinion and perspective to colleagues competently as well as listening to other team members; Learning and critical reflection: emphasis on means of translating inter-professional learning to the practicing setting and a critical reflection on members relationships within a team (IPEC, 2011).

2.3.3 Domain Thinking

Evidence has revealed that domain thinking is a barrier experienced by participants during shared care plan development process. Baldwin (2007) views territoriality phenomenon which imply that professional team members protect their practise and scope in regard to identity, accountability and autonomy as among the main challenge to inter-professional collaboration. Research has further revealed that inter-professional collaboration is an inter-personal factor that needs two or more parties' intellectual abilities (D'Amour et al., 2005). However, if one of the parties has inability performing some tasks autonomously, then attainment of beneficial contributions to the discussions with one another concerning patient care is not possible. Optimal autonomy level in one sense allows health care providers express their knowledge within the inter-professional team and respect of their profession. Autonomy promotes meaningful and rewarding participation in role making. The synergy between collaboration and autonomy is further reinforced by the postulation that autonomy can lead to more effective teamwork (Maylone et al., 2011).

2.3.4 Professional Power

Power has shown to be an importantly influential factor that determines the interaction health professionals with each other. Equal sharing of power gives the professionals capacity and

autonomy in critical decision-making that are necessary inter-professional collaboration. (Johannessen & Steihaug, 2014;Papathanassoglou et al., 2012; Van der Heijden et al., 2010) However, unequal distribution of power accompanied by discrimination poses a major challenge to health system and significantly affects inter-professional collaboration. There is a notable influence by GPs and physician in primary and secondary healthcare setting respectively. The influence is attributed to the authority and power they have traditionally enjoyed as a result of their monopoly in constituting illness and disease definition, their use of scientific and diagnostic language and monopoly on decision-making about knowledge in clinical practice and constitutes expertise (Degeling et al., 2004). Inter-professional collaboration between GPs and specialists in mental health, general practitioners seem inferior therefore they always want to enjoy an equal level of respect that specialists show one another and prefer specialist to be regarding them as colleagues (Berendsen et al., 2009).

The fear of professional identities dilution and multi- professional historical rivalries forms other barriers professional power. There is some concern raised by some professional bodies that IPECP could reduce autonomy of professions who attainment it by working hard (Guilliland, 2001). Hall (2005) described the possibility that formal role demarcation occurred because of competencies overlap. Role demarcation (role blurring) is beneficial to some while other link it to role strain and confusion (Brown et al., 2000). For instance, some professionals on the inter-professional team might feel encroachment of their role and eroding of sense of professional identity (Hall, 2005). Nevertheless, others may try to do everything and still experience uncertainty on the limits of their responsibilities (Bélanger & Rodriguez 2008; Grumbach & Bodenheimer, 2004). Professionals may perceive a threat as a result of role blurring while others see opportunity in expanding their responsibilities or make inter-professional team responsive and flexible to its client (Brown et al., 2000).

2.3.5 Professional role and responsibility

Different roles are performed by members of inter-professional teams who are subjected to professional boundaries. Bourgeault and Mulvale (2006) described professional boundaries as

spheres of practice in contestation as a result of the division of labor process. For example, Abbott (1998) indicated that professions secure knowledge systems which are unique in order to maintain their sphere of practice influence. However, Bourgeault and Mulvale (2006) pointed out there was an effort by regulatory agencies to break professional boundaries on inter-professional teams since there was overlapping responsibilities and roles that encouraged the health teams responsive to always changing situations. Chreim et al., (2007) showed the necessity of interactions and actions of professionals in their organizational settings in role construction understanding. The reviewed literature, while mentioning concepts such as role overlap and role clarification does not focus role construction as a main considerable factor (Dufour & Lucy, 2010).

Other studies indicate that; different understanding of professional demarcation roles and tasks; different bases of professional knowledge were important barriers to effective collaboration according to (Hellesø & Fagermoen, 2010;Tsasis et al., 2012; Xyrichis & Lowton 2008). Nurses are more proactive towards collaboration compared with GP's and that a positivity to collaboration is part of nurses' professional role to a greater extent than the general practitioners appointed out by results of a Swedish study (Hansson et al., 2008). GPs' modest wish to inter-professional collaboration and preference to collaborate with providers in specialist services was influenced by the poor attitude to collaboration (Berendsen et al., 2009).

D'Amour et al. (2005) pointed out that sharing responsibilities is an endeavor to collaboration. The team members could be having limited contacts with others (autonomous) and still has responsibilities which are interchangeable with other professions. Virani (2012) stated that team members ought to divide work based on their scope of practice in a systematic review on inter-professional teams. D'Amour et al., (2005) further stated that one among the major challenges facing inter-professional practice is on how professional territories are distributed and carved out within a complex system in this way, the ability to expound what, in addition to scope of practice, may be influencing the distribution of responsibilities in the setting of inter-professional primary health care team. Many challenges are encountered during attempts to provide care across a diverse set of professionals which include overcoming lack of trust and respect, and coordinating the roles between team members (Bélanger & Rodriguez, 2008). These challenges are often experienced at

individual level where ongoing boundary work of professional roles are negotiated and constructed (Duner, 2013).

2.4 Patient Related Factors

Shared decision-making on patient's goals, formulating a care plan that is patient-centered and developing action plans were considered strategies beneficial in integration of patient's perspective in the process of decision-making. Within the shared goal setting, the patient is engaged in discussion of their health-related concerns together with a health care provider (Bodenheimer & Handley, 2009).

2.4.1 Role of the Patient

Patient plays a role in reporting fragmented health service delivery as well as lack of collaboration between providers in both specialist services and primary healthcare. Ramsdal (2013) compared primary and specialist mental health services in Norway; the comparison was necessitated by the fact that the two separately developed away from one another based on different organization principles different knowledge bases, and management. The varying views of health care workers on admission of patients in hospital which is assumed to prevent further integrated services and more complicate collaboration. A smaller number of patients reported that many care providers' participated showing a successful integration of services despite the patient serious mental problems (Roger & Pilgrim, 2005).

2.4.2 Language of Patient

Attitudinal factors are barriers which are more difficult and less concrete to discuss, some attitudinal barriers are fundamentally influential in the way professionals from different professional think and talk about their tasks and roles, if not explicit, can be disruptive, deceptive and powerful. Varying language and its interpretation in primary health care teams might cause

one professional team offended by statements perceived completely acceptable by others. A language which show some respect for other professionals and patient designs learning exercises where varying opinions are explored (Inter-professional Education Collaborative [IPEC], 1999).

2.4.3 Team Membership

Evidence shows that patients value a patient-centred health care approach that facilitates their involvement in care and that focuses on individual needs Sumsion and Lencucha (2007) thus, it is importance including the patients' perspective while developing patient care plan. Based on their review, D'amour et al., (2005) concluded that a patient is a main actor of an inter-professional team. Patient participation takes differing forms and tends to vary in application. Advocacy is rapidly growing to include a patient to be a member of the inter-professional teams to collaboratively engage in management their illnesses. A review pointed out those patients who presented with chronic diseases and were involved in the decision-making process in development of care plan, easily reached treatment agreement in a better position (Joosten et al., 2008). However, Safran (2003) found that the inter-professional team still remains invisible according to majority of primary care patients. Moreover, it seemed a big challenge to becoming visible in the team.

2.5 Interpersonal Related Factors

Interpersonal dynamics are the elements among inter-professional team members such as professionals' education, trust and respect, motivation, individual attributes and understanding of each other's roles, leadership and of each other consultation based on professional knowledge relevancy.

2.5.1 Motivation

Motivation to participate in inter-professional collaboration implies an influential factor and forms other area of challenge as well. Research findings showed that at times the healthcare workers suffer physically and mentally as a result of community derived and organizational factors such as; overload of responsibilities, task variety, satisfaction in performance reduction (Van der Heijden et al., 2010) mental fatigue and poor acknowledgment system (Papathanassoglou et al., 2012) all these leading to healthcare worker refraining from participation in IPC practices. Therefore, it is beneficial suggesting that timely and appropriate provision of inter-professional motivational resources and feedback (Hobfoll & Shirom, 2000) to all health care providers, especially professionals at risk of experiencing burned out.

Zwarenstein et al., (2009) associated a misfit between a person and environment as he cause of conflict that negatively influence the collaborative practices and made emphasized on the role of personal motivation. Therefore, health care providers are encouraged to work in partnership, as oppose to alongside or competition. This can also be achieved by enhancing professionally inter-personal skills on collaboration.

2.5.2 Personal type /Individual attributes

D'Amour et al. (2005) indicated that individual attributes influence the level of interactions and delegation of tasks among health providers. Person's attributes influence the ability of a team member to work in an inter-professional team environment. Ragaz et al., (2010) indicated that some administrative and clinical team members left their team as a result of discomfort and inflexibility with change, and cited attitude as the most important hiring criterion to be considered. According to Di Giulio et al., (2013) another way of professionals' preparedness's is shifting to professional patient-centred interaction from the current person-centred approach .It has also been pointed out that personal attributes work as an influential factor in the inter-professional collaboration practice (Schwarzer & Knoll,2007).

2.5.3 Trust and Respect

Collaboration within are has form the subject of majority studies, which suggests that respect and mutual trust primary healthy to be key aspects of inter-professionalism (Schadewaldt et al., 2013) trust promotes shared responsibilities and foster comfort in professionals making them utilize expertise of other professionals. Previous studies on primary health care collaboration indicate that success in inter-professional collaboration is characterized by agreement on responsibilities, understanding& mutual trust, and tasks (McInnes et al., 2017; McDonald et al., 2012). Trust could be enhanced through; shared holistic view inclusion, sufficient time for collaboration, better understanding of other professionals' skills and proper understanding of organizational structure (Lanham et al., 2016). However, direct confrontations can hinder Inter-professional trust; for instance, inequality, lack of inter-professional team goals, and geographical proximity and challenging the authority of GP's (Xyrichis & Lowton, 2008).

2.5.4 Communication

Inefficient inter- professional collaboration as a result of poor communication among team's professionals might lead to low patients' outcomes. Numerous citations indicate that poor communication is a major cause of clinical errors in the field of healthcare. The association between communication and quality service delivery was pointed out in several Institute of Medicine [IOM] reports (IOM, 2001). Furthermore, while "handed off" patients reports with each transitional shift in care, poor communication increases the risk for medical error to the patient with each of handoff. Efficiency transfers of important information in IPC prevent or reduce the risks associated with the transitional shifts. Inter-professional collaboration enhances on optimal patient outcomes through promotion of communication and teamwork. Research also supports the inability of health care providers to work together due to lack of proper communication and collaborative practices (Brandt, 2015).

An important determinant for success in collaborative practice among healthcare practitioners is effective communication (Collette et al., 2017); however, lack of proper communication is can lead to transfer of patient-related information inadequately (O'connor et al., 2016). Mal-functional physician-nurse communication in primary health care facilities has been associated with higher potential risks for increased clinical errors in health care (Martin et al., 2010). The Primary care professionals' need to quicken utilization of inter-professional collaboration and enhance communication in order to cope with the complex healthcare needs of a higher number of chronically ill patients (Gilbert et al., 2010).

Studies in hospitals and rehabilitation care settings revealed that communication between medical professionals and nursing was hindered by organizational, individual, and social factors. The social factors included hierarchical conflicts and profession-specific language barriers (Curtis et al., 2011). Whereas doctors tend to use brief and factual communication, nurses usually describe in depth the problems of patient (Beckett & Kipnis, 2009). Organizational factors included multi-professional team poor quality meetings and difficulties in reaching doctors via telephone (Tjia et al., 2009). In daily clinical practice poor doctor-nurse communication is widely common though General practitioners and nurses are key players (McInnes et al., 2017).

Evidence also argued that challenges facing professional while collaborating are as a result of conflicts, disagreement and differences, which are often implicit. Conflicting views of providers indicate the existence of problems of one party's perspective viewing of issues (Helles ø & Fagermoen, 2010;Tsasis et al., 2012; Xyrichis & Lowton, 2008).

2.6 Organizational Factors

2.6.1 Administrative support

Administration Support is essential from the beginning (Brashers et al., 2014). It is your institution's chief officers, board members, and deans who had the power and authority to

empowering the health professionals. The administrators' approval obtains a budget, aids to allocate resources, and gaining of institutional recognition, and may designate faculty members in supporting coordination (Freeth, 2001; Reeves et al., 2007). The administrative support significantly influences buy-in from others. It is rare to find a profession that doesn't require some coordination of skills and teamwork and in today's health workforce (Speakman & Sicks, 2015).

2.6.2 Leadership

Leadership is a major factor in enhancing integration through bringing new professionals into the team and creation of a sense of team belonging. Leaders create a conducive space for team members to interact and initiate new flat forms for inter-professional collaboration. Leadership promotes opportunities for inter-professional partnership by formal events such as inter-professional team meetings. Cheater et al., (2005) recommended an external facilitator to structure and guide the meetings of inter-professional team. A review of Widmer et al., (2009) on reflexivity recent developments also showed that reflexivity as an important fostering and guaranteeing team functioning. Besides, periodic evaluation and reflection, there is emphasis on the role played by leadership in the development of inter-professional teams and key role in guiding processes. The 2010 IOM calls for leadership-related competencies to be a key component. The report further recommended more leadership mentoring and development programs made available in order to create a culture that enhances inter- professional leadership (IOM, 2011).

2.6.3 Physical and Organizational Environment

The organizational and physical environment where inter-professional team operates can influence the degree and nature of collaborative interactions. Environment includes; organized activities, schedules, physical spaces and temporal arrangements. Organizational environmentrefers to communication methods and organisational processes that may either encourage or discourage a team collaborate effectively (San et al., 2005). Organizational structure includes; the informal and formal management considerations and architectural considerations (physical structure,

functionality and aesthetics) (McMillan, 2002). For instance, a design with immersive work spaces could enhance collaboration by facilitating a sense of team cohesion, supporting physical activities done by the team, and improving the time and space considerations in promoting interactions among healthcare professionals (Gum et al., 2012).

Oandasan et al. (2009) assessed the effect of space in inter-professional teams in primary health care setting and found that co-location promoted visibility and access thus encouraging informal interactions whereas workspaces which are physically separated inhibits direct working with other members of the team.

2.6.4 Format & Composition of Team

Byrnes et al., (2012) in Canada observed that grouping health care workers of varied professional backgrounds on an inter-professional team does not mean necessarily that they would have the knowledge and skills required to collaborate and work together. The health care workers set goals with patient participation then often examine and discuss the goals in a meeting of inter-professional team. The inter-professional team flows into action planning and negotiation on whom amongst the team member carries out each action (Newbould et al., 2012). Based on actions developed and the goals of patients, the team formulates a patient-centered care plan, a document viewed dynamic and collaborative (Scobbie et al., 2011).

Evidence describing the role distribution and interactions among inter-professional team members might be complemented with knowledge on dynamics surrounding within-team and how it contributes to role boundaries shaping. Insights provided by several authors on the implications which surround collaborative endeavors and sharing of responsibilities between professionals and patients includes: easing of workloads (Grumbach & Bodenheimer, 2004); shorter waiting times (Pottie et al., 2008); and continuity of health care (Haggerty, 2003).

2.6.5 Culture

The tradition of health professionals has been practicing and training in silos as oppose working together across the disciplines of inter-professional health education and collaborative practice. A study done in an urban teaching hospital indicated that nurses and physicians taking care of the same patient could not often identify each other and always had differing priorities for same patient, these suggest that coordination and cooperation of service delivery was not optimal (Evanoff et al., 2015). Socio-cultural factors form part of the main factors for successful collaborative efforts (D'Amour & Oandasan 2005). It is essential for them to enhance on the working together traditional model (Leathard, 2003). The results from reports identifying the socio-cultural factors to be influencing IPC and emphasized on the benefits of inter-professional team culture that includes leadership, relationships, care philosophy and the context of practice (Sinclair et al.,2009). Other determinants were profession-specific culture and culture supporting teamwork (Hall, 2005).

2.6.5 Finance

Inter-professional team members are required to recruit other health professionals for the collaborative programs, formulate and facilitate programme /and activities. Perspective ought to be included in planning committees, continue professional education and enhance efforts for evaluation. An inter-professional collaboration team also provides a widely professional community for sourcing of funding and other requirements.

2.6.7 Information and communication technology

Information, communication and technologies have increasingly been utilized in the last two decades, to provision healthcare at a distance. The technology referred also as telemedicine, has increasingly been use across the globe as a cost-effective way to enhance communication in inter-

professional health teams and access to health care (Chaudhry et al., 2015). Telemedicine has created platform for at-home or close-to-home follow-up and monitoring treatment of patients. Moreover, inter-professional teams can work together when not co-located by tele-communications to providing patient-centered care that was previously difficult. Telemedicine is a future promising healthcare service delivery method since there is growing need for telemedicine programs for the many associated benefits. However, there exist barriers limiting the success of telemedicine programs that leads to projects failing often to meet expectations (Jha et al., 2008). The European Union found that implementation of telemedicine around the world proved to be time-consuming than anticipated initially and more much complex (Mair et al., 2012).

2.7 Summary

Researchers have attempted to explore and describe various factors effective in inter-professional collaboration (Fewster-Thuente & Velsor-Friedrich, 2008). Some of them have widely contributed to understanding of the dynamics of IPC (Gannon-Leary et al., 2006). The findings highlighted attitudes of professionals toward collaborative practise, teamwork and human factors and organizational factors perceptions (Leonard et al.,2004; Smith et al., 2010) to be factor affecting inter- professional collaboration.

Patient-centered care plans call for enhancing inter-professional collaboration and integral approach that include: professional related, patient related, organizational, interpersonal, and external factors. Moreover, the leaders of inter-professional team play an important role in; patient perspective monitoring, guiding the team through developments, and organizing and coordinating inter-professional collaborations (Van Dongen et al., 2016). Varying elements determines the construction of professional boundaries. At the micro-level the influencing factors includes: interpersonal elements including leadership and education individual like (attitudes & values) and structural elements that refers to characteristics of workplace like workload and physical space (Brown et al., 2000; Saba et al., 2012).

Further research was recommended to establish the methods of enhancing collaboration at workplace; understand the relationship between collaboration and autonomy (Maylone et al., 2011) and further examination of implications resulting from inter-professional collaboration for professionals and patients.

2.8 Theoretical Framework

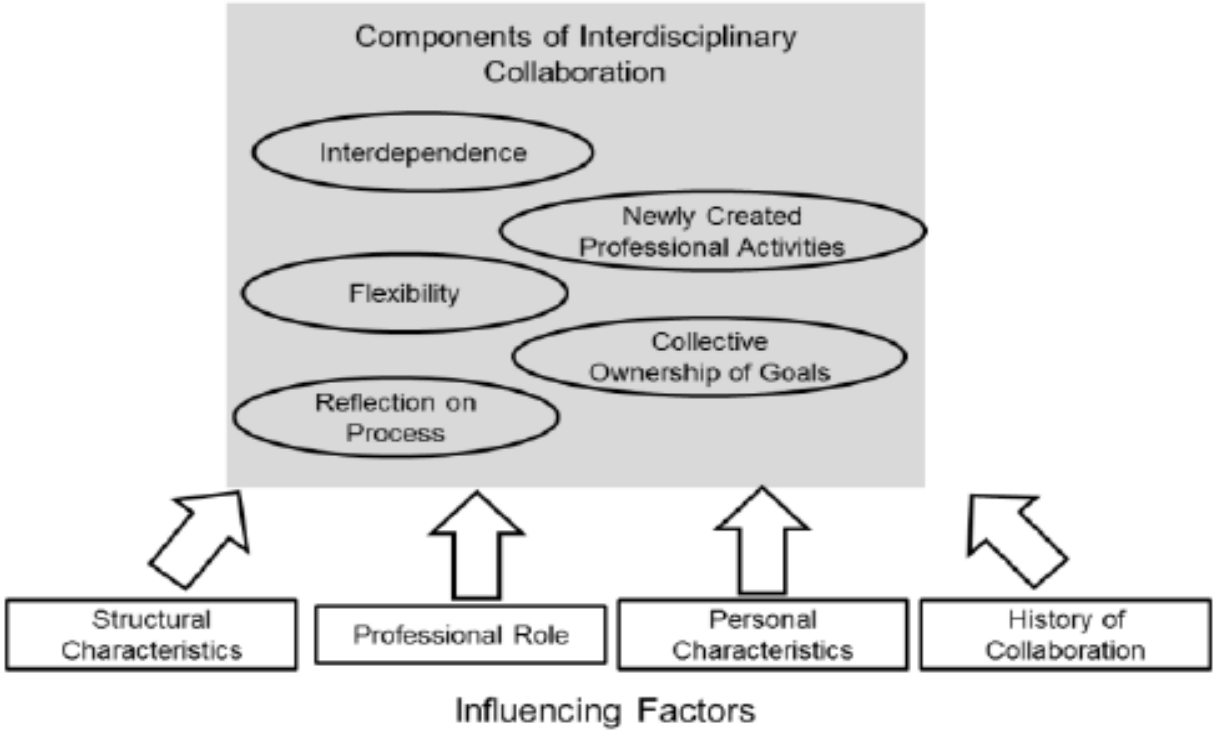
The study employed the use of The Bronstein's Model of Inter-professional collaboration.

2.8.1 Bronstein's Model of Inter-Professional Collaboration

To guide the study Bronstein's model of inter-professional collaboration was used to establish the extent of inter-professional collaboration among primary health care workers (Bronstein, 2003). The model consists of two aspects: first, generic components of optimum inter-professional collaboration; second, mentions the factors influencing inter-professional collaboration. Components of the first aspect were intended to enhance inter-professional collaboration. The included: reflection on process, flexibility, collective ownership of goals, newly created professional activities, and interdependence. In addition, the second aspect indicates the major elements hindering or facilitating the process of inter-professional collaboration, they include: personal attributes, professional role, a history of collaboration and structural characteristics (Bronstein, 2003). Concepts understanding equip health care workers to working on inter-professional teams.

Figure 2.1

Bronstein's Model



The goal of Bronstein's model formulation was coming up with a unified representation of the various components of optimal collaboration. The model was based on systematic review of theoretical frameworks and practice literature on social work. Therefore, the study chose the model since it is not only grounded in theory but it also presents with a stronger practical side. Moreover, it has a strong focus on inter-professional aspects of collaboration and independent of the domain. The model can also be used to promote existing efforts in inter-professional collaborative independent of the underlying disciplines as well as been a manual providing basis of collaboration (Wittenberg-Lyles et al., 2010). Therefore, the researcher chooses this model to be able to establish the factors influencing inter-professional collaboration among health professionals.

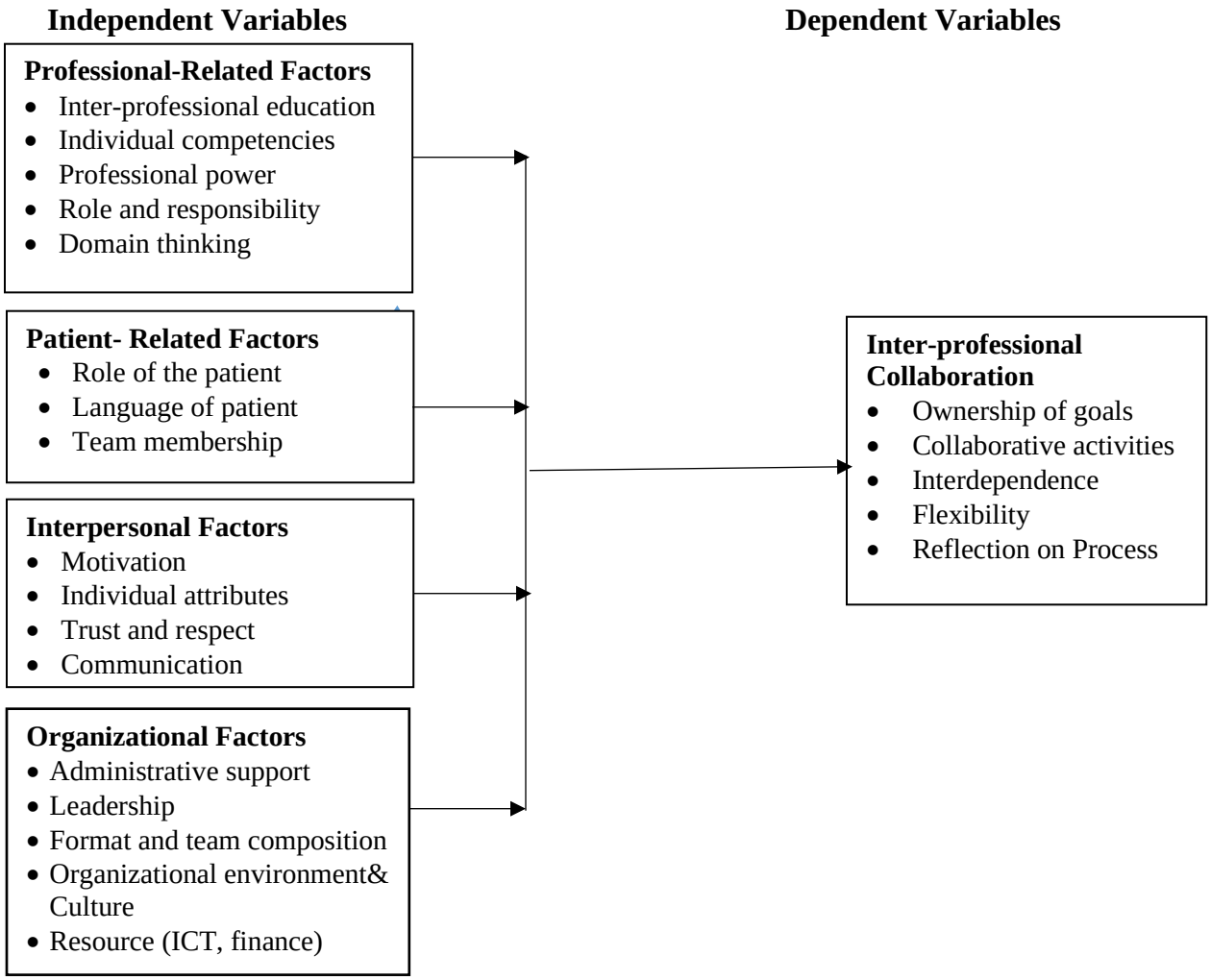
Interdependence, which forms the first components in the model, describes the mutual dependency of the various collaborators; every collaborator is dependent on the others in order to achieve her or his goal. Interdependence therefore refers to reliance on and occurrence of interactions among health professionals (Brownstein, 2003). Newly created professional activities represents the second component, it refers to the act of collaborative structures or programs which enables optimal outcomes individual efforts. Flexibility refers to the ability to accept role demarcation that compromises the establishment of collaboration when faced with disagreement and created alternation of role based on current professional need. It requires a few hierarchical relationships, constituting the third component of Bronstein's model. Collective ownership of goals is the fourth component; it describes the team responsibility alongside the whole process of definition, joint design, development and goals achievement. Reflection on process forms the last component of the model, refers to collaborators paying attention to the process of working together. This involves talking and thinking about team working relationship in order to strengthen the collaborative practice (Oliver et al., 2007).

2.9 Conceptual Framework

The conceptual framework showing the diagrammatic representation of the interaction between the study variables is as outlined in Figure 2.2

Figure 2.2:

Conceptual Framework



Source: Researcher, 2020.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1Introduction

This chapter highlights the materials and methods utilized in the study. In this section also, the overall description of the researcher's approach, instruments, and procedure that were followed in the study are outlined.

3.2 Research Philosophy

A positivist research philosophy approach was adopted in this study when there is concern with reality. Positivism allows for scientific investigations of phenomenon using statistically testable hypotheses and generalizations. Positivism was coined by a French philosopher who believed that reality can be observable. Cohen et al., (2007) claim that Comte's (founder) position was meant to develop the doctrine of positivism which stated that genuine knowledge is based on a sense experience and could only be advanced by means of experiment and observation. Positivism maintains that the researcher is the observer of an objective reality. The understanding of the ontology led to adoption of methodology for observation in natural science from social science research (Pranas et al., 2018). As the name implies, the positivist research derives from ppositivism which refers to working with an observable social reality and outcome is always law like generalisations, as is the case with physical or natural scientists. In the present study, the positivist approach was adopted because the information to be gathered from healthcare workers requires their opinion and views on factor affecting inter-professional collaboration. Furthermore, the information collected from healthcare workers ought to be generalized.

3.3 Research Design

This study was conducted using quantitative cross sectional survey design. A survey is a data collecting methodby administering questionnaires or interviewing a sample of individuals (Orodho & Kombo, 2002). It can be used when gathering information about people's opinions, habits attitudes, or in any of the variety of social or education issues (Kombo & Tromp, 2006).

3.4 Target Population

Nakuru County has approximately over 5000 medical workers in both public and private facilities working across the existing level. This study targeted medical professional working in both level 3 and level 4 facilities where primary healthcare services are offered. The total number of medical staff working on level 3 and level 4 health facilities as per Nakuru County Ministry of Health is1800 with a total of 838 in public facilities and approximately 962 in private facilities. The researcher chose Nakuru County because of the numerous and diverse health facilities (public & private), and high number of medical professionals. Nakuru County is made up of 11 Sub-Counties with a population of about 2.05 million people. The number of health facilities in Nakuru is overwhelming with a total of 492 facilities; 1 level 5, 35 level 4, 81 level 3 and 375 level 2 facilities. The total number of level 3 and level 4 facilities are 81 and 35 respectively.

3.5 Sampling Procedure

3.5.1 Sample Size Determination

The number of medical staff in Nakuru County in level 3 and level 4 facilities are 1800 as per the Nakuru County Ministry of Health.To obtain the required sample size from these target population, the study adopted the formula by Nassiuma (2000).

$$\boldsymbol{n = \frac{Nc^2}{c^2 + (N-1)e^2}}$$

Where n = sample size, N = population size, and e = error margin (≤ 4%), c = coefficient of variation (≤ 50%) by substituting the formulae, therefore, we obtain;

$$\boldsymbol{n = \frac{1800 * (0.5)^2}{(0.5)^2 + (1800-1) * (0.04)^2} = 143.8619 \approx 144}$$

To cater for non-response rate, 10% of the respondents from the calculated sample size were added to the study. Thus, the right sample size for the study was 159 respondents. This formula allows reduction of error and enhances stability of the estimates (Nassiuma, 2000).

3.5.2 Sampling Technique

Since Nakuru County is made up of 11 Sub-Counties, this study used purposive sampling technique to select four Sub-Counties to carry out the study. The researcher purposively sampled four Sub Counties with highest number of level 3 and level 4 healthcare facilities. The study then used stratified random sampling to select 16 health facilities from the 4 Sub Counties. At least one public facility and one private facility were selected in both level 3 and level 4 translating to four health facilities per Sub- County and a total of 16 facilities in the all study. Facilities were stratified based on regions (Sub-County) and whether private or public. The features of stratified random sampling provided each health care worker with an equal chance of inclusion while on the same note, keeping the manageable size (Kothari, 2004). Respondents were selected by use of simple random sampling from the healthcare facilities. Simple random sampling was used to enhance generalisation of data obtained in the study (Etikan et al., 2016). The sample size was then proportionally allocated according to the targeted population in respective Sub-counties as shown in Table 3.1.

Table 3.1

Allocation of sample size according to targeted population in respective sub-counties

Sub-Counties	Facilities(both level 3&4)	Target Population	Sample Size
Naivasha	23	612	54
Nakuru East	18	475	42
Nakuru West	15	396	35
Nakuru North	12	317	28
Totals	68	1800	159

3.5.3 Inclusion and Exclusion criteria

3.5.3.1 Inclusive Criteria

The respondents were included in the study on the basis that they belonged to an inter-professional team and working in primary healthcare facilities in both private and public in the four selected Sub-Counties in Nakuru.

3.5.3.2 Exclusion criteria

There was no exclusion criteria included in the study.

3.6 Instrumentation

Questionnaireswas used in this study as the datacollection instrument. They were preferred because of theirability to reach a wide population such as those normally encountered in survey studies easily and conveniently. Questionnaire also reduce interviewer bias significantly. The adoption of the questionnaire was informed by two previously used questionnaires in related studies; Index of inter-professional collaboration questionnaire, which was used to measure the

extent of collaboration among health workers (Crow, 2015: Bronstein, 2003) and Perception of Inter-professional Collaboration Model Questionnaire (PINCOM-Q) used to assess perceptions of inter-professional collaboration (Odegard & Strype, 2009).

The questionnaire had six sections, that is, Section A to Section F. Section A gives the general socio-demographic profiles of the respondents while Section B sought to establish Components of Inter-Professional Collaboration which was the dependent variable. The other sections comprised independent variables, respectively; Section C- Professional-related factors, Section D-Patient related factors, Section E - Interpersonal factors and Section F - Organizational factors. Each of these constructs was derived from the literature review while the items were derived from the literature review together with the Index of inter-professional collaboration questionnaire and Perception of Inter-Professional Collaboration Model Questionnaire (PINCOM-Q). Section A had 9 items while the other sections cumulatively had 46 items.

3.6.1 Pretest Study

To ensure validity and reliability of the research instrument,a pretest of the questionnaire was conducted in two health facilities one private and one public in both level 3 and level 4 facilities in Kericho County prior to carying out the the study. The researcher chose Kericho county because of proximity and diversity in homogeinity of facilities and healthcare professionals. The results indicated that majority of the respondents understood the constructs being measured and were able to respond to the items with minimum difficulty and only sought small clarifications on the instruments which were later ammended.

3.6.2 Validity of the Research Instrument

To ascertain validity, the instrument was subjected to analysis by a team of specialists in the area of study after being pre-tested. They assessed the relevance of the contents used in the instruments for purpose of improvement and reinforcement of the instrument before embarking on the actual

data collection. The team found some issues with the layout of the questionnaire and also the contents. They recommended some adjustements to be made prior to administering the questionnaire to the respondents for the actual study. This was done accordingly.

3.6.3 Reliability of the Research Instrument

In order to improve the reliability of the instrument, the research employed the internal consistency method. The fitness of pretest data collected was determined before subjecting to statistical analysis by computing using SPSS. This was done by calculating the Cronbach's alpha coefficient for data that was collected from each variable from the results of the pretest study. The results are shown in Table 3.2

Table 3.2

Reliability Statistics

Variable	Cronbach's Alpha Based on Standardized Items	N of Items
Professional-Related Factors	.794	10
Patient-Related Factors	.776	10
Interpersonal Factors	.885	6
Organizational Factors	.901	8
Inter-professional collaboration among healthcare workers	.833	12
Overall instrument reliability	.838	46

A value of 0.7 or below of the Cronbach's alpha coefficient shows low internal consistency (Cronbach & Azuma 1962). The individual constructs of the questionnaire together with the overall instrument reliability coefficient all had their Cronbach's alpha coefficients above the recommended threshold value of 0.7.This meant that the questionnaire was in its form was reliable for data collection purposes as it met the threshold requirements. Bhattacherjee (2012) noted that data with good reliability in social science research should have a correlation coefficient above 0.7. Therefore, the questionnaire was administred to the respondents for data collection after some minor adjustments.

3.7 Methods of Data Collection

The researcher made necessary preparations for the actual exercise, by visiting the relevant healthcare facilities on confirmed appointment dates and administered the questionnaires. After identifying the respondents and obtaining their consent to participate in the study, questionnaires were given to the respondents to fill them on their own time over a period of one week. The completed questionnaires were collected from the respondents after one week. This method was used as it encouraged the respondents to respond to the questionnaire in a free manner and also using minimum time due to the quantitative nature of the questionnaire which allowed them to indicate their opinions according to the Likert rating scale.

3.8 Operational Definition of Variables

The researcher operationally defines the variables before embarking on developing the Self-administered questionnaire. Each of the indicators in both independent and dependent variables were assigned two opinion statements in terms of subjective measurement. The scale used was the ordinal 5-point Likert scale. All the indicators in the subsequent variables were analyzed by use of both descriptive and inferential statistics.

3.9 Methods of Data Analysis

The researcher used the Statistical Package for Social Scientists (SPSS) computer software version 22.0 to aid in data analysis using simple descriptive statistical measures such as, mean, standard deviation and variance to give glimpse of the general trend. In addition, correlation analysis was used to determine the nature of the relationship between variables at a generally accepted conventional significant level of p =0.05 (Sekaran, 2003). Multiple regression analysis was also employed to compare the relationship of independent variable and dependent variables.Inferential stastistics were also used to determine the generalizability of the data collected.

3.10 Ethical Considerations

Throughout the study, ethical considerations were observed. Permissions to carry out the study were sought from relevant institutions to allow the research to be carried out in the study area. The study commenced after obtaining a research permit from the National Commission for Science Technology and Innovation (NACOSTI) through the Director Graduate School, Kenya Methodist University (SERC). An authorization letter was also obtained from the department of health services in Nakuru County. To uphold ethical standards, the participants were requested to voluntarily participate in the study after being briefed about the nature of the study and the problem being investigated. Relevant information about the study was relayed to the respondents for them to understand why and what they were to do so as to ensure their voluntary participation. They were then required to sign consent forms before participating in the study. Their rights in participation in the study were explained and they were also informed that they could opt out of the study at will. Further, they were informed that they will not receive any compensation; however, they could access the researcher during and after the study for clarification and also to get to know the outcome of the study if they were interested. They were also assured of their confidentiality in that as much as they signed the consent forms, their responses will in no way be traced back to them individually. Data collection and reporting was done in a manner that did not breach the confidentiality agreement with the respondents and as such, they were not allowed to identify themselves in any way in the instruments of the study. The data collected was treated with a high degree of confidentiality and used exclusively for this research purpose alone.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter provides results of the study. The findings are discussed and interpreted accordingly with reference to unpublished and published literature. The process of data analysis and interpretation involves ordering, categorizing, summarizing, manipulating, interpretation of data and comparison of results with previous studies so as to offer solutions to problem(s) under investigation (Becker et al., 2012). The aim of the study was to determine factors that influence inter-professional collaboration among healthcare workers in primary health care facilities in Nakuru County.

The study began by presenting reliability statistics of the instrument used and response rate. Respondents' profiles of different categories are also presented with a purpose of relating their linkages to the findings of the study. The study then presents and discusses the key results as per the objectives of the study using descriptive statistics. Finally, the results of the relationship between independent variables as tested through inferential statistics are also discussed and presented accordingly.

4.2 Instrument Response Rate

Out of the 159 questionnaires that had been distributed to healthcare workers in primary health care facilities in Nakuru County, 146 validly completed and were returned indicating a 92% response rate as shown in Table 4.1.

Table 4.1

Overall Response Rate

Respondents category	Number of instruments administered	Number of instruments Returned	Response rate (%)
Private	85	81	95%
Public	74	65	88%
Total	**159**	**146**	**92%**

The result shows an overall response rate of 92% which was a very good response rate. According to the recommendations by Baruch and Brooks (2008) that a 50% response rate is acceptable while 70% response rate indicated a very good response. The researcher instituted effective research techniques and data collection strategies hence an overall good response rate. The key profiles and characteristics of each of the respondent's category are presented and discussed below.

4.3 Demographic Characteristics of the Respondents

The study determined the demographic characteristics of the respondents as they were considered as categorical variables which give some basic insight of the respondents. The characteristics considered in the study were; range of ages of the respondents; gender; level of education attained and; durationworked in current health facility. The findings on these are summarized in Table 4.2.

Table 4.2

Demographic Characteristics of the Respondents

Variable (n = 146)	Category	Frequency	Percentage(%)
Age in Years	22 – 26	48	32.8
	27 – 31	61	41.7
	32 – 36	24	16.5
	37 – 41	7	5
	42 – 47	6	4
Gender	Male	72	49.2
	Female	74	50.8
Level of Education	Certificate	13	9.2
	Diploma	85	58.3
	Bachelor's Degree	43	29.2
	Master's Degree	4	2.5
	PHD	1	0.8
Number of years Practiced	Less than 5 years	85	58.2
	6 - 10 years	35	23.8
	16 - 20 years	25	17.2
	21 - 25 years	1	0.8
Facility type	Private	80	55
	Public	66	45
Work setting categorization	Level 3	63	43.4
	Level 4	83	56.6

The findings in Table 4.2 suggest that majority (41.7%) of the respondents were aged between 27 and 31. Most of them were female (50.8%) although the proportion of males (49.2%) indicated that there was gender parity in the hiring of medical personnel in the healthcare facilities in the area. Further, the findings indicate that majority (58.3%) of the respondents had diploma level of education as their highest level of education and had practiced for less than five years (58.2%). Most of the respondents interviewed were from private healthcare facilities (55%) which were categorized as Level 4 healthcare facilities (56.6%). The results also indicate that majority (37%) of the respondents were young and aged between 19 – 28 years. These findings imply that majority of the respondents were recent graduates and had reasonable level of experience in their practice and were, therefore, expected to give valid opinions in relation to the inter-professional collaboration. Abere and Muturi (2015) explained that to reliably conduct a study, then background characteristics of respondents such as; gender, age, work experience and educational qualifications

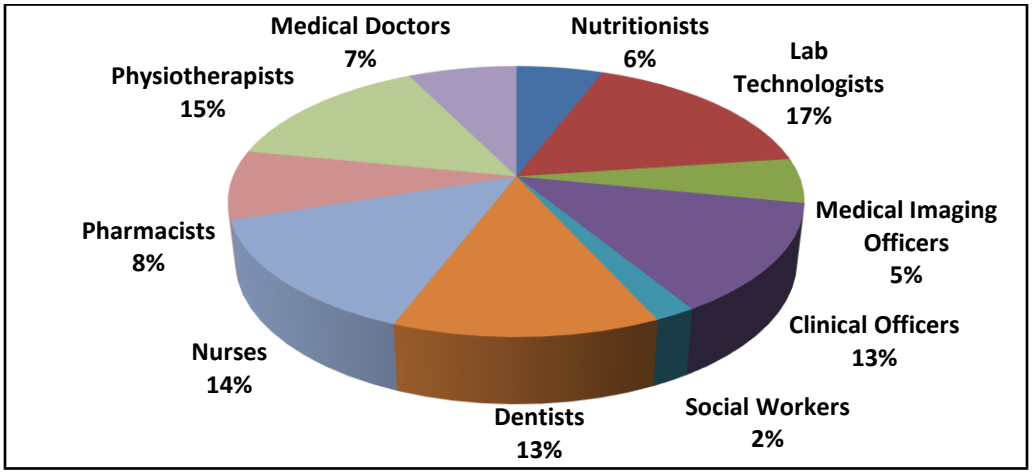
ought to be established to ensure reliable sample from the targeted population that give a valid answer for the study.

4.4 Professions of the Medical Personnel

The study, further examined the respective professions of the respondents. The findings are given in Figure 4.1.

Figure 4.1

Professions of the Medical Personnel



The findings in Figure 4.1 shows that majority of the medical personnel interviewed in the study were medical lab technologists (17%), this was followed by physiotherapists (15%), nurses (14%), clinical officers (13%) and dentists (13%). Other professionals were also interviewed although their proportion was small compared to the five. Consequently, the study sought to establish the distribution of the healthcare professionals across the four sub-counties sampled in Nakuru County. The results are summarized in Table 4.2.

Table 4.3

Distribution of the Medical Professionals across the Four Sub-Counties

Professionals	Sub-County							
	Naivasha		Nakuru East		Nakuru North		Nakuru West	
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent
Nutritionists	2	3.7	2	6.1	3	11.6	7	21.2
Lab Technologists	10	18.5	8	24.2	5	19.2	3	9.1
Medical Imaging Officers	4	7.4	1	3	2	7.7	0	0
Medical Doctors	6	11	1	3	1	3.8	1	3
Social Workers	4	7.4	0	0	0	0	1	3
Dentists	5	9.3	6	18.2	2	7.7	4	12.1
Nurses	5	9.3	6	18.2	2	7.7	2	6.1
Pharmacists	4	7.4	5	15.2	1	3.8	0	0
Physiotherapists	5	9.3	4	12.1	6	23.1	11	33.4
Clinical Officers	9	16.7	0	0	4	15.4	4	12.1
Total	54	100	33	100	26	100	33	100

The results in Table 4.3 suggest that Naivasha Sub-County had the highest number of medical professionals (54/146) across the healthcare facilities sampled in this study. This was followed by Nakuru East, Nakuru North and Nakuru West respectively. These findings suggest that the four sub-counties had a healthy mix of medical professionals and thus underscored the importance of inter-professional collaboration to deliver quality healthcare.

4.5 Professional-Related Factors

The first objective of the study was to determine professional-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. A 5-point Likert scale was used to rate responses of this variable and it ranged from; 1 = strongly disagree to 5 = strongly agree. The closer the mean score was to 5, the more the agreement concerning the statement. A score around 2.5 would indicate uncertainty while scores significantly below 2.5 would suggest disagreement regarding the statement posed. The findings are presented in Table 4.4.

Table 4.4

Professional-related factors

Statements (n = 146)	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
We do have internal education day where team members would present and teach each other about different clinical topics	1.7	6.7	10	43.3	38.3	4.1	0.947
My pre-service training and continuous professional development (CPD) have prepared me to collaborate effectively with other professionals	0	0.8	5	42.5	51.7	4.45	0.633
I work in harmony with medical professional of other disciplines	0	0	3.3	41.7	55	4.52	0.565
I always communicate with professionals in health and other fields in a responsive and responsible manner that supports a team approach	0	0.8	4.2	48.3	46.7	4.41	0.615
Some health care professionals dominate the inter-professional meetings with their professional viewpoints	4.2	6.7	14.2	55.8	19.2	3.79	0.969
Occasionally inter-professional groups do not work because some health care professionals dominate the meetings	9.2	9.2	19.2	40.8	21.7	3.57	1.193
I always feel that other professionals have expectations that are contradictory to mine when I work in inter-professional groups	11.7	8.3	21.7	40	18.3	3.45	1.222
I always feel that my area of responsibility is clearly defined when I work in inter-professional groups	0.8	10.8	11.7	52.5	24.2	3.88	0.927
Laws and regulations are well stipulated and known in inter-professional groups	10.8	10.8	8.3	42.5	27.5	3.65	1.288
Every medical professional knows the area of responsibility of the other professionals	8.3	6.7	10	35.8	39.2	3.91	1.23
Average						**3.973**	**0.959**

It is evident from the findings in Table 4.4 that with a mean of 3.973 and a standard deviation of 0.959, that majority of the respondents were inclined to agree with the statements regarding professional-related factors influencing inter-professional collaboration among healthcare workers

in primary healthcare facilities in Nakuru County. In particular, there were strong indications that inter-professional education was important to inter-professional collaboration as indicated by the means suggesting strong agreement with the statements; We do have internal education day where team members would present and teach each other about different clinical topics (mean = 4.1, SD = 0.947), and; My pre-service training and continuous professional development (CPD) have prepared me to collaborate effectively with other professionals (mean = 4.45, SD = .633). These findings underscore the value of education and training on inter-professional collaboration counseled by Reeves et al., (2013) who study in England pointed out that inter-professional health education programs as the best gate ways to becoming "collaborative-practice ready".

It is also evident that individual competencies played an important role in inter-professional collaboration as evidenced by the strong reactions to the statements; I work in harmony with medical professional of other disciplines (mean = 4.41, SD = .615), and; I always communicate with professionals in health and other fields in a responsive and responsible manner that supports a team approach (mean = 4.52, SD = .565). The competency gained during inter-professional's education programs process equips the learners experience on patient-centered care approach to problem solving and collaboration as indicated by IPEC (2011).

While there was agreement that professional power contributed to inter-professional collaboration among medical professionals in the healthcare facilities in the area, this construct was not rated highly as indicated by the responses to the statements; Some health care professionals dominate the inter-professional meetings with their professional viewpoints (mean = 3.79, SD = .969), and; Occasionally inter-professional groups do not work because some health care professionals dominate the meetings (mean = 3.57, SD = 1.193). This was, however, contrary to the ethical practices prescribed by IPEC (2011) specifically explaining that acknowledging and understanding that other professionals' views are equally valid and important was ethically correct.

The roles and responsibilities of the medical professionals also affected their inter-professional collaboration as indicated by majority of the respondents who agreed that they always feel that other professionals have expectations that are contradictory to their when they work in inter-

professional groups (mean = 3.45, SD = 1.222). Most, however, felt that their areas of responsibility were clearly defined when they work in inter-professional groups (mean = 3.88, SD = .927). Roles and responsibilities mean not only understanding one's own responsibilities, roles and expertise but also those of other health care workers. According to Benner et al. (2010), healthcare provides are expected to coordinate inter-professional approach and apply knowledge and skills from other health professionals while managing patients in order to deliver quality care.

Regarding domain thinking, the findings suggest that majority (mean = 3.65, SD = 1.288) agreed that laws and regulations were well stipulated and known in inter-professional groups. Further, majority (mean = 3.91, SD = 1.23) agreed that every medical professional knows the area of responsibility of the other professionals. These findings imply that domain thinking was not necessarily a barrier to inter-professional collaboration among the healthcare workers. Therefore, they fail to support Baldwin (2007) study in the UK who postulated that territoriality phenomenon was among the main challenges facing inter-professional collaboration, in which the members of the professional team in regard to their identity protect the professional scope, autonomy, accountability and practice. This means that with minimal domain thinking, and then expectation should be low numbers of role conflicts and high levels of collaboration.

4.6 Patient Related Factors

The second objective of the study was to determine patient-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The findings are presented in Table 4.5

Table 4.5

Patient Related Factors

Statements (n = 146)	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
My patients/patients expect me to collaborate with professionals from other disciplines	0.8	0	6.7	51.7	40.8	4.32	0.673
Inter-professional groups exist to enhance patient participation in their own management	0.8	4.2	18.3	54.2	22.5	3.93	0.807
I communicate with patients, families, communities in a responsive and responsible manner that supports inter-professional collaboration	0	0.8	15	51.7	32.5	4.16	0.698
Patients language barrier make inter-professional collaboration difficult	1.7	10	15.8	45.8	26.7	3.86	0.981
Understanding the key patient safety concepts, impact of clinical error and empathy on the patient promote the patient participation in inter-professional collaboration	0	0	8.3	64.2	27.5	4.19	0.569
Encouraging patients to participate in their management is their right promotes inter-professional collaboration	0.8	1.7	6.7	54.2	36.7	4.24	0.722
Average						**4.12**	**0.673**

As indicated by the aggregate mean (mean = 4.12, SD = 0.673) in Table 4.5, there was strong agreement with the statements describing patient-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. This was specifically evident in terms of role of the patient where majority of the medical professionals strongly agreed their patients expected them to collaborate with professionals from other disciplines (mean = 4.32, SD = .673) and inter-professional groups exist to enhance patient participation in their own management (mean = 3.93, SD = .807). These findings suggest that patients were more sensitive to the quality of their healthcare management and expected more inter-professional collaboration. This is in agreement with Ramsdal (2013) who observed in Norwaythat, it is patients' role to report issues related to poor collaboration among providers in both primary and specialist healthcare, and fragmented delivery of services.

Concerning the communication with patients, majority (mean = 4.16, SD = .698) strongly agreed that they communicate with patients, families, communities in a responsive and responsible manner that supports inter-professional collaboration. However, most medical professionals also agreed that patients' language barrier make inter-professional collaboration difficult (mean = 3.86, SD = .981). According to IPEC (2011), some statements as a result of variation in language and its interpretation among primary health care teams might offend one professional group and perceived acceptable by others inter-professional teams. Therefore, the finding that the healthcare professionals communicated in a responsive manner is consistent with the views of IPEC (2011) that uses of language that show respect other professionals and for patient promoted professionals learning experiences.

The findings of team membership as a construct of patient related factors indicated that there was strong agreement among the medical professionals that understanding the key patient safety concepts, impact of clinical error and empathy on the patient promote the patient participation in inter-professional collaboration (mean = 4.19, SD = .569). In addition, encouraging patients that participating in their management is their right promotes inter-professional collaboration (mean = 4.24, SD = .722). D'amour et al. (2005) had concluded that a patient is one of key actors of an inter-professional team. However, contrary to Safran (2003), the study found that for majority of patients in primary care were visible members of the inter-professional team.

4.7 Interpersonal Factors

The third objective of the study was to determine interpersonal factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The findings are presented in Table 4.6

Table 4.6

Interpersonal Factors

Statements (n = 146)	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
I get relevant feedback on my contributions in the inter-professional groups I participate in	1.7	7.6	20.2	43.7	26.9	3.87	0.956
There is always good communication in inter-professional groups I participate in	2.5	9.3	10.2	43.2	34.7	3.98	1.029
I experience personal growth when I work in inter-professional groups	0	0	5	45.8	49.2	4.44	0.591
I get to use my creativity and imagination when I work in inter-professional groups	0	0	5.8	50.8	43.3	4.38	0.595
Inter-professional collaboration calls for openness of mind	1.7	0	7.6	52.1	38.7	4.26	0.742
Recognition and respect of the contributions of other professionals promotes inter-professional collaboration	0	0	9.2	48.3	42.5	4.33	0.64
Building mutual trust at the individual and professional levels promote inter-professional collaboration.	0	2.5	5.9	46.2	45.4	4.34	0.706
Some professionals act in ways that make inter-professional collaboration difficult	3.4	3.4	16.8	47.1	29.4	3.96	0.951
Average						**4.195**	**0.776**

The aggregate mean (mean = 4.195, SD = 0.776) in Table 4.6 indicates that majority of the respondents had strong agreements in general with the statements pertaining to the influence of interpersonal factors on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. Particularly, in terms of motivation, the findings indicate that majority (mean = 3.87, SD = .956) agreed that they always got relevant feedback on their contributions in the inter-professional groups they participated in. This was consistent with Hobfoll and Shirom (2000) who explained that timely and appropriate provision of inter-professional feedback was a motivational factor for health professionals, particularly the nurses who are vulnerably to experiencing burned-out.

In relation to individual attributes, the results indicate that most respondents strongly agreed that they experience personal growth when working in inter-professional groups (mean = 4.44, SD = .591). Majority also strongly agreed (mean = 4.38, SD = .595) that they get to use their creativity and imagination when working in inter-professional groups. Further, most strongly felt that inter-professional collaboration calls for openness of mind (mean = 4.26, SD = .742). The issue of open mindedness was also observed by Ragaz et al. (2010) who indicated that some clinical and administrative team members left participating in inter-professional care team as a result of inflexibility and discomfort with change, citing attitude as a major criterion worth considering hiring primary healthcare workers.

Other findings related to trust and respect in interpersonal factors influencing inter-professional collaboration indicate that there were strong feelings among the medical professionals that recognition and respect of the contributions of other professionals promotes inter-professional collaboration (mean = 4.33, SD = .64). In addition, bbuilding mutual trust at the individual and professional levels promote inter-professional collaboration (mean = 4.34, SD = .706). However, most of the respondents strongly agreed that ssome professionals act in ways that make inter-professional collaboration difficult (mean = 3.96, SD = .951). These findings are consistent with McInnes et al. (2017) and McDonald et al. (2012) who observed that understanding and mutual trust, agreement on tasks and responsibilities were characterizes a successful primary care inter-professional collaboration. The findings also agree with Xyrichis and Lowton (2008) who found that direct confrontation, for instance, inequality, lack of team goals, challenging authority and uncooperative geographical proximity might hinder inter-professional trust.

Majority (mean = 3.98, SD = 1.029), however, strongly agreed that there is always good communication in inter-professional groups they participated in. These motivated them to continue collaborating as medical professionals. These findings concur with those of Collette et al. (2017) who found that communicating effectively among healthcare providers was an important factor for successful collaborative practice. They also agree with O'connor et al., (2016) that ineffective

communication is usually common leading to inadequate patient-related information transfer among healthcare workers.

4.8 Organizational Factors

The fourth objective of the study was to determine organizational factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The findings are presented in Table 4.7

Table 4.7

Organizational Factors

Statements (n = 146)	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
Our administration has proofed to be supportive whenever we having inter-professional collaboration group.	1.7	14.2	9.2	45	30	3.88	0.902
Our administration seeks for inter-professional team participation when dealing with issue concerning our welfare.	5.8	3.3	15	48.3	27.5	3.87	0.657
I always feel that effective inter-professional groups have a clear and defined leader	2.5	9.2	17.5	44.2	26.7	3.83	0.679
The inter-professional group leader seldom influences what the other professionals do	0.8	10	25	48.3	15.8	3.68	0.799
The inter-professional group leaders apply values and the principles of team democratic leadership style.	0.8	5.8	17.5	56.7	19.2	3.9	0.925
Inter-professional groups exist because the county has decided that professionals should collaborate	7.5	14.2	25	36.7	16.7	3.41	0.752
Our inter-professional groups have the ability to plan patient-centered care effectively	3.3	2.5	11.7	48.3	34.2	4.08	0.784
The organizational structures in which our inter-professional team operates promotes collaborative interactions	0	8.3	18.3	50.8	22.5	3.88	0.629
It is common that inter-professional collaboration is highly valued	0.8	12.5	14.2	47.5	25	3.83	0.814
We are encouraged to promote new ways of working in inter-professional groups	0	10	19.2	45.8	25	3.86	0.752
One part of the key to successful inter-professional collaboration can be found in the implementation of Information, Communication & Technology (ICT)	7.5	9.2	6.7	45.8	30.8	3.83	0.768
My employer provides the necessary finance that support inter-professional collaboration	11.7	10	15	38.3	25	3.55	0.679
Average						**3.8**	**0.762**

With an aggregate mean of 3.8 and an aggregate standard deviation of 0.762, the results in Table 4.7 reveal that majority of the respondents agreed with the statements pertaining to the influence of organizational factors on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. In particular, the findings suggest that most hospital administrations had proved to be supportive whenever they were having inter-professional collaboration group (mean = 3.88, SD = .902) and also sought for inter-professional team participation when dealing with issue concerning the welfare of medical professionals (mean = 3.87, SD = .657). This shows that the hospitals accorded to inter-professional groups' reasonable administrative support. This is consistent with Speakman and Sicks (2015) who found that the administrative support was significant in current health workforce, since majority of the professionals requires some coordination skills and teamwork.

The findings also indicate that leadership was considered to play an important role in inter-professional collaboration as indicated by the agreements with the statements; I always feel that effective inter-professional groups have a clear and defined leader (mean = 3.83, SD = .679), and; the inter-professional group leader seldom influences what the other professionals do (mean = 3.68, SD = .799). In addition, most respondent agreed that their inter-professional group leaders applied values and the principles of team democratic leadership style (mean = 3.9, SD = .925). According to Cheater et al. (2005), leaders can make a conducive interaction space for inter-professional team to innovate opportunities for inter-professional collaboration. Leadership promotes such opportunities for inter-professional partnership through formalized care team meetings.

In relation to the organizational environment and culture, the findings indicate that inter-professional groups exist because the county healthcare management had decided that professionals should collaborate (mean = 3.41, SD = .752). Most respondents strongly agreed that their inter-professional groups had the ability to plan patient-centered care effectively (mean = 4.08, SD = .784). This was consistent with Scobbie et al., (2011) who found that the team develops dynamic and collaborative patient-centered care plan together with patient participation based on formulated actions and the patient's goals.

Most of the respondents also agreed that the organizational structures in which their inter-professional team operates promotes collaborative interactions (mean = 3.88, SD = .629) and it was common for inter-professional collaboration to be highly valued (mean = 3.83, SD = .814). Most agreed that they were often encouraged to promote new ways of working in inter-professional groups (mean = 3.86, SD = .752). These findings suggest that in most healthcare facilities, organization structure was accommodative of inter-professional collaboration as indicated by Cheater et al., (2005) who outlined that organization structures were necessary to successfully fulfill collaboration practice.

The findings further indicate that most respondents agreed that the implementation of ICT was key to successful inter-professional collaboration (mean = 3.83, SD = .768). Most respondents further agreed that their employers provide the necessary finance that support inter-professional collaboration (mean = 3.55, SD = .679). This was in agreement with Reeves et al. (2007) who established in England that administrators approved budgets and designated faculty members to enhance coordination of inter-professional teams.

4.9 Inter-professional Collaboration

The study also determined the status of inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. This was the dependent variable. The findings are presented in Table 4.8

Table 4.8

Inter-professional Collaboration

Statements (n = 146)	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
My interactions with colleagues from other disciplines occurs in a climate where there is freedom to be different and to disagree.	0	3.3	18.3	55	23.3	3.98	0.745
Colleagues from all professional disciplines take responsibility for developing treatment plans.	2.5	3.3	10.8	56.7	26.7	4.02	0.86
I utilize other professionals in different disciplines for their particular expertise and they too utilize me for a range of tasks	0.8	10.8	51.7	35.8	0.8	4.48	0.807
I can define those areas that are distinct in my professional role from that of professionals from other disciplines with whom I work.	0.8	1.7	14.2	51.7	31.7	4.12	0.769
I am willing to take on tasks outside of my job description when that seems important.	0	0	5.8	48.3	45.8	4.4	0.6
I utilize formal and informal procedures for problem-solving with my colleagues from other disciplines.	0	0	12.5	57.5	30	4.18	0.631
Organizational protocols reflect the existence of cooperation between professionals from different disciplines.	0	5.8	14.2	49.2	30.8	4.05	0.829
Working with colleagues from other disciplines leads to outcomes that we could not achieve alone.	0	1.7	12.5	42.5	43.3	4.28	0.744
Colleagues from other disciplines are as likely as I am to address obstacles to our successful collaboration.	0	5.8	18.3	47.5	28.3	3.98	0.84
My colleagues from other disciplines and I talk together about our professional similarities and differences including role, competencies, and stereotypes.	0	5.8	11.7	48.3	34.2	4.11	0.828
Average						**4.16**	**0.765**

It can be deduced from the aggregate mean of 4.16 and standard deviation of 0.765 that there was a high level of agreement with the statements describing the status of inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The

findings specifically indicate that majority of the healthcare professionals strongly agreed (mean = 3.98, SD = .745) that interactions with colleagues from other disciplines occurred in a climate where there was freedom to be different and to disagree. Further, colleagues from all professional disciplines take responsibility for developing treatment plans (mean = 4.02, SD = .86). This was in agreement with Barr, (2009) who indicated that collaborative practise and teamwork not only resolve conflict among professionals in closer proximity but also promote equality health care outcomes.

Regarding interdependence, the findings suggest that most of the respondents strongly agreed that they utilized other professionals in different disciplines for their particular expertise and they too were in turn utilized for a range of tasks (mean = 4.48, SD = .807). Most also said that they could define those areas that are distinct in their professional role from that of professionals from other disciplines with whom they worked (mean = 4.12, SD = .769). This concurred with Morrison (2007) who found that quality patient care resulted from collaborative interactions of blended inter-professional cultures achieved by knowledge and skills sharing.

Majority of the respondents were flexible to take on tasks outside of their job description when it was necessary (mean = 4.4, SD = .6). Most utilized formal and informal procedures for problem-solving with their colleagues from other disciplines (mean = 4.18, SD = .631). Regarding collaborative activities, the findings suggest that most of the respondents were of the view that organizational protocols reflect the existence of cooperation between professionals from different disciplines (mean = 4.05, SD = .829). Further, working with colleagues from other disciplines leads to outcomes that could not achieve alone (mean = 4.28, SD = .744). This was in agreement with Brown et al., (2000) who assert that while some of the professionals overlook an opportunity, others take the opportunity in expanding their responsibilities; make team flexible and responsive to client.

Finally, on reflection on process, the findings indicate that most respondents felt that their colleagues from other disciplines were as likely as they were to address obstacles to their

successful collaboration (mean = 3.98, SD = .84). Moreover, most were of the view that they talk together with their colleagues from other disciplines about our professional similarities and differences including role, competencies, and stereotypes (mean = 4.11, SD = .828).

4.10 Correlations for Factors Affecting Inter-Professional Collaboration

In this sub-section summary of the Pearson's product moment correlation analyses is presented. It determines the degree of inter-dependence of the independent variables. In addition, it shows the degree and strength of their association with the dependent variable separately. These results are summarized in Table 4.9

Table 4.9

Summary of Correlations

		Professional-Related Factors	Patient-Related Factors	Interpersonal Factors	Organizational Factors	Inter-professional Collaboration
Professional-Related Factors	Pearson Correlation	1	.473**	.524**	.692**	.362**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	146	146	146	146	146
Patient-Related Factors	Pearson Correlation	.473**	1	.555**	.528**	.435**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000
	N	146	146	146	146	146
Interpersonal Factors	Pearson Correlation	.524**	.555**	1	.623**	.363**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000
	N	146	146	146	146	146
Organizational Factors	Pearson Correlation	.692**	.528**	.623**	1	.426**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	146	146	146	146	146
Inter-professional Collaboration	Pearson Correlation	.362**	.435**	.363**	.426**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	146	146	146	146	144

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

The first correlation was done to determine whether there was a significant relationship between professional-related factors and inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The results in Table 4.9 shows that the relationship between the variables was significant ($r = 0.362$, $p \leq 0.05$). This means that professional factors, such as, inter-professional education, individual competencies, professional power, roles and

responsibilities and domain thinking contributed significantly to inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. This finding agreed with Smolowitz (2015) that inter-professional health pre-service training; bring a collaborative practice approach later when the then students become practitioners. The findings, however, contradicts Guilliland (2011) that IPECP could reduce the professions autonomy achieved by hard work during profession development.

The study also sought to determine whether patient-related factors significantly influenced inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The correlation results in Table 4.9 indicates that a significant relationship ($r = 0.435$, $p \leq 0.05$) existed between the variables. The Pearson's product moment coefficient of correlation further suggests that a moderate but positive relationship existed between the variables. This implies that patient-related factors were important to inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. This finding supports that of Bodenheimer and Handley (2009) who found that integration of patient perspective in the decision-making process could be achieved through; inter-professional patient-centered care plan developing, shared discussions on patient's goals, and engagement in action plans formulation The findings also agree with D'amour et al. (2005) who concluded that a patient is part of the major actors in inter-professional team.

It was also important to determine whether interpersonal factors significantly influenced inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The correlation analysis in Table 4.9 indicates that there was indeed a significant relationship ($r = 0.363$, $p \leq 0.05$) between the variables. The result suggests that there was a positive moderate and significant relationship between the variables. This indicates that interpersonal factors, such as, motivation, individual attributes, trust and respect and communication were important to inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. Di Giulio et al. (2013) postulated that a shift from person-centred approach to professional patient-centred interaction indicates readiness aspect of

professionals to collaborate. Schwarzer and Knoll (2007) pointed out that personal attributed work as a key influential factor in the practices of inter-professional collaboration.

Finally, the study sought to determine whether organizational factors significantly influenced inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The correlation analysis in Table 4.9 indicates that there was indeed a significant relationship ($r = 0.426$, $p \leq 0.05$) between the variables. This finding suggests that the relationship between the variables was moderate implying that improving organizational factors would necessarily translate to significant improvements in inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. This finding is in agreement with Byrnes et al. (2012) who found in Canada that placing health care providers of varying professional backgrounds on a team does not mean necessarily they have the required knowledge and skills to collaborate. Therefore, a supportive working environment is required to ensure professionals adequately collaboration.

4.11 Regression on Factors affecting Inter-Professional Collaboration

Multivariate regression analysis was used to determine how the independent variables influenced the dependent variable collectively. The analysis was also meant to establish the extent to which each independent variable affected the dependent variable in such a collective set up and which were the more significant factors. The results are summarized in Table 4.10

Table 4.10

Multiple Linear Regression Analysis Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.480a	0.230	0.208	4.11109

a Predictors: (Constant), Organizational Factors, Patient-Related Factors, Interpersonal Factors, Professional-Related Factors.

The regression analysis in Table 4.10 shows that the relationship between the dependent variable and all the independent variables pooled together had a model correlation coefficient = 0.480. The adjusted r-square ($R^2_{Adj} = 0.208$), further, indicates that a combined model with all the independent variables could explain upto 20.8% of the variations in the inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. It also suggests that the model could improve when more predictive variables were incoporated into the model. Van Dongen et al. (2016) observed that patient care plans calls for improved inter-professional collaboration suggesting the integral approach to include; organizational factors, patient-related factors, interpersonal factors, professional related factors, and external factors. The external factors which could have contributed the variation in explanation of the model used in the study are; organizational culture and individual disposition.

Sen and Srivastava (2011) state that for multiple regression models to be appropriate as a whole then it should be tested using F test. Therefore, the study also performed an ANOVA on the independent and dependent variables and the results are summarized in Table 4.11

Table 4.11

Summary of ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	688.487	4	172.122	10.184	.000b
Residual	2298.549	136	16.901		
Total	2987.035	140			

a Dependent Variable: Inter-professional Collaboration
b Predictors: (Constant), Organizational Factors, Patient-Related Factors, Interpersonal Factors, Professional-Related Factors

The results in Table 4.11 indicate that there is a significant difference between means of variables predicting inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County ($F_{o'} = 10.184 > F_c = 2.45$; $\alpha < 0.05$; df = 4, 136; p = 0.000). This finding confirms that the model predicted by Table 4.11 above is indeed significant in explaining the inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County on the basis of the identified independent variables.

In order to determine which of the monitoring and evaluation adoption variables was more important when it came to inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County,the beta value was used. The results are given in Table 4.12 provides a summary of the multiple linear regression analysis correlation coefficients.

Table 4.12

Multiple linear regression coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	19.075	4.55		4.192	0
Professional-Related Factors	0.056	0.109	0.054	0.517	0.606
Patient-Related Factors	0.489	0.175	0.263	2.791	0.006
Interpersonal Factors	0.105	0.152	0.072	0.69	0.491
Organizational Factors	0.105	0.064	0.187	1.641	0.103

a Dependent Variable: Inter-professional Collaboration

It can be deduced from the findings in Table 4.12 that there were only one significant factors in the joint model explaining inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, that is; Patient-Related Factors. This was the most influential inter-professional collaboration variable among the healthcare workers in the joint model as per the beta values ($\beta = 0.263$, $p = .006 < p = 0.05$). This indicates that the dependent variable, that is, the inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, would change by a corresponding number of standard deviations when the respective independent variables changed by one standard deviation. These findings were suppoted by those of D' Amour et al. (2005) who pointed out that responsibilities sharing among healthcare professionals was an endeavor to collaboration. The team members could autonomously have limited working contacts and still share responsibilities interchangeably with other professions. Ramsdal (2013) in a study done in Norway indicated that it is patients' role to reporting issues related to fragmentation of services and poor collaboration amongst providers in both primary and specialist healthcare services.

However, Professional-Related Factors($\beta = 0.054$, $p = .606 > p = 0.05$), Interpersonal Factors ($\beta = 0.072$, $p = 0.491 > p = 0.05$) and Organizational Factors($\beta = 0.187$, $p = 0.103 > p = 0.05$) were not found to be significant in the joint model. The findings could be attributed to the challenges being

experienced in inter-professional collaboration in the area. According to Tsasis et al., (2012) and Xyrichis and Lowton (2008) challenges affecting professionals' collaborative capabilities were; disagreement, differences and conflicts, which were sometime even unconscious affect them.

The study therefore establishes that both Patient-Related Factors was the only variable affecting inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County when a joint model was considered. The resulting linear model, therefore, holds under the equation;

$$y = 19.075 + 0.056X_1 + 0.489X_2 + 0.105X_3 + 0.105X_4 \text{ or,}$$

Inter-Professional Collaboration = 13.917 + 0.056Professional Related +0.489Patient Related+ 0.105Interpersonal Factors + 0.105Organizational Factors

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings and the conclusions drawn from them, and makes recommendations for stakeholders that can be implemented to help address the problem identified in the study.

5.2 Summary of the Findings

Specifically, it sought to establish the influence of professional-related factors, patient-related factors, interpersonal factors and organizational factors on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.

5.2.1 Professional-Related Factors Influencing Inter-Professional Collaboration

Concerning this objective, the study revealed that professional factors did not contribute significantly to inter-professional collaboration among healthcare workers in primary healthcare fa1cilities in Nakuru County. There were strong indications that inter-professional education was important to inter-professional collaboration. Further, pre-service training and continuous professional development (CPD) prepared medical professionals to collaborate effectively with other professionals. It was also revealed that individual competencies played an important role in inter-professional collaboration and enabled them to work in harmony with medical professional of other disciplines.

However, while there was agreement that professional power contributed to inter-professional collaboration among medical professionals in the healthcare facilities in the area, it was revealed that some health care professionals dominated the inter-professional meetings with their professional viewpoints. The roles and responsibilities of the medical professionals also affected the medical professionals' inter-professional collaboration as though other professionals have expectations that are contradictory to their when they work in inter-professional groups.

5.2.2 Patient-Related factors Influencing Inter-Professional Collaboration

The findings on this objective revealed that patient-related factors significantly influenced inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. However, most medical professionals also agreed that the patient's language barrier make inter-professional collaboration difficult. The findings of team membership as a construct of patient related factors indicated that there was strong agreement among the medical professionals that understanding the key patient safety concepts, impact of clinical error and empathy on the patient promote the patient participation in inter-professional collaboration. In addition, encouraging patients of their right in participating in their healthcare management was important for improved inter-professional collaboration.

5.2.3 Interpersonal factors influencing inter-professional collaboration

The findings on this objective revealed that interpersonal factors did not significantly influenced inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County as per the joint regression model. Other findings revealed that most medical professionals always got relevant feedback on their contributions in the inter-professional groups they participated in. These motivated them to continue collaborating as medical professionals. Further, most of the medical professionals strongly felt that inter-professional collaboration calls for openness of mind. Other findings related to trust and respect in interpersonal factors influencing inter-professional collaboration revealed that there were strong feelings among the medical professionals that recognition and respect of the contributions of other professionals promotes inter-professional collaboration. However, most of the respondents strongly agreed that some professionals act in ways that make inter-professional collaboration difficult.

5.2.4 Organizational Factors influencing Inter-Professional Collaboration

Finally, the findings revealed that organizational factors did not significantly influence inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County as per the joint regression model. However, other findings revealed that most hospital administrations had proved to be supportive whenever they were having inter-professional

collaboration group and also sought for inter-professional team participation when dealing with issue concerning the welfare of medical professionals.. In addition, most inter-professional group leaders applied values and the principles of team democratic leadership style.

In relation to the organizational environment and culture, the findings revealed that inter-professional groups exist because the county healthcare management had decided that professionals should collaborate.. Most agreed that they were often encouraged to promote new ways of working in inter-professional groups. Finally, most respondents agreed that the implementation of ICT was key to successful inter-professional collaboration and that their employers provide the necessary finance that support inter-professional collaboration.

5.3 Conclusions

Based on the results of the study, the following conclusions were drawn. First, concerning professional-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, the study revealed that professional factors, such as, inter-professional education, individual competencies, professional power, roles and responsibilities and domain thinking did not contribute significantly to inter-professional collaboration among healthcare workers. Therefore, the study concludes that professional-related factors were significant to inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.

Second, in relation to patient-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, the findings revealed that patient-related factors determined as role of the patient, language of patient and team membership significantly influenced inter-professional collaboration among healthcare workers. Consequently, the study concludes that patient-related factors were important factors that needed to be taken into consideration during inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.

Thirdly, regarding the influence of interpersonal factors on inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, the findings revealed that interpersonal factors did not significantly influenced inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County as per the joint regression model. Therefore, the study concludes that as things stand currently, interpersonal factors were not contributing significantly to inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. This was mostly due to the observation that most of the medical professionals strongly felt that some professionals act in ways that make inter-professional collaboration difficult, such as, not treating their colleagues with respect.

Finally, regarding organizational factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, the study found that organizational factors did not significantly influence inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County as per the joint regression model. This led to the conclusion that organizational factors were not significant factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County despite the finding that the hospitals accorded to inter-professional group's reasonable administrative support.

5.4 Recommendations

The study makes the following recommendations based on the findings;

Nakuru County Government should strengthen Inter-professional collaboration among the healthcare workers through adequate sensitizat ion of the medical professionals on the merits of collaboration and the need to maintain professionalism during group work. This is necessary as the findings revealed that inter-professional groups are affected by some health care professionals dominate the meetings and also have undue expectations of their colleagues.

The study also recommends that the need for inter professional group leadership to include one member who is conversant with the language of the patients in order to improve their efficacy and that Sign Language should be taught in Medical training institution. Further, the Kenyan

government shouldsensitizethe patient concerning their right in participating in their healthcare management as this was important in improving inter-professional collaboration.

Moreover, the study recommends that the Primary healthcare facilities should organize team building sessions between the healthcare professionals to enable them develop closer relationships that will improve their working relations.

Finally, in relation to the fourth objective, Administrators are recommended to provide more resources in terms of financing inter-professional collaboration as it was evident that while most hospitals did provide the necessary financial that support. However, this was not necessarily adequate for the inter-professional collaboration function.

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APPENDIX I: PARTICIPANT INFORMATION SHEET

Kenya Methodist University
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Tel: 020-2118423/4/5/6/7, 0724-256 162, 0734-310655
Info@kemu.ac.ke Fax: 064-30162

Study Title: Factors influencing inter-professional collaboration among healthcare workers in primary health care systems; a case of Nakuru County, Kenya

What is the study about?

The study is part of a Master's research project conducted by **Mr Reuben Koech** of Kenya Methodist University. We are inviting you to participate because in one way or another you must have participated in **inter-professional collaboration.**

What is the purpose of the study?

The main aim of the study is to explore factors that influence inter-professional collaboration among healthcare workers in primary health care systems in Nakuru County.

What will I be asked to do?

We will ask you to read and complete a questionnaire that has six sessions.

What benefit(s) will I gain by participating?

This study does not directly benefit you as an individual. However, the outcome is meant to furnish the policy makers at the government level and county level with additional information on importance of collaborative education and practise. This shall promote partnership and support from the two levels of governments.

Is my anonymity and confidentiality guaranteed?

To protect your anonymity we shall use your initials instead of your name during the whole process. We will do our level best for your information to be confidential. Data collected will be kept in a safe place using identification data codes, locked cabinets and computer files with protected-password. If information as a result of your data given will be use to write a report or article publication then Your identity will to a maximum extent be protected.

What are the associated risks?

There are no known associated risks with participating in the research project. However, for case of any unforeseen during the process, then we have taken the necessary measures to assist appropriately.

Should I participate in this study?

You may decide not to take part at all since your inclusion into the study is purely voluntary. You have a room to stop taking part at any time If you choose to do so. If you decline to take part in the study then you will not be penalized or lose any benefits for the same.

This study is being carried out by **Mr Reuben Koech** of department of rehabilitation at Kenya Methodist University. If you have any questions about the study, please contact

Mr. **Reuben Koech +254 712 210 238, e-mail, kimkoech254@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:

Research Supervisors

Dr. Kezia Njoroge — **Kenya Methodist University-Nairobi Campus.** ***Tel: 020-2118423/4/5/6/7, 0724-256 162, o734-310655***

Ms Lilian Muiruri — **Kenya Methodist University-Nairobi Campus** ***Tel: 020-2118423/4/5/6/7, 0724-256 162, o734-310655***

This thesis proposal has been approved by Kenya Methodist University ethical review board.

APPENDIX II: CONSENT FORM

Kenya Methodist University
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Title: **FACTORS INFLUENCING INTER-PROFESSIONAL COLLABORATION AMONG HEALTHCARE WORKERS IN PRIMARY HEALTH CARE FACILITIES;** ***A CASE OF NAKURU COUNTY, KENYA***

Sponsor: Self

Principal Investigator: Mr. Reuben Cherwon Koech; Health System Management masters student; **Kenya Methodist University-Nairobi Campus: Phone; 0712210238. Email; kimkoech254@gmail.com.**

Introduction

This Consent Form contains information about the research named above. In order to be sure that you are informed about being in this research, we are asking you to read through this Consent Form. You will also be asked to sign it (or make your mark in front of a witness). We will give you a copy of this form. This Consent Form might contain some words that are unfamiliar to you. Please ask us to explain anything you may not understand.

Reason for the Research

You are being asked to take part in this study which seeks to determine factors influencing inter-professional collaboration among health care worker in primary healthcare facilities in Nakuru County.

General Information about Research

This study is part of a Master's research project being conducted by **Mr. Reuben Koech** of department of Health System Management of Kenya Methodist University.The study aim at determining factors that influence inter-professional collaboration among healthcare workers in primary health care facilities in Nakuru County.We therefore invite you to participate because you are among health workers working in Nakuru County and in one way or another you may have participated in inter-professional collaboration. You have been chosen to be among the 159 participants involved in this study.

NB: Inter-professional collaboration: Implies interaction between two or more professions, organized into a common effort to address common issues, with the participation of the patient.

Your Part in the Research

If you agree to be in the research you will be taken through how to fill the questionnaire with six sections. You will not be the only participant since the research also involves other healthcare professional's individuals. We will ensure the information you give us is confidential at all time.

Possible Risks

There are no known risks associated with taking part in this research project. However, in case of any eventuality during the process, then we have taken the necessary measures to assist appropriately.

Possible Benefits

The study will not directly benefit you as an individual's but will inform the County about the important of teamwork and inter-professional collaborations. If you decide not to be in the research you are free to decide if you want to be in this research. The decision your make will not affect your employment whatsoever.

Confidentiality
We will protect information about you and you're taking part in this research to the best of our ability. You will not be named in any reports. However, my research supervisors and examiners may access and sometimes look at your research records. Someone from the review board might want to ask you questions about being in the research, but you do not have to answer them. A court of law could order medical records shown to other people, but that is unlikely.

Compensation
You will not be paid, since there will be no any damage by taking part in this research.

Staying in the Research
The questionnaire will take you around 30 minutes for you to read, understand and fill.

Alternatives to Participation
You do not have to participate in the research in order to receive the benefit out of this research the information will be available in after the dissemination process.

Leaving the Research
You may leave the research at any time. If you choose to take part, you can change your mind at any time and withdraw.

Your rights as a Participant
This research has been reviewed and approved by the Scientific Ethical Review Committee-KeMU which is a committee that reviews research studies in order to help protect participants. If you have any questions about your rights as a research participant you may also contact my supervisors; 1. **Ms Lilian Muiruri;** Lecturer department of health system management ***Tel: 020-2118423/4/5/6/7, 0724-256 162, o734-310655.*** 2**. Dr. Kezia Njoroge**; Lecturer department of health system management; **Kenya Methodist University-Nairobi Campus.** ***Tel: 020-2118423/4/5/6/7, 0724-256 162, o734-310655.***

Volunteer Agreement

The above document describing the benefits, risks and procedures for the research titled; **Factors influencing inter-professional collaboration among healthcare workers in primary health care facilities; *a case of Nakuru County, Kenya***has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

……. …….
Date Signature (participant)

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

……... ……..
Date Signature (Researcher)

Many thanks.

APPENDIX III: RESEARCH QUESTIONNAIRE

Kenya Methodist University
P.O Box 45240 – 00100, *NAIROBI*
Tel: 020-2118423/4/5/6/7, 0724-256 162, o734-310655
Info@kemu.ac.ke Fax: 064-30162

Questionnaire No:……

The aim of this study is to ***determine factors that influence inter-professional collaboration among healthcare workers in primary health care facilities in Nakuru County.*** Your opinions and contribution forms the basis of this study and be assured to be held with confidentiality. You are therefore are requested to fill this questionnaire freely and honestly.

Tick the appropriate answer(s) in the boxes provided and also specify by writing down the appropriate answers in the spaces provided. However, you reserve the right to participate in this study. As a confidentiality measure, you are also not allowed to leave your names or contacts on this questionnaire.

Thank you in advance for your time and cooperation.

Section A: Socio-demographic

1. Age…….years
2. Gender:

   Male [ ] Female [ ]
3. Facility Name……..
4. Sub-County

   Naivasha [ ] Nakuru North [ ]

   Nakuru East [ ] Nakuru West [ ]
5. Professional/Educational status:

   Certificate [ ] Diploma [ ]

   Degree [ ] Master degree [ ]

   PHD [ ]

   Others specify……..
6. Profession:

   Nutritionist [ ] Nurse [ ]

   Lab technologies [ ] Pharmacist [ ]

   Medical imaging officers [ ] Physical Therapist [ ]

   Medical Doctor [ ] Clinical Officer [ ]

   Social Worker [ ] Speech-Language Pathologist [ ]

   Dentist [ ] Community Oral Health officer [ ]
7. Facility type;

Private [ ] Public [ ]

8. Work setting categorization:

   Level 3 [ ] Level 4 [ ]

9. How long have you practise (years of experience)

   < 5 years [ ] 6-10 [ ]

   11-15 [ ] 16-20 [ ]

   21-25 [ ] >25 years [ ]

Section B: Components of Inter-professional Collaboration

With regard to your current primary work setting/organization, please indicate the extent to which you agree or disagree with each of the following statements: All responses measured on a 5-point Likert scale [1=Strongly Disagree**(SD),** 2=Disagree**(D),** 3=Neutral**(N),** 4=Agree**(A),** 5=Strongly Agree(**SA**)]

	Statements	**SD**	**D**	**N**	**A**	**SA**
	Collective Ownership of Goals					
1	My interactions with colleagues from other disciplines occurs in a climate where there is freedom to be different and to disagree.					
2	Colleagues from all professional disciplines take responsibility for developing treatment plans.					
	Interdependence					
3	I utilize other professionals in different disciplines for their particular expertise and they too utilize me for a range of tasks					
4	I can define those areas that are distinct in my professional role from that of professionals from other disciplines with whom I work.					
	Flexibility					
5	I am willing to take on tasks outside of my job description when that seems important.					
6	I utilize formal and informal procedures for problem-solving with my colleagues from other disciplines.					
	Collaborative Activities					
7	Organizational protocols reflect the existence of cooperation between professionals from different disciplines.					
8	Working with colleagues from other disciplines leads to outcomes that we could not achieve alone.					
	Reflection on Process					
9	Colleagues from other disciplines are as likely as I am to address obstacles to our successful collaboration.					
10	My colleagues from other disciplines and I talk together about our professional similarities and differences including role, competencies, and stereotypes.					

Section C; Professional-related factors

With regard to your current primary work setting/organization, please indicate the extent to which you agree or disagree with each of the following statements: All responses measured on a 5-point Likert scale [1=Strongly Disagree **(SD),** 2=Disagree **(D),** 3=Neutral **(N),** 4=Agree**(A),** 5=Strongly Agree(**SA**)]

	Statements	SD	**D**	**N**	**A**	**S A**
1	We do have internal education day where team members would present and teach each other about different clinical topics					
2	My pre-service training and continuous professional development (CPD) have prepared me to collaborate effectively with other professionals					
3	I work in harmony with medical professional of other disciplines					
4	I always communicate with professionals in health and other fields in a responsive and responsible manner that supports a team approach					
5	Some health care professionals dominate the inter-professional meetings with their professional viewpoints					
6	Occasionally inter-professional groups do not work because some health care professionals dominate the meetings					
7	I always feel that other professionals have expectations that are contradictory to mine when I work in inter-professional groups					
8	I always feel that my area of responsibility is clearly defined when I work in inter-professional groups					
9	Laws and regulations are well stipulated and known in inter-professional groups					
10	Every medical professional knows the area of responsibility of the other professionals					

Section D: Patient related factors

With regard to your current primary work setting/organization, please indicate the extent to which you agree or disagree with each of the following statements: All responses measured on a 5-point Likert scale [1=Strongly Disagree **(SD),** 2=Disagree**(D),** 3=Neutral**(N),** 4=Agree**(A),** 5=Strongly Agree(**SA**)]

	Statements	SD	**D**	**N**	**A**	**SA**
1	My patients/patients expect me to collaborate with professionals from other disciplines					
2	Inter-professional groups exist to enhance patient participation in their own management					
3	I communicate with patients, families, communities in a responsive and responsible manner that supports inter-professional collaboration					
4	Patients language barrier make inter-professional collaboration difficult					
5	Understanding the key patient safety concepts, impact of clinical error and empathy on the patient promote the patient participation in inter-professional collaboration					
6	Encouraging patients to participate in their management is their right promotes inter-professional collaboration					

Section E: Interpersonal factors

With regard to your current primary work setting/organization, please indicate the extent to which you agree or disagree with each of the following statements: All responses measured on a 5-point Likert scale [1=Strongly Disagree **(SD),** 2=Disagree**(D),** 3=Neutral**(N),** 4=Agree**(A),** 5=Strongly Agree(**SA**)]

	Statements	SD	**D**	**N**	**A**	**SA**
1	I get to use my creativity and imagination when I work in inter-professional groups					
2	I experience personal growth when I work in inter-professional groups					
3	Recognition and respect of the contributions of other professionals promotes inter-professional collaboration					
4	Building mutual trust at the individual and professional levels promote inter-professional collaboration.					
5	Some professionals act in ways that make inter-professional collaboration difficult					
6	Inter-professional collaboration calls for openness of mind					
7	I get relevant feedback on my contributions in the inter-professional groups I participate in					
8	There is always good communication in inter-professional groups I participate in					

Section F: Organizational factors

With regard to your current primary work setting/organization, please indicate the extent to which you agree or disagree with each of the following statements: All responses measured on a 5-point Likert scale [1=Strongly Disagree **(SD),** 2=Disagree**(D),** 3=Neutral**(N),** 4=Agree**(A),** 5=Strongly Agree (**SA**)]

	Statement	**SD**	**D**	**N**	**A**	**SA**
1	Our administration has proofed to be supportive whenever we having inter-professional collaboration group.					
2	Our administration seeks for inter-professional team participation when dealing with issue concerning our welfare.					
3	I always feel that effective inter-professional groups have a clear and defined leader					
4	The inter-professional group leader seldom influences what the other professionals do					
5	The inter-professional group leader apply values and the principles of team democratic leadership style.					
6	Our inter-professional groups has the ability to plan patient-centered care effectively					
7	Inter-professional groups exist because the county has decided that professionals should collaborate					
8	The organizational structures in which our inter-professional team operates promotes collaborative interactions					
9	It is common that inter-professional collaboration is highly valued					
10	We are encouraged to promote new ways of working in inter-professional groups					
11	One part of the key to successful inter-professional collaboration can be found in the implementation of Information, Communication & Technology (ICT)					
12	My employer provides the necessary finance that support inter-professional collaboration					

What other factors would prevent you from practising more about inter-professional collaboration?

.....

.....

Please provide any additional comments about inter-professional collaboration:

……

……

Thank you so much for your cooperation.

God bless

APPENDIX IV: KEMU ETHICAL CLEARANCE LETTER

KENYA METHODIST UNIVERSITY
P. O. BOX 267 MERU - 60200, KENYA
TEL: 254-064-30301/31229/30367/31171
FAX: 254-64-30162
EMAIL: INFO@KEMU.AC.KE

23RD JULY, 2019

KeMU/SERC/HSM/64/2019

Reuben Cherwon Koech
HSM-3-5593-2/2016

Kenya Methodist University

Dear Reuben,

SUBJECT: ETHICAL CLEARANCE OF A MASTERS' DEGREE RESEARCH THESIS

Your request for ethical clearance for your **Masters' Degree Research Thesis** titled **"Factors Influencing Inter-Professional Collaboration among Health Care Workers in Primary Health Care Facilities; A Case of Nakuru County, Kenya."** has been provisionally granted to you in accordance with the content of your research thesis subject to tabling it in the full Board of Scientific and Ethics Review Committee (SERC) for ratification.

As Principal Investigator, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the thesis.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the SERC for re-review and approval **prior** to the activation of the changes. The Thesis number assigned to the thesis should be cited in any correspondence.
3. Adverse events should be reported to the SERC. New information that becomes available which could change the risk: benefit ratio must be submitted promptly for SERC review. The SERC and outside agencies must review the information to determine if the protocol should be modified, discontinued, or continued as originally approved.

4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by subjects and/or witnesses should be retained on file. The SERC may conduct audits of all study records, and consent documentation may be part of such audits.
5. SERC regulations require review of an approved study not less than once per 12-month period. **Therefore, a continuing review application must be submitted to the SERC in order to continue the study beyond the approved period.** Failure to submit a continuing review application in a timely fashion will result in termination of the study, at which point new participants may not be enrolled and currently enrolled participants must be taken off the study.

Please note that any substantial changes on the scope of your research will require an approval.

Thank You.

KENYA METHODIST UNIVERSITY
RESEARCH & DEVELOPMENT
23 JUL 2019
P.O. Box 267-60200 MERU

Dr. A. Wamachi
Chair, SERC

Cc: Dean, RD&PGS

APPENDIX V : NACOSTI CLEARANCE LETTER

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **513364**

Date of Issue: **23/August/2019**

RESEARCH LICENSE

This is to Certify that Mr.. Reuben Koech of Kenya Methodist University, has been licensed to conduct research in on the topic: FACTORS INFLUENCING INTER-PROFESSIONAL COLLABORATION AMONG HEALTH CARE WORKERS IN PRIMARY HEALTH CARE FACILITIES; A CASE OF NAKURU COUNTY, KENYA for the period ending : 23/August/2020.

License No: **NACOSTI/P/19/557**

513364

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

APPENDIX VI: RESEARCH AUTHORITY FROM NAKURU COUNTY

DEPARTMENT OF HEALTH SERVICES

NAKURU COUNTY

CHIEF OFFICER, MEDICAL SERVICES
NAKURU COUNTY
P.O BOX 2600-20100
NAKURU

Ref No. NCG/CDMS/GEN.VOL.1/297

30th August, 2019

TO
REUBEN CHERWON KOECH
DEPARTMENT OF HEALTH SYSTEMS MANAGEMENT
KEMU

RE: RESEARCH AUTHORIZATION

This letter serves as an authorization from the Department of Health Services Nakuru to conduct research on **"Factors influencing inter-professional collaboration among healthcare workers in primary health care facilities; a case of Nakuru County, Kenya".**

The study is in line with the County Research priorities in the county research agenda and therefore the researcher is expected to present and submit the final report to the County Research and Development Unit.

COUNTY DIRECTOR OF PLANNING & ADMINISTRATION HEALTH SERVICES
30 AUG 2019
P.O. BOX 2060-20100
NAKURU-KENYA

ELIZABETH KIPTOO
FOR/COUNTY DIRECTOR ADMINISTRATION AND PLANNING
NAKURU

CC:

- All SCMOHs, Nakuru County
- All Medical Superintendents, Nakuru County

APPENDIX VII : NAKURU COUNTY MAP