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ASSESSING FACTORS INFLUENCING INTERPROFESSIONAL COLLABORATION AMONGST CLINICIANS IN OUTPATIENT CARE LEVEL FOUR HOSPITALS IN NAIROBI COUNTY: A QUALITATIVE STUDY

BRIGID NTA

MBA - HCM 114489 /2019

A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE MASTER IN BUSINESS ADMINISTRATION IN HEALTH CARE MANAGEMENT DEGREE TO THE STRATHMORE UNIVERSITY BUSINESS SCHOOL.

AUGUST 2022

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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Approval

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ABSTRACT

Effective interprofessional collaboration in healthcare is crucial for delivering high-quality care in the context of the increasing burden on outpatient healthcare services. However, there is inadequate understanding of the existing interprofessional collaboration and the factors that influence its effectiveness amongst clinicians – physicians, clinical officers, nurses, pharmacists and laboratory personnel in the provision of outpatient healthcare services. This study aimed to identify the factors that affect interprofessional collaboration amongst clinicians in public, private and faith-based level 4 outpatient care. The study was guided by the following objectives: a) To explore the clinicians' perceived role of leadership and management on interprofessional collaboration in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya. b) To explore the effects of communication in interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospital in Nairobi Kenya. c) To explore the effect of availability of resources on interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya. d) To explore the extent to which healthcare workers' skills, training, and development affect interprofessional collaboration of clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya. This study focused on one private hospital, one public hospital, and one faith-based hospital. A qualitative approach and open-ended interview were used to collect data from the clinicians. Purposive sampling technique was used to sample the public, private and faith-based outpatient healthcare facilities and the clinicians. Data was analysed using thematic analysis. The study showed that the clinicians had knowledge about interprofessional collaboration. It also revealed that private and faith-based hospitals had leadership which supported and encouraged interprofessional collaboration unlike the public that respondents thought management needed to improve. All the participants in the facilities suggested interprofessional education on collaboration should be encouraged as this will foster better collaboration among clinicians, better relationships, enhanced team work and encourage shared knowledge. The study recommends utilisation of a functional ICT system to help in facilitating communication amongst clinicians, security and follow up for patient's information and continuity of care. The study also recommends interprofessional education for clinicians as part of their training.

DEDICATION

This work is dedicated to the loving memory of my beloved mother Christiana Nta who passed on during the course of this study. To all the members of the congregation of the Handmaids of the Holy Child Jesus, whose prayers and sisterly love was of great support during this period.

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I am grateful the Almighty God for his abundant mercies and graces that made it am possible for me to go through this period of study successfully. Many have contributed greatly to the success of this work to whom I am indebted.

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During the course of this study, my beloved mother passed on, painful as it may be, I am grateful for the beautiful and fulfilled life she lived and for all her support and encouragement, her memory remains evergreen in my heart. To my siblings, nephews, nieces, and all my friends I remain very grateful.

I am indebted to the Clinicians of Mbagathi county hospital, St Mary’s Catholic hospital and Avenue Healthcare for their availability and active participation despite their busy schedule which earned me the appropriate information for the success of this work.

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LIST OF ACRONYMS AND ABBREVIATIONS

CT	Collaborative Theory
GOK	Government of Kenya
ICT	Information and Communications Technology
IPC	Interprofessional Collaboration
IPE	Interprofessional Education
KEPH	Kenya Essential Package for Health
MOH	Ministry of Health
NACOSTI	National Commission for Science, Technology and Innovation
NMC	Nairobi Municipality
WHO	World Health Organisation

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OPERATIONAL DEFINITION OF KEY TERMS

Availability of Resources

Organizational environment and structure are the organizational processes, organized activities, schedules, physical spaces, temporal arrangements, and the architectural considerations that affect collaboration (Rezaee et al., 2014). A health institution should have infrastructure and personnel to achieve interprofessional collaboration.

Communication

Interprofessional teams that are functioning effectively as a member of the team requires an additional skill set, just as functioning as a leader requires an additional skill set. Communication has been recognized as one of the key elements necessary for effective collaboration (AHRQ, 2014; Clark & Greenawald, 2013). For communication to be effective, Clark and Greenawald (2013) found it must be timely, respectful, honest, and professional.

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Interprofessional Collaboration

Interprofessional collaborative practice takes place when "multiple health workers from different professional backgrounds work together with patients, families, carers, and communities to deliver the highest quality of care across settings (WHO, 2010).

Leadership Style and Management

Leadership is a major factor in enhancing integration through bringing new professionals into the team and creating a sense of team belonging. As with most teams, the health care practice team identifies a leader to organize the

team, set goals, monitor and track the performance, and analyse the results and outcomes. The collaborative health care team adapts to changing roles relying on expertise and skills (Smith et al., 2018)

Training and development Interprofessional education and training, where healthcare workers from several healthcare professions learn and work together has shown a positive impact on teamwork in daily health care practice and is recommended for training programs of healthcare professionals (Speakman & Sicks, 2015).

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Over the years, the development of new ways of working in healthcare has to a greater degree resulted in interprofessional collaboration. The shortage of healthcare professionals and the growing need to improve the quality and efficiency of health services have called for better ways of collaboration among healthcare workers (Morley & Cashell, 2017). Governments across the world are looking for innovative, system-transforming solutions that will ensure the appropriate supply, mix, and distribution of the health workforce. One of such most promising solutions can be found in interprofessional collaboration amongst healthcare providers (WHO, 2018).

Collaboration is defined as a well-defined and mutually beneficial relationship between two or more individuals or organizations to achieve a common goal (Green & Johnson, 2015). Five basic concepts of collaboration were identified by D'Amour, Ferrada-Videla, San Martin Rodriguez, and Beaulieu (2005): (a) sharing, (b) partnership, (c) power, (d) interdependency, and (e) process. "Collaborative action aimed toward a single objective, in a spirit of harmony and trust..." is what collaboration entails. (P. 116 in D'Amour et al., 2005). According to WHO, interprofessional collaboration in healthcare occurs when multiple healthcare workers from different professional backgrounds work together with their patients, families, communities, and caregivers to provide comprehensive services that will ensure high quality care (WHO, 2016). Interprofessional collaboration, therefore, involves healthcare workers from different professional backgrounds working collaboratively to improve patient outcomes (Bridges et al., 2011). Key aspects of interprofessional collaboration include collaborative leadership, team function, interprofessional communication, and healthcare workers' knowledge of their roles and responsibilities (Green & Johnson, 2015). Interprofessional collaboration is therefore an innovative way of meeting complex service needs (Bardet et al., 2015).

Interprofessional collaboration, a priority and fundamental competency of the collective healthcare professional according to the World Health Organization (2010), enhances patient outcomes and team function (World Health Organization, 2010). When "several health practitioners from various professional backgrounds collaborate with patients, families, carers, and communities to offer the highest quality of care across settings," interprofessional collaborative practice occurs (WHO, 2010, p. 13).

1.1.1 Interprofessional Collaboration

Interprofessional collaboration has received global attention because it plays an important role in increasing the effectiveness of healthcare services and enhances patient outcomes and team function (World Health Organization, 2010). The increase in the health needs of patients has called for the need for an interprofessional collaborative approach to service delivery. In the opinion of the World Health Organization experts, IPC should be a standard practice in patient care as a critical element in ensuring the high quality of health services. An example of a patient-orientated interprofessional service is pharmaceutical care, which assumes establishing collaboration between a physician and a pharmacist for ensuring a high quality of health services.

Outpatient healthcare is mandated to deliver services through the collaboration of health professionals to promote quality care and good health outcomes for their patients. This mandate can only be achieved with knowledge, expertise, and skills from a wider professional scope. In the management of a serious mental patient, for example, services from different professionals like a psychiatrist, case managers, pharmacists, nurses, physicians, and sometimes occupational therapists work together as a team to achieve the desired result (Anna & Woolley, 2016).

As the delivery of healthcare becomes more interconnected, the collaboration of physicians, nurses, pharmacists, social workers, and other disciplines becomes increasingly important. The World Health Organization (WHO) has linked interprofessional collaboration with better outcomes in infectious disease, non-communicable diseases, family health, humanitarian efforts, and responses to epidemics (Green & Johnson, 2015).

Previous research primarily focused on nurse–physician collaboration (Ushiro 2009). Benefits for nurses have been suggested to be increased job satisfaction, retention and valuation (Wanzer et al. 2009, Dougherty & Larson 2010, McCaffrey et al. 2012, Galletta et al. 2013); and for patients, reduced risk adjusted mortality and length of stay and increased satisfaction (Boone et al. 2008, Dougherty & Larson 2010, Schadewaldt et al. 2013). Elsewhere, nurse–pharmacist collaboration has resulted in medication safety improvement practices (Feldman et al. 2012). Whilst there has been limited research to date on nurse–nurse collaboration, proposed benefits include reductions in medical error (Dougherty & Larson 2010). It can therefore be posited that nurses who work collaboratively are more likely to achieve optimum health care outcomes for patients, and beneficial workforce outcomes for organisations.

D'Amour, Ferrada-Videla, San Martin Rodriguez, and Beaulieu (2005) described five underlying concepts of collaboration: (a) sharing, (b) partnership, (c) power, (d) interdependency, and (e) process. For these authors, collaboration implies "collective action oriented toward a common goal, in a spirit of harmony and trust . . ." (D'Amour et al., 2005, p. 116). Specifically, regarding the five underlying concepts: 1. Sharing involves sharing of health care philosophy, values, responsibilities, decision-making, data, planning, intervention, and professional perspectives. 2. Partnership among professionals with authentic and constructive collegial relationship based on mutual trust and respect with open and honest communication and with awareness of the value of contributions and perspectives of others. 3. Interdependency rather than autonomy of each team member; the synergy yields greater results of the whole than the sum of individual parts. 4. Power based on knowledge and experience rather than positions or titles. There is symmetry and sharing of power in team relationships. 5. Process evolving in a dynamic, interactive way, considering the contributions of all team members. Although certain concrete steps may be taken (checklists), the process is fitted to the situation.

The term "interprofessional" in interprofessional collaboration is distinct from other related terms, such as multidisciplinary and intradisciplinary. Research done by Morley & Cashell, (2017) indicated that interprofessional collaboration is important in improving patients' care and patients' outcomes since it brings together all the healthcare professionals involved in a

patient's care (Morley & Cashell, 2017). The study added that interprofessional collaboration in healthcare reduces medication errors which in turn reduces healthcare costs.

A systematic review done on the 'factors influencing interprofessional collaboration between community pharmacists and general practitioners' reported that effective collaboration between professionals in the outpatient care level can improve the health outcomes of patients, help contain costs and improve the quality of life of patients in general (Bollen et al., 2019). In addition, evidence has shown that health professionals who work together and are part of a professional team often report high job satisfaction and are able to work effectively (Morley & Cashell, 2017).

In countries like the U.S, patients interact with several professionals on admission. Thus, interprofessional collaborative practice enables experts with varying perspectives to work together to improve and restore the health outcomes of their patients (Busari et al., 2017). For over 15 years, Canada has been a world leader in interprofessional collaboration with the government actively funding educational and research programs focused on integrated and team-based practices of delivering health care services to the Canadian population (Cuff, 2013). The World Health Organization (WHO) core components of the health system include the health workforce, health financing, service delivery, leadership and governance, health information system, and access to essential medicine. The nature and availability of sound and reliable information and the nature of communication and information-sharing systems has a tremendous effect on interprofessional collaboration. Leadership is a major factor in enhancing interprofessional collaboration because leaders have the responsibility of supporting individuals to interact and in creating a sense of belonging in a team (Smith et al., 2018). The presence of adequate and well-skilled health professionals who value patient participation has shown success in delivering care (WHO, 2010). Patients who actively participate in their health care management tend to have better outcomes. Similarly, health institutions that invest resources, the necessary technological and financial resources needed for collaboration demonstrate a better interprofessional collaboration (Green & Johnson, 2015).

Although effective interprofessional collaboration is important for the effective delivery of healthcare services, studies have shown that attaining interprofessional collaboration in the African Region has been challenging for most hospitals (Bardet et al., 2015). In South Africa, an analysis of two hospitals indicated that leadership style and practices have an impact on collaboration among healthcare workers and thus influence the performance of the hospital (Mathole et al., 2018). Another study in South Africa showed that healthcare professionals have diverse opinions of perceptions on inter-professional collaboration indicating a lack of knowledge on inter-professional collaboration in the healthcare field (Ellapen et al., 2018). A study on enhancing collaboration through interprofessional health education showed that introducing interprofessional health education earlier in health workers' professional development cultivates a culture of teamwork and interprofessional collaboration (Maree & van Wyk, 2016).

In Kenya, the inter-professional collaboration approach has not been well adopted. Most hospitals are still using the concept of a multi-professional approach where professionals work independently with related roles to achieve the same goal (Folkman et al., 2019). Folkman et al., 2019 maintain that in a multi-professional approach of collaboration, every member of the team is part of the patient's treatment but does not overlap professional roles. A study done in Nairobi County on the Collaborative model in support of shared healthcare in Kenya found that poor interprofessional collaboration among health care professionals is associated with a fragmented process of outpatient health care delivery (Nzinga et al., 2018). In addition, a study done in two Kenyan sub-county hospitals to examine the role of clinical leadership revealed that most clinical heads, nurses in charge, and other mid-level managers have an intimidating leadership style that affects the practice of interprofessional collaboration (Nzinga et al., 2018).

In Kenya specifically, outpatient healthcare services are affected by inadequate infrastructure, inadequate pharmaceutical and medical supplies, poor leadership and governance, and shortage of healthcare workers among others. The government of Kenya (GOK) has made efforts to improve the country's health status by improving the quality of health services at both outpatient and inpatient care. This study focused on examining the factors influencing interprofessional collaboration amongst clinicians in outpatient care in level 4 hospitals in

Nairobi Kenya. It focused on one private hospital, one public hospital, and one faith-based hospital.

1.2 Problem Statement

Collaboration is an important component in implementing quality services at every level of care (Morley & Cashell, 2017). Healthcare professionals from different backgrounds should be able to work together with patients, families, and the community to improve safety and quality care. In Kenya, many health professionals are still using a multi-professional approach in managing patients (Folkman et al., 2019). The multi-professional approach of patient management cannot bring together multiple healthcare workers from different professional backgrounds to deliver high quality of care. This leads to ineffective collaboration during patient care resulting in poor coordination among health care workers and thus compromises the continuity, quality, and safety of care (Franklin et al., 2015). Despite the efforts by the WHO (2010) to promote interprofessional collaborative practices among healthcare professionals, many hospitals in developing countries are yet to engage in interprofessional collaboration.

A study done by Farnsworth (2015), affirmed that interprofessional collaboration occurred in developed countries like the U.S, England, Finland, Australia, Denmark, South Africa, Japan, New Zealand, Malaysia (Farnsworth et al., 2015). However, interprofessional collaboration in Kenya is poorly understood. Another study done on inter-sectoral collaboration in outpatient healthcare in developing countries showed that 60% of clients reported a lack of interprofessional collaboration among their primary and secondary healthcare providers (Nzinga et al., 2018). In Kenya, evidence has shown a lack of knowledge on the concept of interprofessional collaboration at the outpatient healthcare level and therefore many healthcare providers are still using the old concept of multi-professional approach resulting in inefficiency in the use of resources and medical errors which has reduced the efficiency and safety of outpatient healthcare services (Franklin et al., 2015). While a few studies have identified factors that impede collaboration among healthcare workers, even fewer have looked into the why and how these factors impede interprofessional collaboration. This is the gap that this

study sought to fill by examining factors that influence interprofessional collaboration in the provision of outpatient healthcare services in three level 4 hospitals in Nairobi, Kenya - Avenue Healthcare (Private, For-Profit), Mbagathi hospital (Public), and St. Mary's hospital (Faith-based, Not-for-Profit).

1.3 Objective of the Study

1.3.1 General Objective

To examine the factors that influence interprofessional collaboration practices among clinicians in outpatient care in level 4 hospitals in Nairobi Kenya.

1.3.2 Specific Objectives

1. To explore how the clinicians' perceived role of leadership and management influences interprofessional collaboration in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya.
2. To explore the effects of communication in interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospital in Nairobi Kenya.
3. To explore the effect of availability of resources on interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya.
4. To explore the extent to which healthcare workers' skills training, and development affect interprofessional collaboration of clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya.

1.4 Research Questions

1. How are the clinicians perceived the role of leadership and management regarding interprofessional collaboration in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya?
2. In which way does interprofessional communication amongst clinicians contribute to provision of outpatient care services in level 4 hospitals in Nairobi Kenya?
3. In which way does availability of resources influence interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya?
4. How does the healthcare workers' skills, training and development influence interprofessional collaboration amongst clinicians in the outpatients' care services in level 4 hospitals in Nairobi Kenya?

1.7 Scope of the Study

This study was done at outpatient healthcare levels in one private hospital (Avenue hospital), one public hospital (Mbagathi Hospital), and one faith-based hospital (St. Mary's Hospital) in Nairobi, Kenya. The choice of the hospitals was based on management and size, though the three hospitals are all level 4, they differ in size as per the number of patients. Also, the ownership/ management of the hospital, Mbagathi is a public hospital, St Mary's hospital is a faith-based hospital, while Avenue healthcare is a private hospital. The study focused on the clinicians who were working in the outpatient department in the selected hospitals.

1.8 Significance of the Study

Collaboration between healthcare professionals in providing care to patients is an important aspect of health care management that not only improves the quality of care but also improves the healthcare outcomes for the patient. The findings of this study will give different stakeholders knowledge and understanding of inter-professional collaboration amongst clinicians in outpatient healthcare. The outcome of the study may help bridge the gap of knowledge and practice that exist in inter-professional collaboration in the medical fraternity

and thus improving the outcomes for patients, help contain costs and improve the quality of life of patients. This may help in building an engaged and motivated professional workforce that will ensure the delivery of high-quality patient care. This study may help both the management and medical staff at the outpatient healthcare level to understand how to leverage the existing enablers for interprofessional collaboration. Policymakers at both national and county governments can also use the outcome of the study to address the challenges they face in fostering interprofessional collaboration amongst medical facilities and in other sectors. Researchers may use the recommendations and information obtained in this study to build upon other studies and address the gaps that exist in inter-professional collaboration.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter dwells on reviewed existing literature on the factors influencing interprofessional collaboration amongst clinicians in outpatient healthcare in level 4 hospital in Nairobi County. The chapter carries out the theoretical review particularly on the human relations theory and the collaboration theory. Also presented is the empirical review of the study. Empirical review of literature was around, interprofessional collaboration in the outpatient health care setting among clinicians on the effect of leadership and management on interprofessional collaboration, the effect of interprofessional communication on interprofessional collaboration, the effect of resource availability on interprofessional collaboration and the effect of healthcare workers' skill training on interprofessional collaboration

2.2 Theoretical Framework

This study was guided by two theories; the Human Relations Theory and the Collaboration Theory. Both theories explain the important soft skills/interpersonal skills and influence tactics that can be used to foster team efficiency necessary for interprofessional collaboration among healthcare workers (Colbry et al., 2014; Eydman, 2018). Human relations theory focuses on health professionals' behaviours and interpersonal skills that would promote interprofessional collaboration (Eydman, 2018), while collaboration theory (CT) asserts that collaboration should happen between manager-with-subordinate and subordinate with-subordinate and should entail socialization and coalition, team spirit, and group cohesion, effective interprofessional communication, sharing ideas, and building trust (Colbry et al., 2014).

2.2.1 Human Relations Theory

Human relations theory is part of the family of organizational theory. Organizational theosry is defined as the study of the structure, performance, functioning of an organization as well as the behaviour of individuals and groups within it (Eydman, 2018). Numerous studies in

organizational theory have developed working group and team efficiency frameworks. Human relations theory contributes to this study because it puts into consideration individuals and groups' ways of doing things and what influences their behaviours.

Human relations theory states that every staff and their behaviours should be taken into consideration while designing an organizational structure (Cooley, 2020). The theory emphasizes social interactions, participative management, and decision-making. It encourages learning and adopting soft business skills like interpersonal communications, team management, leadership, project management that are important for interprofessional collaboration (Cooley, 2020). The theory also involves resolving conflict creatively to help develop new ideas and build stronger working relationships. Human relations theory is very critical for interprofessional collaboration because interprofessional collaboration encompasses key aspects like team function, interprofessional communication, collaborative leadership as well as proper conflict resolution (Bridges et al., 2011). Effective communication and effective interprofessional health care teams are more likely to promote effective interprofessional collaboration.

In this study, we drew on human relations theory to postulate that the role of leadership and management, communication, availability of resources and healthcare workers training and development in interprofessional collaboration are important independent factors that are likely to influence interprofessional collaboration amongst clinicians in the outpatient care.

2.2.2 Collaboration Theory

Collaboration Theory (CT) explains specifically how people can coordinate to determine positive references (Colbry et al., 2014). CT encompasses how collaboration works regardless of whether there exists a formal structure between a manager-with-subordinate or subordinate with-subordinate (Huxham, 2010). According to Huxham (2010), collaboration theory takes into consideration the ways of building group cohesion, influencing others as well as organizing work. This theory enhances collaborative relationships through socialization, which

involves learning from others' expertise. At the interpersonal level, collaboration has been described as an influence tactic for gathering cooperation (Yukl et al., 2005). As an influence tactic, collaboration was most likely to engender commitment while the exchange was most likely to result in compliance. The other areas in which interpersonal collaboration influences are teamwork, leadership, followership, shared leadership, and social exchange. The theory also explains how speaking and understanding work in conversation, and asserts that conversation partners must act collaboratively to reach a mutual understanding.

Healthcare professionals are very interdependent due to the complexity of health problems and this makes it important to work in collaboration with their colleagues and the patient to provide better care (D'Amour et al., 2005). The collaborative theory is therefore important in this study as an interprofessional collaboration among healthcare workers because it not only requires coordination among their colleagues and superiors but also tactical influence by building group cohesion, teamwork, establishing working relations, and also learning from each other (Huxham, 2010). Collaboration theory encourages the practice of sharing ideas and building the spirit of trust and harmony to realize a collective action for achieving a common goal, particularly among such interdependent health professionals (Colbry et al., 2014). The collaborative model of care supports and promotes the healthcare professional's role in attaining better patient outcomes. To be successful in providing safe and quality care in any healthcare institution, a collaborative approach must be instilled.

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2.3 Empirical Review

Collaboration problems arise when different sections of the Centre's system don't work together to achieve the Centre's objectives. Collaboration is both an ideal that physicians strive for and a substantial barrier to their communication with one another. Communication is essential for overcoming obstacles and establishing high-quality interactions between people from various backgrounds, according to studies of cross-discipline collaboration (VanWormer et al., 2012). Communication barriers, on the other hand, are caused by the quantity and quality of communication (Conn, Reeves, Dainty, Kenaszchuk, & Zwarenstein, 2012). Rarely has the process of integrating these disparate communication viewpoints to help a patient been studied.

As they communicate to build integration, collaborative health care systems are subjected to a number of restrictions. Establishing regular and systematic collaboration "across the many modalities so that the clinical group brings all viewpoints on behalf of the patient" is one special restriction (Sharf et al., 2012, p. 135). Patients are frequently put in the position of facilitating collaboration by acting as a go-between for communication amongst their various doctors—it is not something that physicians seek out on their own. A second constraint arises in the differences in desires to share ideas across varied practitioner paradigms (Hollenberg & Bourgeault, 2011).

Interprofessional collaboration is often defined within healthcare as an active and ongoing partnership between professionals from diverse backgrounds with distinctive professional cultures and possibly representing different organizations or sectors working together in providing services for the benefit of healthcare users (Morgan, Pullon, & McKinlay, 2015). Simultaneously, a substantial "semantic quagmire" (Perrier, Adhihetty, & Soobiah, 2016, p. 269) exists in the literature regarding the use of the concepts 'interprofessional' and 'collaboration'. We use 'interprofessional collaboration' as an ideal typical state that can be distinguished from other forms of working together (Reeves, Lewin, Espin, & Zwarenstein, 2010). Working interprofessionally implies an integrated perspective on patient care between workers from different professions involved. Working collaboratively implies smooth working relations in the face of highly connected and interdependent tasks (Haddara & Lingard, 2013; Leathard, 2003; Reeves et al., 2016).

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Interprofessional collaboration is often equated with healthcare teams (Reeves et al., 2010). Increasing evidence suggests that the notion of teamwork is often not adequate to describe empirical collaborative practices. Such practices include for instance "networks of electronic collaboration among the healthcare professionals caring for each patient" (Dow et al., 2017, p. 1) and grass-roots networks that form around individual patients (Bagayogo et al., 2016). Interprofessional collaboration is therefore to be positioned as an ideal typical way of working together that can occur within multiple settings in different ways (Reeves, Xyrichis, & Zwarenstein, 2017). Several authors have theorized the necessary preconditions for interprofessional collaboration to occur.

What their theoretical models did not account for, however, was how collaboration developed over time. How did, for instance, an internalized awareness amongst professionals emerged? Or how and why are adequate governance arrangements created and responsibilities rearranged? In trying to account for this, attention usually lies on "external and structural factors such as resources, financial constraints and policies" (D'Amour et al., 2008, p. 2). In other words, it was seen to be the job of managers and policy makers.

This emphasis on external and managerial influences to understand the development of interprofessional collaboration can be questioned. Firstly, literature on collaborative processes within and between organizations (Gray, 1989) showed that to understand how collaboration occurred and why it worked out or not, it is important to pay attention to the 'doing' of collaboration (Thomson & Perry, 2006). By this, authors argued for a focus on the actions of the actors involved in collaborative processes to understand these processes.

This section reviewed the literature on the factors influencing inter-professional collaboration amongst clinicians in outpatient healthcare in level 4 hospitals in Nairobi. The review was done about the research objectives of this study and based on global, regional, and local levels. The research gaps from the reviewed related literature will be highlighted.

2.3.1 Interprofessional collaboration in the outpatient health care setting

Interprofessional collaborative practice takes place when "multiple health workers from different professional backgrounds work together with patients, families, carers, and communities to deliver the highest quality of care across settings" (WHO, 2010, p. 13). In the global healthcare setting, the practice of collaboration is complicated by the fact that it involves various professionals who have been trained to manage client care based on discipline. Specific frameworks of Collaboration require changing this paradigm (Sexton & Baessler, 2016).

Ndibu, et al (2020) carried out a study in Quebec to identify variables and activities associated with interprofessional collaboration among mental health professionals. The result showed that knowledge integration and team climate were independently and positively associated with interprofessional collaboration. The study opined that training and implementation of

differentiated professional skills are needed for the promotion of interdisciplinary values and interprofessional collaboration. It is imperative to have a better understanding of the collaborative activities practiced by interprofessional teams to understand the collaborative process thoroughly. It is based on this concept that the current study seeks to evaluate and explore in-depth the implementation of interprofessional collaboration activities practiced by clinicians in developing countries and explore more on interprofessional collaboration activities practiced by clinicians in level 4 hospitals in Kenya adopting a qualitative approach.

Fox, et al (2021) conducted a qualitative study to investigate observed activities of interprofessional collaboration and communication in outpatient care clinics in Canada. The findings were grouped into coordinating sequential efforts, working to understand them together. The focus of this reviewed literature was how communication was practiced to understand collaborative activities and ideals of patient-centeredness and clinical democracy in interprofessional collaboration. The new study will build on the reviewed study to unpack more on the relevance of communication and other factors that facilitate interprofessional collaboration activities practiced amongst clinicians in providing outpatient healthcare services.

An integrated literature review of an empirical study by Morgan, et al (2015) on the nature of interprofessional collaborative practice in primary care teams. The review of the 11 studies found that constant opportunity for effective, frequent, informal shared communication emerged as the overarching theme and most critical factor in achieving and sustaining effective interprofessional collaborative practice. Since collaborative practice in everyday work settings holds promise as a method to better understand and articulate the complex phenomena of interprofessional collaboration. This study will serve as a blueprint for the current practice that enhances interprofessional collaboration amongst clinicians in outpatient healthcare looking at it from a wider perspective using a qualitative approach.

Bender, et al (2013) carried out a descriptive non-experimental study to explore the feasibility and acceptability of a clinical nurse leader's role to improve interdisciplinary collaboration within a fragmented acute-care microsystem. The findings indicated the integration of the role is feasible and acceptable to the microsystem healthcare team. The reviewed literature focused

only on acute care microsystems while the new study will explore more on how clinicians collaborate to provide a wide range of care and making sure services are accessed across a different population in need of medical attention.

Not surprisingly, opportunities for frequent communication are often cited as essential for the possibility of effective interprofessional collaboration (Pullon et al., 2016). Pullon, et al (2016) used a case study design, to make a direct observation of interprofessional activity in three diverse general practices in New Zealand. The study aimed to determine how collaboration is achieved and maintained. The findings revealed five key elements to interprofessional collaboration: the built environment, practice demographics and location, practice business models, shared goals, and team structure and climate. The current study will explore more on the activities of clinicians in given healthcare and strategy of maintaining interprofessional collaboration to achieve quality healthcare service. The study will employ a qualitative approach.

Despite a favourable setting, Steihaug, Johannessen, dnanes, Paulsen, and Mannion (2016) found that intermediate units are always unable to perform adequate inter-professional collaboration. In diverse professional groupings, different interests, cultures, and ideologies emerged to impede their daily work. Insufficient inter-disciplinary collaboration seemed to hamper work with patients. Domain thinking appears to be a stumbling block for participants during the formulation of shared care plans, according to research. The phenomena of territoriality, according to Baldwin (2007), in which professional team members safeguard their practice and scope in terms of identity, accountability, and autonomy, is one of the most significant barriers to inter-professional collaboration. Inter-professional collaboration, according to research, is an inter-personal component requiring the intellectual capacities of two or more persons (D'Amour et al., 2005). Uneven power distribution, along with discrimination, is a serious concern for the health system, and it has a substantial impact on inter-professional collaboration. In primary and secondary healthcare settings, respectively, general practitioners and physicians have a significant impact. The power is attributed to their monopoly on defining illness and disease, using scientific and diagnostic language, and making decisions about knowledge in clinical practice (Degeling et al., 2004). Professional authority

is further hampered by the fear of diluting of professional identities and multi-professional historical rivalry. On a practical level, it necessitates an effort to integrate and translate shared themes and schemes within professional groups, as well as shared ownership of common goals, decision-making procedures, and the integration of specialized professional knowledge and expertise. A blurring or misunderstanding of professional identities, duties, and obligations is one of the obstacles to overcome in the successful integration of health care workers. The free and open exchange of information, as well as a good understanding of each other's work, a culture of mutual respect and recognition of each other's areas of expertise and competence, and a culture of mutual respect and recognition of each other's areas of expertise and competence, are all important elements (Hellesø, & Fagermoen, 2010). Better teamwork, according to the health workers, might eliminate time-consuming conversations and allow patients' care plans to be more tailored to their requirements. In the units, healthcare workers describe inclusive and educative professional collaboration, while physiotherapists and occupational therapists wish for better inter-disciplinary collaboration (Steihaug, S., Paulsen, & Melby, 2017).

A randomized trial of a multidisciplinary outpatient management program nearly halved mortality rates due to chronic heart failure over a six-month period (Saltvedt et al., 2002), while a control trial measuring mortality rates of geriatric patients found that mortality rates decreased by more than 50% in teams that received an intervention aimed at promoting interdisciplinary patient (Coffey, Christopherson, Glasgow, Pearson, Brown, Gathje, & Haddad, 2021, Kasper et al., 2002, Kasper et al., 2002). Similarly, a randomized clinical trial found that geriatric patients treated by an interdisciplinary primary care team were considerably less likely than controls to lose functional capacity (Toelle, Utpadel-Fischler, Haas, & Priebe, 2019, Boult et al., 2001). A growing number of intervention studies in fields such as stroke treatment are examining the impact of interprofessional collaboration on patient outcomes.

While there is a dispersed leadership lens for analysing mid-level leadership, health professionals see leadership as an individualized, top-down phenomena in which clinical departmental heads are expected to direct clinical personnel what to do, according to Nzinga,

McGivern, and English (2018). As a result, the followers' personal agency is limited. Inter-professional stratification, notably between doctors and nurses, produces parallel lines of leadership in district Kenyan hospitals, which is a fundamental element of the context in which middle-level leadership occurs. Nurses in charge supervised nurses in departments, whose work plans were developed separately from those of medical officers, medical and clinical officer (non-physician clinicians) interns, who were supervised by medical consultants, and medical and clinical officer (non-physician clinicians) interns, who were supervised by medical consultants. Professional specializations also shape relationships in clinical departments, with little opportunities for different professional groups to meet and address departmental concerns as a team. Nurses and doctors rarely interact at meetings because they belong to different cadres. Even when multidisciplinary standard operating procedures are created, they are not always carried out in a multidisciplinary manner (Nzinga, McGivern, & English, 2018).

2.3.2 Leadership and Management on Interprofessional Collaboration

The quality of collaboration amongst teams is an area of interest within health care research as it has been positively associated with patient safety and effective care delivery (Valentine et al. 2011). Higher functioning teams, where collaboration is high, arguably make better quality decisions and problem-solve more effectively; they integrate and coordinate care better and ultimately deliver more cost-effective care (Valentine et al. 2011). Conversely, a lack of collaboration amongst teams may result in poorly coordinated and fragmented care, leading to poorer patient outcomes and dissatisfaction with care (Almost & Spence Laschinger, 2002). IPC is defined as a "collaboration between people from various backgrounds and professional cultures, who may represent different organizations or sectors, and who work together to solve issues or provide services" (Morgan et al., 2015, p. 1218). According to the World Health Organization, IPC happens when a range of health care providers collaborate with patients, families, and communities to deliver complete services and high-quality treatment in a number of locations (WHO, 2010). IPC is intended to assist in the achievement of common goals while also providing mutual advantages to all parties involved. This necessitates the distribution of resources and authority (Green and Johnson, 2015). As a result, IPC's very nature necessitates shared leadership.

For successful interprofessional collaboration, leaders should possess important characteristics that will help them create a conducive space for team members to initiate and effectively interact during inter-professional collaboration. Responsibility, accountability, coordination, communication, cooperation, assertiveness, autonomy, and mutual trust and respect are all elements of collaborative practice. This collaboration results in the formation of an interdisciplinary team dedicated to achieving common goals in order to improve patient outcomes. Collaborative interactions show a mixing of professional cultures and are accomplished through exchanging skills and knowledge to improve patient care quality. The person identified to lead the team should possess skills in communication, organization, and an understanding of change processes. Historically, health care teams have been led by physicians; however, this is not necessarily the case in the modern IPC

Kooiman (2003) has created three conceptually distinct governance types. The first is self-governance, which refers to a person's ability to rule himself or herself, as well as practitioners' possibilities to build their own identity and autonomy. The professional's individual ability for interpretations and definitions of the role of professions has been enlarged, according to Kooiman (2003). At the individual level, this transition results in more self-governance in professions. Co-governance, the second method of governance, comprised of shared responsibility and engagement between the parties involved, with the parties formally organizing themselves. Making service consumers a part of the shared responsibility is an important feature of co-governance. The goal is to create a more adequate service delivery system. This type of leadership is required by the increasing specialization and diversification of services, as well as the interaction required to accommodate these. "Learning by doing" allows the diverse participants to develop a shared understanding of the activity (Kooiman, 2003). Hierarchical governance is the third kind of governance, and it is defined by a top–down approach and targeted action. This necessitates the establishment of objectives, the selection of instruments, the development of strategies, and the coordination and control of numerous activities. When power coalitions and relationships alter, hierarchical governance emerges, and it is more in accordance with a structural level (Kooiman, 2003). As a result, terminology like "self-governance," "co-governance," and "hierarchical governance" are useful for examining how frontline managers lead in interprofessional collaboration.

A systematic review done by (Smith et al., 2018) to identify and construct a framework to explain the available evidence about leadership in interprofessional health and social care teams, identified some of the characteristics of effective leadership in fostering interprofessional health care teams. Some of these characteristics included effective communication, external liaison, direction setting, effective team-building, leadership clarity, personal qualities, skill mix and diversity, goal alignment, and clinical and contextual expertise. The study indicated that the leadership of an organization requires a unique blend of knowledge and skills that support innovation and improvement for an effective interprofessional health care team. A qualitative study done by Hu & Broome (2020) in China to explore health professionals' perceptions on the characteristics of leadership that they thought were required for successful interprofessional collaboration found three leadership characteristics; initiating and maintaining collaboration, serving as a role model, and showing benevolence to all team members during interprofessional collaboration (Hu & Broome, 2020). Leaders should therefore be able to provide directions for training and cultivating healthcare professionals to be well prepared for to work more effectively in interprofessional collaboration.

Studies have identified effective leadership as improving interprofessional collaboration. Empowerment appears as a primary focus in the generic team leadership literature as a mechanism for collaboration (West et al, 2014). The leader ensures that the team stays focused on its priorities and objectives, as well as that individual team members stay on track (Mickan and Rodger, 2000). They work to manage team procedures, such as defining clear tasks (Ross et al., 2000), coordinating work (Mickan and Rodger, 2000), and ensuring equitable allocation (Pollard et al., 2005). According to a 2009 study, teams with a single team leader had greater levels of employee satisfaction than teams with a split leadership role (Nancarrow et al., 2009). Clear team objectives, strong levels of involvement, commitment to quality, and support for innovation are all linked to clear leadership (West et al., 2003). When primary health-care teams had good leadership and high team member involvement, they rated their effectiveness higher (Rosen & Callaly, 2005).

Collaboration is not a natural occurrence (Lyubovnikova et al., 2015). As a result, the team leader must devote time to team-building, "establishing expectations for working together" (Suter et al., 2007), and fostering mutual respect (Ovretveit, 1997; Leathard and Cook, 2004). They work to maintain team cohesion (Willumsen, 2006), develop interpersonal skills (Ovretveit, 1997), promote interprofessional collaboration through group reflection on practice (McCallin, 1999; Branowicki et al., 2001), and ensure contextual socialization of new or inexperienced team members (McCallin, 1999; Branowicki et al., 2001). (McCray, 2003). Allowing enough time for debate and reflection on practice, as well as enabling workers to contact with individuals outside their field, promotes collaboration (Suter et al., 2007; McCallin, 2003; Branowicki et al., 2001). The team's interaction processes must be facilitated, and clear communication channels must be established and maintained (Ovretveit, 1997; Suter et al., 2007; Willumsen, 2006; Blewett et al., 2010). They do so through facilitating healthy debates and modelling their own ideas (Mickan and Rodger, 2000; Lyubovnikova et al., 2015), as well as by encouraging, listening to, and trusting team members (Mickan and Rodger, 2000; Leathard and Cook, 2004). In addition, the leader must handle conflict, striking a healthy balance between harmony and constructive debate (Mickan and Rodger, 2000; McCray, 2003).

A study done to understand the nature of the interactions, activities, and issues affecting interprofessional collaboration among junior doctors and nurses in the hospital setting, found that leadership, one of the prerequisites for establishing interprofessional collaboration was not always present (Weller et al., 2011). The findings suggested that appropriate leadership was often not apparent to participants, which affected the orientation of new members to the team. According to Weller et al (2011), strong health care teams that improve interprofessional collaboration are built by demonstrating the professionalism, mutual respect, thoughtfulness, and adaptability of these juniors, which are greatly influenced by strong and supportive leadership. The senior staff should therefore be reminded of the need to undertake team leadership. Hospitals should avail leadership mentoring and development programs to create a culture that enhances interprofessional collaboration.

Additionally, administration support is essential for successful interprofessional collaboration. The management is responsible for approving budgets, allocating resources, and gaining

institutional recognition, and designating faculty members important for collaboration (Lomax & White, 2015). Administrative support is very essential in influencing the buy-in among health professionals and others (Speakman & Sicks, 2015). A study was done by Moilanen et al., (2020) to analyse the perception of 350 healthcare professionals including physicians, nurses, and other professionals, on leadership and administrative support in interprofessional collaboration for developing practices in cancer care reported that dissatisfaction on the leadership and organization strategy and management support of interprofessional collaboration. The management of level 4 hospitals in Nairobi Kenya should therefore be able to provide support for effective collaboration.

2.3.3 Communication and Interprofessional Collaboration

Poor communication amongst team professionals can result in inefficient interprofessional collaboration which might lead to low patients' outcomes. To improve communication between physicians and nurses and build a team culture, strong leadership is essential. In order to deliver comprehensive, efficient, and patient-centred care, effective communication amongst health professionals is also required (Elligson, 2002; Ushiro & Nakayama, 2010). Team leaders must guarantee that all team members are involved in decision-making (Verhaegh, Seller-Boersma, Simons, Steenbruggen, Geerlings, de Rooij & Buurman, 2017 citing Hale & McNab, 2015). Improving nurses' and physicians' comprehension of their respective techniques and perspectives on nurse–physician communication and collaboration could lead to a better mutual understanding and more effective teamwork. The majority of current literature has focused on the level of collaboration rather than the variables that determine communication and collaboration, and even less on the physicians' or nurses' contribution to communication in the nurse–physician dyad (Matziou, Vlahioti, Perdikaris, Matziou, Megapanou & Petsios, 2014 citing Baker, Egan-Lee, Martimianakis, & Reeves, 2011; Hughes & Fitzpatrick, 2010; Manojlovich & DeCicco, 2007; Onishi, Komi, & Kanda, 2013; Puntillo & McAdam, 2006; Ushiro & Nakayama, 2010; Vaismoradi, Salsali, Esmaeilpour, & Cheraghi, 2011). According to the literature, interprofessional respect is necessary for a successful collaboration.

According to Kreps (2016), collaboration in health care settings requires open and effective communication as it requires professionals to assume complementary roles and work co-operatively with each other, together, share the responsibility to solve problems and make decisions. Several citations have found that poor communication is a major cause of poor interprofessional collaboration among healthcare workers. Medical errors can occur when there is a lack of communication. These mistakes have the potential to result in serious damage or patient death. Medical errors, particularly those resulting from a failure to communicate, are a widespread concern in today's health-care settings (O'Daniel & Rosenstein, 2008).

A survey study conducted by Collette et al. (2017) to assess the state of collaboration between 355 nurses and 80 physicians at a non-academic acute care hospital indicated that effective communication is an important determinant for success in collaborative practice amongst healthcare practitioners. The study found a lack of proper communication among physicians and nurses which resulted in an inadequate and improper transfer of patient-related information. Efficiency in the transfer of important patient information is highly dependent on interprofessional collaboration and significantly reduces the risks of clinical errors. According to Collette et al (2017), there was a greater collaboration and communication amongst physicians themselves than between physicians and nurses. The authors recommended that healthcare professionals need to enhance communication amongst themselves to improve inter-professional collaboration and cope with the complex healthcare needs of a higher number of chronically ill patients.

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A systematic review done by Abd Hamid et al. 2016) to examine the relationship between interprofessional communication and interprofessional collaboration (IPC), highlighted the importance of interprofessional communication among professionals to achieve positive IPC. The study reviewed 200 pieces of literature on interprofessional care, health care management, and health sciences related to interprofessional communication and identified interprofessional communication as a core competency of IPC. (Abd Hamid et al., 2016) reported that poor communication is the main contributor to poor quality of patient outcomes while good communication amongst health care professionals can improve the interprofessional collaboration and in the end, will enhance the patient health outcomes. The authors

recommended that every healthcare professional should have the competency of effective communication to develop good collaboration and obtain considerable patient outcomes.

In daily clinical practice, poor doctor-nurse communication is generally common (Wang et al., 2018). A study conducted by (Curtis et al., 2011) to determine the factors that affect leadership in nursing revealed that communication between physicians and nurses was hindered by individual, social, and organizational factors. Among the social factors were profession-specific language barriers and hierarchical conflicts. (Curtis et al., 2011) reported that doctors often use brief and factual communication while nurses describe patients' problems in depth. Organizational factors included poor quality of multi-professional team meetings and problems reaching doctors via telephone. The study also reported that individual factors like attitude usually result in conflicts, disagreement and differences which are often affect collaboration. The study suggests that communication strategies like team training, communication tools/checklists, multidisciplinary structured work shift evaluation, among others should be used to doctor-nurse improve communication.

According to the above citations, lack of effective communication can hinder and impact collaborative working leading to catastrophic results among inter-professional teams. Effective communication, on the other hand, can result in positive outcomes including improving the flow of information, improved safety, effective involvement, and collaborative working (Vermeir et al., 2015). Effective communication and information flow are essential to patient care. An inter-professional team that considers the significance of communication is more likely to have positive and better collaborative results. In addition to improving interprofessional collaboration, communication between health care professionals increases team member's awareness of different types of knowledge and skills (Kreps, 2016). Healthcare professionals must therefore engage and communicate with other professionals to ensure that the patient receives quality care.

Due to past power ties and interpersonal interactions, empirical and research data imply that unresolved tensions influence cooperation dynamics and collaboration. As a result, exposing these hidden discourses can help to strengthen interprofessional collaboration (Hart, 2011).

2.3.4 Resource Availability and Interprofessional Collaboration

Developing collaboration opportunities and organizational solutions can facilitate contact between professions and positively influence the intention of interprofessional collaboration. Conversely, their absence may serve as a barrier in acting (perceived behavioural control). Some solutions appear more formal, including hiring pharmacists in hospital departments. Hospital resources like finance, Information, communication and technologies, and organizational and physical equipment are important factors for interprofessional collaboration. Financial resources are key for the success of an interprofessional collaboration. A study done to determine the effect of financial barriers on interprofessional collaboration within integrated care programs indicated that financial barriers negatively affected the implementation of interprofessional collaboration within integrated care which in turn affect patient care improvements (Gilles et al., 2020). According to the study, inter-professional team members require resources to formulate and facilitate interprofessional activities and programs, to recruit other health professionals for the collaborative programs, to provide professional education, and to enhance the evaluation of such programs. The study adds that an interprofessional collaboration team also provides a wider professional community for sourcing of funding and other requirements. Lack of such financial resources, therefore, affects the implementation of such activities which in turn affects interprofessional collaboration. The authors recommend that the role of financial barriers in interprofessional collaboration should be acknowledged and actions are taken to reduce these barriers both at the implementation and at the maintenance stages (Gilles et al., 2020).

Information, communication, and technologies have increasingly been used to enhance communication amongst health care providers. A systematic review of 289 articles done by (Barr et al., 2017) on the impact of information and communication technology on interprofessional collaboration for chronic disease management highlighted that information and communication technology is critical for interprofessional collaboration because it aids communication and education. The study however reported that the success of technology in enhancing collaboration depends on supporting the social relationships and organization in which the technology is placed. Additionally, telecommunications enable inter-professional

teams to work together to provide patient-centred care even when they are not in the same location (Barr et al., 2017). Although telemedicine is a promising healthcare service delivery method, there exist barriers limiting the success of such telemedicine programs (Graves & Doucet, 2016). Graves & Doucet (2016) found that the implementation of telemedicine has proved to be time consuming and more complex across the world.

A meta-synthesis done by Johnson et al., (2020) reviewed qualitative peer-reviewed articles on interprofessional teams published between 2005–2018 to identify the factors influencing interprofessional team collaboration when delivering care to community-dwelling seniors. The study found that the organizational and physical environment where the interprofessional team operates can influence the degree and nature of collaborative interactions. Organizational environment and structure are the organizational processes, organized activities, schedules, physical spaces, temporal arrangements, and the architectural considerations that affect collaboration (Rezaee et al., 2014). Johnson et al (2020), reported that a structural design with massive work spaces is more likely to 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 amongst healthcare professionals. Space in inter-professional teams in outpatient health care setting encourages informal interactions among teams while workspaces that are physically separated inhibits direct working with other members of the team (Johnson et al., 2020). Organizations should therefore ensure that their structures and workspaces are sufficient and well designed to promote interactions among healthcare teams.

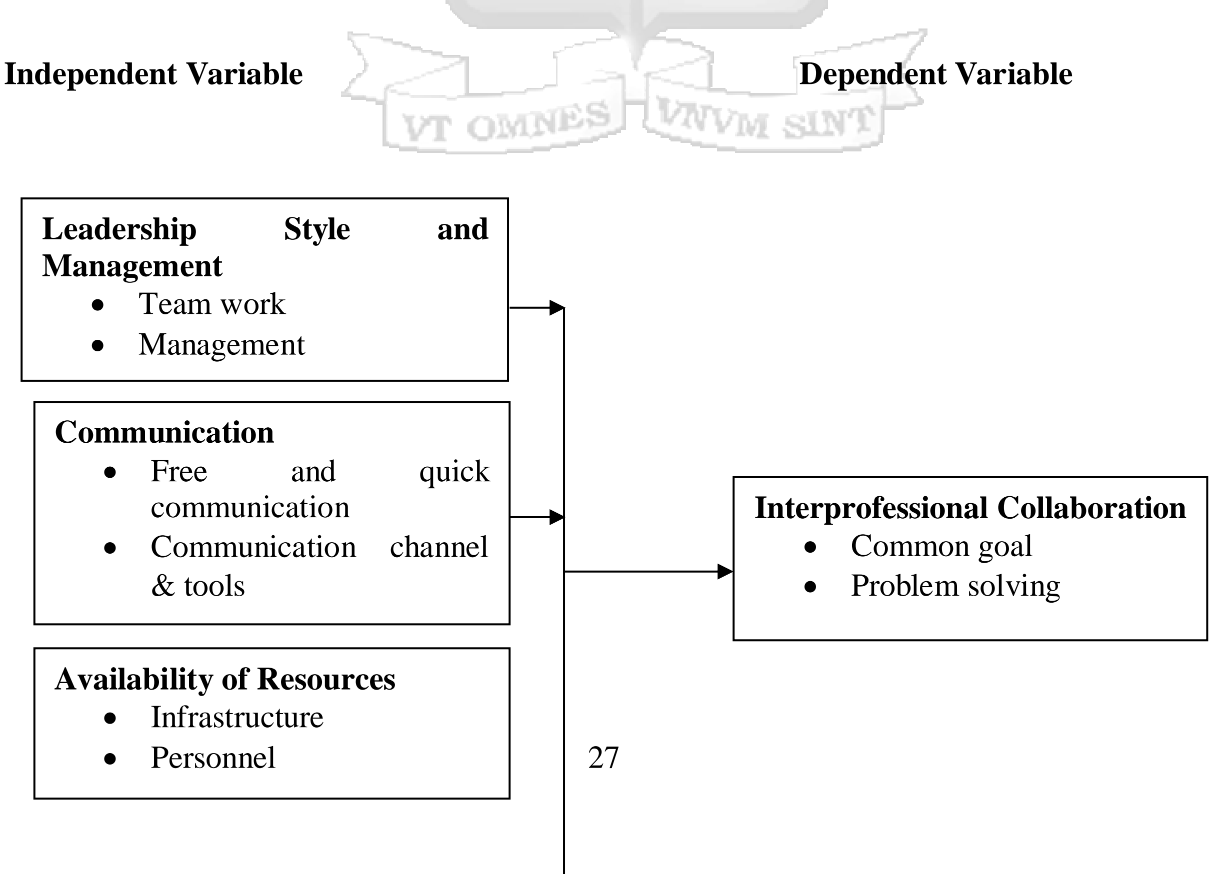
2.3.5 Training and Development and Interprofessional Collaboration

A systematic review of literature done by (Reeves et al., 2010) on interprofessional education (IPE) was published between 1999-2006 to determine the effectiveness of interprofessional education proved that healthcare workers trained in an Interprofessional Education approach have better interprofessional collaborative practice competencies compared to those without an IPE training. According to the study, interprofessional collaboration gives healthcare workers the ability to share knowledge and skills, more positive attitudes towards each other,

a better understanding of each other's competencies, and improved team identity. There are, however, several challenges for sustaining the implementation of IPE including non-coordinated and strictly separate curricula of different health care professions, an insufficient number of specifically qualified teaching staff, and limited financial resources of the institutions (Angelini, 2011). This study, therefore, recommends that organizations should allocate more resources to IPE courses and training for sustainable implementation of interprofessional collaboration.

2.4 Conceptual Framework

A conceptual framework is a diagrammatic presentation linking interprofessional collaboration and leadership style and management, communication, availability of resources and skill training and development. Leadership style and management was operationalized team work and management support. Communication will be operationalized as free and quick communication and communication channels and/or tools. Availability of resources was operationalized infrastructure and personnel. Training and development were operationalized as staff training and professional development. The link is as shown in Figure 2.1.



Training and Development

- Staff training
- Continuous professional development

Figure 2.1 Conceptual Framework

2.5 Research Gap

Table 2.1 Research Gaps

Study	Findings	Research gap
Abd Hamid, Abdul Rasid, Maon, Mohd Hassan & Suddin (2016).	The study found interprofessional communication to be a critical factor in improving professionals' attitudes toward effective collaboration.	This study only looked at one of the factors that affect interprofessional collaboration, (communication) but did not consider other factors.
Barr, Vania, Randall & Mulvale (2017)	Information & technology is critical in enhancing collaboration and depends on supporting the social relationships and organization in which the technology is placed.	The study focused on interprofessional collaboration in the management of chronic diseases and not in outpatient care.
Collette, Wann, Nevin, Rique, Karrant, Hickey, Stichler, Toole, & Thomason (2017)	The study found a lack of proper communication among physicians and nurses which resulted in an inadequate and improper transfer of patient-related information.	This study mainly examined the factors that affected communication between physicians and nurses but did not include all the other clinicians.
Gilles, Filliettaz, Berchtold, & PeytremannBridevaux, (2020).	Financial barriers negatively affected the implementation of interprofessional collaboration within integrated care which in turn affects patient care improvements.	The study focused on financial barriers in interprofessional collaboration but did not consider other resources like technology and physical resources.
Hu & Broome, (2020).	Three leadership characteristics are required for successful interprofessional collaboration; initiating and maintaining collaboration, serving as a role model, and showing benevolence to all team members during interprofessional collaboration	Although this study focused on the perceptions of health professionals on important leadership characteristics required for IPC, the study was done among healthcare professionals in China and not Kenya/Africa.
Johnson, Hermosura, Price & Gougeon, (2020).	The organizational and physical environment where the interprofessional team operates like well-designed structures and spacious workplaces can positively	The study only concentrated on interprofessional collaboration teams in the delivery of care to

	influence the degree and nature of collaborative interactions.	community-dwelling seniors rather than in delivering outpatient care.
Moilanen, Leino-Kilpi, Kuusisto, Rautava, Seppänen, Siekkinen, Sulosaari, Vahlberg, & Stolt (2020).	Healthcare professionals perceived leadership in the work unit, organization strategy, and management for the support of interprofessional collaboration as weak.	This study focused on interprofessional collaboration for developing practices in cancer care rather than in outpatient care.
Reeves, Zwarenstein, Goldman, Barr, Freeth, Koppel, & Hammick (2010).	Healthcare workers trained in an IPE approach have better interprofessional collaborative practice competencies compared to those without an IPE training.	This study only focused on the provision of interprofessional educational courses in medical schools and does not consider interprofessional training during professional practice.

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2.6 Chapter Summary

In this chapter, the researcher addressed the theoretical framework, objectives of the study by reviewing the existing literature, and the gaps of the study. This study anchor on two theories; the Human Relational and the collaboration theory. Both theories explained the importance of soft skills/interpersonal skills and influence tactics that can be used to foster team efficiency necessary for interprofessional collaboration among healthcare workers (Colbry et al., 2014) (Eydman, 2018). The researcher also reviewed the existing literature based on the four objectives of the study on the factors influencing interprofessional collaboration among clinicians in level 4 hospitals which was explored based on the global, regional, and local levels. However, there was limited literature on the regional and local levels, leaving the research to concentrate on the global literature, which goes further to affirm the gaps and the need for the current study to address those issues.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter will discuss the methodology, study design, target population, sampling, data collection methods and instruments, and data analysis and presentation.

3.2 Research Design

The study employed an exploratory research design to explore the clinicians' perceptions and experiences on factors that influence interprofessional collaboration in outpatient care services in level 4 hospitals in Nairobi County. A qualitative method is an approach to qualitative research that focuses on the commonality of a lived experience within a particular group. The fundamental goal of the approach is to arrive at a description of the nature of the particular phenomenon (Creswell, 2009).

In-depth, semi-structured interviews were conducted using qualitative descriptive methodology, which is considered as a less interpretative and theoretically oriented approach (Sandelowski, 2000). This strategy, which draws on naturalistic inquiry for phenomena descriptions, allows investigator to reach a consensus through analyses and interpretations of the meaning attributed to occurrences (Sandelowski, 2000; Tong et al., 2007). The justification of using this approach is to explore the clinicians' perceptions and subjective experiences on factors that influence interprofessional collaboration in outpatient care services in level 4 hospitals in Nairobi County. This was done in their natural settings, attempting to make sense of or interpret the phenomena in terms of the meanings the participants brought out.

Table 3.1 Research Design Summary Storyboard

Objective	Research design	Data sources
To assess the clinicians' perceived role of leadership and management on interprofessional collaboration in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya.	Exploratory design	In-depth interview
To determine the effects of communication in interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospital in Nairobi Kenya.	Exploratory design	
To assess the effect of availability of resources on interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya.	Exploratory design	In-depth interview
To explore how healthcare workers' skills, training, and development affect interprofessional collaboration of clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya.	Exploratory design and descriptive	In-depth interview

3.3 Study Setting

Nairobi County is one of 47 counties in Kenya. It is the capital of Kenya and the largest city in Kenya with a population of about 4735000 (Nairobi City County, 2020). Nairobi county has about 9043 health facilities, but only 1079 are registered and have a license to operate. The research was done at one Public, one Private, and one Faith-Based level 4 hospital within Nairobi Metropolitan City (NMC). The specific level 4 hospitals that were used were: Mbagathi District Hospital located in Mbagathi, Avenue Healthcare Hospital located in Parklands, St Mary's Mission Hospital located in Langata. These hospitals were selected following their management and size.

Kenya healthcare system is categorized into six distinct levels; level one - community (village/family unit/household), level two - dispensaries/clinics, level three - health centres, nursing homes, maternities, level 4 - sub-county hospitals, level five - county hospitals, level

six - national referral hospitals. These are the levels of hospitals as provided in the Essential Package for health (KEPH).

St Mary's hospital Langata road is a faith-based facility, owned and managed by the Assumption Sisters of Nairobi. The hospital serves the greater part of Kibera slum settlement, hence, the low cost but high-quality service. Avenue healthcare is a private hospital and is located in Parkland Avenue in Westlands Nairobi. It was established by Dr. B. P. Patel in 1976, and since then has gone through two management but presently has been acquired by a Dubai-based private equity firm, Abraaj Group. Mbagathi District hospital is located along Mbagathi road. It is a government owned public hospital under Nairobi County, it provides a quality and affordable healthcare services to a greater part of Nairobi Metropolis.

3.4 Target Population

The study population is the unit or subjects from which the researcher intends to conclude. According to Kabir (2016), defining the target population is imperative in posing the primary questions for the specific study. The population of the study comprised one public, one private, and one faith-based level 4- hospital, the study targeted clinicians (Medical Officers, Clinical Officers, Nurses, Pharmacists, and Laboratory personnel) working in the outpatient care in the selected hospitals. The choice of clinicians was because they have the necessary and needed information since they work in the outpatient unit and are involved in interprofessional collaboration. According to the Kenya Health Workforce Report by MOH (2016), health practitioners in level 4 healthcare facilities in Nairobi are 3028. Inclusion criteria involved both unionized and non-unionized clinicians working in the selected hospitals.

3.5 Sample Size and Sampling Technique

Sampling is the process by which a relatively small number of individuals, objects, or events are selected and analysed to find out something about the entire population from which it was selected. In qualitative research, only a sample of a population is selected for any given study. The study research objectives and the characteristics of the study populations determine which and how many people to select. Creswell (2009) and Boddy (2016) sample size guidelines

suggested a range between 15 and 30 interviewees to be adequate, hence my choice of 62 participants. The study used purposive sampling to select 25 participants from the Mbagathi sub-county hospital 15 from Avenue healthcare and 22 from St, Mary's mission hospital taking into consideration the number of clinicians working in the outpatient health care unit in each hospital. The researcher was able to interview all the 62 clinicians; 25, 22 and 15 from faith-based, private and public hospitals respectively. The purposive sampling technique was used to select only those clinicians that work in outpatient care and participate in interprofessional collaboration.

3.6 Data Collection Instruments

To examine the extent to which healthcare workers' skills training, and development affect interprofessional collaboration of clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya. An in-depth interview guide was used to collect qualitative data. This is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on their interprofessional collaboration in an outpatient care situation.

3.7 Data Collection Procedure

Secondary data was searched using a strategy that consists of four elements. First, was electronic database searches of Scopus and Web of Science (January – May 2021) and Medline (May 2021). The study chose keywords based on the review of terminology in the literature on interprofessional collaboration by Perrier et al. (2016). Second, the researcher searched specific journals, based on the number of relevant studies in the electronic database search: Journal of Interprofessional Care, Social Science & Medicine, Journal of Multidisciplinary Healthcare and International Journal of Integrated Care. Third, the study used the references of relevant studies and reviews to find additional studies. Fourth, the researcher asked other experts on interprofessional collaboration, public management and healthcare management to provide us with additional studies.

The researcher sought permission to carry out the research, an authorization letter was obtained from the University, and a research permit from the National Commission of Science, Technology, and Innovation (NACOSTI), also, a letter of authorisation from the director of health in Nairobi Metropolitan service (NMS). The researcher used the letters to explain to the participants the importance of this study. The researcher enhanced the confidentiality of the data collected from the participants. The researcher first visited the selected hospitals, introducing herself to the hospital administrator who had been contacted by appointment before the visit. Brief information was given in regard to the research topic. The researcher planned each interview section to last for 10 minutes. Before the commencement of the interview, the researcher explained the purpose of the study to the interviewee, assuring them of the confidentiality of the information to be gathered.

This qualitative study focused on holding exploratory interviews with clinicians working in the selected hospitals to find out their perceptions and experiences on the factors that influence interprofessional collaboration in their various hospitals. An in-depth face-to face interview was conducted by the researcher using open-ended questions.

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3.8 Data Analysis and Presentation

Data analysis is the process of cleaning, transforming, and modelling data to discover insights and useful information that would be important for key decision-making processes (Richards & Hemphill, 2018). This study analysed qualitative data using a thematic analysis approach which is a method of analysing qualitative data. It is often applied to texts and related data, and more particularly interviews and open-ended questions (Maguire & Delahunt, 2017). The researcher examined the data deeply to identify common themes, topics, thoughts, and other factors expressed within the text. This study collected interview data from clinicians working in the outpatient unit from the selected hospitals in Nairobi. The data collected was transcribed and reported in verbatim format. Thematic analysis by Vaismoradi et al (2013) and Thagaard

(2018) inspired the material analysis. The analysis was carried out as a back-and-forth procedure between the complete data set, the coded data extracts, and the data that were produced. The research questions were used to create the codes and themes. This began by reading the transcripts several times to get a general view of the clinicians on the research topic. Even though the initial codes were deductively drawn from the research questions, emerging codes from the iterative transcriptions were drawn inductively through line-by-line coding. Next, significant thoughts, insights, phrases, or sentences which pertain to the lived experiences of the participants on the issue of interprofessional collaboration were clustered into common themes like; teamwork, management support, free and quick communication, infrastructure, personnel and training. that address the research objectives. The analysis was done using Braun and Clarke's (2008) approach to thematic analysis of transcripts was applied. The following step were engaged in this process: (1) becoming familiar with the data; (2) generating initial codes; (3) looking for themes; (4) reviewing themes; (5) defining and labelling themes; and (6) completing the report.

3.9 Research Quality

3.9.1 Reliability Analysis

Reliability is defined as the degree to which research methods produce stable and consistent results (Hayashi et al., 2019). In other words, if a method is used in different studies and obtains similar results, then the study can be assumed to be highly reliable. In a qualitative study, an important question of reliability would be if the interview process is repeated multiple times, will the subject provide the same answers each time? If that is the case, then reliability is assumed to be high.

In a qualitative study, establishing truthfulness is made possible when a study adopts the five criteria of credibility, transferability, dependability, authenticity, and conformability in data collection. Credibility in this case means interpreting results to give precise meaning as that of the participant. Authenticity ensures that every person who participates in the interview or study gives original views, rather than views that have been affected by other factors, including

other participants. Reliability leads to a state of validity, which is ensuring the study is factual or consistent with other established standards.

Examining the trustworthiness of participants is an important step in ensuring reliability in qualitative studies. Trustworthiness is the ability of the participant to provide accurate information during the data collection phase (Belotto, 2018). Equally, it is important to collect field notes and transcribe digital files as evidence of authentic data. These methods are particularly applicable for qualitative studies.

3.9.2 Validity Analysis

According to Kothari (2011) validity is quality attributed to proposition or measure of the degree to which they conform to establish knowledge or truth. An attitude scale is considered valid, for example, to the degree to which an instrument can measure what it ought to be measuring. It therefore refers to the extent to which an instrument asks the right questions in terms of accuracy. The researcher discussed the items in the instrument with the supervisors, lecturers from the department and colleagues. Advice given by these people helped the researcher determine the validity of the research instruments. The advice included suggestions, clarifications and other inputs.

3.10 Ethical Considerations

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Informed consent was obtained from respondents before they were included in the study to uphold the ethical research standards. In that consent form, relevant studies were made available with information about the research (potential risks and benefits) so that they get into the study voluntarily. Participants were also informed that they can withdraw from the study at any point without any consequences. The collected data was exclusively used for this study and was treated with a high degree of confidentiality. Further, to enhance confidentiality, research participants were not required to include their names in the questionnaires. A research permission letter was granted from Strathmore University to proceed with the study. A clearance letter from the Ethics Committee of Strathmore University was sourced and a permit

from NACOSTI was also acquired before the study commenced. Further, approval to research public level four PHC facilities was obtained from Nairobi Metropolitan City (NMC).

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter contains presentations, discussion and interpretation of the research findings from the data collected. The data were analysed using a thematic analysis approach which involved content analysis procedure in coding the emergent themes. The findings are presented, discussed and interpreted in relation to the research questions.

4.2 Demographic Information

4.2.1 Study Participants

The participants of this study comprised 62 clinicians working in the outpatient care of one public, one private, and one faith-based level 4- hospital in Nairobi County. 38 were females while 24 were males. The distribution of the study participants according to the health institutions were as shown in figure 4.1. Out of the 62 study participants, 40% were from a faith-based hospital, 36% from private, while 24% percent were from public hospital. This comprised of 28 nurses, 8 laboratory technicians, 6 pharmacists, 13 clinical officers and 7 medical officers.

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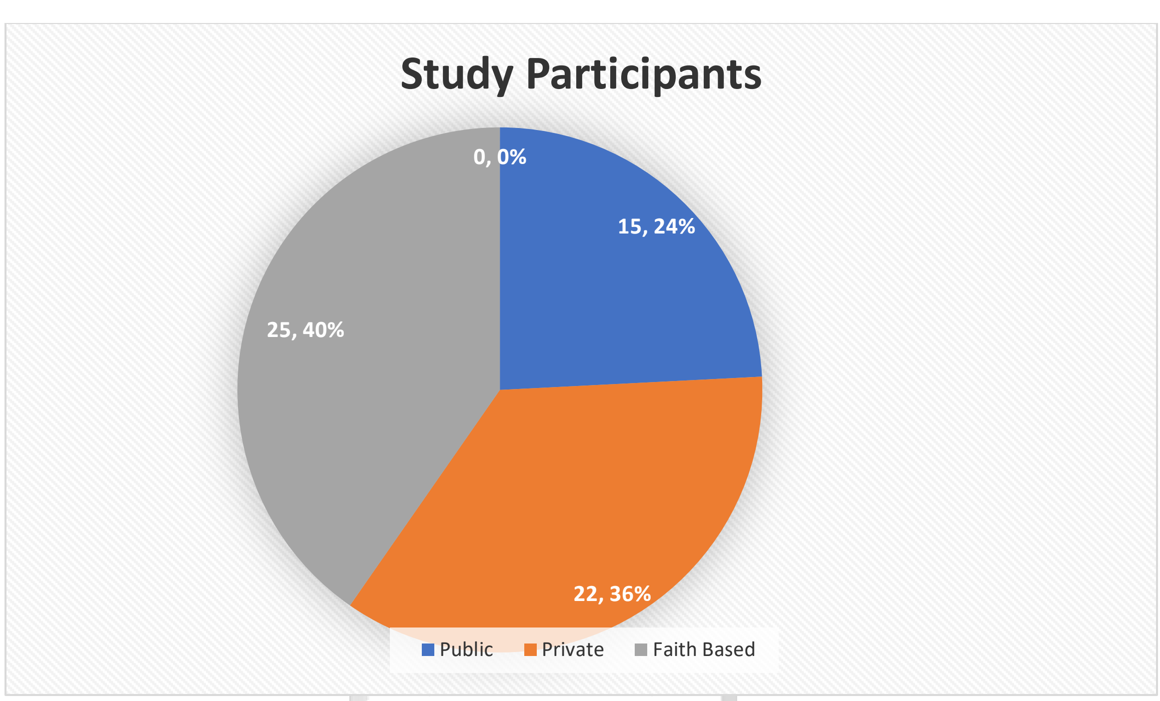

Figure 4.1 Study participants

4.2.2 Age Distribution

In terms of age distribution of the participants, 18 were aged between 21-30 years, 22 were aged between 31-40 years, 16 aged between 41-50 years while only 6 were above the age of 50. This could be attributed to the fact that the study focussed on outpatients' care which is the entry point of the patients who could be later referred to the consultants. The age distributions were as shown in figure 4.2.

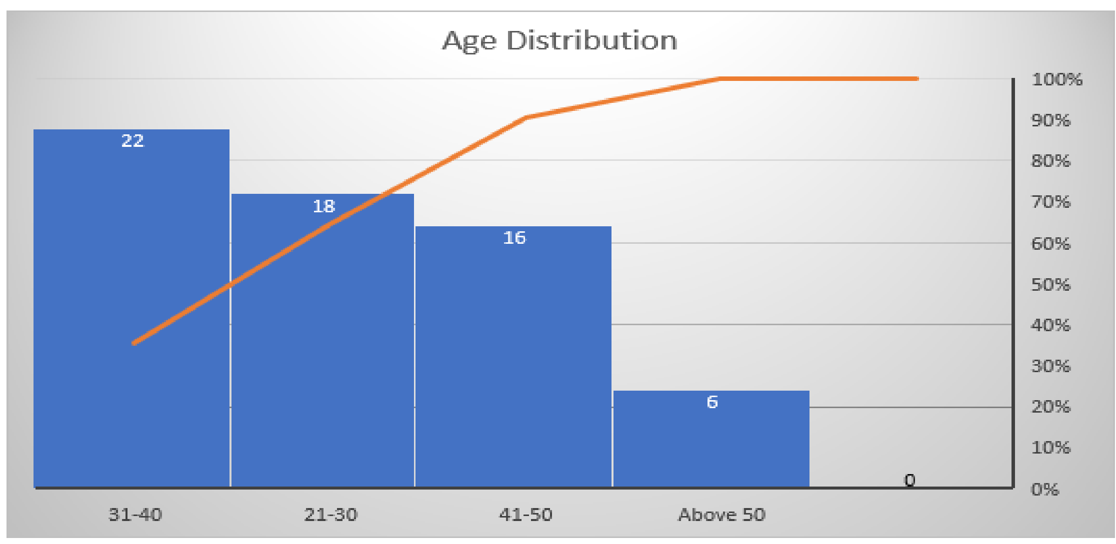

Figure 4.2 Age Distribution

4.2.3 Years of Experience

In terms of years of working experience, most of the participants had worked for more than five years with very few above 15 years as indicated in figure 4.

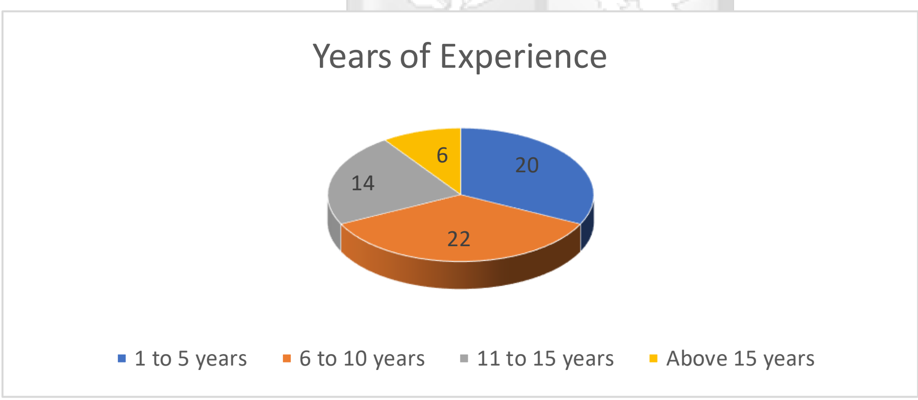

Figure 4.3 Years of Experience

4.3 Leadership Style and Interprofessional Collaboration

The first objective of the study explored how the clinicians' perceived role of leadership and management influences interprofessional collaboration in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya.

Respondents acknowledged that collaboration benefits patients and also the team of professionals. Most pointed out that there was leadership in this regard and that they were assisted and some were able to air their views since they were given the opportunity to do so. Respondents had this to say:

> *"When we collaborate from our different Units, patients benefit and even the providers. We do not overwork ourselves. Patients also get quality service. IPC affects patient care positively." (Nurse 1, 4th, November, 2021)*

> *" of course, when we collaborate, patients enjoy quality care, the providers are not over worked, because each team member give the care from their areas of specialty, and even the organisation benefit because they make more money as the satisfied patients will advertise the hospital to other patients and encourage them to come to that facility for care" (Clinical Officer 4, 4th, November, 2021)*

While a rising number of intervention studies in sectors like stroke treatment are evaluating the influence of interprofessional collaboration on patient outcomes.

> *"I do not really have a central team but we have teams in different departments. They try because here is a government hospital so many things are done from above. Department leadership is doing well, they give us opportunity to give our input and assist when we have difficulties. IPC affects the patient positively because they will be taken care of by many specialists." (Nurse 2, 5th, November, 2021)*

> *"I will say our immediate boss is trying, but you know this is government hospital, and everything is managed from the ministry, so sometimes their hands are tied here, they know what to do but unable…." (Nurse 6, 5th, November 2021)*

The statement was affirmed by existing literature that indicates Poor operational leadership is commonly blamed for hospitals' poor performance in Kenya and other LMICs (Nzinga et al.

2009; English et al. 2011), yet such leadership is often embedded in a complicated healthcare environment that limits leaders' ability to intervene. Decentralization of health-care governance in Kenya, for example, and increased accountability demands on clinicians who take up leadership and managerial roles (KPMG, 2013) make leadership tasks challenging to fulfil. While there is a dispersed leadership lens for analysing mid-level leadership, health workers perceive leadership as an individualized, top-down phenomena in which clinical departmental heads are expected to direct clinical employees what to do, according to Nzinga, McGivern, and English (2018). As a result, followers' personal agency is always limited. Inter-professional stratification, notably between doctors and nurses, is a fundamental characteristic of the framework in which middle-level leadership occurs in district Kenyan hospitals, resulting in parallel lines of leadership. Nurse 'in charge' supervised nurses in departments, whose work plans were developed separately from those of medical officers, medical and clinical officer (non-physician clinicians) interns, who were supervised by medical consultants, and medical and clinical officer (non-physician clinicians) interns, who were supervised by medical consultants.

Professional specializations also shape relationships in clinical departments, with little opportunities for different professional groups to meet and address departmental concerns as a team. Nurses and doctors rarely interact at meetings because they belong to different cadres. Even when multidisciplinary standard operating procedures are created, they are not always carried out in a multidisciplinary manner (Nzinga, McGivern, & English, 2018). Within the same department, doctors typically make departmental decisions without consulting their teams or nurse supervisors. Nurses also make ward operations decisions on their own, without consulting their nursing teams or medical advisors. Despite the fact that hospital managers are aware of the challenges that parallel lines of leadership might cause, they are accepted as a cultural norm and go unchecked, hampering the prospect of team or distributed leadership (Pursio, Kankkunen, SannerStiehr, Kvist, 2021).

There were barriers to interprofessional collaboration identified as: lack of knowledge of roles led other health professionals to feel underutilized, undervalued and misunderstood by

physicians. Some physicians did not adequately understand the roles of their non-physician colleagues.

Most interviewees emphasized on the fact that if interprofessional collaboration were to exist in different health institutions, it could create very positive impacts on both patients and the care givers. There were however varied responses when it came to the role of leadership in interprofessional collaboration. A large percentage of those working in private and faith-based hospitals confirmed that their leadership supported and encouraged interprofessional collaboration; as reported by one of the participants from the private hospital:

> *"... Our hospital management ensures that competent workers are employed and team work is encouraged with frequent departmental meetings; thus, promoting interprofessional collaboration" (Pharmacist 4, 5th November, 2021).*

The nature of previous experiences with collaboration between physicians and pharmacists appeared to affect their attitudes toward establishing a partnership in the future. These responses coincided with many others who reported that so much had been put in place by the hospital leadership to ensure that a good collaboration existed among the healthcare givers. There were however differing opinions from most of the participants from the public hospital as they felt that their leadership teams needed to improve when it comes to promoting interprofessional collaboration. One of the participants repeatedly said:

> *"Our top management is not so involved because most of the trainings are only reserved for those in leadership even at departmental levels. There is no really a conducive environment to raise such complaints because the workload here is even too much that one hardly finds time or opportunity to give feedbacks" (Pharmacist 2. 4th November, 2021).*

> *"They try but being a government hospital, I do not feel that impact so much." The team I experience here is the Departmental Team. No central team for interprofessional collaboration." (Nurse 1, 5th, November, 2021)*

Table 4.1 Leadership Style and Management and Interprofessional Collaboration

Main theme	Subtheme	Public	Private	Faith Based
Leadership style	Team work	No central team. Departmental meetings.	Departmental meetings. CMEs, team building, workshops.	Workshops, Seminars, CMEs, Departmental meetings.
	Management support	Long process to be attended to.	Quick and immediate attention.	The immediate boss has the authority to make decisions.

4.4 Communication in Interprofessional Collaboration

The second objective of study was to explore the effects of communication in interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospital in Nairobi Kenya. The study found that there were clear evidences that private and faith-based hospitals had good flow of communication which they described as ideal. This included the use of integrated ICT systems which facilitated good working relationships within the organization, proper connectedness in giving care to patients, timely information, quick and easy communication which made interprofessional collaboration more effective. Four participants repeatedly said:

> *"We use ISBAR tool of communication which is Introduction Situation Background Assessment and Recommendation. This tool is very effective because there is really a good communication flow. It is adopted and used by all of us here." (Doctor 3, 6th, November, 2021)*

It was evident that integrated ICT, in the institutions where it was available, had made interprofessional collaboration workable as reported by many others. For example, one said:

> *"There is completely no paper work because even as soon as a patient is registered at the outpatient desk, the information is stored and sent to the next clinician for the required action. We are able to trace the patients' data without any difficulty" (Doctor 4, 5th, November, 2021).*

There was however a strong disparity from some of the participants who felt that most times, there were communication breakdown as a result of long and slow processes in the system. One of the interviewees emphasized:

> *"It takes a very long and slow process for even very key information to reach many of us. We lack upward-downward and downward-upward communication system in our institution. At times, I don't really see the need of even giving feedbacks because they take ages to be delivered and implemented. These are some of the factors that really hinder interprofessional collaboration" (Pharmacist 5, 6th November, 2021).*

> *"Sometimes we have a good flow, sometimes it is slow or total breakdown. This is because I do not have the required facilities. We need the required facilities. ICT will be helpful in IPC. Here we do not have those things like intercom system that is why communication is difficult." (Nurse 1)*

> *"Often, we have breakdown in communication. We need to be able to exchange ideas effectively and timely. ICT is good for IPC but we are lacking that here. We need phones, intercom system that can help us connect with other clinicians." (Nurse 2, 5th, November, 2021)*

> *"Sometimes communication breakdown experienced. We do not have ICT for easy exchange of information." (Nurse 3, 5th, November 2021)*

> *"The flow is not consistent; at times it is good. Good communication is key to better performance in any system. (Nurse 4, 6th, November, 2021)*

Moreover, another reported, feeling a bit disappointed:

> *"There is too much paper work, a lot of information has been lost in the old files and cabinets. I feel that we really need to embrace ICT so as to serve and collaborate better" (Pharmacist 6, 6th, November, 2021).*

In terms of how they express their views, the study participants gave varied reasons as to why they were comfortable or not in expressing their views to foster interprofessional collaboration. One of the participants responded:

> *"Because of my personality, I express my views freely in my department. The environment is quite conducive" (Pharmacist 4, 6th, November, 2021).*

> In contrary, another responded:

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"I rarely express my views because even if an issue is pointed out, it is never taken seriously. I feel that this is one of the hindrances to interprofessional collaboration in our department" (Pharmacist 6, 5th, November, 2021).

Table 4.2 Communication and Interprofessional Collaboration

Main theme	Subtheme	Public	Private	Faith-based
Effect of communication in IPC	Free and quick communication.	Long and slow communication. Communication breakdown.	Freedom to express and share thoughts, ideas and knowledge.	New learning new knowledge.
	Communication channels/tools	No system in place.	ISBAR system.	Integrated ICT system.

4.5 Resource Availability in Interprofessional Collaboration

The third objective of the study sought to explore the effect of availability of resources on interprofessional collaboration amongst clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya. Developing collaboration opportunities and organizational solutions can facilitate contact between professions and positively influence the intention of interprofessional collaboration. Conversely, their absence may serve as a barrier in acting (perceived behavioural control). Some solutions appear more formal, including hiring staff in hospital departments. Some of the participants observed that qualified personnel are employed and timely, whereas, some participants especially those from the public facilities confirmed shortage and delayed employment of staff.

As observed in during the interview sessions, there were existing interprofessional collaboration activities which included ward rounds, continuous medical education, introduction of new products, committee meetings, trainings and departmental meetings. In terms of organizational structures, majority of the participants outlined the fact that they had enough working area, good ICT system, training rooms and access to good internet which enhanced interprofessional collaboration.

A participant had this to say:

> *"Word round is the most practised. We also have departmental meetings, CMEs, Workshop and trainings. We have spacious environment that allows good number of clinicians working together at the same time. We have ICT systems that is very functional and it connects the different clinicians. Committees, CMEs and departmental meetings." (Clinical Officer 1, 5th November, 2021*)

Another respondent observed that:

> *"We engage in ward rounds where all clinicians are present and exchange ideas. We have enough space and also the ICT system we have helps in IPC. They fund the activities, provide equipment and qualified personnel. There is good ICT system among other resources which are necessary for IPC to function effectively (Clinical Officer 3, 6th November, 2021.*

A participant said that:

> *"Ward rounds, committee meetings, trainings and CMEs. Yes we have enough space to allow us work together. Like during ward round, all the clinicians can participate. Yes, they support IPC activities like organising CMEs, funding committee meetings and training. All these are important in IPC." (Clinical Officer 4, 6th, November, 2021)*

Moreover, another respondent stated that:

> *"Resources are important both materials like equipment and human resources. Our hospital has a lot of space. This allows for many clinicians to work together." (Nurse 3, 6th, November, 2021)*

Participants in the study offered a view that at organizational level there was consistency in infrastructure and governance. Participants characterised infrastructure when talking about the closeness of professionals in relation to environmental proximity. This related to physical proximity with others and also to proximity via governance processes. The sharing of office space was seen as providing the opportunity to collaborate arising from opportunity for daily conversation and informal supervision. Where the environment did not allow for office sharing, participants felt that proximity could be sought in other ways.

However, there were disparities when it came to some of the participants who reported that their hospital was so congested with poor structures and limited space. This factor was seen to be a hindrance to interprofessional collaboration as a few stated:

"The hospital is so congested, there is no space. Most of our structures are actually very old. I don't think it is so conducive for proper collaboration among ourselves. Even though we do get new equipment, at times we lack good space for them and putting them in use becomes a challenge" (Pharmacist 7, 6th, November, 2021).

"Space is a challenge, just look at where I am. We have little cubicles all over the place. Everything comes from the Ministry, so most times the finances are not available. Resources like equipment, supplies, and personnel are available but most times not right quantity considering our capacity." (Nurse 1 5th, November, 2021)

"Some areas space is very limited but we have enough space in some other areas. Finances are approved from above and for specific purposes, so the immediate boss cannot do much. When these resources are provided in good time that will help us collaborate." (Nurse 2, 6th, November, 2021)

Asked whether funding interprofessional collaboration activities by the employers was done, the participants' responses varied depending on the health facility they were in; a few not being sure of whether such was done or not. A participant reiterated:

"Am not very sure whether my employer funds such activities, but what I know is that some companies e.g., pharmaceutical, have from time-to-time funded trainings and seminars especially on new products" (Pharmacist 8, 6th, November, 2021).

Yet another from the same hospital said:

"Yes, our employer organizes CMEs, trainings and workshops and we are provided with writing materials and meals; I think this is also a way of supporting such activities" (Pharmacist 5, 6th, November, 2021).

Table 4.3 Availability of Resources and Interprofessional

Main theme	**Subtheme**	**Public**	**Private**	**Faith-based**
Resource availability in IPC.	Infrastructure	Quality infrastructures but poorly maintained	Well maintained infrastructure.	Minimal infrastructure Well maintained
	Personnel	Qualified	Qualified	Qualified
		Short-staffed	Well-staffed	Minimally staffed

4.6 Training and Development and Interprofessional Collaboration

The fourth objective of the study explored the extent to which healthcare workers' skills training, and development affect interprofessional collaboration of clinicians in the provision of outpatient care services in level 4 hospitals in Nairobi Kenya. The findings of this study revealed that many of the participants had no training on interprofessional collaboration during their professional training period, the training concentrated only on their different field of specialization. This limited their ability to learn how to collaborate from the onset, leaving them with the only option to learn on the field. Some of the participants clearly indicated in her response to the interview that:

> *"I had no such training; we were only trained on our areas of specialties. Even when we had lectures together, the focus was on your area of duty and not on interprofessional collaboration." (Doc 1, 4th November, 2021).*

> *"We have had no such training. We are just learning it on the job. We can now understand one another and interact with one another. When need be, I collaborate by giving my input." (Clinical Officer 1, 5th November, 2021)*

> *"No such a training. I think it is good to have such training at the onset because it helps the clinicians to relate and interact better. Here we learn on the job." (Clinical officer 2, 5th, November, 2021)*

> *"If we had such training during our school time it will help us collaborate more effectively." (Clinician 3, 4th November, 2021)*

> *"No, I did not have, only training on my course of study. That training at the beginning would have helped us better because now we are learning on the job." (Phlebotomist 1, 5th, November, 2021)*

> *"I have no such training. We only try to learn it on the spot in the hospital. I think if we had some training in IPC, it will help us to interact better. Personally, I have no collaboration issue with my team members because it is also a very good learning opportunity." (Pharmacist 1, 4th, November, 2021)*

From the responses, it was clear that training in interprofessional collaboration should be encouraged as this will foster better collaboration among clinicians, better relationships, enhanced team work and encourage shared knowledge.

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"I think training on interprofessional collaboration should be encouraged during our training programme". (Clinical Officer 1, 4th November, 2021)

"Training and development is good in IPC because it keeps us updated. Helps you to know what is going on and gives you the empowerment to interact effectively with others." (Clinician 2, 6th November, 2021)

"This keeps you informed, encouraged and empowered. It makes collaboration rich in knowledge". (Lab technologist 1, 4th, November, 2021)

"Training and development are important in IPC because they help you to be at par with your colleagues and not left out." (Pharmacist 1, 5th, November, 2021)

Table 4.4 Training and Development and Interprofessional Collaboration

Main theme	**Subtheme**	**Public**	**Private**	**Faith-based**
Training and development in IPC.	Lack of training	No training	No training	No training

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter consists of summary, conclusions and recommendations of the study. The first part presents the summary of the study. This is followed by conclusions which are based on the research questions. Recommendations are also presented based on the findings of the study.

5.2 Summary

Analysis of the role of leadership in interprofessional collaboration revealed that both private and faith-based hospitals had leadership which supported and encouraged interprofessional collaboration; however, a large percentage of the participants from the public hospital felt that their management still needed to improve on fostering interprofessional collaboration as it was not strongly felt.

In terms of effects of communication on interprofessional collaboration, the private and faith-based hospitals had good flow of communication which was attributed mainly to the use of integrated ICT systems which facilitated good working relationships within the organization, proper connectedness in giving care to patients, timely information, quick and easy communication which makes interprofessional collaboration more effective. However, the participants from the public hospital felt that most times there were communication breakdown as a result of long and slow processes in the system.

The findings also revealed that there were existing interprofessional collaboration activities which included ward rounds, continuous medical education, introduction of new products, committee meetings, trainings and departmental meetings. Generally, all the participants felt that availability of needed resources in interprofessional collaboration is very key for proper and effective functioning of interprofessional collaboration.

All the participants of this study confirmed that they had no training on interprofessional collaboration. There was clear evidence that the clinicians only trained on their areas of specialties and only focused on their areas of duty and not on interprofessional collaboration. It was a general opinion of all the participants that interprofessional education should be encouraged so as to foster better collaboration among clinicians, better relationships, enhanced team work and encourage shared knowledge.

5.3 Discussion

5.3.1 Leadership Style and Management

Domain thinking has been identified as a barrier that participants face during the development of shared care plans. According to Baldwin (2007), one of the key challenges to inter-professional collaboration is the phenomena of territoriality, which implies that professional team members safeguard their practice and scope in terms of identity, accountability, and autonomy. Inter-professional collaboration, according to research, is an inter-personal aspect that requires the intellectual capacities of two or more people (D'Amour et al., 2005). Uneven power distribution combined with discrimination is a serious concern for the health system and has a substantial impact on inter-professional collaboration. In primary and secondary healthcare settings, GPs and physicians have a significant influence. The influence is linked to their traditional authority and power as a result of their monopoly on defining illness and disease, their use of scientific and diagnostic language, and their monopoly on knowing decision-making in clinical practice and constituted expertise (Degeling et al., 2004). Other hurdles to professional power include the concern of professional identity dilution and multi-professional historical rivalry.

On a practical level, it necessitates an effort to integrate and translate shared themes and schemes within professional groups, as well as shared ownership of common goals, decision-making procedures, and the integration of specialized professional knowledge and expertise. A blurring or misunderstanding of professional identities, duties, and obligations is one of the obstacles to overcome in the successful integration of health care workers. The free and open exchange of information, as well as a good understanding of each other's work, a culture of

mutual respect and recognition of each other's areas of expertise and competence, and a culture of mutual respect and recognition of each other's areas of expertise and competence, are all important elements (Hellesø, & Fagermoen, 2010).

Better teamwork, according to health professionals, could minimize time-consuming dialogues and allow patients' care plans to be better targeted to their unique requirements, as stated by Steihaug, Paulsen, and Melby (2017). Physiotherapists and occupational therapists want for enhanced inter-disciplinary collaboration in the units, whereas healthcare workers describe inclusive and educational professional collaboration. A randomized trial of a multidisciplinary outpatient management program nearly halved mortality rates due to chronic heart failure over a six-month period (Saltvedt et al., 2002), while a control trial of a multidisciplinary outpatient management program nearly halved mortality rates due to chronic heart failure over a six-month period (Coffey, Christopherson, Glasgow, Pearson, Brown, Gathje, & Haddad, 2021, Kasper et al., 2002). Similarly, randomized clinical research indicated that geriatric patients receiving care from an interdisciplinary primary care team were much less likely to lose functional capacity than the controls (Toelle, Utpadel-Fischler, Haas, & Priebe, 2019, Boult et al., 2001).

These responses were in line with what Bender, et al (2013) found out in a descriptive non-experimental study carried out to explore the feasibility and acceptability of a clinical nurse leader's role to improve interdisciplinary collaboration within a fragmented acute-care microsystem which revealed that integration of the role is feasible and acceptable to the microsystem healthcare team. The findings revealed a close association with what Hu and Broome (2000) found out in a qualitative study done in China to explore health professionals' perceptions on the characteristics of leadership that they thought were required for successful interprofessional collaboration. Initiating and maintaining collaboration, serving as a role model, and showing benevolence to all team members were the three main characteristics perceived to be key in interprofessional collaboration. These sentiments concurred with research by Steihaug, Johannessen, Ådnanes, Paulsen and Mannion, (2016) which indicated that despite a favorable environment, the intermediate units are always unable to execute proper inter-professional collaboration. Different foci, cultures, and philosophies arose to

obstruct their daily work in various professional groupings. Work with patients appears to be hampered by a lack of inter-disciplinary collaboration.

5.3.2 Communication

These findings support what Collette et al, 2017 outlined that a lack of proper communication among physicians and nurses could lead to inadequate and improper transfer of patient-related information. Thus, efficiency in the transfer of important patient information is highly dependent on interprofessional collaboration and significantly reduces the risks of clinical errors. Further, the use of mails, WhatsApp, intercom, fax and twitter were pointed out to be some of the key factors enhancing proper flow of communication, and thus interprofessional collaboration. The observations outlined by the two participants above also supported what Wang et. Al., 2018 pointed out that daily clinical practice, poor doctor-nurse communication is generally common. In addition, another study to determine the factors that affect leadership in nursing also revealed that communication between physicians and nurses was hindered by individual, social, and organizational factors (Curtis et al., 2011).

The observation pointed out by one of the participants concurs with a study which outlined that lack of effective communication can hinder collaborative working leading to catastrophic results among inter-professional teams. Effective communication, on the other hand, can result in positive outcomes including improving the flow of information, improved safety, effective involvement, and collaborative working (Vermeir et al., 2015). Generally, it was confirmed by all the participants that in interprofessional collaboration, communication is very key as it helps different clinicians to exchange ideas in their areas, gives directives and sets the pace in providing care to the patients and gives the directions on how things are to be done. They therefore supported the fact that communication is paramount in interprofessional collaboration and there is great need to install proper ICT in health systems for efficient services and effective patient care.

5.3.3 Resources Availability

Just as in previous studies, the quality of collaboration amongst teams is an area of interest within health care research as it has been positively associated with patient safety and effective care delivery (Valentine et al. 2011). Higher functioning teams, where collaboration is high, arguably make better quality decisions and problem-solving more effectively; they integrate and coordinate care better and ultimately deliver more cost-effective care (Valentine et al. 2011). Conversely, a lack of collaboration amongst teams may result in poorly coordinated and fragmented care, leading to poorer patient outcomes and dissatisfaction with care (Almost & Spence Laschinger, 2002). Intra/interpersonal aspects of role functioning Intra and interpersonal aspects of functioning within specific roles were posited as key influences to collaboration between sub-groups. Personnel qualities and personalities of individuals were prominent with respect to the extent that individuals collaborated with others; role modelling, valuing others, being respectful, and being supportive and approachable were regarded as qualities that enhanced collaborations.

Some of the participants however, reported that their employers never funded such activities. Generally, all the participants felt that availability of needed resources in interprofessional collaboration is very important for proper and effective functioning of interprofessional collaboration. All reported that financial resources are key for the success of an interprofessional collaboration. Their suggestions agreed with a study done to determine the effect of financial barriers on interprofessional collaboration within integrated care programs which indicated that financial barriers negatively affected the implementation of interprofessional collaboration within integrated care which in turn affects patient care improvements (Gilles et al., 2020).

5.3.4 Skills Training and Development

There was a clear indication that the study participants collaborate with team members by sharing ideas, consulting among themselves, carrying out their responsibilities as laid out in their job descriptions and delegation of duties. This study’s findings concurred with a study by Zielińska-Tomczak, Cerbin-Koczorowska, Przymuszała and Marciniak (2021) which found

that gaps in knowledge and qualifications (perceived behavioural control) may hinder the desire to create cross-professional collaboration. Due to a lack of awareness about mutual competences and collaboration opportunities, contacting a representative from another medical profession is less likely. Furthermore, due to a lack of training, communicating with other medical professionals, establishing contact may cause undue stress for medical practitioners

5.4 Conclusion

Generally, from the interviewees, there was evidence that the clinicians from all the hospitals involved in this study tried as much as possible to collaborate with team members by sharing ideas, consulting among themselves, carrying out their responsibilities as laid out in their job descriptions and delegation of duties.

Clinicians had knowledge about inter-professional collaboration. Leadership encouraged inter-professional collaboration more in private than public hospitals. Resources that enabled collaboration were available in both private and public but more in private. Interprofessional education training was not particularly adhered to. ICT was integrated to an extent mostly in the private and faith-based hospitals than in the public hospitals.

5.5 Recommendations

Based on the findings, to enhance inter-professional collaboration, organizations could allocate more resources to encourage interprofessional collaboration. More integrated ICT systems could also be installed and used for a better flow of communication.

There is need for leadership to be available to support inter-professional collaboration in public hospitals. There is need to introduce inter-professional collaboration education among clinicians as one of the courses during their training.

5.5 Limitations of the Study

The key limitation of the study was that it focused on only 3 facilities in Nairobi, Kenya. This study also did not sample all faith-based facilities, public facilities and private facilities therefore the findings may not be generalizable to other professional settings or other facilities.

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APPENDICES

Appendix I Letter of Introduction

Strathmore University – Business School

Ole Sangale Road

Madaraka Estate Nairobi.

Dear Participant,

<u>RE: REQUEST FOR PARTICIPATION</u>

I am currently a master's student of healthcare management at Strathmore Business school, researching the factors that influence interprofessional collaboration in outpatient care in level 4 hospitals. I intend to collect primary data through an in-depth interview of willing participants. This will entail the use of an audio voice record, and I will also take some notes. These will be destroyed after the research process is completed. None of the processes of the research will cause you any harm. Anonymity will be ensured as you will not be required to disclose your names at any stage of the interview, nor will your identity be revealed. Participation in this research is voluntary, and confidentiality is maintained throughout the study. Your participation in this study will help to better understand the factors that influence interprofessional collaboration in primary care in selected level 4 hospitals in Nairobi County.

The responses you give will be for academic purposes only and will be treated with ultimate privacy and confidentiality.

Thank you in advance.

Yours sincerely,

Signed …………………………

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Appendix II Informed Consent Form

I confirm that I have read and understood the information about the project as provided in the information sheet. I understand that my participation is voluntary and that I am free to withdraw from the project at any time. I understand that any information recorded in this study will remain confidential and no information that identifies me will be made public. I

confirm that all my concerns about the study have been adequately addressed and understood and that I voluntarily agree to participate in this study without any pressure.

Participants Signature.. Date....................

I confirm that have explained the objectives and nature of the study in detail and the participant has voluntarily

Investigator Signature................................Date....................................

Sincerely,

Bridgit Nta

Email; brigid.mmayen@strathmore.edu

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Appendix III Interview Guide

SECTION A

Section A: Demographic Information

Participants' number	
Participants' age	
Participants' gender	
Participants' professional cadre	
Participants' years of experience	

1. What is your role in this facility? Which unit do you work in?

Section B: Key Informant Interview Guide Questions

Leadership and management role in interprofessional collaboration.

1. What is your understanding of Interprofessional collaboration in inpatient care?
2. How does the management of your organization support your interprofessional team?
3. How would you describe the leadership of your interprofessional team?
4. How does your interprofessional team leader influence what other professionals do?
5. Is there a visible benefit from this collaboration? Who benefits from this collaboration, and how?
6. Do you think interprofessional collaboration affects inpatient care?

Effect of communication in interprofessional collaboration.

1. How would you describe the nature of communication in your interprofessional team?

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2. In your context, what would you describe as an ideal way of communication in interprofessional collaboration?
3. One of the keys to successful inter-professional collaboration can be found in the implementation of Information, Communication & Technology (ICT). How would you describe ICT in fostering interprofessional collaboration in your facility?
4. In your opinion, do you always feel free to express yourself in the inter-professional team?
5. Please provide any additional comments on inter-professional collaboration communication.

Importance of resource availability in interprofessional collaboration.

1. What are some of the existing interprofessional collaboration activities practiced in your institution?
2. What organizational structures in your inter-professional team promote collaborative interactions? For instance, do you have spacious working spaces?
3. Does your employer provide the necessary finance that supports inter-professional collaboration activities?
4. What resources are in your organization that supports interprofessional collaboration?
5. Please provide any additional comments on the importance of resource availability in inter-professional collaboration.

Professional skill training and development in interprofessional collaboration.

1. What training or courses have you taken on interprofessional collaboration?
2. What is your perceived importance of training in interprofessional collaboration?
3. How do you collaborate with other team members while delivering patient care?

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4. Please provide any additional comments on skill training and development in interprofessional collaboration.

Appendix IV Ministry of Health Approval

MINISTRY OF HEALTH

OFFICE OF THE DIRECTOR GENERAL FOR HEALTH

Telephone: Nairobi 254-020-2717077
Fax: 254-2719008
Email: dghealth2019@gmail.com
When replying please quote:

AFYA HOUSE
CATHEDRAL ROAD
P. O Box 30016-00100
NAIROBI

REF: MOH/ADM/1/1/82(129)

05 Nov., 2021

The Medical Superintendent
Mbagathi County Referral Hospital
NAIROBI

RE: AUTHORITY TO COLLECT DATA FOR THE STUDY 'ASSESSING FACTORS INFLUENCING INTERPREFESSIONAL COLLABORATION AMONGST CLINICIANS IN OUTPATIENT CARE IN LEVEL FOUR HOSPITALS IN NAIROBI

Reference is made to a letter from Sr. Brigid Mmayen Nta from Strathmore University requesting for authorization to collect primary data for the study **'Assessing Factors Influencing Interprefessional Collaboration Amongst Clinicians in Outpatient Care in Level Four Hospitals in Nairobi'**, cleared under Strathmore University IREC approval ref: SU-IERC1160/21 and NACOSTI License No. NACOSTI/P/21/13749.

The purpose of this letter is to inform you that this office has **No Objection** to the collection and use of the data for the aforementioned study.

Note that this authority applies to this request only, for the study period 05 November 2021 to 04 November 2022.

Dr. Patrick Amoth, EBS
AG. DIRECTOR GENERAL FOR HEALTH

Copy to: Director Health Services- Nairobi Metropolitan Services

ISO 9001:201

Appendix V Nairobi Metropolitan Services Approval

Mbagathi Hospital, P.O Box 20725 – 00202
Email: mbagathihosp@gmail.com
Tel: 0721311808, 2724712, 2725791

Date: 8th November 2021

Nta Bridgid

Strathmore University

Dear Bridgid,

RE: RESEARCH AUTHORIZATION.

This is in reference to your application for authority to carry out a research on ***'Assessing Factors Influencing Interprofessional Collaboration Amongst Clinicians in Outpatient Care in Level Four Hospitals in Nairobi."***

I am pleased to inform you that your request to undertake research in the hospital has been granted.

On completion of the research, you are expected to submit one hard copy and one soft copy of the research report/ thesis to this office.

MBAGATHI HOSPITAL
08 NOV 2021

Dr. David Kimutai
For: Medical Superintendent
Mbagathi Hospital.

Kenyatta International Convention Centre P.O. Box 49130-00100, GPO, Nairobi, Kenya
Tel +254 (0) 20 2217774/3
Email: transport@nms.go.ke | Web. www.nms.go.ke

Appendix VI NACOSTI Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **116524**

Date of Issue: **03/November/2021**

RESEARCH LICENSE

This is to Certify that Sr.. Brigid Mmayen Nta of Strathmore University, has been licensed to conduct research in Nairobi on the topic: ASSESSING FACTORS INFLUENCING INTERPROFESSIONAL COLLABORATION AMONGST CLINICIANS IN OUTPATIENT CARE IN LEVEL FOUR HOSPITALS IN NAIROBI COUNTY: A QUALITATIVE STUDY for the period ending : 03/November/2022.

License No: **NACOSTI/P/21/13749**

116524

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 VII Ethical Approval

12th October 2021

Nta Brigid
brigid.mmayen@strathmore.edu

Dear Brigid,

RE: Assessing Factors Influencing Interprofessional Collaboration amongst Clinicians in Outpatient Care in Level Four Hospitals in Nairobi; A Qualitative Study

This is to inform you that SU-IERC has reviewed and **approved** your above **SU-master's** research proposal. Your application reference number is **SU-IERC1160/21.** The approval period is **12th October 2021 to 11th October 2022.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 48 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 48 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and also obtain other clearances needed

Yours sincerely,

for: Prof Fred Were,
Chairperson; SU-IERC

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE
(SU-IERC)
12 Oct 2021
TEL: +254 (0)70303400
P.O BOX 59857-00200
NAIROBI-KENYA

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