ROLE OF HEALTH CARE PROVIDER NETWORKS IN PROVISION OF QUALITY HEALTH SERVICES IN KENYA

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DECLARATION

Declaration by the student

"I declare that this thesis is my original work and has not been presented in any other university".

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DEDICATION

I dedicate this research to my family.

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ABSTRACT

The focus of this study is the health service delivery building block with an emphasis on organization of health service, through healthcare provider networks (HPNs). The service delivery building block functions to deliver safe, quality personal and non-personal health care. A HPN is a group of three or more autonomous organizations working together across structural, temporal and geographical boundaries to implement a particular population health strategy. The HPN an innovation in the private sector is one of the service delivery models that have improved access to health services albeit there being no known studies or empirical evidence to support the effectiveness of the networks in Kenya. Provider networks are the definitive solution to tackle complex healthcare challenges that single handed providers may not be able to tackle. This study aimed at determining the influence that legal support, provider capacity building, clinical support and health commodity security has on provision of quality health services in a HPN, in Kenya. There are several HPNs in Kenya that support provision of reproductive health services for example TUNZA, Reproductive Health Network Kenya (RHNK) and AMUA, however the target population for this study was 457 health care providers within RHNK and 5 RHNK board members. A sample of 252 health care providers was drawn using simple random sampling, while the 5 board members were sampled using purposive sampling. A structured questionnaire was used to collect data from the health care providers in the network, and key informant interview guide was used to collect data from the board members. Quantitative data was analyzed using SPSS version 23, for descriptive and inferential statistics. Thematic analysis of qualitative data was done using NVIVO version 12. A 100% (252) response rate was attained. Male respondents were 132(52%), 117(46%) of the respondents were between 41-50 years, majority 184(73%) were nurses and owned nursing homes 78(31%), 127(51%) of the respondents were diploma holders and nearly a third 70(28%) had 16-20 years' work experience. Bivariate analysis indicates that legal support (r =.235**, $P < .001$), capacity building (r = .213**, $P < .001$) and clinical support (r = .232**, $P < .001$) had a positive and significant influence on the provision of quality health services in the provider network. Multivariate analysis indicates that provider capacity ($\beta 2 = .068$, $P < .001$), and clinical support ($\beta 2 = -.094$, $P < .001$) significantly influenced provision of quality service provision. In conclusion, capacity building through training, mentorship and coaching greatly influences delivery of quality health services in a provider network. This study therefore recommends that: i) the national MOH as well as County Health Offices should adapt the use of HPNs to improve quality of primary care services in public facilities, ii) the HPN board members should put into place sustainability mechanisms to ensure access to legal services beyond external support project phase, iii) the board members of HPN should continue to provide capacity building to its members, and iv) the board members of HPN should educate the members on the usefulness of the support supervision in order to demystify the notion of "policing" and cultivate a supportive collaboration.

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ABBREVIATIONS AND ACRONYMS

CAC	Comprehensive Abortion Care
FBOs	Faith Based Organizations
FP	Family Planning
HPNs	Healthcare Provider Networks
HSDNs	Health Service Delivery Networks
HSS	Health Systems Strengthening
KeMU	Kenya Methodist University
KII	Key Informant Interviews
KMD	Kenya Medical Board
NACOSTI	National Council of Science and Technology
PAC	Post Abortion Care
RHNK	Reproductive Health Network Kenya
SD	Standard Deviations
SERC	Scientific and Ethics Review committee
SRH	Sexual Reproductive Health
SRHC	Sexual Reproductive Health Commodities
UHC	Universal Health Care
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Health systems consist of all persons and activities whose principal intent is to promote, restore or maintain health, (World Health Organization [WHO], 2000). The World health report of 2000 defined overall health system outcomes or goals as: improving health and health equities, in ways that are responsive and financially fair, and making the best use of available resources. In order to achieve their goals, all health systems must carry out some basic functions. These functions are further redefined as six essential building blocks of a health system. The building blocks are: service delivery; health workforce; information; medical products, vaccines and technologies; financing; and leadership and governance (stewardship), (WHO, 2007). In addition to the six pillars, Kenya has further identified two more building blocks, these are infrastructure and research and development (Ministry of Health [MOH], 2014).

The focus of this study is the health service delivery building block with an emphasis on delivering safe, quality personal and non-personal health care, by focusing on organization of health service, through provider networks. Where health services are provided through the provider network, patients are likely to receive a continuum of health care services, in addition to quality health services through effective referral of cases in the network to more experienced health professionals and in higher cadres. Through the provider networks, health care providers also build each other's' capacity. Provan and Milward (2006) defines provider network as a group of three or more

autonomous organizations working together across structural, temporal and geographical boundaries to implement a particular population health strategy.

Globally, many organizations, including private providers, governments, and donors, have developed and supported innovative approaches to health services delivery for the poor. Provider networks an innovation in the private sector is one of the service delivery models' that have improved access to health services. A study by Lemieux-Charles, (2006) of Ontario Regional Stroke Strategy and the Dementia Care Networks established that effective service delivery networks, develop a shared vision; identify aspects of healthcare that will most likely benefit the clients from a network structure; embed the network within broader strategies; develop clinical and management leadership; develop mechanisms to understand flow of clients; use administrative and information sharing mechanisms to increase on efficiencies within provider network; and appreciating that, even with a centralized plan, variations will always exist between common networks. According to Bhattacharyya et al. (2015), many health service delivery models are adapting health services to meet rising demand and evolving health burdens in low- and middle-income countries. While innovative private sector models provide potential benefits to health care delivery, the evidence base on the characteristics and impact of such approaches is limited. Following a study of networks in Canada, Huerta et al. (2006) came up with a proposition that health care provider networks are the definitive solution to tackle complex healthcare challenges that single handed providers may not be able to tackle.

Provider networks exist in Kenya and have been seen to work well in provision of health care services. Such networks are for example Reproductive Health Network Kenya

(RHNK), Tunza clinics and AMUA Network of providers, Christian Health Association of Kenya (CHAK) and Kenya Conference of Catholic Bishops (KCCB). However, no known studies on role of provider network in provision of quality health services has been undertaken to determine provider effectiveness in provision of health services. This study will focus on RHNK which is a network of healthcare providers with presence in 42 counties in Kenya. The goal of the network is to improve access to reproductive health services including Family Planning (FP), Post Abortion Care (PAC) Services and Comprehensive Abortion (CAC) services. Through the network, healthcare providers gain access to training, legal support, reproductive health commodities and clinical support. Though these benefits may be implied to be beneficial to the providers, there is no empirical data to support the effectiveness of this network. Similarly, there are no known studies in Kenya and Africa to support effectiveness of provider networks and therefore this study will borrow from studies in other countries such as Canada.

1.2 Statement of the Problem

According to World Health Organization (2007) provision of health services should be integrated to encompass management and delivery of quality and safe health services, so that people receive a continuum of promotive, preventive, curative and rehabilitative health services, through various levels and sites and during their entire life. Integrated health services can be delivered within a network of providers which is a network of organizations that provides, or makes arrangements to provide, equitable, comprehensive, integrated, and continuous health services to a defined population and is willing to be held accountable for its clinical and economic outcomes and the health status of the population served, (Provan & Milward, 2006). Further, Tremblay et al.

(2015) in a study on managed cancer networks in Canada concluded that networks enable integrated care as well as enhanced patient outcomes.

Provider networks exist in Kenya with an aim of providing a continuum of quality health services. Some of the known networks of providers in Kenya offering a range of healthcare services are Tunza, AMUA, RHNK, CHAK and KCCB. Tunza, AMUA, RHNK is one of the provider networks brought together with an aim of providing access to reproductive health services. This has been shown to increase access to the reproductive health services, albeit there being no known studies or empirical evidence to support the effectiveness of the networks in delivery of these reproductive health services. In addition to lack of scientific data to measure the relationship, these provider networks are not organized to support delivery of other services other than the reproductive health services, this falls short of integration of services in an ideal network of providers.

According to Provan and Milward (2006) there is need to develop a better understanding of health service delivery networks (HSDN), how they are structured, how they function and under what conditions they are effective. The authors emphasize on the need to empirically test the relationship between health service delivery networks structural properties and key effectiveness indicators. According to Huerta et al., (2006), there is little empirical data available to aid in understanding what networks are, what they actually do and whether they achieve their goals of making a difference in healthcare delivery of care and maintaining health.

Huerta et al. (2006) emphasize that collective and the collaborative health care provider networks are assumed to address healthcare issues in superior ways as compared to previous service-delivery models. This study sought to determine the role healthcare provider network play in delivery of health services and from the results the network of providers can be further advised on whether it is beneficial to integrate other services as part of the network. To meet this goal, the study sought to determine how healthcare provider networks in Kenya offer legal support, clinical support, provision of health commodities and capacity building thus contributing to delivery of health services.

1.3 Purpose of the Study

The purpose of this study is to contribute to a better understanding of the role of provider networks in provision of quality health services in low and middle-income countries. Strengthening health systems and in particular provision of reproductive health services remains a key area of concern. Currently many governments have no sufficient resources to support both public and private health facilities. Therefore, privately organized provider networks are key in supporting private practitioners in either building their capacity, legal advice or even providing a platform where they can network and exchange idea in order to improve the quality of health services that they provide. The study seeks to understand the impact of the provider networks on its members in the provision of reproductive healthcare services.

Although, there have been growth and support for innovations by networking approaches to the organization of public health systems, knowledge of networks, particularly how they strengthen health systems and their ability to genuinely improve population health, remains limited. Besides investments in networks there is need for

sustained program of research, structured around examples of contemporary network experiments, to identify key issues and challenges, develop improvement initiatives, and test these efforts through rigorous, action-oriented studies.

1.4 Study Objectives

1.4.1 Broad Objective

The aim of this study was to determine the role of healthcare provider networks in provision of quality health services in, Kenya.

1.4.2 Specific Objectives

i. To determine how legal support influences provision of quality health services in a provider network, in Kenya.
ii. To determine how provider capacity, influences provision of quality health in a provider network, in Kenya.
iii. To determine how clinical support influences provision of quality health services in a provider network, Kenya.
iv. To determine how health commodity security influences provision of quality health services in a provider network, in Kenya.

1.4 Research Questions

i. How does legal support influence provision of quality health services in a provider network, in Kenya?
ii. How does provider capacity influence provision of quality health services in a provider network, in Kenya?

iii. How does clinical support, influence provision of quality health services in a provider network, in Kenya?

iv. How does health commodity security influence provision of quality health services in a provider network, in Kenya?

1.5 Justification

So much financial resources have been mobilized through non-governmental organizations to facilitate delivery of health services through provider networks. The effectiveness of these provider networks is yet to be measured empirically to determine their role in service delivery, this is because there no known studies on role of healthcare provider networks in Kenya. According to Provan and Milward (2006), there is need to develop a better understanding of health service delivery networks, how they are structured, how they function and under what conditions they are effective. The authors emphasize on the need to empirically test the relationship between their structural properties and key effectiveness indicators. The private health sector plays a significant innovative role in influencing health service provision in low- and middle-income countries, however, evidence on what works, in this sector including the innovative models such as provider networks, is relatively weak, and greater understanding of the effectiveness of such models is much needed. (Bhattacharyya et al., 2015).

1.6. Limitations

One of the challenges foreseen in this study is that there are no known studies in Kenya on the role of healthcare provider network in service delivery. This was overcome by

borrowing concepts from other countries with similar models of organization and delivery of health services.

1.7 Delimitations

The study scope is healthcare providers in a network. The RHNK which has 457 health care providers with presence in 42 counties in Kenya was used to undertake this assessment. RHNK has begun expanding into the East African Region. This study focused on the providers in Kenya only, due to the global pandemic which is likely to inhibit movement to other countries. The study also focused on the five RHNK board members. The study focused on the proprietors or owners of the health facilities in the network with a focus on seeking to understand the role played by four key components (legal support, provider capacity, clinical support and health commodity security) and the effects that these components have on provision of quality health services.

1.8 Significance of the Study

The study results will inform the providers and partners that the network is significant in providing quality health services and efforts should be scaled up to other services beyond provision of reproductive health services. The findings will also inform partners and the secretariat that capacity development through training, mentorship and coaching are activities that the providers consider to be valuable in providing quality health services. This study is also significant to researchers as it generates empirical data that can be used as a basis of comparison for future studies.

1.9 Assumptions of the Study

This study assumed that the respondents would provide true information and were knowledgeable on the subject matter. It was assumed that they could all read and write in English since all had tertiary education.

1.10 Operational Definition of Terms

Provider network:	A group of three or more autonomous health organizations working together across structural, temporal and geographical boundaries to implement a particular population health strategy for example improving access to reproductive health services.
Quality Health services:	Provision of services that are available, timely, seamless and offer timely referrals among healthcare providers.
Reproductive Health Network Kenya	A network of providers whose goal is to improve access to reproductive health services.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Health care provider networks are the definitive solution to tackle complex healthcare challenges that single handed providers may not be able to tackle, Huerta et al. (2006). According to Lemieux-Charles (2006), effective service delivery networks, develop a shared vision of care for a particular group of clients, products and or services that goes beyond a single care sector for example curative acute services; identify aspects of healthcare that will most likely benefit the clients from a network structure; embedding the network within broader strategies; develop clinical and management leadership and collaborations at the organizational and network levels; develop mechanisms to understand flow of clients in the healthcare system and where gains can be achieved through interactions of key organizations and service providers; using administrative and information sharing mechanisms to increase on efficiencies within provider network; and appreciating that, even with a centralized plan, variations will always exist between common networks.

Healthcare must more than ever be managed through networks, linkages and partnerships as a response to the growing complex healthcare needs which require innovative solutions across health and economies. (Malby & Anderson-Wallace, 2016). A provider network may be viewed as a network, based on its primary function, however, the network will generally have multiple functions. For example, a health service delivery network, with a primary function of delivering coordinated services to a particular group of clients, will likely have a number of other secondary functions such as information sharing, exchange of knowledge, learning and capacity

development (Popp et al., 2014). Further these authors' summaries the potential benefits of networking as: Access to and leveraging of resources, shared risk, Efficiency, Service quality, coordination, seamlessness, Advocacy, Learning, capacity building, Positive deviance, innovation, Shared accountability, and Flexibility and responsiveness.

Inter organizational networks can be viewed as a way to address complex social and population health problems by taking advantage of a broader set of resources and increased capacity, (Popp et al., 2014) . According to Provan and Kenis (2008) organizations join networks for a variety of reasons, including desire to gain legitimacy, serve their clients more effectively, be able to attract more resources, and address complex problems for example legal challenges . Regardless of the specific reason, in a general sense, all net-work organizations are seeking to achieve some end that they could not have achieved independently.

'Network' is a word used extensively in healthcare research and in health services delivery. It is used as a synonym for 'partnership', 'collaboration', 'alliance' and 'group', or more specifically to describe the relationships between people, groups or organizations (Cunningham, et al., 2011).

The Canadian Inter-Professional Health Collaborative (CIHC 2010) defines inter-professional collaboration as a coordinated participatory and collaborative partnership approach between a team of health providers and a patient to shared decision-making in health and social issues.

2.2 Legal Support for Healthcare Providers in a Network

2.2.1 Registration with Professional Bodies of Providers in a Network

Healthcare associations or networks represent a collection of professionals who work towards the common goal of promoting and improving the medical profession they are associated with. These healthcare organizations support their members by providing resources, information and opportunities they might have not had. Members are bonded together with peers and share their challenges and triumphs. Joining an association provides members with a competitive advantage because they become active, informed members within their industry. Members of the association depend on their association for briefs on current industry trends, new legislative rulings, and advances in technology. Many professional associations promise their members several benefits as an incentive to join the association. For example, the Kenya Health Federation has listed advantages of joining the federation such as to gain access to up-to-date information, to increase the company's visibility and brand exposure, and profit from business networks that are created by the federation. While networking can take different forms, all these forms are characterized by recurring exchange relationships among a limited number of organisations or individuals that retain residual control of their individual resources yet periodically jointly decide over their use.

Studies that have reviewed inter-organizational collaboration frameworks, emphasize the need of formalizing collaboration, using tools such as policies and procedures (Shepherd & Meehan, 2012). A study by Dunlop and Holosko (2004) described three sets of processes: i) operational which involves membership recruitment and decision-making processes, ii) organizational, which includes types, levels, and complexity of

collaborative network structures, and iii) relational, which looks at interpersonal relationships.

The motives for engaging in a networking relationship can be quite varied. For example, the Kenya National Qualifications Authority says that in Kenya, professional bodies/associations have different powers as set out in the legal instruments establishing them. Some professional bodies only register their members while others are involved in short term training for continuous professional development, while others are involved in elaborate accreditation, quality assurance and even awarding of qualifications.

In general, the member networks guide all the major functions including strategy and oversight for the professional bodies as a whole. While these bodies are structured along fairly straightforward functional lines, it is important to note that it is the whole more than the individual elements of a professional body that ultimately makes them socially and economically useful. There are many benefits for organizations to join networks among them are, productivity, social mobility, governance and ethical standards, international, and policy formation (Kenya Medical Practitioners Pharmacists and Dentist Union, [KMDPC], 2020).

2.2.2 Statutory Compliance of Providers in a Network

In a general context, compliance refers to following the specifications of a rule. More specifically, compliance often is used as it relates to legal and regulatory frameworks. Regulatory compliance is when an organization is aware of the relevant regulation and takes action to comport to the policy.

Healthcare compliance can be defined as the process of meeting the legal, ethical, and professional standards applicable to a particular healthcare organization or provider. It calls for all healthcare organizations and providers to develop effective processes, policies, and procedures for appropriate conduct, train the organization's staff, and then monitor the adherence to the processes, policies, and procedures. **(**Health Care Compliance Association, 2020).

One of the aims of provider networks is to improve compliance on legal as well as policies. A systematic review study by Reeves et al. (2017) found that externally facilitated inter-professional activities may slightly improve patient functional status and health care professionals' adherence to recommended practices, and may slightly improve use of healthcare resources.

The term clinical networks vary in composition and mandate and meaning. Managed clinical networks are described as groups of clinicians who deliver services across boundaries between healthcare professionals and the different sectors of the health systems. The group tends to be organized by clinical discipline. Studies have shown that of clinical experts are increasingly being established as a strategy to promote the uptake of evidence-based practice and drive improvements in standards of patient care (Brown et al., 2016).

A study done by Haines et al. (2012), on managed and non-managed clinical networks, defined as voluntary clinician groupings investigated the effectiveness of these clinical networks to improve quality of care e.g., increase of uptake of evidence-based practice

through development and dissemination of clinical practice guidelines and protocols or care pathway redesign and patient outcomes which were based on objective outcome measures. The study found that, the networks aim to improve clinical care and service delivery using a collegial approach to identify and implement a range of quality improvement strategies.

Institutions play a major role within the policy making aimed directly or indirectly at raising productivity. They provide both expert and practical advice, so policies conceived in meeting rooms work on the ground. Their members can and do provide significant expert support to government at all levels through voluntary work on task forces, committees, councils, commissions and other forums.

Networks or professional bodies are critical in setting and policing standards of behavior. A core to their mission is to create a group of professionals that can be trusted to deliver well and true high standards that are acceptable socially, economically and ethically. Their connections and value within an industry can help to understand the issues, lean against wrongdoing, provide support for those who are unwillingly being drawn into unacceptable behaviour and discipline those who transgress.

Professional bodies or networks have the potential to play a major role in policy making within their sectors, regionally, nationally and internationally. This is most apparent in regulation and qualification associated with their professions. But the range of activity spans wider, covering strategy, ethical behaviour, standards, innovation and much more. They engage in and contribute to wider policy debates. The public interest

obligation is critical here. Professional bodies have a role also in communicating and explaining the implications of pertinent policy decisions to their members.

Professional bodies constantly monitor policy relevant to their profession, seeking to anticipate unintended outcomes not appreciated during the policy formation and constantly ready to offer advice or make representations to help avoid poor decisions. They can provide advice and information to policy makers to enhance their understanding and ensure decisions and strategies conceived in meeting rooms work on the ground, or even formulate solutions to issues and present their findings to policy makers. Their public interest obligation means that their advice carries greater trust and is not shaped by commercial interest.

2.3 Developing Capacity of Health Provider in a Network

Knowledge exchange among healthcare providers in a network can enable learning and capacity development within the network and outside the network at the community level, networks build opportunities for innovation, which is closely connected to learning (Popp et al., 2014).

2.3.1 Training of Healthcare Providers

Inadequate knowledge, skills and inappropriate behavior and attitudes can be hindrances to delivery of quality health care. As a result, training of healthcare workers is an intervention that can be used to advance and change the knowledge, skills, attitudes and behaviors of a healthcare worker, hence improving the performance and motivation of the worker. According to the World Health Organization (WHO), lifelong learning processes must be developed at the start of a career of a healthcare

worker in order to realize better health outcomes. There are many benefits of training. These are: improving employees morale, job security and job satisfaction, refreshing past knowledge and practice, and helping workers to identify and correct mistakes, (Onyango & Wanyoike, 2014).

Training is the only sure way that learning has taken place. Training is a learning process where learning is intentionally structured by management and the learning development persons in charge of staff. The learning process aims at developing workers' knowledge, skills, attitude and behavior. The aim of the process is to motivate workers to effectively undertake their work and hence achieve organizational goals, (Momanyi et al., 2016). Worth noting is that employers highly depend on performance of their employees in order to achieve organizational goals.

Training is an intervention to motivating health workers and improving on performance however its effectiveness has not been proven due to inadequate assessment of skills gap analysis and the training required to bridge these gaps. In addition, there lacks standardized training content, and mode delivery of content.

According to Momanyi et al. (2016) a relationship exist between training and motivation, job satisfaction, intrinsic job satisfaction and organizational commitment. Considering that training is an important input in Human Resources Management which has an impact on quality healthcare delivery and contributes to strengthening the HR pillar of every health system, (WHO, 2007). The study was undertaken to document if training is done among the providers in a network, and the impact training has on delivery of healthcare services, the findings are expected to contribute to identifying if

training is a priority area of intervention in a provider network, as this will provide evidence to donors and partners as to whether if the trainings are a worthwhile investment to realize the benefits of a network.

2.3.2 Mentorship of Healthcare Providers

Mentorship can be theorized in several ways, (McRae & Zimmerman, 2019). The traditional view of mentorship is that in which a senior individual within an organization assists a junior person's personal and professional development, the mentor provides both career and psychosocial assistance. The main assumption of this traditional dyadic relationship is that success of the mentorship is related to the amount of mentoring time spent. More recently the traditional view has expanded to include alternative mentorship relationships, such as peer relationships, mentoring circles, e-mentoring, and personal discussion networks. Thus, mentorship is more than the traditional/single dyadic model. Having various members of the network allows the mentee to enlist help from others when one particular mentor's abilities are limited at a critical point in the mentee's career. The provider network with several providers enables the junior healthcare providers to seek help and support from the senior and more experienced providers within the network. Effective mentoring has been shown to result in positive career outcomes such as career development, career progression, enhanced productivity, and career satisfaction, clarity of professional role and identity, and sense of competence for those who have been mentored.

According to Feyissa et al. (2019) different types of mentoring interventions exist such as embedded mentoring, visits by mobile mentors, facility twinning and within-facility

mentorship by a focal person and are reported to be effective, however there is no evidence to recommend one model of mentoring over the other types of mentoring.

Further, Feyissa et al. (2019) notes that institutional training programs whether centralized or offsite are often seen as either ineffective or expensive. Therefore, strategies have been sought to tackle problems arising from the scarcity of highly qualified HRH, in low- and middle-income countries (LMICs). Among these initiatives are supportive supervision, provision of tools and aids, quality improvement methods, coaching and mentoring. Mentoring is one of the innovative short-term solutions that have been in place in many healthcare institutions to tackle human resource-related challenges in low- and middle-income countries.

According to Feyissa et al. (2019) clinical mentoring is a system of practical training and consultation that promotes professional development. It is in-service training seeking to facilitate the dissemination of evidence-based practices. It entails career support provided by an experienced, knowledgeable, skillful, empathetic and committed individual or a mentor to another less experienced individual or a mentee. It involves a reciprocal relationship between the mentor and the mentee and hence improves the career outcomes of both. It also assists the mentee in establishing clear learning goals and professional relationships. It stimulates the mentees to acquire both theoretical knowledge and practical skills and encourages the immediate application of the learning at work settings. Globally, there is emerging evidence that some mentoring programs have reduced turnover rates, employee turnover costs and medical negligence rates and improved job satisfaction, communication skills and professional identity.

Mentorship interventions are effective in improving the clinical management of infectious diseases, maternal, neonatal and childhood illnesses, (Feyissa et al., 2019). These interventions were also found to improve managerial performance in the areas of accounting, human resources, monitoring and evaluation, and transportation management of health organizations. Similarly, mentorship also led to improved laboratory accreditation scores. Mentorship sessions have been seen to lead to increased adherence of health professionals to guidelines, standards, and protocols.

2.3.3 Coaching of Healthcare Providers

Coaching, is the process that involves instructing or guiding a person to develop a specific skill (Feyissa et al., 2019). Incorporating mentorship and coaching activities into Health Systems Strengthening strategies is associated with improvements in quality of care and health systems. Mentorship and coaching represents an important component of HSS activities designed to improve not just coverage, but also, in achieving Universal Health Care (UHC). Coaching, is often included in mentoring activities, however it focuses more on improvement of performance to bridge the know-do gap, (Manzi et al., 2017).

According to Losch et al. (2016) coaching is a collaborative relationship, where a coach and the coachee engage in a systematically in the process of setting goals and developing actions to attain goals, self-directed learning, and personal growth of the "coachee". The responsibility of the coachee is to implement the action step by step to achieve the set goals. The coach keeps the coachee on track by managing the complex process of goal attainment. The coach's function includes setting clear agreements, clarifying respective roles and responsibilities, and creating a supportive working

relationship, as well as eliciting a thought-provoking and creative process through active listening and challenging questions.

The interaction of coach and coachee is similar to the relationship between a leader and an employee, with the aim of the coach or leader being to facilitate and guide the follower's development and performance. However, there are also differences. In the leader–follower relationship, the leader is in a hierarchically higher position than his or her followers and supports them in attaining organizational goals. In contrast, the coaching relationship is one of equals and the coach helps the coachee attain his or her personal goals. Further, Losch et al. (2016) indicate that coaching is effective in reducing procrastination and facilitates goal attainment. Individual coaching creates satisfaction and helps coachees attaining their goals. According to Núñez-Cacho Utrilla et al. (2015) coaching influences both individual and organizational performance indicators. Coaching enables firms to improve their competitive position by maximizing benefits and minimizing costs.

2.4 Clinical Support of Healthcare Providers

2.4.1 Clinical Compliance

One of the roles of the provider networks is to ensure that there is clinical treatment support among the members of the network. According to Gaboury et al. (2009) inter-professional collaboration has become an important component of a well-functioning healthcare system. Matziou et al. (2014) also reiterate that collaboration between healthcare providers is necessary in any health care setting, because there is no single profession that can meet all of a patient's needs.

Over the past decade, we have witnessed a move towards community-based healthcare, as opposed to the traditional in-hospital model of care. Community based care services have developed into organized networks of professionals and organizations, with the aim of providing patient care at the "right place" and with more task substitution to primary care level. Over the year's inter-professional collaboration have become important and have shown to improve healthcare processes and outcomes (Zwarenstein et al. 2009).

Professional bodies play a major role in improving productivity within their respective industries. Most of what they do can lead to productivity improvements. The impact of their role may be direct, through increasing the capability of the workforce and management by promoting best practice and sharing the latest advancements. Understanding the value of professionals and professional bodies.

Organizations enter alliances with each other to access critical resources (Gulati, 1999). Organizations that support the health of a population often develop relationships with each other. The relationships form patterns of interaction and exchange that compose the public health network.

There are studies that have demonstrated that creating cohesive, collaborative networks (of professionals or agencies) can pay dividends in coordinating care and attending to quality and safety issues and agendas. The characteristics of networks are important in facilitating greater levels of quality of care and patient safety. The differences between individuals e.g. their level of separation, the centrality of the key actors, the intensity of the network relationships, the level of density of the network, the hierarchical

relationships are structured and the stability of the network, as well as the actors within it are all factors that determine how well a network functions and how well the actions of interacting agents will gel to provide services.

2.4.2 Support Supervision of Healthcare Providers

Supervision is hierarchical and managerially oriented, it is aimed at evaluating performance based on predetermined criteria or to assess facility infrastructure, (Feyissa et al., 2019). Supervision activities focus on data collection, auditing and report completion rather than catalyzing learning and supporting system quality improvement. Such supervision is based on evaluating if the health care providers in the network comply with clinical guidelines and legal requirements. Assessments are done to evaluate the quality of care, to determine the legal compliance of the providers and to establish a way forward in regard to provision of services and strengthened linkages and referrals. (Manzi et al., 2017).

2.5 Health Commodities Security

A well-functioning health system ensures equitable access to essential medical products, vaccines and technologies of assured quality, safety, efficacy and cost-effectiveness, with scientifically sound and cost-effective use, (WHO,2007). Key to improving access to sexual and reproductive health commodities (SRHC) is strengthening the health system, with a specific focus on the supply chain, (Ooms et al., 2020).

2.5.1 Availability Health Commodities

Reproductive Health Network Kenya focus on promoting reproductive health services. In a research on availability, affordability, stock-outs and accessibility of more than fifty SRHC considered essential by the WHO, in four Eastern and Southern African countries, results indicate that, though there is clear need for access to SRHC in most African countries, access these commodities has not been fully achieved, SRHC are unavailability, unaffordability, regulatory provisions and supply chain issues persist (Ooms et al., 2020). Through the network, health care providers are supported with commodities and training manuals on how to use the commodities.

Further, Ooms et al.(2020) established that policies and regulations may inhibit use of SRHC. For example, when a commodity is expected to be provided only at higher levels, as is the case for ultrasound scans, it increases the distance patients have to travel and reduces access. Similarly, a slightly higher use of the emergency contraceptive in Kenya (1.7%) than in the other countries (0.2–0.5%), may be explained by the fact that in Kenya contraceptives are available even without a prescription. In Zambia magnesium sulphate being unavailable was explained by lack of policy implementation, lack of procurement by the Ministry of Health and stock-outs at the central store.

Stock-outs are common across countries, and governments ought to ensure that inventory management systems are in place in health facilities. In their research Ooms et al. (2020) showed that there several health facilities who do not have stock cards or an electronic stock management system in place. Further, improvement in quantification of medicines is needed, as stock-outs are partly caused estimations and

not previous consumption data which estimates burden and need. Stock management at the central stores need to be improved, as poor inventory management at this level leads to commodities not being delivered for longer periods, or commodities being delivered that were not been ordered. Governments need to ensure timely payment of suppliers, as delayed payments may lead to a delayed supply until payment is received.

2.5.2 Training on Health Commodities Use

According to a study by Wahome et al. (2019), training health workers on health commodities use influences the rational use of such commodities. According to Ooms et al. (2020), access to health commodities is exacerbated by other challenges including regulatory and policy concerns, infrastructural issues, inadequate knowledge among the community members and healthcare workers, cultural beliefs, and lack of skilled healthcare workers. An ultrasound scan being physically available does not mean it is routinely used or functional. It could be that healthcare workers are not trained in its use, coupled with lack of electricity or high user costs are also barriers. Use of male and female sterilization is also dependent on acceptability, and lack of knowledge and negative attitudes of clients and healthcare workers, religious beliefs, fear of surgery and side effects, lack of equipment, long travel distances, and long waiting times.

To improve healthcare workers' knowledge on SRHC and their professionalism, healthcare workers' refresher trainings should be promoted and implemented. Programs using a combination of healthcare worker training, and sensitization in communities and through the media are most effective in improving knowledge of and demand for SRHC (Ooms et al., 2020).

2.6 Provision of Quality Health Services in a Network

Benefits of networking include among other benefits, being able to provide coordinated, higher quality services and a full continuum of care. Network members also benefit from more efficient use of resources achieved through economies of scale for example through purchasing, and being more competitive in grant competition, (Popp et al., 2014). Donabedian developed a framework of health care quality and categorizing quality measures into three domains of structure, process, and outcomes, (Kuhlthau, 2011). Quality of health services will be looked at from the providers' view of providing these services.

2.6.1 Continuity and Referral of Services

According to Gulliford et al. (2006) continuity of care is concerned with the quality of health care offered over time. Traditionally, continuity of care is idealized in the patient's experience of a 'continuous caring relationship' with an identified health care professional. For providers in vertically integrated systems of care, continuity can be viewed as the delivery of a 'seamless service' through integration, coordination and the sharing of information between different providers. Patients' health care needs can now only rarely be met by a single professional, therefore multidimensional models of continuity have had to be developed. Continuity of care may, therefore, be viewed from the perspective of either patient or provider. Continuity in the experience of care relates conceptually to patients' satisfaction with both the interpersonal aspects of care and the coordination of that care. Continuity in the delivery of care cannot be evaluated solely through patients' experiences, it may also be related to multidisciplinary teams working together, for example RHNK where health services are delivered through a network of health care providers. From a provider perspective, the focus is on new models of service delivery and improved patient outcomes. A full consideration of continuity of

care should therefore cover both of these distinct perspectives, exploring how these come together to enhance the patient-centeredness of care (Gulliford, 2006). According to Uijen et al., (2012) continuity of care viewed from the patient's perspective, includes having a personal relationship between patient and care provider, communication between providers and cooperation between providers. Coordination of care and referrals are common reported quality problems for physicians. The frequency of coordination problems differs somewhat by practice setting and size, with physicians who practice in in a network of more than 50 more likely than those in solo practice to report such problems, (Audet et al., 2015). The issues around coordination and referral include disruptions in the process of transferring patient information. In their study on physicians' views on quality of care by Audet et al. (2015) reported that 72% said, patients' medical records, test results, or other relevant information were sometimes or often not available at the time of a scheduled visit, following a referral. One-third observed that tests or procedures had to be repeated because findings were not available or were inadequate for interpretation, and 28% reported that care was compromised due to conflicting information from different health professionals. A quarter (26%) observed that patients experienced problems following hospital discharge due to information not being released in a timely manner. In some cases, (15%) of physicians reported that patients often or sometimes did not receive appropriate follow-up, despite test results that indicate the need for such treatment. One-third of physicians said they had problems receiving information and feedback regarding referral in a timely manner. In addition, most physicians (64%) said they rarely or never receive information from providers they refer patients to. Quality of care data appeared to have little or no impact on referral decisions, with most physicians using other information, such as patients' experiences with physicians or professional reputation among peers.

2.6.2 Availability of Health Services

Kuhlthau (2011) appreciates the Donabedian framework of health care quality. This framework categorizes quality measures into three domains of structure, process, and outcomes. Structure domain is more relevant to availability. Structure domain comprises of measures such as the number of healthcare providers by geography distribution or population coverage, provider policies about operating hours, telephone access, acceptance of different types of insurance, and prices of services, distance to see a provider, number and density of health facilities, and the structure of financing. Availability can also be considered using from three factors-predisposing, need, and enabling factors operating within a health care and social environment. This conceptual framework was put forth by Malby and Anderson-Wallace (2016) points out physician-enabling factors such as whether a provider accepting a health insurance, time required to get an appointment, waiting time, the procedure of making an appointment, accepting walk-in patients, and the geographic location of the health care provider. Kuhlthau, (2011) in a study on measures of availability of health care services for children the authors came up with three forms of availability these being geographic availability, timely availability, and process availability. Geographic availability can be viewed from several aspects such as density /count of providers in an area, distance, and travel time to see a provider and provider perceptions of availability. Timely availability may be looked at from the following key aspects scheduling an appointment, length of time to appointment, transportation assistance, intensive care unit (ICU) measures, percentage of not attended to due to inadequate resources, delayed discharge for more than 12 hours, discharge in odd hours 6pm to 6am, being attended to very quickly and transfers. Process availability entails having no barriers to care such as skills, expectations, marginalization, knowledge, and beliefs. Patient reports ease of getting:

specific types of care, needed care, prescription medications, specialized services, needed information and acceptance of new patients by the providers.

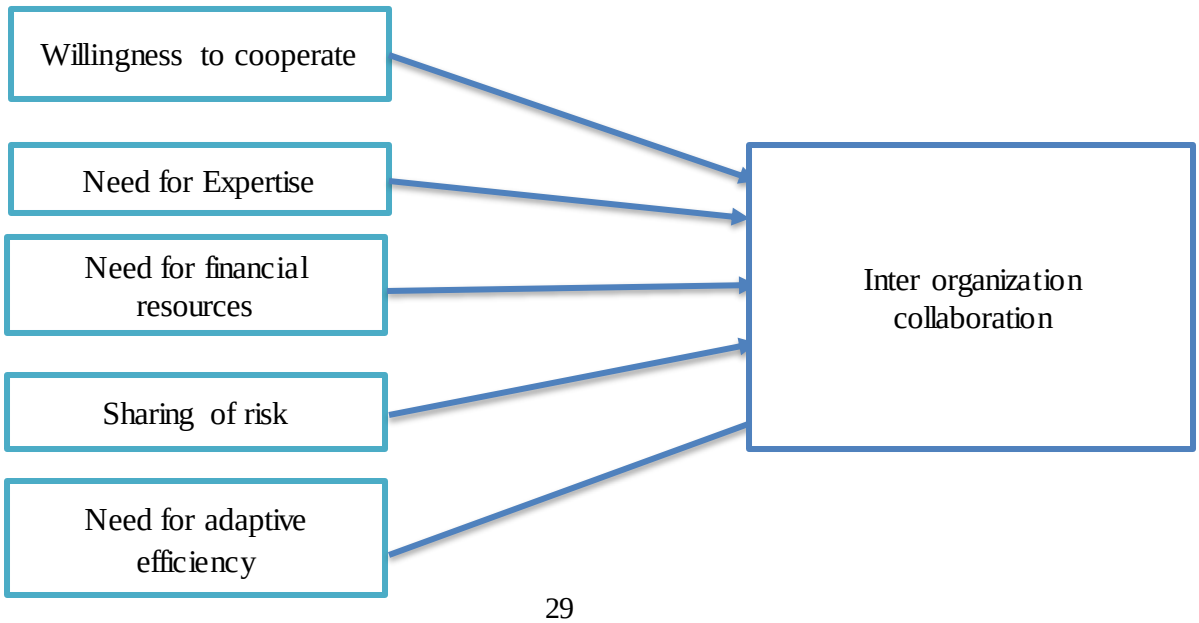
2.7 Theoretical Framework

This study adopts a systemic network theory borrowed from (Schumaker, 2002). The systemic network theory integrates the theories of inter organizational relations, exchange, population ecology, and a synthesized theory of collaboration. The systemic network theory outlines the elements needed for inter organizational collaboration to include a culture of trust, task complexity, existence of highly specialized functions, and emergence of small units whether as separate organizations or within large-scale organizations. A combination of small size, high degree of specialization, and task complexity best describe current competitive situations and realities in health care delivery organizations.

Theoretical Framework

Figure 2.1

Theoretical Framework



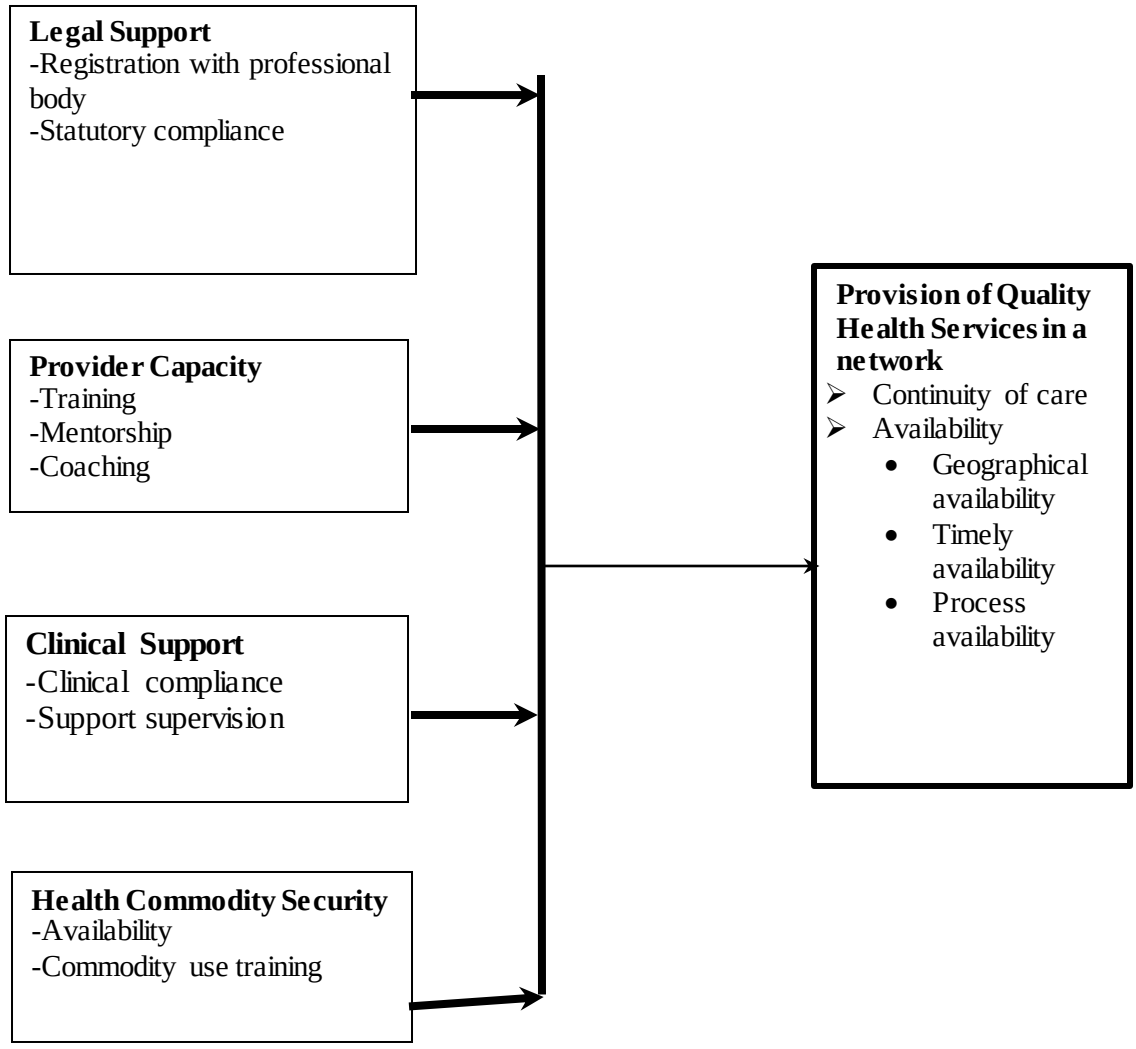
Source: Organizations Working Together, (p.39), by C. Alter and J. Hage, 1993, Newbury Park, CA: Sage Publications, Inc. Copyright 1993 by Sage

Legal support is achieved by members of the network deploying a legal team to offer legal advice and support them in the event that they are accused of misconduct in their line of duty, given the services the RHNK providers offer including offering safe abortion and post-abortion care. Clinical support is done by higher cadre professionals offering clinical guidance on, delivery of services. Underlying the legal and clinical support is willingness to cooperate and need for expertise to guide in the two areas which require guided professional capacity and sharing of risks among the members of the provider network. Capacity building includes training through continuous professional development and providers being given opportunities to attend the network scientific conferences. Commodity security is enhanced through bulk purchasing to promote economies of scale and training on commodity use is undertaken among the providers. Both capacity building and commodity security requires the members of the network to invest in financial resources and promoting efficiency in use of resources.

2.8 Conceptual Framework

Figure 2.2

Conceptual Framework



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the study research design, the target population, study area, sampling method, sample size, data collection instruments and ethical considerations.

3.2 Research Design

A research design is the structural framework and underlying conditions for collection and analysis of data. It is a mental framework within which research is conducted. (Kothari & Garg, 2019). This was a cross sectional research design with mixed methods of data collection. Various data analysis designs were employed. Descriptive design was adopted so as to generate summary statistics, correlational design was used to generate the correlation matrix, and quantitative design was used for inferential statistics. Descriptive research describes the characteristics of a particular phenomenon, situation, individuals or groups as they exist in their natural set up (Saunders et al., 2007). Qualitative data was collected through key informants and data was analyzed using thematic contents. Data collection and analysis took place between 1st June, 2021 to 15th July, 2021.

3.3 Study Location

This study was carried out among healthcare providers spread all over 42 counties in Kenya. Kenya has 47 counties, where each has its own autonomous healthcare system. The Kenyan healthcare system is split into three sub-systems namely public sector, commercial private sector, and faith-based organizations (FBOs). The public sector is the largest followed by the commercial private sector and the FBOs. The study

respondents were providers from the commercial private sector who are spread across urban and rural areas.

3.4 Target Population

The first step in developing any sample design is to clearly define the set of objects, technically called the Universe, to be studied. The universe can be finite or infinite. In finite universe the number of items is certain, but in case of an infinite universe the number of items is infinite, (Kothari & Garg, 2019). To respond to the study objectives, the study targeted Reproductive Health Network Kenya which has 457 healthcare provider and RHNK board of five members. The providers are present in 42 counties in Kenya.

3.5 Sample Size Determination and Sampling Procedure

Whatever the nature of research, a researcher needs to consider the need to use sampling. Occasionally, it may be possible to collect and analyze data from every possible case in the research, this is termed a census. However, some research questions and objectives may restrict data collection and analysis due to constraints of time, money and often access, thus necessitating the need to use a sample (Saunders et al., 2007).

3.5.1 Sample Size Determination

Generalizations about populations from data collected using any probability sample are based on statistical probability. The larger your sample's size the lower the likely error in generalizing to the population (Saunders et al., 2007). It is not surprising that the final sample size is almost always a matter of judgment as well as of calculation

(Kothari, 2009). Sample size of the providers was determined using formula for determining sample size from a target population of less than 10,000.

$$.nf = \frac{n}{1+n/N} = \frac{384}{1+384/457} = 208 \text{ health providers}$$

In order to increase precision, an additional 20% (44) healthcare providers were added to make a total sample of 252.This was to cater for non-response. The sample also comprised 5 RHNK board members as key informants.

3.5.2 Sampling Procedure

If a researcher decides to use a sample for their study, two sampling techniques are available that is probability and non-probability sampling techniques. With probability samples the chance, or probability, of each case being selected from the population is known and is usually equal for all cases. For non-probability samples, the probability of each case being selected from the total population is not known (Saunders et al., 2007).The RHNK provider network was purposively selected while the 252 providers within the network were sampled using simple random sampling. This is because a complete list of the providers under the network exist. The five RHNK board members were purposively sampled and included in the study as key informants.

3.6 Inclusion and Exclusion Criteria

i) Inclusion Criteria

Providers who had been in the network for more than one year. This is because they have already realized the benefit of an annual cycle of programme implementation.

ii) Exclusion Criteria

Providers in the network not willing to be part of the study, and those who had been in the network for less than one year. Also, providers in more than one network were excluded.

3.7 Instrumentation

Data was collected using a structured questionnaire (See Appendix 2) from the healthcare providers within the RHNK network. The questionnaire had six sections namely: Section A demographic information, Section B- Provision of Quality Health Services in a network; Section C- legal support, Section D- Provider capacity, Section E- Clinical Support and Section F-Health Commodity Security. The study used Likert based psychometric questionnaire containing closed ended questions (Boone & Boone, 2012). The scale of the Likert scale ranged between strongly agree (SA) to strongly disagree (SD). **SD** for strongly disagree, **D** for disagree, **NS** for Not sure, **A** for agree and **SA** for strongly agree. The mean score was then calculated for each statement. A mean score of 3.4 was the border line for agree and disagree. Constructs with a mean score above 3.4 means that they agreed with a given construct while the mean score below 3.4 means they disagreed with the statement.

In addition, a Key informant Guide (See Appendix 3) with guiding questions was used to collect qualitative data among the five board members.

3.6 Data Collection

Primary data was collected from the providers in the network of providers and the board members. Primary data is the data you collect directly from the individual source, and thus happen to be original in character. Descriptive research mainly depend on primary

data either through observation or through direct communication with respondents or through personal interviews, questionnaires or through schedules, (Kothari & Garg, 2019). A self-administered structured questionnaire (Appendix 2) was used to collect data from the 252 providers.

The researcher used the RHNK database to access the email address of the health care providers and board members. The questionnaires were distributed via email to the selected participants. The respondents were given up to two weeks to fill and return the questionnaire via email. The researcher followed up via telephone to remind the respondents to fill the questionnaire every second day.

The researcher carried out the key informant interviews with the 5 board members. Before the interview, an online appointment was scheduled. Due to the ongoing COVID-19 pandemic all the interviews were done virtually via google meet. The interviews took about 40-50 minutes and all the proceedings were recorded in addition to notes taken by hand.

3.7 Pre-test

It is desirable to pre-test the data collection instruments before they are finally used for the study purposes (Kothari & Garg, 2019). The questionnaire was pretested with 45 health care providers in TUNZA and AMUA networks, these are reproductive health network with similar organizational arrangement as the RHNK. They were drawn from Nairobi and the neighboring Kiambu County.

3.7.1 Reliability

Reliability refers to the extent to which your data collection techniques or analysis procedures will yield consistent findings (Saunders et al., 2007). The Cronbach's Alpha reliability test was done to ascertain internal consistency of the research instrument. A coefficient of between 0.7-1.0 was deemed acceptable for consistency. The closer Cronbach's alpha is to 1, the higher the internal consistency reliability, (Sekaran, 2012). The findings are presented in Table 4.1

3.7.2 Validity

Validity is concerned with whether the findings are really about what they appear to be about (Saunders et al., 2007). The research instrument was tested for face and content validity by sharing the instruments with supervisors, and three officials from each of the two networks. In addition, a statistician reviewed the tools to assess for conceptual and investigative bias.

3.8 Operationalization of Variables

The data type and tools for data collection for the study variables are presented in Table 3.1.

Table 3. 1

Operationalization of Study Variables

	Variables	Indicators	Type	Data collection tool
Independent Variables	Legal Support	• Registration with professional body • Statutory compliance	Likert Scale & Qualitative data	Structured questionnaire & KII
	Provider Capacity	• Training • Mentorship • Coaching	Likert Scale & Qualitative data	Structured questionnaire & KII
	Clinical Support	• Clinical compliance • Support supervision	Likert Scale & Qualitative data	Structured questionnaire & KII
	Health Commodity Security	• Availability • Training on Commodity use	Likert Scale & Qualitative data	Structured questionnaire & KII
Dependent variable	Provision of Quality Health Services in a network	• Continuity of care • Availability	Likert Scale & Qualitative data	Structured questionnaire & KII

3.9 Data Analysis

Quantitative data was coded and entered into the computer data base; electronic backup was done. Data cleaning was done in SPSS version 23. Regression analysis was used to explain the relationship between the dependent variable and the independent variables. All copies of questionnaires were secured online.

Descriptive statistics were summarized in form of measures of central tendency, and standard deviations (SD) and summarized as continuous variables. Bivariate analysis using spearman's Rho correlation coefficient was used to compare the variables for factor analysis between the each independent and the dependent variable. A 95% confidence was used to test the strength of association. The threshold for statistical significance (P value) was set at $p< 0.05$. Multivariate analysis was used to identify the variables of interest. Multiple regression analysis predicting the changes in the dependent variable in response to changes in the independent variables was used to describe the model.

Qualitative data was organized into themes and content analysed using NVIVO version 12, 2001 software. Data was presented using description, narrative and tables as well as verbatim narratives from the KII interviews.

Empirical Model

Role of provider network in provision of quality healthcare services can be expressed in the following functional relationship.

$Yf (X_1, X_2, X_3, X_4)$

Where Y= Provision of quality healthcare services

X_1= Legal support

X_2= Provider Capacity

X_3= Clinical support

X_4= Health commodity security

Equation one

Influence of legal support on provision of quality healthcare services

$Y=\beta_0 +\beta_1 X_1+\varepsilon$…… (i)

Equation two

Influence of provider capacity on provision of quality healthcare services

$Y= \beta_0 +\beta_2 X_2+\varepsilon$ …….. (ii)

Equation three

Influence of clinical support on provision of quality healthcare services

$Y= \beta_0 +\beta_3 X_3+\varepsilon$ …… (iii)

Equation four

Influence of commodity security on provision of quality healthcare services

$Y= \beta_0 +\beta_4 X_4+\varepsilon$ …… (iv)

From the above functional relationships, the following multiple ordinal relationship is derived.

$Y= \beta_0 +\beta_1 X_1+ \beta_2 X_2+\beta_3 X_3+\beta_4 X_4+\varepsilon$ ……. (v)

Where:

Y= Provision of quality healthcare services

β_0= intercept

$\beta_1 X_1$ = effect of legal support

$\beta_2 X_2$= effect of provider capacity

$\beta_3 X_3$= effect of clinical support

$\beta_4 X_4$= effect of commodity security

ε = predictive error

The findings from this study were disseminated through a thesis defense to the department of Health Systems Management and Board of Post graduate studies Kenya Methodist University. The final report will be published in a peer-reviewed journal and shared with relevant stakeholders that is RHNK board, health care providers and the various partners. The results will thus contribute to a better health system particularly on the pillars of service delivery.

3.10 Ethical Consideration

Ethical approval was sought from the Kenya Methodist University Scientific and Ethics Review committee (KeMU SERC), Reference number KeMU/SERC/HSM/22/2021. Research permit was sought from the National Council of Science and Technology (NACOSTI), reference number NACOSTI/P/21/10704, and the RHNK board, reference 001/007/2021RHNK/LT1. A written permission to conduct the study was sought from the 252 institutional authorities targeted for the study. Each study participant was given an opportunity to consent to participate in the study before data collection (Appendix 1). An explanation was made to each of the participants before collecting data to reassure them of ethical practices during the conduct of the research. All information obtained were made anonymous and was solely used for academic purpose and for the benefit of Kenya health policy makers.

CHAPTER FOUR

FINDING AND DISCUSSIONS

4.1 Introduction

The aim of this study was to determine the role of provider networks in provision of quality healthcare services. The specific objectives were: i) to determine how legal support influences provision of quality health services in a provider network in Kenya, ii) to determine how provider capacity, influences provision of quality health in a provider network in Kenya, iii) to determine how clinical support influences provision of quality health services in a provider network in Kenya, and iv) to determine how health commodity security influences provision of quality health services in a provider network in Kenya.

The results and discussion of this study are presented in this section as follows: The first section covers the demographics of the respondent; the second section covers the descriptive statistics of both the dependent variable and independent variables according to study objectives. The third section covers the bivariate correlation analysis: of all variables. The fourth section covers the multivariate analysis.

4.2 Response Rate and Reliability Test

Two hundred and fifty-two (252) healthcare providers were included and consented to take part in this study as respondents. The study response rate was 100%. All the 252 questionnaires used to interview the respondents were complete and fit for data analysis. Five key informant interviews were also done with selected board members. Reliability is the ability of the test instrument to give same or similar results in the repeated trials. In order to ensure using the same questionnaire produces the similar

results in repeated trials, the reliability of the questionnaires was tested for reliability using the Cronbach alpha. See summary in Table 4.1.

Table 4: 1

Reliability Test Results

Variable	Number of items	Cronbach's Alpha
Legal support Reliability (X_1)	8	0.714
Capacity building (X_2)	12	0.855
Clinical support (X_3)	8	0.776
Health Commodities Security (X_4)	8	0.918
Quality Health Services (Y)	10	0.883

According to Cronbach (1951) a reliable coefficient range between 0.7 and 1.0. Any question or group of questions falling into this range are deemed to be reliable according to Cronbach. In this study Cronbach's Alpha coefficient value was higher than 0.70, hence the tool was deemed to be reliable.

4.3 Demographics Characteristics of the Respondents

The study sought to find out the demographic characteristics of the respondents in terms of gender, age, profession, facility type, level of education, years of work experience, type of professional membership, availability of practicing license, and years of membership in the network. Results of respondent's demographics are presented in Table 4.2.

Table 4: 2

Demographic Characteristics of the Respondents (n=252)

Characteristics	**Respondents**	
Gender	**Frequency**	**Percent**
Male	132	52
Female	120	48
Age	**Frequency**	**Percent**
28-40	65	26
41-50	117	46
51-60	58	23
Above 60	12	5
Profession	**Frequency**	**Percent**
Nurse	184	73
Clinical Officer	51	20
Doctor	16	6
Professor	1	1
Facility type	**Frequency**	**Percent**
Clinic	73	29
Health center	68	27
Nursing home	78	31
Hospital	33	13
Level of Education	**Frequency**	**Percent**
Certificate	25	10
Diploma	127	50
High diploma	44	18
Degree	56	22
Work Experience	**Frequency**	**Percent**
4 to 9	11	4
10 to 15	57	23
16 to 20	70	28
21 to 25	45	17
26 to 30	39	16
31 to 35	17	7
36 to 40	11	4
41 to 50	2	1
Professional Membership	**Frequency**	**Percent**
KMD	138	55
Nursing Council	81	32
Clinical Officer council	33	13
Practicing license	**Frequency**	**Percent**
Yes	251	99
No	1	1
Network Membership (Years)	**Frequency**	**Percent**
1 to 5	141	56

6 to 10	106	42
11 to 13	5	2

The study findings on gender indicate that there were more male respondents. The male respondents accounted for 132(52%) of the entire sample, while female respondents accounted for 120(48%). This implies that most private healthcare providers in private practice are male in terms of gender.

The study sought to find out the ages of the respondents. The analysis as indicated in Table 4.2 reveals that 117(46%) of the respondents who are the majority were between 41-50 years. Those between ages 28-40 years were 65(26%) and the least number 12(5%) were over 60 years old.

Among the respondents, the findings as indicate that majority 184(73%) were nurses by profession, followed by clinical officers and medical doctors 51(20%) and 16(6%). Further analysis by respondent's type of facility showed that most health providers had nursing homes 78(31%), followed clinics 73(29%), health centers 68 accounted for 27%. The least were hospital 33(13%).

Further analysis on the level of education revealed that half 127(50%) of the respondents were diploma holders, 44(18%) had a higher diploma, degree holders were 56(22%) and the least had certificates 25(10%). With regard to respondents' work experience, the study results showed that nearly a third 70(28%) had 16-20 years' work experience, followed by 10-15 years and 21-25 years accounting for 57(23%) and 45(18%) respectively. The analysis by respondents' type of professional membership revealed that just over half 138(55%) belong to the KMD, 81(33%) and 33(13%) had nursing clinical and clinical officer council membership respectively. All expect one

respondent had a valid practicing license 251(99%). Information on number of years that the respondent had been a member of the network, showed just over half 141(56%) had been members for 1-5 years, and only 5(2%) had been members for over 11-13 year.

The results on age and years of experience are in line with the government policies where nursing experts can only operate their own clinic after at least 5 years post registration certificates in contributing to access to quality healthcare as enshrined in the Kenyan constitution .

4.4 Responses on Provision of Quality Health Services

Provision of Quality Health Services is the dependent variable in this study. The indicators of the dependent variable were continuity of care and availability of health services. Results are presented in Table 4.3.

Table 4.3

Descriptive statistics on Provision of Quality Health Services (n=252)

Statement	Min	Max	Mean	Std. Deviation
Being a member of the provider network provides me an opportunity to refer my patients easily.	3	5	4.87	0.35
I have a large network of providers to refer my patients to.	2	5	4.86	0.39
I can consult my fellow members in the network anytime for patient care.	4	5	4.89	0.31
My colleagues in the network are always ready to offer services to my clients whenever I request them.	4	5	4.85	0.35
I have a clear network referral strategy at my facility	4	5	4.95	0.22
The members of the network are always available to be consulted	4	5	4.69	0.46
Being a member of the network ensures that my clients can always access health services from any member of the network	3	5	4.71	0.47
I often receive instant assistance from members whenever I need it.	2	5	4.71	0.53
The quality of care that I offer has improved since I joined the provider network.	4	5	4.92	0.27
The WhatsApp platform provides timely professional consultation and support among peers	3	5	4.83	0.39

Provision of quality health services was the dependent variable as measure of the mandate of the provider network. Study results revealed that nearly all the respondents agreed with the statements on the benefits of belonging to a provider network in relation

to provision of quality healthcare services. Majority of the respondents agreed that being a member of the provider network provided them with an opportunity to refer their patients easily, (mean score 4.87), that the quality of care that they offer has improved since they joined the provider network (mean score, 4.92), that they have a clear network referral strategy at their facility (mean score, 4.95), and that they can consult their fellow members in the network anytime for patient care (mean score, 4.89).

These results compliment Cameron, et al, 2013, assertion that provider networks have emerged as important vehicles in the pursuit of more integrated care both horizontally and vertically. Any effort to strengthen health systems capacity for prevention of diseases have worked through multi-agency or multilevel networks. Shortell et al. (1994) say that integration may be functional or focus on physicians or clinics, pursue common aims, and create shared accountability to a defined population.

The rise in network popularity has come largely from the recognition that money alone cannot sufficiently improve the quality of health systems, and that the major health problems facing societies are unlikely to be successfully addressed by individual organizations acting in isolation

The results were collaborated by the following excepts from board members:

> "… since the we formed the association, the quality of health services we provide to our clients has improved. For example, the online platforms like *WhatsApp* has made it easy for members to share information, ask questions and get real-time feedback from colleagues and even make referral of patients and follow up easier. …"

(RHNK Board Member, 002)

"… the RHNK network has grown its membership largely because our members have seen its usefulness in supporting them to deliver quality services …"

(RHNK Board Member, 004)

4.5 Responses on Access to Legal Support through the Provider Network

One of the fundamental aspects the study sought to determine how legal support influences provision of quality health services in a provider network in Kenya. One of the mandates of the provider network is to provide legal support to its members. The indicators to measure legal support included i) registration with professional body and ii) statutory compliance. Table 4.4 below present's descriptive statistics on legal support factors.

Table 4.4

Responses on access to Legal Support through the Provider Network (n-252)

Statement on access to Legal Support	Min	Max	Mean	Std. Deviation
The network registration process is very clear	4	5	4.92	0.28
The benefits of joining the membership are very well explained	2	5	4.90	0.35
The registration process takes a short time	2	5	4.27	0.97
The provider network is always updating me on new policies.	2	5	4.53	0.56
The provider network is always ready to interpret policies or laws for me.	2	5	4.59	0.54
The provider network often supports the health workers with legal representation in case of need.	2	5	4.81	0.43
The provider network is always ready to represent our views to the MOH at both national and county level?	2	5	4.06	0.84
The provider network is always ready to provide me with support in renewing both my professional and practicing licenses.	2	5	3.22	1.10

On the registration with provider network, the study results revealed that majority of the respondents agreed that the process of registration with the provider network was very clear to them (mean score, 4.92), that the benefits of joining the membership are very well explained to them (mean score, 4.90), and that the registration process takes a short time (mean score, 4.27). However, the respondents disagreed that the provider network was always ready to provide them with support in renewing both their professional and practicing licenses (mean score, 3.22).

With regard to statutory compliance the respondents were asked about their opinion on the provider network support to comply with the laws. Most of the respondents agreed that the provider network was always updating them on new policies (mean score, 4.53), that the provider network was always ready to interpret policies or laws for them (mean score, 4.59), and that the provider network often supports the health workers with legal representation in case of need (mean score, 4.81) and that the provider network was always ready to represent their views to the Ministry of Health at both national and county levels (mean score, 4.06).

From the findings, the views of the healthcare providers are clear on the legal procedures of registration into a provider network. The results are similar to the benefits outlined by the Kenya Health Federation which says that joining an association provides members with a competitive advantage because they become active and informed members within their industry. Members of the association depend on their association for briefs on current industry trends, new legislative rulings, and advances in technology.

These results compliment the assertion by Popp et al, 2014, where they said that a provider network may be viewed as a network, based on its primary function, however, the network will generally have multiple functions. For example, a health service delivery network, with a primary function of delivering coordinated services to a

particular group of clients, will likely have a number of other secondary functions such as information sharing, exchange of knowledge, learning and capacity development. These authors' summaries the potential benefits of networking as: Access to and leveraging of resources, shared risk, efficiency, service quality, coordination, seamlessness, advocacy, learning, capacity building, positive deviance, innovation, shared accountability, and flexibility and responsiveness. This implies that the respondents attributed the provision of quality healthcare services they offer to the patients to the positive linkage they have with the provider network.

Healthcare associations or networks represent a collection of professionals who work towards the common goal of promoting and improving the medical profession they are associated with. These healthcare organizations support their members by providing resources, information and opportunities they might have not had.

The results were collaborated by one board member who had to say that:

> "… we have an easy process for potential members to register themselves into the provider network either in person or online …"
> (RHNK Board Member, 001)

> "… for any legal issues the provider network has legal practitioners who are always available to provide any legal advice to our members currently at no cost …"
> (RHNK Board Member, 005)

4.6 Responses on Provider Capacity Building through the Provider Network

The second specific objective was to determine the influence of provider capacity building on provision of quality of health care services. There were three indicators to measure this objective which included: i) training, ii) mentorship, and iii) coaching. The results are summarized in Table 4.5.

Table 4.5

Responses on Capacity Building through the Provider Network (n-252)

Statement on access to Provider Capacity Building	Min	Max	Mean	Std. Deviation
The network always provides regular trainings on clinical and legal protocols to its members.	2	5	4.50	0.54
The network regularly organizes leadership & management trainings to its members	2	5	3.80	1.07
The network often informs us of available trainings that we can attend.	2	5	4.54	0.57
The network always trains on the latest clinical protocols.	3	5	4.57	2.53
The network regularly organizes scientific conferences where we can exchange ideas and learn from others.	2	5	4.86	0.40
Members of the network provides workshop.	2	5	3.99	0.84
The network provides continuous medical education through partners	2	5	4.43	0.55
The provider networks provide mentorship to all members.	2	5	4.21	0.79
We are always encouraged to join the mentorship programs.	2	5	4.42	0.65
The mentorship programs provided are very useful in upscaling our skills	2	5	4.45	0.63
The provider network connects members to senior members for support.	2	5	4.66	0.52
Junior members are onboarded into the network through a mentorship orientation program that is organized by the network.	2	5	4.29	0.76

With regard to training of healthcare providers, majority of the respondents agreed that the network always provides regular trainings on clinical and legal protocols to its members (mean score, 4.50), that the network regularly organizes leadership and management trainings to its members (mean score, 3.80), that the network often informs them of available trainings that they can attend (mean score, 4.54), and that the provider network always trains on the latest clinical protocols (mean score, 4.57).

On mentorship and coaching, most respondents agreed that the provider network regularly organizes scientific conferences where they can exchange ideas and learn from others (mean score, 4.86), that members of the network organize workshops for learning / co-creating ideas (mean score, 3.99), that the network provides continuous medical education through partners (mean score, 4.43), that they are always encouraged to join the mentorship programs (mean score, 4.42), that the mentorship programs provided are very useful in upscaling their skills (mean score, 4.45), that junior members are onboarded into the network through a mentorship orientation program that is organized by the network (mean score, 4.29) and that the provider network connects members to senior members for support (mean score, 4.66).

The results are similar to results by Radhakrishnan et al. (2019) who say that the need for increased capacity in primary care to treat the increasing number of patients requires not only more family physicians but also more support and resources to handle challenging cases. For example, the The Collaborative Mentoring Networks (CMNs), provides that support and have proven particularly successful in improving physicians' competence and confidence in caring for patients. The networks give family physicians

timely, ongoing access to mentors with greater clinical expertise, including leadership in primary care, early years in practice and rural medicine. CMNs' early impact involved increased primary care capacity in family practice, better-supported family physicians treating more patients with complex conditions, fewer specialist referrals, less isolation and greater retention.

Mentorship interventions are effective in improving the clinical management of infectious diseases, maternal, neonatal and childhood illnesses. (Feyissa et al., 2019). These interventions were also found to improve managerial performance in the areas of accounting, human resources, monitoring and evaluation, and transportation management of health organizations. Similarly, mentorship also led to improved laboratory accreditation scores. Mentorship sessions have been seen to lead to increased adherence of health professionals to guidelines, standards, and protocols.

The results were complimented by a board member who said that:

> "… Due to guidance of mentors, our members provide much better care to their patients and they also help colleagues to provide better reproductive healthcare as well ..."
>
> (RHNK board Member, 005)

> "… we often hear from our members who say that getting their questions answered real time helps them to manage very complicated patients … and they have become better qualified healthcare providers …"
>
> (RHNK Board Member, 002)

4.7 Responses on Clinical Support through the Provider Network

The study third specific objective was to determine how clinical support influences provision of healthcare services in a provider network. The indicators to measure the clinical support were i) clinical compliance and ii) support supervision. The results are shown in Table 4.6.

Table 4.6

Responses on Clinical Support through the Provider Network (n-252)

Statement on Clinical Support	Min	Max	Mean	Std. Deviation
The provider network provides us with all clinical information we require to effectively provide healthcare services.	3	5	4.54	0.51
The network often informs us of new clinical protocols.	4	5	4.58	0.50
The network provides us with clinical guidelines.	1	5	4.55	0.61
The network involves us in the development of both organizational and national clinical guidelines?	1	5	3.85	0.99
The provider networks do regular support supervision.	1	5	4.31	0.80
I always find the support supervision to be very useful.	2	5	4.75	0.50
The schedule for supervision is always shared on time.	1	5	4.25	0.82
I always look forward for a revisit to my facility from the supervisors in the provider network	2	5	4.73	0.55

In ensuring that the provider adhere to clinical compliance guidelines the respondents largely agreed that the provider network provides them with all clinical information that they require to effectively provide healthcare services (mean score, 4.54), that the

network often informs them of new clinical protocols (mean score, 4.58), that the network provides them with clinical guidelines (mean score, 4.55), and that the network involves them in development of both organizational and national clinical guidelines (mean score, 3.85).

Most of the respondents agreed that support supervision by the provider network was always welcome. In particular, the respondents agreed that the provider networks do regular support supervision (mean score, 4.31), that they always find the support supervision to be very useful (mean score, 4.75), that the schedule for supervision is always shared on time (mean score, 4.25), and that they always look forward for a revisit to their facility from the supervisors in the provider network (mean score, 4.73).

One of the roles of the provider networks is to ensure that there is clinical treatment support among the members of the network. According to Gaboury et al. (2009) inter-professional collaboration has become an important component of a well-functioning healthcare system. Matziou et al. (2014) also reiterate that collaboration between healthcare providers is necessary in any health care setting, because there is no single profession that can meet all of a patient's needs.

The study results agree with other studies e.g. that supervision is hierarchical and managerially oriented, it is aimed at evaluating performance based on predetermined criteria or to assess facility infrastructure, (Feyissa et al., 2019). Supervision activities focus on data collection, auditing and report completion rather than catalyzing learning and supporting system quality improvement. Such supervision is based on evaluating if the health care providers in the network comply with clinical guidelines and legal

requirements. assessments are done to evaluate the quality of care, to determine the legal compliance of the providers and to establish a way forward in regard to provision of services and strengthened linkages and referrals, (Manzi et al., 2017).

Below are some excerpts from the board members:

> "… some of members have reported that participating in the networks has helped them to positively impact the quality of life of their patients. These sentiments have remained consistent over the last several years … "
> (RHNK Board Member, 003)

> "… we always have a plan of supervision to our members. They know the time and we offer the opportunity to learn from each other and to support them in the various areas of need e.g., clinical or managerial issues …."
> (RHNK Board Member, 004)

4.8 Responses on Health Commodity Security through the Provider Network

The fourth specific objective was to determine how health commodity security influences provision of quality health services in a provider network in Kenya. For this objective, there were two indicators namely: i) availability of health commodities and ii) training on use of commodities. The results are shown in Table 4.7.

Table 4.7

Responses on Health Commodity Security in Provider Network (n-252)

Availability of Health Commodity Security	Min	Max	Mean	Std. Deviation
The provider network ensure that I have all essential health commodities to provide healthcare services.	2	5	4.20	0.77
The provider network helps to source for cheaper health commodities as a network.	2	5	4.49	0.64
I find purchasing health commodities through the network to be inexpensive.	1	5	4.50	0.65
The provider network sometimes helps us to get health commodities through support grants provided by development partners.	2	5	4.42	0.62
The provider network ensures that we get support for commodity maintenance.	2	5	4.27	0.82
The provider networks regularly provide continuous training on health commodities use	2	5	4.19	0.78
Whenever, we have new health commodities, the provider network trains us on how to use them before we can roll it out.	2	5	4.36	0.61
The network always ensures that each member is able to use the health commodities effectively.	1	5	4.30	2.61

Results on availability of health commodities revealed that most respondents agree that, the provider network ensure that they have all essential health commodities to provide healthcare services (mean score, 4.20), that the provider network helps to source for cheaper health

commodities as a network (mean score, 4.49), that the they find purchasing health commodities through the network to be inexpensive (mean score, 4.50), that the provider network sometimes helps us to get health commodities through support grants provided by development partners (mean score, 4.42), and that the provider network ensures that we get support for commodity maintenance (mean score, 4.27).

Finding on commodity use training revealed that most of the respondents agreed that the provider networks regularly provide continuous training on health commodities use (mean score, 4.19), that whenever, they have new health commodities, the provider network trains them how to use them before they can be rolled out (mean score, 4.36), and that the network always ensures that each member is able to use the health commodities effectively (mean score, 4.30).

These results are similar to other studies that have shown that there is a gap in availability of health commodities hence any support to healthcare providers is always welcome. In a research on availability, affordability, stock-outs and accessibility of more than fifty SRHC considered essential by the WHO, in four Eastern and Southern African countries, results indicate that, though there is clear need for access to SRHC in most African countries, access these commodities has not been fully achieved, SRHC are unavailability, unaffordability, regulatory provisions and supply chain issues persist (Ooms et al., 2020). Through the network, health care providers are supported with commodities and training manuals on how to use the commodities.

Further, Ooms et al. (2020) established that policies and regulations may inhibit use of SRHC. For example, when a commodity is expected to be provided only at higher levels, as is the case for ultrasound scans, it increases the distance patients have to travel

and reduces access. Similarly, a slightly higher use of the emergency contraceptive in Kenya (1.7%) than in the other countries (0.2–0.5%), may be explained by the fact that in Kenya contraceptives are available even without a prescription. In Zambia magnesium sulphate being unavailable was explained by lack of policy implementation, lack of procurement by the Ministry of Health and stock-outs at the central store.

Stock-outs are common across countries, and governments ought to ensure that inventory management systems are in place in health facilities. In their research Ooms et al. (2020) showed that there several health facilities who do not have stock cards or an electronic stock management system in place. Further, improvement in quantification of medicines is needed, as stock-outs are partly caused estimations and not previous consumption data which estimates burden and need. Stock management at the central stores need to be improved, as poor inventory management at this level leads to commodities not being delivered for longer periods, or commodities being delivered that were not been ordered. Governments need to ensure timely payment of suppliers, as delayed payments may lead to a delayed supply until payment is received.

With regard to training on health commodities use the study results agreed with a study by Wahome et al. (2019), who said that training health workers on health commodities use influences the rational use of such commodities. According to Ooms et al. (2020), access to health commodities is exacerbated by other challenges including regulatory and policy concerns, infrastructural issues, inadequate knowledge among the community members and healthcare workers, cultural beliefs, and lack of skilled healthcare workers. An ultrasound scan being physically available does not mean it is

routinely used or functional. It could be that healthcare workers are not trained in its use, coupled with lack of electricity or high user costs are also barriers. Use of male and female sterilization is also dependent on acceptability, and lack of knowledge and negative attitudes of clients and healthcare workers, religious beliefs, fear of surgery and side effects, lack of equipment, long travel distances, and long waiting times.

To improve healthcare workers' knowledge on SRHC and their professionalism, healthcare workers' refresher trainings should be promoted and implemented. Programs using a combination of healthcare worker training, and sensitization in communities and through the media are most effective in improving knowledge of and demand for SRHC (Ooms et al., 2020).

4.9 Bivariate Correlation Analysis: All Variables

This analysis set to determine whether each of the independent variables in this study that is, legal support (X_1), capacity building (X_2) clinical support (X_3) and health commodity security (X_4), influences provision of quality healthcare services (Y). Since the data was not normally distributed the researcher used non-parametric test. This study was skewed towards agreement. Non-parametric tests are methods of statistical analysis that do not require a distribution to meet the required assumptions to be analysed. The results for each variable in this study are given by the Spearman's Rho (r) and its corresponding *p-value*. If the *p-value* is less than 0.05, then the relationship/influence is statistically significant, see Table 4.8

Table 4.8

Bivariate Correlation: All Variables

(Spearman's rho)		Provision of quality health services (Y)	Legal support (X_1)	Provider Capacity (X_2)	Clinical Support (X_3)	Health Commodity security (X_4)
Provision of quality health services in network (Y)	Correlation Coefficient	1.000				
	Sig. (2-tailed)	.				
	N	252				
Legal support (X_1)	Correlation Coefficient	.235**	1.000			
	Sig. (2-tailed)	.000	.			
	N	252	252			
Provider Capacity (X_2)	Correlation Coefficient	.213**	.505**	1.000		
	Sig. (2-tailed)	.001	.000	.		
	N	252	252	252		
Clinical Support (X_3)	Correlation Coefficient	.232**	.476**	.637**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.	
	N	252	252	252	252	
Health Commodity Security (X_4)	Correlation Coefficient	.101	.364**	.351**	.401**	1.000
	Sig. (2-tailed)	.109	.000	.000	.000	.
	N	252	252	252	252	252

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

The study results in Table 4.8 shows the bivariate correlations among the key variables influencing provision of quality health services in Kenya. The study revealed that legal support (X_1) had a positive and significant influence on provision of healthcare services ($r = .235^{**}, P < .001$). Legal support has been identified by the literature as one of the variables influencing provision of quality health services in the provider network. The implication here is that as the provider network improves access to legal support for its members, the provision of quality healthcare services will also improve in the provider network.

The study also found a positive and significant influence of capacity building (X_2) on the provision of quality health services in the provider network ($r = .213^{**}, P < .001$). Healthcare providers need continuous professional education in order to remain current in the latest technology as well as management and leadership skills. One of the roles of the provider network is provider mentorship and coaching to its members in order to continuously improve their skills. The network provides a platform for exchange of information through social media (real time) or through conferences and trainings. The study found out that the more capacity building opportunities the health provider network provides the higher the quality of healthcare services provided by the provider network members.

The bivariate correlations analysis also revealed that there is a positive and significant influence of the clinical support (X_3) on the provision of quality health services in the provider network ($r = .232^{**}, P < .001$). The healthcare providers need to have access to clinical guidelines and protocols as well as relevant information to effectively provider healthcare services. A clear mandate of the health provider network is to

provide clinical support to its members. In addition, health provider network members need continuous support which occurs during support supervision. Literature informs that support supervision is known to improve the quality of healthcare services provided. The study found out that clinical support helps the healthcare providers to ensure there is clinical compliance. The results revealed that the more clinical support was provided to the members of the health network the higher the quality of healthcare services they provide to their clients.

Lastly, the bivariate result on health commodity security was not significant.

4.10 Multivariate Analysis: Ordinal Logistics Regression

The model under investigation in this study intended to establish the combined influences of the four key variables (legal support, provider capacity, clinical support and health commodity security) on the provision of quality healthcare services in a healthcare provider network in Kenya. The model expressed as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: Y= provision of quality health care services, β_0 = Intercept (constant) β_1, β_2, β_3, β_3= slope coefficients representing the influence of the associated independent variable with the dependent variable, X_1 = legal support, X_2 = provider capacity, X_3 = clinical support, X_4 = commodity security and ε = error term, was the basis under which the four specific objectives outlined in chapter one were set.

Table 4.9

Model Fitting Information on Provision of Quality Healthcare Services

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	862.887			
Final	824.484	38.403	8	.000

Link function: Logit

The ordinal logistics regression analysis was performed on the four key factors (legal support, provider capacity, clinical support and health commodity security) to test their combined influence on the provision of quality healthcare services in a provider network in Kenya. The regression output in Table 4.9 containing all the four variables in this study was found to be valid ($P < .001$) meaning the four key factors in this study are good predictors explaining the variations in the provision of quality healthcare services in a provider network in Kenya.

Table 4.10

Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	3339.824	3324	.420
Deviance	820.325	3324	1.000

Link function: Logit.

Result shown in Table 4.10 show that the model was fit with a significant of .420. The goodness of fit of a statistical model describes how well it fits a set of observations. Measures of goodness of fit typically summarize the discrepancy between observed values and the values expected under the model in question. Therefore, the model in this study was valid because the significant level was above 0.05 (p >0.420).

Table 4.11

Model Summary - Pseudo R-Square

Cox and Snell	.141
Nagelkerke	.146
McFadden	.044
Link function: Logit.	

The results of ordinal regression analysis indicate significant influences of the factors that influence the provision of quality healthcare services in a provider network in Kenya. The coefficient of determination (Pseudo R^2) of 0.145 shows that 15% of the total variations in the provision of quality healthcare services in a provider network in Kenya can be explained by four independent variables (legal support, provider capacity, clinical support and commodity security). The remaining percentage (85%) can be explained by the factors excluded in the multiple regression models under investigation in this study. The Nagelkerke results in the model explain 15% of the variables that explain the provision of health services. This model explains the relationship and not the magnitude of the variation, which in this case may look small. In this study the relationship is more critical because there are very few studies that have been done to determine the role of provider nets in provision of quality healthcare services and hence there is little quantitative data that could be used to compare the results.

The ordinal regressions results in Table 4.11 indicates that there were two variables influencing provision of quality health services under investigation in this study that is provider capacity ($\beta_2 = .068$, $P < .003$), and clinical support ($\beta_2 = -.094$, $P < .005$) .

Table 4.12

Provision of Quality Health Services: Regression Coefficients[a]

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Scale	Legal support (X_1)	.006	.034	.035	1	.851	-.059	.072
	Provider capacity (X_2)	.068	.023	9.021	1	.003	.024	.113
	Clinical support (X_3)	-.094	.033	7.952	1	.005	-.159	-.029
	Commodity security (X_4)	.043	.022	3.690	1	.055	-.001	.087

Link function: Logit.

The constant (β_0) is also positive and significant ($P < .001$), which indicates that provision of quality health services will always exist at a certain minimum even without the two factors (provider capacity and clinical support) under investigation in this study. The coefficient of X_2 that is ($\beta_2 = .068$, $P < .003$), indicates that a unit increase in the provision of capacity by the health network provider index leads to an increase in provision of quality health services index by .068 which is statistically significant ($P < .003$). However, the coefficient of X_3 ($\beta_2 = -.094$, $P = .005$) shows a negative relationship, meaning that a unit increase in provision of clinical support index leads to a decrease in provision of quality health services index by -.094 which is also statistically significant ($P = .005$). The negative relationship could be explained by the fact that supervision activities focus on data collection, auditing and report completion

rather than catalyzing learning and supporting system quality improvement, hence most providers tend to shy away from being supervised since they view it as a "fault finding" activity.

In summary, it therefore follows that, this study found statistical and significant evidence that the provider capacity and clinical support in a combined relationship, significantly influences the provision of quality healthcare services among members of provider networks in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the study findings guided by the specific objectives in chapter one. Conclusions and recommendations are also given for future action and research direction.

5.2 Summary of Findings

The purpose of this study is to contribute to a better understanding of the role of healthcare provider networks in provision of quality health services in low and middle-income countries. Strengthening health systems and in particular provision of reproductive health services remains a key area of concern. Currently many governments have no sufficient resources to support both public and private health facilities. Therefore, privately organized provider networks are key in supporting private practitioners in either building their capacity, legal advice or even providing a platform where they can network and exchange idea in order to improve the quality of health services that they provide. The study seeks to understand the impact of the provider networks on its members in the provision of quality reproductive healthcare services. To this end the study aimed at determining the influence that legal support, provider capacity, clinical support and health commodity security has on provision of quality health services in a provider network, in Kenya.

Data was collected from 252 health care providers within a RHNK provider network. The male respondents accounted for 132(52%) of the entire sample, while female

respondents accounted for 120(48%), 117(46%) of the respondents who were the majority were between 41-50 years. Those between ages 28-40 years were 65(26%) and the least number 12(5%) were over 60 years old. Majority 184(73%) were nurses by profession, followed by clinical officers and medical doctors 51(20%) and 16(6%). Further analysis by respondent's type of facility showed that most health providers owned nursing homes 78(31%), followed by clinics 73(29%), health centres 68 which accounted for 27%. The least were hospital 33(13%). Analysis on the level of education revealed that half 127(50%) of the respondents were diploma holders, 44(18%) had a higher diploma, degree holders were 56(22%) and the least had certificates 25(10%). With regard to respondents' work experience, the study results showed that nearly a third 70(27.8%) had 16-20 years' work experience, followed by 10-15 years and 21-25 years accounting for 57(22.6%) and 45(17.9%) respectively. The analysis by respondents' type of professional membership revealed that just over half 138(55%) belong to the KMD, 81(33%) and 33(13%) had nursing clinical and clinical officer council membership respectively. All expect one respondent had a valid practicing license 251(99%). Information on number of years that the respondent had been a member of the network, showed just over half 141(56%) had been members for 1-5 years, and only 5(2%) had been members for over 11-13 year.

Descriptive results of the dependent variable which was provision of quality health services revealed that nearly all the respondents agreed with the statements on the benefits of belonging to a provider network in relation to provision of quality healthcare services. Majority of the respondents agreed that being a member of the provider network provided them with an opportunity to refer their patients easily, (mean score 4.87), that the quality of care that they offer has improved since they joined the provider

network (mean score, 4.92), that they have a clear network referral strategy at their facility (mean score, 4.95), and that they can consult their fellow members in the network anytime for patient care (mean score, 4.89).

The first specific objective was to determine how legal support influences provision of quality health services in a provider network in Kenya. The indicators to measure legal support included i) registration with professional body and ii) statutory compliance. On the registration with provider network, the study results revealed that majority of the respondents agreed that the process of registration with the provider network was very clear to them (mean score, 4.92), that the benefits of joining the membership are very well explained to them (mean score, 4.90), and that the registration process takes a short time (mean score, 4.27). However, the respondents disagreed that the provider network was always ready to provide them with support in renewing both their professional and practicing licenses (mean score, 3.22). With regard to statutory compliance the respondents were asked about their opinion on the provider network support to comply with the laws. Most of the respondents agreed that the provider network was always updating them on new policies (mean score, 4.53), that the provider network was always ready to interpret policies or laws for them (mean score, 4.59), and that the provider network often supports the health workers with legal representation in case of need (mean score, 4.81) and that the provider network was always ready to represent their views to the Ministry of Health at both national and county levels (mean score, 4.06).

The second specific objective was to determine the influence of provider capacity building on provision of quality of health care services. There were three indicators to measure this objective which included: i) training, ii) mentorship, and iii) coaching. Descriptive results on provider capacity building reveal that majority of the respondents agreed that the network always provides regular trainings on clinical and legal protocols to its members (mean score, 4.50), that the network regularly organizes leadership and management trainings to its members (mean score, 3.80), that the network often informs them of available trainings that they can attend (mean score, 4.54), and that the provider network always trains on the latest clinical protocols (mean score, 4.57). On mentorship and coaching, most respondents agreed that the provider network regularly organizes scientific conferences where they can exchange ideas and learn from others (mean score, 4.86), that members of the network organize workshops for learning / co-creating ideas (mean score, 3.99), that the network provides continuous medical education through partners (mean score, 4.43), that they are always encouraged to join the mentorship programs (mean score, 4.42), that the mentorship programs provided are very useful in scaling up their skills (mean score, 4.45), that junior members are on boarded into the network through a mentorship orientation program that is organized by the network (mean score, 4.29) and that the provider network connects members to senior members for support (mean score, 4.66).

The study third specific objective was to determine how clinical support influences provision of healthcare services in a provider network. The indicators to measure the clinical support were i) clinical compliance and ii) support supervision. In ensuring that the provider adhere to clinical compliance guidelines the respondents largely agreed that the provider network provides them with all clinical information that they require

to effectively provide healthcare services (mean score, 4.54), that the network often informs them of new clinical protocols (mean score, 4.58), that the network provides them with clinical guidelines (mean score, 4.55), and that the network involves them in development of both organizational and national clinical guidelines (mean score, 3.85). Most of the respondents agreed that support supervision by the provider network was always welcome. In particular, the respondents agreed that the provider networks do regular support supervision (mean score, 4.31), that they always find the support supervision to be very useful (mean score, 4.75), that the schedule for supervision is always shared on time (mean score, 4.25), and that they always look forward for a revisit to their facility from the supervisors in the provider network (mean score, 4.73)

The fourth specific objective was to determine how health commodity security influences provision of quality health services in a provider network in Kenya. For this objective, there were two indicators namely: i) availability of health commodities and ii) training on use of commodities. Results on availability of health commodities revealed that most respondents agreed that, the provider network ensure that they have all essential health commodities to provide healthcare services (mean score, 4.20), that the provider network helps to source for cheaper health commodities as a network (mean score, 4.49), that the they find purchasing health commodities through the network to be inexpensive (mean score, 4.50), that the provider network sometimes helps us to get health commodities through support grants provided by development partners (mean score, 4.42), and that the provider network ensures that we get support for commodity maintenance (mean score, 4.27). Finding on commodity use training revealed that most of the respondents agreed that the provider networks regularly provide continuous training on health commodities use (mean score, 4.19), that

whenever, they have new health commodities, the provider network trains them how to use them before they can be rolled out (mean score, 4.36), and that the network always ensures that each member is able to use the health commodities effectively (mean score, 4.30).

The bivariate correlations results reveal that legal support (X_1) had a positive and significant influence on provision of healthcare services (*r =.235**, P < .001*). The study also found a positive and significant influence of the capacity building (X_2) on the provision of quality health services in the provider network (*r = .213**, P < .001*). The bivariate correlations analysis also revealed that there was a positive and significant influence of the clinical support (X_3) on the provision of quality health services in the provider network (*r = .232**, P < .001*). Lastly, the bivariate results on health commodity security were not significant.

A multivariate analysis was undertaken and the model containing all the four variables in this study was found to be valid (*P < .001*) meaning the four key factors in this study are good predictors explaining the variations in the provision of quality healthcare services in a provider network in Kenya. The goodness of fit model was significant at (*P=0 .420*). The goodness of fit of a statistical model describes how well it fits a set of observations. Measures of goodness of fit typically summarize the discrepancy between observed values and the values expected under the model in question. Therefore, the model in this study was valid because the significant level was above 0.05 (p =0.420). The coefficient of determination (Pseudo R^2) of 0.145 shows that 15% of the total variations in the provision of quality healthcare services in a provider network in Kenya can be explained by four independent variables (legal support, provider capacity,

clinical support and commodity security). The multivariate analysis indicates that two variables influenced provision of quality health services under investigation in this study that is provider capacity ($\beta 2 = .068$, $P < .003$), and clinical support ($\beta 2 = -.094$, $P < .005$). The coefficient of X_2 that is ($\beta 2 = .068$, $P < .003$), indicates that a unit increase in the provision of capacity by the health provider network index leads to an increase in provision of quality health services index by .068 which is statistically significant ($P < .003$). However, the coefficient of X_3 ($\beta 2 = -.094$, $P < .005$) shows a negative relationship, meaning that a unit increase in provision of clinical support index leads to a decrease in provision of quality health services index by -.094 which is also statistically significant ($P < .005$). The negative relationship could be explained by the fact that supervision activities focus on data collection, auditing and report completion rather than catalyzing learning and supporting system quality improvement, hence most providers tend to shy away from being supervised since they view it as a "fault finding" activity.

5.3 Conclusion of the Study

The study sought to determine the influence that legal support, provider capacity, clinical support and health commodity security has on provision of quality health services in a provider network, in Kenya. Bivariate analysis indicates that legal support, provider capacity and clinical support had a significant and positive relationship with provision of quality health services in a provider network.

Legal support had a positive and significant relationship with provision of quality health services. This can be explained by the fact that most respondents indicated that network registration process is very clear and takes a short time. The benefits of joining the

membership are explained well to the members and that the provider network always update members on new policies. The respondents were in agreement that the provider network often supports the health workers with legal representation in case of need.

Provider capacity had a positive and significant relationship with provision of quality health services. Respondents agreed that the network provides regular trainings on clinical and legal protocols, leadership and management to its members. The network also provides continuous medical education through partners, and the network regularly organizes scientific conferences where providers exchange ideas and learn from others. Members of the network are provided with workshop. The provider network connects members to senior members for support and junior members are embodied into the network through a mentorship orientation program that is organized by the network. The training and mentorship activities build the capacity of health workers through training, mentorship and coaching. These practices help build on providers' knowledge skills and attitude necessary in promoting delivery of quality health services.

Clinical support had a positive and significant relationship with provision of quality health services. The respondents agreed to the provider network providing them with clinical information they require to effectively provide healthcare services including providing them with clinical guidelines and new clinical protocols. Regular support supervision is undertaken which they find useful in delivering quality healthcare services.

In a multivariate analysis, only provider capacity and clinical support significantly influenced quality services delivery. This may be explained by the fact that during

training, legal support and healthcare commodities use are addressed.

5.4 Recommendations

i. The national MOH as well as County Health Offices should adapt the use of health provider networks to improve quality in the provision of primary care services in public facilities.

ii. The board members of the provider network should put into place sustainability mechanisms to ensure that its members can always access legal services beyond external support project phase.

iii. The board members of the provider network should continue to provide capacity building to its members in order to strengthen provision of SRHS. Members of the network should be encouraged to attend these trainings.

iv. The board members of the provider network should educate the members on the usefulness of the support supervision in order to demystify the notion of "policing" and cultivate a supportive collaboration.

5.5 Suggestion for Further Research

The study recommends an investigation on the effect of the health provider networks from the clients' perspective. Some public health facilities are members of RHNK, therefore this study further recommends a study on the role the HPN plays in delivering services among public health facilities and if this can be scaled up to services beyond reproductive health services.

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APPENDICES

Appendix 1: Informed Consent Letter

Kenya Methodist University
P. 0 Box 267-60200
MERU, Kenya

SUBJECT: INFORMED CONSENT

Dear Respondent,

My name is Nelly Munyasia I am a Masters student from Kenya Methodist University. I am conducting a study titled: ***Role of Provider Networks in Provision of Quality Health Services in Kenya***. The findings will be utilized to strengthen the health systems in Kenya and other Low-in- come countries in Africa. As a result, countries, communities and individuals will benefit from improved access to quality primary health services. This research is critical to strengthening health systems as it will generate new knowledge in this area that will inform decision makers to make decisions that are research based.

Procedure to be followed

Participation in this study will require that I ask you some questions. I will record the information from you in a questionnaire check list. You have the right to refuse participation in this study. You will not be penalized nor victimized for not joining the study and your decision will not be used against you nor affect you at your place of employment. Please remember that participation in the study is voluntary. You may ask questions related to the study at any time. You may refuse to respond to any questions and you may stop an interview at any time. You may also stop being in the study at any time without any consequences to the services you are rendering.

Discomforts and risks.

Some of the questions you will be asked are on intimate subject and may be embarrassing or make you uncomfortable. If this happens; you may refuse to answer if you choose. You may also stop the interview at any time. The interview may take about 40 minutes to complete.

Benefits

If you participate in this study you will help us to strengthen the health systems in Kenya and other Low-in-come countries in Africa. As a result, countries, communities and individuals will benefit from improved access to quality healthcare services.

Rewards

There is no reward for anyone who chooses to participate in the study.

Confidentiality

The interviews will be conducted in a private setting. Your name will not be recorded on the questionnaire and the questionnaires will be kept in a safe place at the University.

Contact Information

If you have any questions you may contact the following supervisors:

1. Dr. Muthoni Mwangi
   Department of Health Systems Management
   Kenya Methodist University, Nairobi campus.
   Mobile No. 0722 986 349

2. Dr. Wanja Mwaura-Tenambergen
   Department of Health Systems Management
   Kenya Methodist University, Nairobi campus.
   Mobile No. 0726 678 020

Participant's Statement

The above statement regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time. I understand that I will not be victimized at my place of work whether I decide to leave the study or not and my decision will not affect the way I am treated at my work place.

Name of Participant ……..……

Date…….. /Signature …….

Investigator's Statement

I, the undersigned, have explained to the volunteer in a language s/he understands the procedures to be followed in the study and the risks and the benefits involved.

Name of Interviewer……

Date……..…….

Interviewer Signature……

Appendix 2: Healthcare Provider Questionnaire

Dear Respondent

My name is Nelly Munyasia, a Masters student from Kenya Methodist University. I am conducting a study titled: ***Role of Provider Networks in Provision of Quality Health Services in Kenya***. You're honest and completion of this questionnaire will make the study a success. I hereby request for your utmost cooperation; responses will be treated with utmost confidentiality. I would be grateful if you kindly spare 45 minutes to fill the questionnaire.

Questionnaire: No .....

Type of health facility: Private Clinic ( ) Nursing Home ( ) Community Clinic ( ) Other (Specify) _____

Demographic characteristic Information

1. Sex: Male ( ) Female ( )
2. Age in years _____
3. What is your profession: _____
4. Type of facility? Clinic ( ) Health Centre ( ) Nursing Home ( ) Hospital ( )
5. Highest Academic Qualification:
   Certificate ( ) certificate ( ) Diploma ( ) Higher Diploma () Degrees ( )
6. Any medical training specialty? _____ _
7. Work experience in Years: _____
8. Name of licensing body? KMB ( ) Nursing Council ( ) Clinical Officers Council ( )
9. Availability of current private practice license? Yes ( ). No ( )
10. What is the name of your provider network? _____
11. How long have you been a member of the provider network? _____
12. Please indicate (√) the extent to which you agree with the following statements with regard to Provision of Quality Health Services by healthcare workers in your provider network.

SD=Strongly Disagreed; D=Disagreed; N=Not sure; A=Agreed; and SA= Strongly Agreed

Statements	SD	D	N	A	SA
Continuity of care					
Being a member of the provider network provides me an opportunity to refer my patients easily.					
I have a large network of providers to refer my patients to.					
I can consult my fellow members in the network anytime for patient care.					
My colleagues in the network are always ready to offer services to my clients whenever I request them.					
I have a clear network referral strategy at my facility					
Availability					
The members of the network are always available to be consulted					
Having a wide range of members to consult from always ensures quality of care.					
Being a member of the network ensures that my clients can always access health services from any member of the network					
I often receive instant assistance from members whenever I need it.					
The quality of care that I offer has improved since I joined the provider network.					
The WhatsApp platform provides timely professional consultation and support among peers?					

13. Please indicate (√) the extent to which you agree with the following statements with regard to legal support role provided by the provider network you are registered with.

SD=Strongly Disagreed; D=Disagreed; N= Not sure; A=Agreed; and SA= Strongly Agreed

Statements	SD	D	N	A	SA
Registration with professional body					
The network registration process is very clear					
The benefits of joining the membership are very well explained					
The registration process takes a short time					
I am a member of a professional body					
Statutory compliance					
The provider network is always updating me on new policies.					
The provider network is always ready to interpret policies or laws for me.					
The provider network often supports the health workers with legal representation in case of need.					
The provider network is always ready to represent our views to the MOH at both national and county level?					

The provider network is always ready to facilitate me in getting support in renewing both my professional and practicing licenses.					

14. Please indicate (√) the extent to which you agree with the following statements with regard to capacity building by the provider networks.

SD=Strongly Disagreed; D=Disagreed; N= Not sure; A=Agreed; and SA= Strongly Agreed

Statements	**SD**	**D**	**N**	**A**	**SA**
Training					
The network always provides regular trainings on clinical and legal protocols to its members.					
The network regularly organizes leadership & management trainings to its members					
The network often informs us of available trainings that we can attend.					
The network always trains on the latest clinical protocols.					
The network regularly organizes scientific conferences where we can exchange ideas and learn from others.					
Members of the network are provided with workshop.					
The network provides continuous medical education through partners?					
The network provides updates on current trends in medical provision and management?					
Mentorship & Coaching					
The provider networks provide mentorship to all members.					
We are always encouraged to join the mentorship programs.					
The mentorship programs provided are very useful in up scaling our skills					
The provider network connects members to senior members for support.					
Junior members are embodied into the network through a mentorship orientation program that is organized by the network.					

15. Please indicate (√) the extent to which you agree with the following statements with regard to clinical support by the provider networks.

SD=Strongly Disagreed; D=Disagreed; N= Not sure; A=Agreed; and SA= Strongly Agreed

Statements	**SD**	**D**	**N**	**A**	**SA**
Clinical compliance					
The provider network provides us with all clinical information we require to effectively provide healthcare services.					
The network often informs us of new clinical protocols.					
The network provides us with clinical guidelines.					
The network involves us in the development of both organizational and national clinical guidelines?					
Support supervision					
The provider networks do regular support supervision.					
I always find the support supervision to be very useful.					
The schedule for supervision is always shared on time.					
I always look forward for a revisit to my facility from the supervisors in the provider network.					

16. Please indicate (√) the extent to which you agree with the following statements with regard to health commodities security by the provider networks.

SD=Strongly Disagreed; D=Disagreed; N= Not sure; A=Agreed; and SA= Strongly Agreed

Statements	**SD**	**D**	**N**	**A**	**SA**
Availability of health commodities					
The provider network ensure that I have all essential health commodities toto provide healthcare services.					
The provider network helps to source for cheaper health commodities as a network.					
I find purchasing health commodities through the network to be inexpensive.					
The provider network sometimes helps us to get health commodities through support grants provided by development partners.					
The provider network ensures that we get support for commodity maintenance.					
Training on commodities use					
The provider networks regularly provide continuous training on health commodities use.					
Whenever, we have new health commodities, the provider network trains us on how to use them before we can roll it out.					
The network always ensures that each member is able to use the health commodities effectively.					

Thankyou

Appendix 3: Key Informant Interview Guide

1. Tell me, how did you become a member of this provider network?
2. How is the registration process? Who is eligible to join? Is there registration fees? Do you renew the member ship every year?
3. What are some of the benefits of joining the provider network?
4. Who supports the provider network? What support do you get from the MOH / Development partners / community / well-wishers / members themselves?
5. What is the relationship between the provider network and the Ministry of Health?
6. What have been some of the success stories?
7. What challenges do you face in running the network?
8. What support do you provide to the members?

Appendix 4: Ethical Approval

KENYA METHODIST UNIVERSITY
P. O. BOX 267 MERU - 60200, KENYA FAX: 254-64-30162
TEL: 254-064-30301/31229/30367/31171 EMAIL: serc@kemu.ac.ke

April 26, 2021 KeMU/SERC/HSM/22/2021

Nelly Munyasia
Kenya Methodist University

Dear Nelly,

SUBJECT: ROLE OF PROVIDER NETWORKS IN PROVISION OF QUALITY HEALTH SERVICES IN KENYA.

This is to inform you that Kenya Methodist University Scientific Ethics and Review Committee has reviewed and approved your above research proposal. Your application approval number is KeMU /SERC/HSM/22/2021. The approval period is 26th April 2021 – 26th April 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 Kenya Methodist University Scientific Ethics and Review committee.

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 KeMU SERC within 72 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 KeMU SERC within 72 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 KeMU SERC.

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

Yours sincerely,

KENYA METHODIST UNIVERSITY * KeMU SERC * P.O. Box 267 - 60200 MERU

Dr. A. WAMACHI
Chair, SERC

Appendix 5: NACOSTI Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **129079**

Date of Issue: **27/May/2021**

RESEARCH LICENSE

This is to Certify that Ms.. Nelly Lusike Munyasia of Kenya Methodist University, has been licensed to conduct research in Kiambu, Nairobi on the topic: ROLE OF PROVIDER NETWORKS IN PROVISION OF QUALITY HEALTH SERVICES IN KENYA for the period ending : 27/May/2022.

License No: **NACOSTI/P/21/10704**

129079

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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Appendix 6: RHNK Research Approval

Reproductive Health Network Kenya
Reproductive Health and Rights for All

Ref:
001/007/2021RHNK/LTI

31/05/2021

To Whom It May Concern:

Re: Nelly Munyasia

We hereby give Nelly Munyasia a Master Student at Kenya Methodist University permission to undertake research among our Network Providers.

The network has a membership of 457 providers, the above named will only conduct research to 252 providers across the country.

Any support accorded to her will be highly appreciated.

Yours faithfully,

Dr.John Nyamu

Chairman

Reproductive Health Network Kenya.

Kose Heights Apartments Hurligham Along Argwings Kodhek Road P. O. Box 1154 - 00521 Embakasi, Nairobi.
+254 20 222 0160 info@rhnk.org / rhnkenya@gmail.com www.rhnk.org

Appendix 7: Publication Acceptance Letter

JOGECA Journal of Obstetrics and Gynecology of East and Central Africa

KMA Center, Mara Road, Off Hospital Road, Upper Hill, Nairobi. Email: editorjogeca@gmail.com

13th August, 2021

Dear Ms. Munyasia,

RE: ACKNOWLEDGING RECEIPT OF YOUR MANUSCRIPT

Thank you for submitting your manuscript " **Promoting delivery of reproductive health services through legal support and capacity development of healthcare providers in a health network in Kenya**" to the Journal of Obstetrics and Gynecology of East and Central Africa (JOGECA). We are in the process of evaluating your manuscript for suitability. At this point your manuscript has been assigned to an editor and is awaiting his review comments.

We evaluate all manuscript submissions as expeditiously as possible and appreciate your patience throughout the peer review process. We shall get back to you as soon as possible.

Kind regards,

JOGECA EDITORIAL TEAM