

**IMPROVING HEALTH SYSTEMS RESPONSIVENESS AMONG CHRONIC CARE
CENTERS IN SELECTED TIER THREE HOSPITALS IN KENYA: PREDICTORS
AND EFFECT OF HEALTH WORKERS TRAINING**

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FOR THE CONFERMENT OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN
HEALTH SYSTEMS MANAGEMENT OF KENYA METHODIST UNIVERSITY**

SEPTEMBER 2024

DECLARATION

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

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DEDICATION

To Mercy, Mitchell, Melissa and Bruno; my family for bracing many inconveniences, to you

I dedicate this work.

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ABSTRACT

This study assessed health system responsiveness, predictors (accountability mechanisms, access, structural, valuations, organizational culture, justice perceptions) and role of training among patients with diabetes mellitus and hypertension at three primary hospitals in Kenya: Kimilili (Bungoma county), Uasin Gishu (Uasin Gishu county) and Gatundu (Kiambu county). It used a quasi-experimental design with baseline survey, a training intervention on responsiveness and client interaction skills for health workers, and an end-line survey. A sample of 323 respondents was selected from a sampling frame of 853 using Fisher's formula. The end-line survey included 258 participants. Data were collected using an interviewer-assisted structured questionnaire, with responses rated on a five-point Likert scale and then dichotomized into favorable and unfavorable categories using a demarcation threshold formula. Responsiveness levels increased from 63.7% to 67.4%, while proportion of favorable responsiveness rose from 38.3% to 52.7%. The odds of favorable responsiveness nearly doubled from 0.620 to 1.114 between baseline and end line. Comparatively, Kimilili hospital exhibited higher levels and distribution of responsiveness. Communication scored highest with 72.7% at the end line, while Choice performed lowest with 53.3% at baseline. Dignity was most valued domain at 23.1%, while social support was least at 3.9%. A paired samples t-test indicated significant ($P < 0.05$) positive deviations across all responsiveness domains and four predictors: valuations, accountability, structural factors, and organizational culture. Chi-square test indicated the socio-demographic factors: facility ($p = 0.001$), medical condition ($p = 0.001$), religion ($p = 0.033$), marital status ($p = 0.001$), and occupation ($p = 0.001$) significantly impacted responsiveness at baseline, while marital status ($p = 0.012$) and occupation ($p = 0.039$) remained significant at end line. Following an iterative binary logistic regression, the final predictive model for responsiveness was based on end line survey findings and indicates structural ($p = 0.010$, $OR = 2.171$), accountability ($p = 0.001$, $OR = 2.730$), organizational culture ($p = 0.009$, $OR = 2.267$), and justice perceptions ($p = 0.001$, $OR = 2.909$) were significant predictors. After intervention, the model improved significantly; explained variation increased from 15.7% to 32.8%, the logit improved from 68.5% to 85.1%, and the correct classification of responsiveness categories rose from 66.9% to 70.5%. Including two significant sociodemographic factors: marital status and occupation; into the predictive model raised the explained variation to 40.4%, reflecting the context. The -2log likelihood ratio indicated justice perceptions significantly moderated the association between responsiveness and all other predictors. Qualitative analysis underscored the importance of respect for persons domains, with varied perceptions across contexts. Challenges included low client voice, insufficient managerial support, inadequate accountability mechanisms, corruption, and limited supplies. In conclusion, responsiveness, although generally low, improved with training. Lower socioeconomic groups received more responsive care, suggesting potential for lowered expectations. The study suggests hospital managers prioritize an integrated, patient-centered approach, conduct regular client-provider feedback sessions, and implement audits for continuous improvement. Training institutions and hospital management should integrate attitude and cultural competence training across all levels to enhance sensitivity to cultural differences in healthcare. Furthermore, the Ministry of Health and county health departments should enhance accountability, improve structural factors, foster positive organizational culture, and ensure fairness in justice perceptions to enhance patient experiences and health outcomes.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
AHRQ	Agency for Healthcare Research and Quality
ANOVA	Analysis of variance
CCM	Chronic Care Model
COPD	Chronic Obstructive Pulmonary disease
DM	Diabetes Mellitus
FGD	Focused Group Discussion
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus
ICESCR	International Covenant on Economic, Social and cultural Rights
IOM	Institute of Medicine
KI	Key Informant Interview
MDA	Ministries, Departments and Agencies
MOH	Ministry of Health
NACOSTI	National Commission for Science, Technology and Innovation
NICE	National Institute for health and Care Excellence
NCGR	National Commission for Government Reforms
NHSSIP	National Health Sector Strategic and Investment Plan
OR	Odds Ratio
QAP	Quality assurance project
Q-Q	Quartile-Quartile
SPSS	Statistical Package for Social Survey
SCAN	Senior Care Action Network
U.S. A	United States of America
W H O	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

This study examined health system responsiveness in chronic care centers, including its predictors and the impact of an intervention in Gatundu, Uasin Gishu and Kimilili Hospitals in Kenya. Along with achieving positive health outcomes and fair financial contributions, responsiveness is a fundamental aim of healthcare systems (World Health Organization [WHO], 2000). In order to be responsive, a health system must be able to satisfy clients' reasonable, non-health enhancing expectations. According to Murante et al. (2017) and Valentine & Bonsel (2016), the World Health Organization initially divided the domains of health systems responsiveness into two facets: respect for human beings' domains, such as dignity, autonomy, clarity of communication and confidentiality; and client orientation domains, such as prompt/timely care, quality of amenities, choice, and access to social support networks

People have legitimate expectations for how they should be treated in terms of both their physical and psychological well-being, and responsiveness is a social objective that embodies these expectations. According to Röttger et al. (2015) and Lodenstein et al. (2017), responsiveness is both a critical component of efficient health systems and a human rights concern. The fact that it deals with fundamental human rights, builds public confidence in the healthcare system, and has the ability to improve population health makes it significant (Vemuri et al., 2021). This is especially important in chronic care centers that often involve multi-professional care teams, prolonged use of medicines and many scheduled and

unscheduled visits whose adherence and attendant outcomes are largely influenced by health system responsiveness.

The most prevalent and expensive health issues to manage worldwide are chronic diseases and ailments including cancer, diabetes mellitus, heart disease, stroke, renal disorders, and chronic mental illnesses like schizophrenia (Naghavi et al., 2017; Hvidberg et al., 2020). Of the estimated 57 million fatalities worldwide in 2016, over 40 million (or 70-72%) were attributable to non-communicable diseases. The burden is greatest in countries with low and moderate incomes, where 78% of all non-communicable fatalities occurred, against ill prepared health systems(Naghavi et al., 2017; World Health Organization, 2018).

With an ageing population as life expectancy increases, especially in developed countries, the burden of chronic conditions increases further. Some studies have observed that as high as over 70% of the adult population aged 50 years or more have at least one chronic condition (Arokiasamy et al., 2017; Wu et al., 2015). The continued rise of this onslaught is notable whereby in 2019, a study found the mortality associated with non-communicable diseases accounted for over 74% of all deaths globally (Bai et al., 2023). And in the last decade, medication prescriptions and laboratory and diagnostic tests for chronic conditions have increased by over 25% (Atella et al., 2019). This study is delimited to diabetes mellitus and hypertension.

A category of metabolic illnesses, diabetes mellitus is distinguished by persistently elevated blood glucose levels. Long-term side effects can lead to problems with the heart and blood vessels, hypertension, chronic renal failure, foot ulcers, and eye damage. Urbanization and a propensity for a more sedentary lifestyle are contributing to an increase in diabetes prevalence.

Currently, it is estimated to affect 451 million people (8.8% of global population) globally, up from 151million in 2000 (L'heveder & Nolan, 2013). Furthermore, according to IDF's 2018 report, by the year 2045, there will be 693 million adults in the world (or 9.9% of the total population) who are between the ages of 18 and 99. Estimates from Cho et al. (2018) and Mohamed et al. (2018) state that the prevalence of diabetes in Kenya is 2.4%, with 3.4% of urban residents and 1.9% of rural residents having the disease. The richest quintile has a diabetes prevalence of 5.2%, and the poorest wealth quintile has a prevalence of 1.6%.

On the other hand, hypertension is a condition always characterized by the blood pressure in the blood vessels that is constantly high, placing additional demands on the heart to work harder to counteract the high pressure. It is also a significant and among the modifiable risk factors for cardiovascular disease. According to WHO estimates, in 2015, 22% of adults worldwide over the age of 18 had elevated blood pressure, with the greatest rate occurring in the African region at 27%. Risk factors include a poor diet, a sedentary lifestyle, drinking too much alcohol, and using tobacco and persistent stress. Hypertension may also be a complication of diabetes mellitus making the two conditions closely linked and thence often require integrated care approaches that address both together(World Health Organisation, 2018).

Chronic diseases are situations that last a long time; frequently of multifactorial etiology with a protracted clinical course, no definite cure and with residual disability or worsening quality of life (Bernell & Howard, 2016; Calderón-Larrañaga et al., 2017). Due to these characteristics, persons with chronic conditions must maintain a long-term interaction with the healthcare system. Better results for people with chronic diseases depend on responsive health systems, which must be ensured always. According to Tille et al. (2019), responsiveness has a direct

impact on service coverage and access to health services. By lowering obstacles to the use of health services, responsiveness health systems enhance welfare achieved (Askari et al., 2016), does contribute to health improvement, and increases acceptability and trust in health systems (Valentine & Bonsel, 2016).

The pivotal role of responsiveness in chronic care is alluded to by other models. For instance, The Chronic Care Model (CCM) too emphasizes the concept of self-management support and community linkages which requires greater involvement of clients, significant others, their families and communities in managing the condition. Also, the US Institute of Medicine [IOM] Committee on Quality of Health Care in America (2001) emphasized the patient centeredness, a strategy that places a strong emphasis on developing relationships and effective communication towards offering quality care all alluding to the usefulness of health system responsiveness (Gould, 2019). On the other side, non-responsive health systems were discovered to be a factor in patients with diabetes mellitus having worse treatment adherence. Examples of non-responsive actions include callous management of clients and poor patient-provider communication (Waari et al., 2018).

The establishment of a framework to assess responsiveness was spearheaded by the World Health Organization (WHO), which initially identified a comprehensive array of seven responsiveness domains, further categorized into two distinct facets. The first group of domains places emphasis on the regard for individuals as human beings, encompassing aspects such as dignity, autonomy, and confidentiality. These domains primarily draw from patients' perspectives, encompass ethical considerations, and encompass a subjective dimension (Valentine & Bonsel, 2016).

Conversely, the second facet entails a more objective set of domains, revolving around how effectively a health system addresses and resolves frequently raised concerns of patients, their families, and the broader community, who function as clients of the healthcare system. These concerns can be tangibly and objectively observed within healthcare facilities and encompass elements like prompt care and attention, choice of provider/facility, the quality standards of amenities, and the accessibility of social support systems and networks (Vemuri et al., 2021).

More conceptual frameworks have since been proposed. In 2005 the analytical guidelines for multi-country survey studies added clarity of communication to the initial WHO list of seven domains making eight (Letkovicova et al., 2005). Other scholars suggested additions to the domains including effective care, attention and access to care (Forouzan et al., 2011) trust and coordination (Röttger et al., 2014).

Other frameworks highlighted the importance of determinants of health systems responsiveness including health expenditure per capita (Robone et al., 2011), amount of financial resources committed to public health care systems and how appropriately they are spent/utilized, educational attainment, sociodemographic, and health status of the populace (Valentine & Bonsel, 2016), managerial approaches (Cleary et al., 2013), consumer voice (Lodenstein et al., 2017) and role of provider care approaches (Blakley et al., 2011).

Subsequently, Mirzoev and Kane (2017) introduced a broader framework that captures the interplay of various elements influencing health system responsiveness. This comprehensive model takes into account the expectations of different stakeholders, the intricacies of processes, the effectiveness of institutional setups, the configuration of organizational structures, and the standards of health service accessibility and quality. Additionally, they integrated the

importance of factoring in the contextual backdrop, which involves aspects such as available resources, political dynamics, and cultural influences (Mirzoev & Kane, 2017).

There exist multiple ways to conceptualize health systems responsiveness (Mirzoev & Kane, 2017). It may be based on a country-specific context; consider the perspectives of various actors, such as service users, providers, and managers (Lodenstein et al., 2017; Yakob & Ncama, 2017) concentrate on particular health system components, such as chronic care settings (Röttger et al., 2014) public/government owned and privately owned facilities (Adesanya et al., 2012) distinguishing between inpatient services and outpatient services; or be composed of specific professional cadre such as nurses, clinicians, pharmacists and doctors. They may also address specific health areas including maternal services, rehabilitative services mental health services, communicable diseases and non-communicable conditions/diseases or particular population groups such as those with chronic diseases, refugees, the elderly, women and children (Peltzer & Phaswana-Mafuya, 2012; Röttger et al., 2015).

Such variables as access to healthcare, equity, quality of care, and coverage of health services are all do share characteristics with and are impacted by responsiveness. Responsiveness also has an impact on how satisfied patients may get with health systems. Health systems responsiveness is at the intersection of individual expectations and experiences. According to Woodward et al. (2023), responsiveness is essential for enhancing the efficiency and effectiveness of the health systems, fostering service equity and accountability, and defending citizen rights.

Global measures of responsiveness show a mixed picture. The key informant survey of 35 countries showed an overall responsiveness score of 5.75 on a scale of 1 to 10, depending

greatly on factors including socioeconomic standing, national resource endowment, and the rural-urban split. The health system was least responsive to the needs of the persons in the poorest nations, rural poor, women, elderly people, and people with disabilities (Valentine et al., 2000). Similar patterns were observed during an estimation of responsiveness for 191 countries where developed countries scored better for instance United States of America had the highest responsiveness score of 8.10 compared to Somalia with the lowest score of 3.69 (Valentine et al., 2003). According to the same survey's evaluations of responsiveness, all countries gave timely attention, dignity, and communication the highest importance scores (Murante et al., 2017).

Further findings globally include a survey by World Health Organization on European patient's views on responsiveness, which observed notable variations across countries and population characteristics, but on the overall, with 74% of European patients reporting a need for active participation and freedom of choice in their doctor, many people felt a need for a more independent and autonomous role in their health care the making of decisions appertaining their health. However, when asked about their real experiences, slightly over half of the respondents stated that their medical professionals always paid close attention to them, enabled them to ask questions, and gave them clear explanations. These findings also showed a discrepancy between the aspirations of people in certain European countries and their actual experiences with regard to the desire for autonomy (Coulter & Jenkinson, 2005).

Minority issues affecting health system responsiveness have been noted where the immigrants in Canada had limitations in access due to fear of being a burden to the health system, difficulty navigating the system and culturally inappropriate healthcare. Similarly Syrian refugees, a

vulnerable group were noted to experience more unresponsive health systems alongside other barriers to health care in the host countries (Woodward et al., 2023).

In the African region, public and private hospitals in Nigeria have been found to perform differently when it comes to responsiveness, with privately run hospitals performing better in particular when it comes to the areas of dignity, waiting times, and travel times, where private hospitals performed better overall (Adesanya et al., 2012). In Zambia, breakdowns in trust, poor working conditions and effects of one-upmanship among health providers has been reported to undermine responsiveness (Topp & Chipukuma, 2016). According to a survey of middle-income nations that included the African nations of South Africa and Ghana, respondents in those two countries were more likely to report a poor experience with the responsiveness of the health system (33.1% and 23.8%, respectively) than the other countries being surveyed being India (11.2%) Mexico (13.9%) Russia (14.5%) and China (4.3%) (Geldsetzer et al., 2018). In Kenya, the constitution positions health and healthcare as a fundamental human right (Government of Kenya [GoK], 2010). The Government, via the Ministry of Health launched the patient rights charter to enable upholding of citizens' rights as they interact with the health system. However, studies and anecdotal reports point a mixed picture in regard to health system responsiveness.

Empirically, according to a study conducted in Kenya, the WHO defined responsiveness factors were useful and significant in assessing the effectiveness of voluntary HIV counseling and testing, although they required updating to include more elements such as facility location and follow-up (Njeru et al., 2009). According to Wairiuko et al. (2017), socio-cultural factors like family support, preferred healthcare settings, and healthcare providers have been found to

affect elderly people's access to healthcare in Nairobi. Despite being in a setting considerably different from chronic care facilities, research in Kenya discovered gaps in responsiveness where one out of every five women reported feeling humiliated when giving birth (Abuya et al., 2015).

This study did address responsiveness in chronic care settings in Kenya. Chronic care centers include comprehensive care centers for HIV/AIDS patients, centers for non-communicable diseases (diabetes, cardiovascular and cancer care clinics) and palliative care clinics/units. Patients with Chronic conditions require a lot of support, trust and personalized care to be able to adhere to their treatments and manage the often-high pill burden, thus to them responsiveness actions are highly instrumental to their health outcomes. According to Waari et al. (2018), non-adherence to treatment among chronic patients with illnesses like diabetes has been linked to responsiveness gaps in Kenya.

This study addresses the health system governance pillar. According to Murray and Frenk (2001), the centroid of health systems' stewardship duties is to address the reasonable expectations of individuals. According to Siddiqi et al. (2009), responsiveness is one of the ten principles for the governance of the health system. Similarly while proposing improvements to the Siddiqi et al. (2009) framework on health system governance another study positioned responsiveness among the governance functions Vis 'community participation and responsiveness'(Kirigia & Kirigia, 2011). However, it has significant relation with the human resource for health and service delivery pillars. The World Health Organization (Kaplan et al., 2013) defines a well-performing health workforce as one that functions in a responsive, equitable, and effective and efficient manner. The study was carried out in tier 3 hospitals.

1.2 Statement of the Problem

The notion of a health system's responsiveness as among the primary goals, was to play the pivotal goal of fulfilling the peoples' reasonable expectations that are not geared towards improvement of health. The key is the legitimacy of expectations when clients interact with or connect with their health system. In order to achieve this, the Kenyan government through the ministry of health, introduced a patient rights charter in 2011 with the primary goal of requiring clients to get dignified care (GoK, 2010). However, it has been observed that generally responsiveness is not well addressed (Mirzoev & Kane, 2017). In the Kenyan health system, both formal and informal reports reveal serious gaps in responsiveness domains. Unresponsive health systems will disproportionately affect patients with chronic conditions given the many encounters via clinic schedules that chronic patients have with the health systems.

Just recently in the year 2018, The Standard digital Kenya quipped "*why patient abuse has become an epidemic in Kenyan hospitals.*" This followed a rape incident at The Kenyatta National Hospital (KNH) and the same report noted further stated that these kinds of abuses were rampant in other peripheral health facilities other than KNH (Gathura, 2018).

Nursing and medical care has been observed to be sometimes disrespectful, humiliating, uncompassionate, and neglectful thereby negating the tenets of a responsive health system (Lusambili et al., 2020). Some of the reported violations of responsiveness include being mistreated physically, subjected to non-dignified care / verbal abuses, non-consented clinical care, abandonment, discrimination based on patients unique attributes and non-confidential care (Abuya et al., 2015). The effect of unresponsive care is denial of access to care,

undermining of care processes and deterioration in health outcomes and impact (De Man et al., 2016).

In a multi county survey on responsiveness, the Kenyan health system was ranked 144 out of 191 countries on responsiveness with a score of 4.67 which was below average and almost half the score of the leading country, United states of America at 8.10 (Valentine et al., 2000) However, this survey was general, did not address chronic care centers and was limited to responsiveness descriptions without addressing the predictors of health system responsiveness. Despite instituting accountability mechanisms like service charters, it has been observed that both clients and providers do not take these important accountability mechanisms seriously (Masese et al., 2016).

The problem of unresponsive health systems however is not unique to Kenya. According to research by Kruk et al. (2018), one in three patients in low- and middle-income nations reported having unfavorable interactions with their healthcare systems in the areas of responsiveness related to attention, events of disrespect, communication difficulties, and visit length, with visits lasting very short duration's, an average of 5 minutes.

1.3 Purpose of the Study

The primary goal of this study was to determine the predictors of health system responsiveness within chronic care centers in tier 3 hospitals in Kenya and to test effectiveness of training on responsiveness. The specific objectives include;

1.3.1 Specific Objectives.

- i.** To determine the levels of responsiveness in chronic care centers in Kimilili, Uasin Gishu and Gatundu Hospitals in Kenya

- ii. To assess association between responsiveness valuations and responsiveness in chronic care centers in Kimilili, Uasin Gishu and Gatundu Hospitals in Kenya.
- iii. To establish the influence of accountability mechanisms towards responsiveness in chronic care centers in Kimilili, Uasin Gishu and Gatundu Hospitals in Kenya
- iv. To determine the influence of structural factors on responsiveness in chronic care centers in Kimilili, Uasin Gishu and Gatundu Hospitals in Kenya
- v. To establish the influence of access factors on responsiveness in chronic care centers in Kimilili, Uasin Gishu and Gatundu Hospitals in Kenya
- vi. Determine the influence of organizational culture on responsiveness in chronic care centers in Kimilili, Uasin Gishu and Gatundu Hospitals in Kenya
- vii. To determine the moderating effect of justice perceptions on predictors of responsiveness in chronic care centers in Kimilili, Uasin Gishu and Gatundu Hospitals in Kenya.
- viii. To assess the effectiveness of training of health workers on improving responsiveness in chronic care centers in Kimilili, Uasin Gishu and Gatundu Hospitals in Kenya.

1.3.2 Research Hypothesis

- i. H_0 : Responsiveness valuations have no significant influence on responsiveness levels
- ii. H_0 : Accountability mechanisms have no significant influence on responsiveness levels
- iii. H_0 : There is no significant relationship between structural factors and responsiveness levels
- iv. H_0 : There is no significant relationship between access factors and responsiveness levels

- v. H₀: There is no significant relationship between organizational culture and responsiveness levels.
- vi. H₀: Justice Perceptions have no significant moderating effect on predictors of responsiveness.
- vii. H₀: Training of health workers on responsive care has no significant effect on responsiveness.

1.4 Justification and Rationale of the Study

Health system responsiveness is the glue that underpins quality of care, equity and Universality as regards access (De Man et al., 2016). However, there are deficiencies in responsiveness in tier three hospitals' chronic care centers in Kenya which have neither been measured nor their predictors determined. There have not been intervention studies to measure effects of improvement initiatives. Poor quality unresponsive care can be a barrier to universal health coverage (Corcadden et al., 2018; De Man et al., 2016). Factors that undermine provider patient relations like attitude have been demonstrated in literature where health care providers show bad attitude due to various reasons (Genberg et al., 2019).

To achieve high quality health systems requires a reorientation to make the systems people and patient centered, and transform the health workers through training in respectful and ethical care (Baker et al., 2015; Kruk et al., 2018). This begets changing the behavior of providers which is critical to improving health outcomes (Grable, 2016). However, there are no systematic evaluations of how such interventions can achieve outcomes on responsiveness domains in chronic care centers. There is little information regarding the investigation of responsiveness predictors or to test improvement interventions in chronic care centers in

Kenya. This work tries to close this knowledge gap by assessing responsiveness levels and predictors and design and test the effectiveness of training of healthcare providers on responsive care for improving health system responsiveness in chronic care centers.

The intervention focused on soft skills that target the human resource aspects and their psychometric properties including clarification of values and behavior change for the improvement of professional practice and responsiveness. Further, though such approaches on some have been found to have positive effect on professional practice in other settings, their effects on patient outcomes has been found to be unclear (Johnson & May, 2015; Rostami, 2019). Thus, by obtaining information from client's perspective on health system responsiveness will help identify changes as perceived by clients thereby filling this research gap. However, the study will be constrained in addressing structural and process aspects because of lack of logistical capacity to intervene in such areas.

1.5 Limitations of the Study

Self-reporting, which is fairly vulnerable to various social and environmental factors, was likely to have an impact on the study. Language problems and comprehension of the responsiveness notion were likely to pose limitations. These limitations were overcome by use of interviewer assisted administration of the questionnaire; having been trained to help in explaining the meanings to clients.

1.6 Delimitations of the Study

This study was delimited to chronic care centers (hypertension and diabetes mellitus) only in tier 3 hospitals. Additionally, it was delimited in the study's objectives and participants. Narrowing down the study to tier 3 hospitals, it indicates a certain level of healthcare

infrastructure and resources available in these settings. This choice was informed by considerations such as the availability of specialized care, medical equipment, and human resources, potentially influencing the study's outcomes and generalizability.

Delimiting the objectives and participants further refines the study's scope and focus. It implies a clear research agenda aimed at addressing particular questions or gaps in understanding related to hypertension and diabetes mellitus management within these specific healthcare settings. Specifying the participants does provide insights into the demographics and characteristics of the population under study. This information is crucial for understanding how findings may apply to similar patient groups and for tailoring interventions or recommendations accordingly.

1.7 Significance of the Study

According to Murray and Frenk (2001), evaluating the responsiveness of the health system is helpful for gauging its performance. This is helpful for pinpointing the weaknesses of healthcare systems, discrepancies in performance, and for providing indicators that enable monitoring of a health system over time. This helps identify locations where work has to be done. The Kenyan Ministry of Health and the departments of health in the various countries can benefit from the study's conclusions. The study helps counties and the management of the respective hospitals in revealing the status of responsiveness in the chronic care centers and showing areas with gaps for interventions. The measurement of predictors and responsiveness valuations revealed the critical areas and most important domains for improvement actions.

The evaluation of how well training affects provision of responsive care offers a systematic evaluation of the effectiveness of such interventions in the particular contexts. With

improvements in responsiveness, the quality of the services is enhanced and the client experience is better thus conferring benefits to the clients and the wider community.

This study findings are useful for researchers as it provides a pool of evidence against which to judge changes in responsiveness in the particular settings over time and gives a prediction model for responsiveness.

1.8 Assumptions

Data was obtained through self-reporting by clients. It was assumed that the self-reporting of responsiveness provides an ordered categorical variable which is a reflection of some underlying latent responsiveness scale. It is assumed that Individuals map the latent scale to the response categories in a consistent way, irrespective of their characteristics or circumstances. It's also assumed that the respondents were rational in their responses.

1.9 Operational Definition of Terms

Responsiveness	Meeting the Non-health enhancing legitimate expectations of client
Responsiveness Descriptions	Ratings of performance on responsiveness domains
Responsiveness Valuations	Ratings of relative importance of responsiveness domains
Autonomy	The right of clients to make decisions about their medical care
Dignity	Treating clients with respect and ensuring privacy during care
Confidentiality	The maintaining of secrets/avoiding undue sharing of client information
Clarity Of Communication	Conveying information and developing a mutual understanding
Prompt Care	Care provided readily/rapidly or as soon as necessary
Social Support Networks/systems	access to relatives and other social networks while receiving care
Choice of Provider/facility	the client power or opportunity to select health care provider/facility of choice
Quality Of Basic Amenities	Enhanced Comfort, standards and Accessibility of Fundamental Necessities

CHAPTER TWO

LITERATURE REVIEW

The study addressed responsiveness in chronic care centers. This section has highlighted literature about chronic care, responsiveness definition, characteristics, predictors and empirical literature on the various domains of responsiveness.

2.1 The Study Context: Chronic Conditions and Chronic Care

The World Health Organization (WHO) has identified chronic conditions as the predominant health system challenge of the current century. It's estimated that a third of the global adult population suffers some multiple chronic conditions with prevalence estimates varying widely across regions. Studies have shown prevalence as high as 16 to 56 % in United Kingdom, 26% in United States of America and about 9 percent of the urban population in Asia (Hajat & Stein, 2018), to 71% in Russian population over 50 years of age. Though chronic conditions prevalence increases with age generally (Grilo et al., 2017), in a study conducted in South Africa (Garin et al., 2016), multimorbidity gradually decreased among people 60 years of age and older, which is a distinctive pattern.

Chronic illnesses are diseases of long duration, often of multifactorial etiology, slow protracted clinical course and no definite cure. Chronic illness can reduce quality of life and make it difficult to carry out regular tasks. These features necessitate continued health seeking and continued long term engagement with the health system almost over the entire lifespan of the individual hence the concept of chronic care (Grilo et al., 2017). That they require from health systems long term often complex integrated multidisciplinary response is not only integral to their care processes but the multiteam approach is considered patient centered (Jacobs et al.,

2024). Ensuring responsive health systems is critical to achieving better outcomes among patients with chronic conditions.

Traditionally, chronic diseases have encompassed cirrhosis of the liver, long-term mental illnesses such as schizophrenia, personality disorders, and depression, metabolic disorders like diabetes mellitus, and respiratory disorders including asthma and chronic obstructive pulmonary diseases (COPD), as well as cardiovascular conditions like congestive heart failure and high blood pressure. Failure to effectively treat these conditions may result in disability. It has been estimated that only four chronic conditions: cardiovascular disorders, cancers, chronic lung disorders, and diabetes mellitus; account for about 60% of global deaths (Wang et al., 2016).

In regard to risk factors, many chronic disorders are related to advancing age. Other risk factors include lifestyle choices such as smoking, risky sexual behavior, imbalanced more fatty diet and lack of or reduced exercise, as well as genetic predisposition. As survival rates have improved, the spectrum of chronic diseases has increased to include various types of cancers, HIV, mental illnesses (such as depressive disorders, psychotic syndromes like schizophrenia; and dementia) and disabilities in such critical functions like the sense of sight.

The increased prevalence continues to pose a disproportionate impediment of health and cost burden, such that more than 30% of the adult population currently has multiple chronic illnesses. This is higher in the developed countries where almost three out of four adults live with more than one chronic condition (Arokiasamy et al., 2017; Rijken et al., 2018). The prevalence rises drastically among the elderly over 65 years, especially women from lower

socioeconomic backgrounds where it has been estimated that more than half of this population have multiple chronic conditions (Gong et al., 2018; Hajat & Stein, 2018).

Chronic diseases are of great public health importance. For a long while, they were thought of as those of the rich societies but now affect all populations, poor and rich, old and young. Globally, chronic diseases and conditions, are not only the most common but are also the most costly of all health problems taking in as far deep as 70% of the healthcare budget (Cygańska et al., 2023). Of the 57 million fatalities worldwide in 2016, 41 million (or 71%) were caused by non-communicable diseases. 78% of all non-communicable fatalities occurred in countries with low and moderate incomes, where the burden is the greatest. They are the leading causes of both the burden of disease and mortality in Europe, about 86% and consumes about 75% of the treatment budget in the USA, 64% in China, 33% in Japan (Bloom et al., 2020). This study is delimited to diabetes mellitus and hypertension.

Associated with aberrant cell biology on insulin function, diabetes mellitus, generally known as diabetes (Hossain et al., 2024) is an illness characterized by persistently high blood sugar levels over an extended period of time. Long-term complications include cardiovascular disorders (heart and blood vessel disorders and hypertension), renal complications i.e., chronic kidney failure, musculoskeletal disorders like foot ulcers, neural disorders including damage to the eyes and peripheral nerves. These complications are life threatening, reduce the quality of life, increase medical care costs and increase mortality (Ong et al., 2023).

Globally, diabetes mellitus prevalence is increasing due to urbanization and a tendency towards a more sedentary lifestyle. It was estimated to affect 451 million people in 2013, (8.8% of global population) globally, up from 151 million in 2000 and was projected to increase to 693

million people; by 2045, impacting an estimated 9.9% of the world's adult population, between the ages of 18 and 99 (Cho et al., 2018; Mohamed et al., 2018). Recently, a study estimates that in the year 2021, there were an estimated 537 million people living with diabetes globally (Ong et al., 2023), about 10.5% of the adult population and projected to rise to 783 million people, being about 12% of the adult population by the year 2045.

There is projected a faster more relative growth rate in diabetes disease burden among middle income countries, at 21%, compared to rates in high income (12.2%), and low income/developing countries (11.9%) (Sun et al., 2022). A further 240 million people are estimated to live with undiagnosed diabetes (Hossain et al., 2024).

The estimated global costs of diabetes care have been put at a staggering a trillion US\$. The costs of complications compound this further for instance one study found that about 78 thousand dollars were spent on diabetic related renal complication in the annual year followed by about 14 thousand dollars in the subsequent year (Sun et al., 2022; Wang et al., 2019). This situation looks gloomy given the reciprocal relationship between cancer and diabetes mellitus where its posited diabetes causes multiple cancers while cancers are associated with ensue of diabetes. When this axis of morbidity is effective, the cost skyrockets (Zhu & Qu, 2022).

Regionally, Africa as a continent with a prevalence rate of 4.5% has a comparatively lower prevalence than other international diabetes federation (IDF) regions. However, it also has the highest proportion of undiagnosed diabetes, about 53%. Unfortunately, Africa commits the least resources to diabetes expenditure, just contributing a paltry 1.3% of the total global expenditure on diabetes (Hossain et al., 2024). Variations exist across countries with rates including 6.5% in Nigeria (Nwafor et al., 2024), 8.3% in Uganda among those with HIV

(Kasango et al., 2024),in South Africa 9.5% (Hellebo et al., 2024) while its reported in Tanzania 4-11% adults with HIV have diabetes.

In Kenya, the age standardized prevalence of diabetes mellitus is estimated at 2.4% (Nduati et al., 2022), within the urban population prevalence being 3.4% and rural population 1.9%, rich quintile 5.2% and while in the poorest wealth quintile 1.6% (Mohamed et al., 2018).An empirical study in Meru County Kenya found that prevalence of diabetes overall was 15.4%, was higher among women 16.3%,than men 13.9%, and significantly increased with advancing age, body mass index and previous diagnosis of hypertension, and high cholesterol (Sarah et al., 2021).

Hypertension on the other hand is a disorder characterized by blood vessels having persistently high pressure thereby putting more strain on the heart to pump harder against the high pressure. It's a major modifiable risk factor for cardiovascular disease. Risk factors include harmful use of alcohol, unhealthy diet, sedentary lifestyle, tobacco use, persistent stress and obesity (Aung et al., 2022). Hypertension may also be a complication of diabetes mellitus making the two closely linked and a global syndemic and thence often require integrated and differentiated care approaches that address both together (Bygrave et al., 2020).

Both diabetes mellitus and hypertension are managed within chronic care centers on an ongoing process with clinic schedules but when acute symptoms develop, they are often nursed in emergency departments and admission wards. Effective chronic care involves a coordinated and dynamic partnership with mutual responsibilities and accountabilities between the health care providers and clients (Grilo et al., 2017).

Globally, WHO estimated that in 2015 about 22% of the global adult population over 18 years have raised blood pressure. A more recent study puts the hypertension worldwide prevalence at 33 % of the global population by the year 2019 (Longkumer et al., 2023), having almost doubled in absolute numbers between the years 1990 and 2019. The prevalence is likely to increase fueled mainly by changes in the low and middle income countries as the trends in developed countries stabilize (Mills et al., 2016).

The low and middle income countries, while lacking in capacity to deal with hypertension, currently have comparatively higher prevalence than other regions and are home to about 82% of the global hypertension burden, in aggregate having in absolute numbers about a billion persons with hypertension (Zhou et al., 2021).

Regionally In Africa hypertension prevalence's are comparatively higher with rates recorded between 27% to 54% of adults having hypertension (Olowoyo et al., 2024). Wide variations exist across countries including rates of upto 71% in South Africa (Sharma et al., 2021), 15.9% in Uganda (Kasango et al., 2024), 27.6% in Sierra Leone (Koroma et al., 2024), while it was comparatively low in Zimbabwe with one study noting a prevalence of 7.4% (Sabapathy et al., 2024).

In Kenya, the overall prevalence of hypertension has been estimated at about 25% of the adult population, and about half the population of adults is in pre-hypertensive state. The prevalence is generally higher among women in urban settings than men and the rural population. But inequalities exist a great deal and therefore there are likely to be many fluctuations in different contexts (Gatimu & Nduati, 2020) while a recent study classified prevalence of hypertension in Kenya as between 25 to 29% (Gafane-Matemané et al., 2024).

In regard to associated factors, one study found the prevalence in women was estimated at 10% while, more in the urban population at about 11%/The odds of having hypertension be it in rural settings or urban settings increase with increases in age, having obesity, having diabetes mellitus and differ among ethnic groups. High wealth status does increase the odds of having hypertension especially among the urban population.

Diabetes mellitus portends a special risk for hypertension as noted in one study where patients with diabetes had 22 times higher odds of hypertension than those without regardless of the geographical setting (Chowdhury et al., 2021). Another study found the overall prevalence of hypertension in urban slum dwelling at almost 23% though with same associated risk factors of cigarette smoking, alcohol, inactivity and diabetes mellitus (Joshi et al., 2014). Another survey found the prevalence of hypertension in Kenya, was more among the male population.28% than the female population,23% with overall prevalence of 25%,and shooting exponentially to 52% among those aged 52 years and more (Gatimu & Nduati, 2020).

Just as for diabetes mellitus, the costs for the care of hypertensive and the complications are on the increase and substantial. It has been associated with the well-known non-progressive out of pocket payment for health care consuming about US\$477 per family annually and sending many families to financial ruin, accounting for nearly 60% of catastrophic health care expenditure (Oyando et al., 2019). Compound this with the costs of care for associated complications and we get a more ominous picture as there are many consequences of raised Blood Pressure. For instance, it has been estimated that a 20-mm Hg increase in systolic blood pressures increases by 35% greater the risk for ischemic stroke, increases by 29% the risk for

myocardial infarction and even scarier is the finding that a 10-mm Hg increase in diastolic blood pressure increases by 45% the risk for abdominal aortic aneurism.

The combined onslaught of hypertension and diabetes mellitus on kidney pathology tremendously reduces one's lifespan and raises the risk of mental illnesses (Schutte et al., 2021).

The two conditions, diabetes mellitus and hypertension plus other chronic conditions herald the need for chronic care.

While acute care is concerned with short-term or often severe illnesses that last only briefly, chronic care is described as medical care that tackles pre-existing or long-term illnesses. Clients with chronic illnesses must manage a variety of concerns related to their diseases and treatments, such as managing daily symptoms, adhering to prescription regimens, specific diets, exercise programs, and rigorous monitoring to identify new complications.

Chronic care constitutes a patient-centered strategy for healthcare that encompasses long-term care delivery and continuous follow-up processes. This approach is characterized by integration, evidence-based practices, and a holistic focus on the well-being of the individual. It involves specialized primary care services and actively engages both clients and communities in acknowledging their significant roles in healthcare and health-related results (Saitz et al., 2008).

Each patient encounter is distinct, with factors contributing to differences encompassing personal attributes like coping mechanisms, contextual and environmental elements (such as healthcare accessibility), the physiological impacts of the illness, social connections, healthcare provider assistance, and understanding of treatment options (Hewitt & Liang, 2019). Ensuring adequate patient literacy that is appropriate, patient's own motivation levels, emotional well-

being, and physical and material resources, as well as the elimination of uncertainty, are crucial success factors in helping patients manage their diseases. These elements affect patient adaptation and present significant difficulties for healthcare professionals. The patient-centered model of care (Grilo et al., 2017), which is the cardinal feature of a responsive health system, is better suited to addressing these issues.

The need for a responsive health system in regard to chronic conditions cannot be overemphasized. It has been noted not only to impact on the overall quality of health care but determines adherence to treatment plans (Waari et al., 2018). Responsiveness does directly influence service coverage and access to health services (Tille et al., 2019), increases welfare achieved (Askari et al., 2016), does contribute to health improvement and increases acceptability and trust in health systems by reducing barriers to the access and use of health services (Khan et al., 2021; Valentine & Bonsel, 2016). Particularly among clients with chronic conditions, responsive health systems have been found to improve health outcomes through improved adherence to treatment regimens (Waari et al., 2018).

2.2 Strategies of Dealing with Chronic Care

Chronic conditions arising from communicable and non-communicable conditions are quite on the increase. Chronically ill people have needs that go beyond just their bodily demands. Chronic diseases are long-term, slowly developing health issues that negatively affect one's quality of life and place a significant burden on both patients and those providing care for them. As a result, care delivery models should effectively address the issues caused by chronic illnesses.

Whatever underlying issue with regard to etiology, the common denominator is that these illnesses demand a sophisticated response over a long period of time. It necessitates

coordinated efforts from multidisciplinary health provider's teams, accessibility to necessary medications, and monitoring systems. These key elements must be properly integrated into a system that supports patient empowerment and positions the patient as an actor of their own health and healthcare (Sullivan, 2016).

Apart from their functional limitations, individuals grappling with chronic illnesses encounter considerable stress while handling their conditions (Boyd et al., 2014). For healthcare systems, especially the healthcare professionals, to effectively address the requirements of chronic patients and their treatment, they must adopt comprehensive methodologies (Trehearne et al., 2014).

The conventional paternalistic care model, primarily concentrated on alleviating acute symptoms, falls short in adequately addressing the challenges posed by chronic ailments and catering to the distinct needs of chronic patients. Grilo et al. (2017) echoed this notion, emphasizing a systematic patient-centered approach that empowers individuals with chronic conditions to actively engage in the daily management of their ailment and participate in the decision-making process. This approach underscores the responsiveness of healthcare systems in delivering care.

To address chronic illnesses, Busse et al. (2017) put forward four strategic approaches: "Prevention and early detection," "Innovative provider qualifications and settings," "Coordinated care for specific chronic conditions," and "Holistic care across multiple chronic conditions (integrated care models)." Likewise, a corresponding proposition outlined five fundamental patient requirements regarding chronic ailments: the acquisition of information, streamlined service coordination and support, implementation of preventive, maintenance, and

recuperative tactics, provision of training for seniors, caregivers, and healthcare practitioners, and adoption of person-centered care methodologies. McGilton et al. (2018) note that structural factors, socioeconomic status, education, and accessibility play a role in influencing these needs. The effectiveness of responsive healthcare systems hinges on their patient-centered nature.

A novel needs framework underscores three core domains essential for effectively managing patients with chronic illnesses. These encompass social connections and interpersonal relationships, psychological health, and endeavors related to self-care, household responsibilities, and mobility. The study emphasizes that matters concerning the adaptability of healthcare systems are pivotal, as their absence could curtail the independence of patients. Challenges encompassing the absence of expert direction in self-care and its techniques, inadequate coordination of services and communication, and insufficient awareness about services such as care or referral pathways are among the obstacles highlighted (Abdi et al., 2019).

In the realm of novel providers, settings, and credentials, collaborative paradigms like group practices, medical polyclinics, and nurse-led clinics hold particular significance due to their patient-centric nature. However, the critical setback has been identified as to assist the health providers in carrying out their new roles. These has heralded a need for well-targeted training. New qualifications, structural resources and settings have been shown to improve management of chronic disorders though in limited studies thus the need for more studies to corroborate these findings to see whether the improvements justify investments and future decisions. Also important to responsiveness is Integrated care models because of the diverse needs of the

patients. This includes case management, management at one source and provider networks to close the gap between primary care hospital care (Busse et al., 2017). The approaches to care that have reflected various facets of responsiveness include patient centered care and family engagement/family centered, person centered care and chronic care model.

All healthcare decisions are made with the client's requirements and desired goals in mind when providing care following the patient-centered care model. When planning, coordinating, and delivering healthcare, it respects the patient's experience, values, needs, and preferences. Clients' needs and expectations; both clinical and nonclinical are addressed in a holistic approach whereby the health providers partner with clients in meeting their needs. According to Grilo et al. (2017), patient-centered care refers to a healthcare professional's attitude that is in line with and attentive to the patient's requirements and preferences. It indicates the level of performance of the healthcare system.

In order to emphasize a holistic perspective on an individual, beyond just their role as a patient, it has been recommended to use the term "person-centered" instead of "patient-centered" (American Geriatrics Society Expert Panel on Person-Centered Care, 2016). In line with this concept, the University of Gothenburg's Center for Person-Centered Care (GPCC) outlines three fundamental principles and practices for delivering person-centered care: actively listening to the patient's personal narrative, establishing a collaborative partnership by exchanging knowledge and experiences to support individual health management, and ultimately ensuring the continuity of this partnership through effective communication and documenting a shared care plan (Moore et al., 2017).

At the core of this patient-centered approach lies a therapeutic interaction forged between the patient and the healthcare staff. Central to the concept of person-centered care (PCC) is the principle of recognizing and bolstering the personhood of individuals seeking care, empowering them to take charge of their health and well-being. The bedrock of PCC is built upon this concept.

In gauging the extent to which health systems embrace patient-centeredness, obtaining comprehensive feedback from patients stands as a crucial factor (Rosenlund et al., 2023). Demonstrably, the implementation and integration of a patient-centered care model have shown tangible benefits, including improved patient outcomes, optimized resource utilization, reduced costs, and heightened satisfaction with the care received (Gluyas, 2015).

Family centered or family engagement model recognizes the role of family members in the care process where it's emphasized they should be involved and supported in their natural care giving role (Rostami, 2019). The emergence of family-centered care was a response to the realization that a child's mental well-being was adversely affected when parents were excluded from the hospital environment (Shields, 2010). This model delineates the interaction between families and professionals as a dynamic founded on interdependence and collaborative accountability for the child's care. This approach is envisioned to generate a harmonious synergy in caring for children who have undergone distress but are not yet completely on the path to recovery. However, a critical analysis has illuminated certain drawbacks within this model, characterized by role ambiguities and a lack of shared mutual comprehension (Mikkelsen & Frederiksen, 2011).

The Chronic Care Model (CCM) strives to enhance patients' healthcare experiences by implementing comprehensive changes within healthcare systems. This multi-dimensional approach serves as a framework to enhance the management of chronic illnesses within primary care settings. The model is based on the premise that enhancing the six interconnected components self-management support, clinical information systems, reconfiguration of the delivery system, decision support, healthcare organization, and community resources can drive systemic transformation. This transformation envisions an environment where well-informed and engaged patients interact with well-prepared and proactive healthcare teams (Bodenheimer et al., 2002). These six elements are recognized as integral facets of a healthcare system that fosters high-quality care for chronic diseases (Yeoh, 2018).

The upshot of these models is that they give leverage to the demand side of the healthcare process and demand the supply side to be more flexible involving and accommodative of the clients' role in care planning and execution. However, it may be observed that they focus more on the clinical processes rather than the wider spectrum of engagement between the client and the health system, thus falling short of fully addressing the tenets of a responsive health system. Responsiveness reflects much wider than clinical decision making, for instance the role of non-clinical staff; including security personnel at the gate and other points, the role of front-line reception, the physical infrastructure and population/community-based health services. This study focused on the wider concept of responsiveness in chronic care.

Despite the underside in regard to scope, it's imperative to note that these approaches are quite useful in contributing to health system responsiveness. However, as studies reveal, it's not enough to have a good approach. It ought to be effectively utilized to achieve the desired results. However it has been noted that health professionals do not always consider and act in

accordance with patient-centered orientation, due to many impediments at the personal(attitudes and beliefs), professional(Perceptions of patient roles, incompetence) and institutional levels(work overloads, time constraints, physical environment) (Grilo et al., 2017).

Realizing a genuinely cooperative provider-client engagement necessitates personalized care strategizing, consistent assessment, an interprofessional team with a designated leader, continual exchange of information, education and training for providers, and uninterrupted measurement of performance accompanied by feedback loops for quality enhancement (American Geriatrics Society Expert Panel on Person-Centered Care, 2016; Yeoh, 2018).

2.3 Health Systems Responsiveness

The World Health Organization report of 2000 positioned responsiveness as an essential objective within health systems, alongside health outcomes and the equitable distribution of financial contributions (Khan et al., 2021). Responsiveness was recognized as a credible tool for evaluating the performance of health systems (Forouzan et al., 2011), a notion that has gained further support from various initiatives worldwide.

Notably, in the context of enhancing health systems, this concept is reinforced by efforts like the Talin Charter, which embodies the commitments of the member states of the World Health Organization European Region Talin Charter, (World Health Organization, 2008), as well as by the National Institute for Health and Care Excellence [NICE], 2012). Both of these initiatives have outlined domains of responsiveness to fortify health system strengthening endeavors.

Health system responsiveness refers to "the ability to meet the legitimate expectations of the population, encompassing the non-medical dimensions of the healthcare system and the

environment where individuals receive care." This concept revolves around the way individuals interact with the healthcare system (Mirzoev & Kane, 2017). The two primary dimensions of responsiveness have been identified as the recognition of human rights and a focus on client-centeredness.

The respect for human rights encompasses considerations for dignity, autonomy, effective communication, and privacy. Within this framework, client-centeredness entails prompt attention, satisfactory fundamental facilities, access to social support networks, and the option to choose healthcare providers (Kapologwe et al., 2020; Röttger et al., 2014). Further to these conceptualizations, indeed the understanding of responsiveness continues to evolve where recently Khan et al., (2021) reinforced the notion of responsiveness as a measures of health systems performance and added that it's a feedback mechanism as well as an accountability mechanism.

It's important to note that while responsiveness and patient satisfaction share some common aspects, they are distinct concepts. When considering scope, extent, and justification, we can establish three primary distinctions (Busse et al., 2017). Firstly, with respect to scope, responsiveness evaluates the entirety of the health system, while patient satisfaction centers around specific clinical interactions within healthcare settings.

Additionally, based on their underlying rationale, patient satisfaction encompasses an intricate blend of perceived requirements, individually defined expectations, and the encounter with care. On the other hand, responsiveness assesses individual perceptions of the health system against universally recognized "legitimate" experiences. Further, patient satisfaction generally

encompasses both medical and non-medical facets of care, whereas responsiveness specifically targets the non-health improving dimensions of the health system (Comes et al., 2016).

In the assessment of the health system, the significance lies not merely in responsiveness itself, but in the responsiveness aligned with universally accepted expectations. The influence of discrepancies arising from individual idiosyncrasies might be mitigated by adopting universally accepted expectations instead of individually formulated ones. This underscores the importance of legitimacy, which is established through norms, standards, or recognized guidelines (Mirzoev & Kane, 2017). This research focused on evaluating the responsiveness of chronic care centers.

Considering societal norms, relationships, values, and the level of trust within communities becomes imperative to deliver care that is centered on patients and is universally acceptable throughout the entire care journey. Particularly, for low- and middle-income countries, prioritizing equitable access to healthcare is essential on both local and global scales. To enhance healthcare service utilization, achieving equitable access with meaningful engagement across all segments of society holds paramount importance (Altabbaa et al., 2024) .

Evaluation of the performance level of healthcare facilities is aided by the measurement of the responsiveness of the health system. Despite the difficulties in evaluating responsiveness, more strategy refinement and persistent monitoring are required to meet patients' reasonable expectations. Measuring health care responsiveness is crucial for a more thorough knowledge of components of health systems that do not improve health (Negash et al., 2022).

2.3.1 Milestones in Understanding Responsiveness

Interactions between clients and the healthcare system wield a significant influence on their health and overall well-being. As outlined by Murray and Frenk (2001), responsiveness encompasses the aspects of how individuals are treated and the environments in which they receive care. The World Health Organization's 2000 study is often highlighted as pivotal in establishing a framework for assessing responsiveness. However, preceding the WHO's 2000 framework, there were prior examinations of the constituent elements that constitute responsiveness (Valentine et al., 2003; Khan et al., 2021).

The term "health" encapsulates a spectrum of positive attributes, spanning from aptitude to integrity, and from fitness to well-being. As Conti (2018) elucidates, the foundational tenets of the World Health Organization pronounce that "health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." This declaration is further expounded upon to establish health as a fundamental human right, asserting that "The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, and political belief, economic or social condition."

During the International Health Conference held in New York City in June–July 1946, the WHO constitution was embraced, formalizing this stance and becoming effective in April 1948 (Conti, 2018). This historical context implies that the WHO constitution of 1948 expanded the definition of health to encompass holistic well-being, thereby urging the healthcare system to address both medical and non-medical aspects of clients' needs, which are the core of responsive health systems.

Later Donabedian work on medical quality reflected the WHO constitution by defining quality more broadly encompassing technical (ability to improve health) process (the quality of the client provider interaction and structural quality (quality of amenities). These were summarized in the triad of structure, process and outcome. He defined structures as environments, provider qualifications, and administrative processes used in providing care, Process referred to the elements of care provided, while Outcome" refers to healing, regaining function, and survival and satisfaction with care. The provider client interaction processes in regard to respectful care, the quality of amenities as structures begets responsive health systems domains. He emphasized client satisfaction of these items as a measure of quality (Donabedian, 1966 ; Hanefeld et al., 2017).

These ideas continue to serve as the basis for quality assessment today. Donabedian underlined the significance of emphasizing metrics. Additionally, he emphasized that health care providers understand how their practice environments' social and cultural systems might either improve or worsen the standard of medical care. Therefore, the Donabedian framework continues to speak to today's medical professionals to take the initiative in guiding and forming the pursuit of high-quality treatment in their organizations and society.

The Donabedian approach laid the foundation for a seminal paper, "Medicare in the USA," where the Institute of Medicine introduced a Quality Assurance Strategy in 1990. In this study, the concept of quality of care was delineated as "the degree to which health services, for individuals and populations, increase the likelihood of achieving desired health outcomes and are consistent with the current state of professional knowledge." This definition was largely drawn from Donabedian's prior work.

Concurrently, in 1980, Donabedian himself outlined what he termed the "seven pillars of quality," encompassing elements such as "efficacy," which signifies the capacity to enhance health; "effectiveness," denoting the capability to attain desired health system objectives; "efficiency," indicating the ability to achieve optimal health benefits at minimal costs; "optimality," describing the optimal balance between costs and benefits for favorable outcomes; and finally, "acceptability," "legitimacy," and "equity," which encapsulate the concepts of fairness in healthcare distribution and health results (Donabedian, 1980).

Donabedian's seven pillars were succinctly synthesized into a single sentence within the Institute of Medicine study titled "Crossing the Quality Chasm." This pivotal report established six primary objectives for the 21st-century healthcare system: to provide care that is safe, effective, patient-centered, timely, efficient, and equitable. These goals served as the foundational concepts underpinning the healthcare system's responsiveness. Benchmarks associated with these objectives are now routinely employed by clinics, hospitals, and the healthcare industry to assess their accomplishments (National Academies of Sciences, Engineering, and Medicine et al., 2018; Institute of Medicine (US) Committee on Quality of Health Care in America, 2001).

Over time, the necessity to distinguish between patient satisfaction and authentic patient experiences gained prominence, as it was believed to offer a more direct avenue for elevating service quality. This distinction was particularly emphasized by healthcare entities in the United States. Notably, the U.S.-based Agency for Healthcare Research and Quality devised surveys aimed at capturing consumer evaluations of health plans based on their experiences, as reported by patients, rather than simply gauging satisfaction levels with these experiences

(Donabedian, 1980; Institute of Medicine (US) Committee on Quality of Health Care in America, 2001).

In the year 2000, the World Health Organization (World Health Organization, 2000) formulated an encompassing framework for the enhancement of health systems, encompassing three primary objectives: the enhancement of health, equitable financing, and responsiveness within the health system. This followed a series of technical working groups and discussion papers to enable fashion the framework. And thus for the first time in a systematic way, the desperate pieces of information with several nomenclature as they appertain normative needs of client interaction with health system were neatly encapsulated in the concept of responsiveness of health systems; as indicative of patient experiences encompassing both the interpersonal interaction process between healthcare provider and client, as well as the broader interaction between the health system and the population it caters to (Khan et al., 2021).

This framework underscored the vital significance of responsiveness, not only in facilitating the achievement of the other two objectives, but also in diminishing healthcare system disparities and enhancing the well-being of the marginalized and most disadvantaged segments of society.

The rationale for positioning health system responsiveness as such was that responsive health system should ensure that individuals' social rights are upheld, provide inclusive, legitimate, participative, and accountable services, and shine a spotlight to the concerns of minority groups(Askari et al., 2016; Bridges et al., 2019).More generally, it ought to promote social cohesiveness, citizen participation, and state legitimacy (Brinkerhoff & Bossert, 2014; Molyneux et al., 2012). As a result, responsiveness plays a crucial role in achieving other goals

of the health system, such as improved health-seeking behavior and increased access to and acceptance of services.

Hence, a health system that is responsive contributes to the advancement of overall population health. Additionally, the World Health Report of 2000 positioned health systems as intrinsic "social goods" (values-based health systems). It asserted that enhancing health system responsiveness is a commendable goal in its own right, irrespective of its direct impact on improving population health. This is due to the accrued welfare benefits and the enhancement of health system functionality (Lodenstein et al., 2017).

The 2000 report by WHO established a differentiation between two dimensions of responsiveness: one encompassing aspects of timely attention, the quality of facilities, access to social support networks, and the option to choose service providers. These facets are more objective in nature, addressing common concerns voiced by patients and their families. Conversely, elements associated with treating individuals with respect as unique individuals, including aspects like dignity, autonomy, and confidentiality, possess an ethical dimension. These components are predominantly subjective and are primarily evaluated from the patient's perspective (Valentine & Bonsel, 2016).

Since the world health organization's conceptualization of responsiveness (WHO, 2000), more concepts have been proposed. In 2005 the analytical guidelines for multi-country survey study (MCSS) added clear communication to make eight domains (Letkovicova et al., 2005). Subsequently, concerning the dimensions, other researchers proposed the inclusion of effective care, attention, and access to care (Forouzan et al., 2011), along with trust and coordination (Röttger et al., 2014).

The domains of responsiveness have been identified as encompassing the principles of respecting human rights. These domains find their underpinning in various human rights declarations, treaties, and legal frameworks. Likewise, in a reciprocal way, human rights principles substantiate the significance of responsiveness domains in the assessment of the health system (Gostin, 2010). The authority of human rights principles derives from their universal endorsement, thereby establishing a legal foundation for accountability. This sentiment of responsiveness is echoed in the Universal Declaration of Human Rights, which unequivocally states, "All human beings are born free and equal in dignity and rights" (Dura, 2015).

The Kenyan constitution bill of rights embodies the responsiveness concepts. Article 31 and 33 guarantees the right to privacy, confidentiality and expression of opinion which are some of the responsiveness domains (GOK, 2010). The Canadian Health system performance measurement framework positions responsiveness as one of the outputs in the output quadrant (Canadian Institute for Health Information, 2021).

Certain scholars advocate for a more comprehensive interpretation of responsiveness that extends beyond specific concepts and domains, recognizing the influence of supply-side drivers on responsiveness. This broader perspective on responsiveness's drivers was further emphasized by (Robone et al., 2011).

Factors such as health spending per capita, public health expenditure, and population education levels appear to exert an impact on responsiveness. Robone et al. introduced a conceptual framework for health system responsiveness, comprising four main components: environment, population characteristics, access and utilization of health services, and responsiveness. These

elements exhibit a reciprocal interrelation. Within the framework, Environmental characteristics are categorized into three primary groups: resources, health system attributes, and institutional factors. These categories correspond to the role of health policy in shaping the context for healthcare organization and delivery (Robone et al., 2011). Expanding on this perspective, Valentine and Bonsel (2016) underscored the importance of considering social determinants in the exploration of responsiveness.

Subsequently, Mirzoev and Kane (2017) introduced a broader framework that takes into account the impact of actors' expectations, processes, institutional and organizational structures, encompassing elements like accessibility and quality of health services, on health system responsiveness. Additionally, they incorporated the acknowledgment of the role of context, encompassing factors such as resources, political dynamics, and cultural influences.

Initiatives aimed at strengthening the responsiveness of health systems have been present even prior to the formal articulation of the concept, but their crystallization gained prominence subsequently. These efforts can be categorized as either short-term or long-term endeavors. In the short term, interventions have encompassed measures such as enhancing information systems, formalizing and streamlining complaint procedures, fostering community engagement and voice, and implementing diverse accountability mechanisms. Notably, these measures are recognized as some of the most prevalent interventions in this domain (Srivastava et al., 2013).

Among the predominant short-term strategies are feedback mechanisms and accountability measures. These include gathering patients' perspectives on the quality of care they have received through formal facility-focused surveys, employing post-care tools such as score or

report cards, conducting social audits, and implementing e-grievance platforms like toll-free hotlines and web-based portals. Community engagement and monitoring committees have also been introduced to this end (Tripathy et al., 2016). In contrast, the long-term interventions delve into high-level policy considerations, budgetary allocations, governance structures, and the mechanisms by which management or governmental bodies are elected. These encompass more comprehensive and strategic aspects of healthcare systems (Cleary et al., 2013).

A systematic review conducted by (Khan et al. (2021) has contributed to a deeper comprehension of the concept of responsiveness. The review aligns more closely with the classical definition of responsiveness, which encompasses non-health enhancing expectations gauged by real experiences. However, Khan and colleagues contend that the definition of the concept remains in a state of evolution. Their analysis led to the classification of responsiveness into three primary categories: the unidirectional user-service interface, responsiveness as a feedback loop between users and the system, and lastly, responsiveness as a form of accountability. ‘

At the user service interface, responsiveness is a quality measure, as feedback, responsiveness conveys the information from service users on how they were handled. Lastly as accountability, responsiveness mostly covers the procedures and frameworks that promote accountability (which is frequently more expansive than just the patient, such as community accountability). To ensure accountability of stakeholders, including users, the public, providers, and systems, various tools and methods have been employed. These include the use of service charters, clients' rights charters, facilities committees, community engagement forums, and customer suggestion boxes (Khan et al., 2021).

Health system responsiveness encompasses proximal aspects concerning how individuals are treated within health services and distal aspects involving the broader health system environment. Various frameworks have been proposed to encapsulate both elements and determinants of responsiveness. These frameworks highlight components such as doctor-patient communication, involvement in treatment decisions, and choice of provider. Related models like the person-centred care model introduced by the Senior Care Action Network (SCAN) Foundation, position responsiveness as the ultimate goal of healthcare systems and incorporate administrative reorganization and quality measurement (Pyone et al., 2017).

Factors shaping perceptions of responsiveness include societal views on health, the quality of available services, and actual interactions within the health system. Additionally, broader institutional arrangements and interactions within the health system influence responsiveness perceptions (Mirzoev & Kane, 2017; Pyone et al., 2017; Valentine & Bonsel, 2016).

In conclusion therefore, understanding health system responsiveness continues to evolve over time. The World Health Organization (WHO) pioneered initial models in 2000. While this framework provided valuable insights into the significance of responsiveness in health system performance, it lacked comprehensive identification of responsiveness drivers and elements. However, it stimulated debate fostering focused discussions and guiding initiatives to strengthen health systems. Subsequent studies have recognized the importance of adapting this framework to encompass variations in care facilities, medical conditions, and populations, and to go beyond the normative elements to exploring determinants of health system responsiveness. It is notable therefore that despite advancements, health system responsiveness remains an area requiring further exploration.

2.3.2 Importance of Measuring Health Systems Responsiveness

A primary objective in assessing outcomes like health system responsiveness is to allow institutions to juxtapose their performance against others, particularly on a broader scale involving different nations. Conducting cross-national comparisons offers countries opportunities to assess their standing in comparison to others, draw insights from the experiences of other nations, and identify and delve into performance trends by establishing relevant benchmarks (O'Mahoney and Stevens, 2004). This perspective has been referenced since the inception of the health systems strengthening framework by the World Health Organization.

The measurement components were integrated to ascertain two pivotal results: performance and achievement. Likewise, in more recent times, three prominent authorities in their 2018 reports - the World Bank Group, World Health Organization (WHO), and Organization for Economic Co-Operation and Development (Kohl et al. 2019), along with the Lancet Global Health Commission on High-Quality Health Systems (Kruk et al., 2018), and the Institute of Medicine (National Academies of Sciences, Engineering, and Medicine advocate for a heightened focus on evaluating and improving the quality of healthcare, particularly in low- and middle-income nations. While it's widely acknowledged that assessing quality involves examining structures, processes, and outcomes, limited research has been dedicated to exploring the human dimension of care (Valentine & Bonsel., 2016).

The attributes of being person-centered, egalitarian, resilient, and efficient encapsulate the core features of exceptional health systems, as articulated by the Lancet Global Health Commission on High-Quality Health Systems. The importance of person-centeredness extends both

intrinsically and instrumentally (Phelan et al., 2020). Intrinsically, it underscores the right of every individual to receive care that acknowledges and accommodates their unique needs (Valentine et al., 2003). Strategically, it's crucial since person-centered care is linked to improved health outcomes, enhanced healthcare utilization, and better overall health results (Doyle et al., 2013).

Larson and collaborators (Phelan et al., 2020) propose a dual classification of measurements for person-centeredness: patient experience of care, which serves as a process gauge, and patient satisfaction, which evaluates the alignment between care received and the patient's needs and expectations—an approach akin to the suggestion made by the Lancet report on the High-Quality Health Systems Commission (Kruk et al., 2018). Patient contentment and experience stand as vital benchmarks for ensuring healthcare systems' responsibility in augmenting service quality.

Patients' insights and viewpoints have been recognized as the most reliable resources for understanding the non-technical facets of the healthcare journey. Consequently, surveys capturing user sentiments are employed to assess the health system's responsiveness. This concept encompasses, theoretically, both interactions with healthcare services and broader engagements with health systems, encompassing public health initiatives and health promotion campaigns (Valentine et al., 2000). Within each of the eight dimensions, respondents are prompted to evaluate their most recent (within the past year) encounter with the health system.

Measuring responsiveness from a user's perspective gives much ground for gaining particular insight in how health systems respond to their clients. The consideration of importance in regard to facets too may differ according to context, reflecting diverse considerations. From

the care settings, the economic levels of a country, the national values and value systems, the socioeconomic and socio-demographic features of citizens all may have influence on how perceptions of domains play out. Measuring will help determine areas for sustenance and those that require rework and there contribute immensely to the much desired improvements in quality of care (Doyle et al., 2013).

2.3.4 Performance of Responsiveness: Levels and Distribution

This section highlights empirical studies on the responsiveness which refers the assessment of responsiveness or the rating as to how the system is performing in regard to responsiveness domains.

One of the earliest studies to measure responsiveness was by Da Silva et al. (2006) which assessed responsiveness for 35 countries. This key informant survey recorded an average responsiveness index of 5.75 on a score of 0-10. As for the performance of individual elements, highest scores were recorded for social support networks (7.12) and the least for autonomy (5.01). Significant variability was noted, particularly in resource-intensive domains such as prompt attention, choice of provider, and quality of basic amenities, where the variance exceeded 1.

Regarding the aspects related to respecting individuals, the assessment revealed that domains such as respecting privacy, obtaining patient consent, and ensuring the confidentiality of patient medical records exhibited strong performance. In contrast, sub-elements like encouraging patients to ask questions, involving them in treatment decisions, and safeguarding the confidentiality of consultations displayed weaker performance. Among the sub-elements within the client orientation domains, geographic accessibility, access to clean water, the

freedom to receive visitors, and the ability to consult a specialist garnered the highest scores overall. Conversely, sub-elements like availability of clean toilets, permitting relatives to assist with personal care, and allowing provider choice within a healthcare unit demonstrated comparatively poorer performance.

In a comprehensive survey assessing responsiveness across 191 countries, the recorded levels of responsiveness exhibited a wide spectrum, ranging from a high of 8.10 for the United States to a low of 3.69 for Somalia. Notably, it is observed that none of the countries within the WHO AFRO region managed to secure a position within the top quartile in this survey. Paradoxically, the distribution of responsiveness did not exactly align with this pattern, as the survey results highlighted the United Arab Emirates and Bulgaria as the leaders in terms of distribution, while Somalia and the Central African Republic emerged as the least favorable performers. It is worth noting that the majority of countries positioned at the lower end of both responsiveness levels and distribution were from the AFRO region.

Generally, the analysis revealed a positive correlation between higher levels of responsiveness and more equitable distributions of responsiveness. The correlation coefficient between responsiveness levels and distribution was notably strong, registering at 0.77. However, this association was more pronounced in countries with lower scores (0.71) situated in the lower half of the responsiveness spectrum, as compared to those in the upper half (0.65). The study also unveiled a trend wherein countries with higher health expenditure per capita tended to exhibit better responsiveness scores. In terms of health system goals, a heightened correlation was observed between responsiveness levels and the distribution of health outcomes. However,

a relatively weaker correlation was identified with respect to achieving greater equity in healthcare financing (Valentine et al., 2000).

The Multicountry Survey Study (MCSS) on health and responsiveness conducted between 2000 and 2001 revealed variations in responsiveness in relation to socio-demographic characteristics. Notably, older individuals were observed to experience a lower sense of dignity compared to their younger counterparts (Üstün et al., 2004). This study laid the foundation and was subsequently followed by the World Health Survey (WHS) conducted between 2002 and 2003.

The WHS findings in terms of responsiveness evaluations indicated that communication held the highest importance, with an approval rate of 89.9%, followed by dignity at 81.9%, basic amenities at 80.5%, and confidentiality at 79.1%. On the other hand, choice was considered the least significant, with a rating of 54.4%, followed by social support at 62.2%, prompt attention at 63.1%, and autonomy at 63.7%. Notably, these valuations demonstrated variations based on socioeconomic, demographic factors, and the type of healthcare facility (private vs public) (WHO, 2002).

Comparable favorable ratings have been documented in studies conducted in Germany, South Africa, and Ethiopia. Despite these regions being geographically distinct, ambulatory care garnered generally positive assessments, with the private sector receiving better ratings compared to the public sector. In the German study, over 90% of respondents rated their most recent healthcare experience as satisfactory; however, the domain of confidentiality received less favorable feedback, with only about half of the respondents expressing favorable views (Tille et al., 2019). In the South African context, non-responsiveness for the public outpatient

service was rated at 16.8%, whereas private care received a significantly lower non-responsiveness rate of 3.2% (Peltzer, 2009). Both countries exhibited variations in responsiveness scores based on socioeconomic conditions. The Ethiopian study exhibited similarities to the World Health Survey in terms of poor ratings in the choice of provider domain, where only 12% of respondents perceived it as highly satisfactory. However, the Ethiopian findings painted a less favorable overall picture of responsiveness (Yakob & Ncama, 2017).

A distinct scenario emerged in Iranian general hospitals, where, during the hospitalization process, factors such as access to social support and the confidentiality of patient information attained the highest scores. Conversely, client involvement in decision-making garnered the lowest scores. Notably, no significant disparities were observed between private and public hospitals concerning overall responsiveness (Ebrahimipour et al., 2013).

Some recent findings regionally include in Tanzania where Kapologwe et al. (2020) noted an overall responsiveness level of 69%, (Kapologwe et al., 2020) while in the same country Amani et al. (2020) observed that more than half of the respondents rated responsiveness as either good or very good. In Ethiopia, (Negash et al., 2022) observed overall health system responsiveness at 66%, (Negash et al., 2022) noted good performance whereby over 50% of the respondents rated responsiveness as either good or very good while (Yakob & Ncama, 2017) found overall responsiveness mean percent of 70%. A study conducted in South Africa indicated that the mean overall responsiveness score for inpatient care was 71%, while for outpatient care, it was 69% (Peltzer & Phaswana-Mafuya, 2012).

In Kenya, a study by Njeru et al., (2009), the domains most valued included confidentiality (97%), Autonomy (93 %) dignity (89%) of the users rated them as very important, while choice of provider was rated the least important with only 62% of the users saying it's very important.in regard to Performance, similarly, choice was noted to be the least offered where most 71% indicated that this domain was rarely offered whereas dignity was favorably rated by 99% of the users.

The overall picture in regard to responsiveness is that generally the most developed countries report better overall responsiveness than the low- and middle-income countries. For instance in Spain, where 77% of clients rated responsiveness as good (Coronado-Vázquez et al., 2022), in Qatar a study noted high levels of responsiveness,82% (Ali et al., 2015) and in Thailand where 80% of women rated responsiveness domains as good (Liabsuetrakul et al., 2012).

2.4 The Responsiveness Domains Explained

The World Health Organization delineated two dimensions of responsiveness. The first pertains to elements associated with respecting individuals as human beings, encompassing aspects such as dignity, autonomy, and confidentiality. These elements possess an ethical dimension, are predominantly subjective, and are primarily evaluated from the patient's perspective. The second dimension encompasses more objective components, including prompt attention, quality of amenities, access to social support networks, the ability to choose a service provider, and clear communication. The subsequent sections delve into a detailed discussion of these objective elements.

2.4.1 Dignity

Dignity signifies the entitlement of an individual seeking care to be treated with due recognition of their person hood (Hsu et al., 2019). It encompasses the provision of respectful treatment to clients, ensuring privacy during physical examinations, treatments, and counseling sessions. Patient dignity is intricately intertwined with the principles of patient-centered care and mirrors ethical norms aligned with obligations (De Man et al., 2016). The absence of dignity can contribute to adverse outcomes for patients. Notably, a deficiency in perceived dignity, particularly among patients with chronic conditions, has been shown to correlate with heightened emotional distress (Guiao et al., 2021).

Privacy as a reflection of patient's dignity has been identified as one of the most important rights of every individual and that the respect for privacy of hospitalized patients is a dynamic concept with physical, informational, psychological, and social dimensions which can be accomplished through the establishment of ethical and legal backgrounds, design of a comprehensive privacy, informed consent, and a common understanding between the patient and the care provider (Hassan et al., 2021).

Responsive health systems have the moral duty on their part to guarantee the dignity of those they care for, and to do this in part because it's the right of the clients to have dignified medical care. Dignified care results in improvement of self-esteem, deepens purpose and meaning of life, maintains and improves quality of life and provides relief from multi-faceted distress. The essence of dignity can be delineated through varying values, leading to the expressions of absolute and relative dignity. Notably, the cultural context plays a significant role in influencing the adaptability of maintaining experiential dignity (Igai, 2020).

Neglecting to uphold a patient's dignity can subject them to unnecessary suffering. In situations where caregivers provide care that disregards dignity, they often grapple with an internal conflict of values at a personal level. This internal struggle involves navigating their own moral principles and self-identity (Lindwall & Lohne, 2021).

A core tenet of ethical caregiving is the profound respect for each individual as a unique human being. Ensuring the patient's receipt of care necessitates the utmost regard for human dignity. When respect is absent, the patient's well-being might be compromised due to the lack of dignified care. Recognizing the imperative need for respect and the entitlement to dignified treatment underscores a collective responsibility. Caregivers who fail to meet professional standards may inadvertently expose the patient's body, treat the patient as an object, deliver care that induces suffering, and consequently compromise the patient's dignity (Willassen et al., 2015).

Empirically, studies have painted the picture for situations where dignity was upheld and where it was violated, one study in the operative environment noted that dignity was supported by dialogue with the health care team where clients observed it made them feel cared for and protected, safe and had their anxieties addressed. Similar findings were noted in pre-hospital care where patients who were allowed chances for free expression felt more dignified while indignity was reflected in patient being abandoned or subjected to humiliating remarks by the caring team (Abelsson & Lindwall, 2021). Studies in mental health setup showed that dignity was reflected when care givers had the power to be present but suffered a blow when both patients and care givers were rendered powerless (Lindwall et al., 2021).

In regard to its valuations one study placed it second in the ranking of importance after prompt attention, and scored highest 97.7% (Coronado-Vázquez et al., 2022). A similar position was noted by a study in Tanzania that noted Dignity scored 81% and this came second to confidentiality (Kapologwe et al., 2020). While another study noted it to be the most important domain of responsiveness and scored 89.9% (Mohammadi & Kamali, 2014). Likewise, in a study conducted by Negash et al. (2022a), it was observed that a substantial 71% of individuals in Ethiopia perceived their dignity as being of good quality. In a connected investigation focusing on maternity care, results indicated that over 80% of women assigned high ratings to the domain of dignity, alongside other associated domains (Liabsuetrakul et al., 2012).

In Nigeria, one study noted dignity came second to clear communication where the two domains were rated as extremely important. The very study found performance of dignity at second place and noted that the clients who utilized mainly public facilities and with no insurance were had comparatively less dignity than the insured and those who utilized private facilities (Mohammed et al., 2013).

2.4.2 Autonomy

Patient autonomy holds an ethical dimension, encapsulating the fundamental right of patients to make decisions concerning their medical care. This pivotal concept is acknowledged as the cornerstone of bioethics, as outlined by Murray and Frenk (2001). An essential addition to the ethical principles of beneficence and non-maleficence, patient autonomy was introduced by Beauchamp and Childress (1979), expanding upon the ethical framework initially articulated by Hippocrates. This period also saw the emergence of other critical concepts in patient care,

including evidence-based practice and patient education, shaping the landscape of healthcare practices.

The concept of patient autonomy rests on the premise that human beings possess an inherent capacity to make rational decisions. However, empirical observations indicate that informed decision-making necessitates access to information and the willpower to act upon choices (Olmsted & McFarlane, 2004). This sentiment is echoed by Naik et al. (2009), who highlight the integral role of patient autonomy in managing chronic diseases, wherein patients not only authorize but also actively participate in executing the care plan. This perspective advocates for a reconceptualization of autonomy to encompass not only decision-making but also the capability to execute agreed-upon treatment plans.

This expanded perspective is particularly pertinent for patients with chronic conditions, considering the breakdown of adherence to complex treatments when functional, educational, or cognitive barriers impede their ability to plan and execute tasks associated with chronic care (Naik et al., 2009).

The exercise of autonomy is intertwined with the mental state of the patients, subject to factors such as desires, knowledge gaps, skill limitations, misconceptions (e.g., denial of the disease), and emotional influences. Emphasizing a collaborative approach to promoting patient autonomy, Jacobs et al. (2024) advocates for a team-oriented endeavor involving patients, professional caregivers, and informal caregivers. The joint deliberation among these stakeholders contributes to a comprehensive understanding of patient autonomy and its integration into healthcare practices (Jacobs et al., 2024).

Irrespective of the compromise meted upon the client by the illnesses, they ought to remain at the center of their battle (Mattei, 2018). To achieve these requires activating patients' strengths collaborating with them and their informal caregivers to the journey towards independence and especially so in chronic care where there is prolonged often lifelong need for care (Jacobs, 2019).

To exercise autonomy however comes with certain assumptions; decisional autonomy demands that the client has enough capacity to comprehend the situation and make rational decisions, and in fact for that which they are capable to decide by self, it's advisable on this premise that they are accorded the opportunity to do so (Holm, 2002). It will be rightfully expected that indeed clients will demonstrate behaviors that are congruent with health, and such contrary actions may be interpreted as refusal to comply or a reflection of serious impairments. Exercising such discernment necessitates a high level of judgment to accurately determine the appropriate course of action. To illustrate, individuals with chronic conditions might appear knowledgeable about their treatment plans and appear capable on the surface, yet they may genuinely lack the ability to effectively implement the necessary actions to attain the treatment objectives.

Consequently, there arises a necessity to expand the scope of patient autonomy's definition, encompassing not only the realm of decisions autonomy but also incorporating the patient's capacity to successfully execute intricate self-management responsibilities. This aspect, referred to as executive autonomy, presents an often-neglected ethical complexity within the patient-physician relationship, and is becoming increasingly pertinent. Even in cases where decisions autonomy remains intact, patients may be confronted with concealed physical,

educational, and cognitive barriers that hinder their executive autonomy their aptitude to organize, prioritize, and effectively accomplish tasks associated with the management of their chronic conditions (Naik et al., 2009).

Based on theory of self-determination, autonomy consists of chronic patients' experiences and perceptions of control and self-initiation in line with their idea of self-regard (Sarfo et al., 2023). Support for patient autonomy has been found to improve adherence to treatment regimens and better glycemic control. Among patients with diabetes mellitus. This happens in part through fostering of self-agency in care processes, and more open provider client interactions (Jin & Song, 2024; Okati-Aliabad et al., 2023).

Empirical studies have demonstrated that where the patients are involved, the clinical outcomes are better, there is reduced average length of stay in the hospitals and the overall satisfaction with health care (Molina-Mla & Gallo-Estrada, 2020). This positions the case for a more empowered patient position, a paradigm shift from the client being viewed and handled as a passive recipient of care to a more engaged active participant in decisions and actions about their health.

However, a study revealed a drawback in the perspective of caregivers, where they perceived patient involvement in care as necessitating the sharing of information and relinquishing decision-making authority with patients, a stance to which they expressed reluctance. This led to a power imbalance and minimal patient input. The perception that patients lacked medical expertise, health workers' attitudes that they "know best," and their desire to cling on to their authority and exercise control were all factors. Health care providers must make every effort

to balance the power dynamics if they want to work as partners with patients (Henderson, 2003).

One study noted a dismal performance where autonomy scored 12.7% rating (Coronado-Vázquez et al., 2022). Similarly in Ethiopia, of the chronic care centers HIV care) autonomy performed very low at 22.7% (Yakob & Ncama, 2017). In another study, autonomy did not feature among the top three as most important and equally scored poorly at 50% (Mohammadi & Kamali, 2014).

Similarly a study in Ethiopia found autonomy scores generally average 54.% who noted it was good in primary hospital in Ethiopia (Negash et al., 2022b). In a related study among women, clear majority over 80% gave high ratings for autonomy along other domains (Liabsuetrakul et al., 2012). Comparative analysis between private and public hospitals in Nigeria, Adesanya et al. noted clients attending private hospitals had better ratings on being involved, which is the hallmark of autonomy (Adesanya et al., 2012).

2.4.3 Confidentiality

Confidentiality pertains to the preservation of what the clients consider private information and encompasses three distinct dimensions within the realm of responsiveness: the privacy of the environment where medical professionals engage with patients, the concept of "privileged communication," and the safeguarding of medical records and personal data (Valentine et al., 2003). This principle of confidentiality is closely linked with trust, extending not only to medical care but also to research participation. Confidentiality's significance is evident in various contexts, including the maintenance of trust between patients and healthcare providers (Leer-Salvesen et al., 2018).

In regard to chronic conditions that require sustained engagement between the patients and care providers, this element is critical to foster trust. At times, these conditions necessitate teleconsultation to seek clarifications, to report medication reactions or to seek direction, assurance of confidentiality is a critical lever in this interaction, such that its deficiency will undermine the quality of consultations (Rego et al., 2021).

A simulation study underscored the impact of perceived information confidentiality on patient behavior within clinical trials, revealing that negative perceptions of confidentiality were associated with a statistically significant decrease in patients' willingness to participate (Greeley et al., 2010). Patient apprehensions regarding privacy can also influence their willingness to share information with healthcare providers. This withholding of information not only erodes trust but also undermines the fundamental purpose of the patient-provider interaction, which is to deliver quality healthcare and foster positive health outcomes.

An exploration of patient-provider trust noted higher levels of trust in provider confidentiality correlated with a reduced likelihood of withholding important health information. Furthermore, patients who trusted the confidentiality of their health records and the competence of healthcare workers were more inclined to have no concerns, even in scenarios involving the electronic sharing of their records. This observation prompted discussions about the multifaceted nature of trust and its influence on patient attitudes and behaviors concerning information sharing with healthcare providers (Iott et al., 2020).

Confidentiality has its roots from the modern thought of medicine and nursing, emphasized in both the Hippocratic Oath and the Nightingale pledge. It has both the ethical and legal dimension (Douraki, 1999). Sometimes the care givers are faced with dilemmas of balancing

absolute confidentiality of the client and the protection of the public; when there is need to warn or protect endangered third parties. Some scholars argue that in such circumstances where the public good is at risk, it may be necessary to breach confidentiality (Bozzo, 2018). Similarly the role of confidentiality in research is emphasized (Council for International Organizations of Medical Sciences, 2017).

Confidentiality therefore though a stringent duty to uphold is not absolute. Caveats exist where public peril, or potential harm is in the offing from the disclosed information; either to self or others. The duty to warn may negate the secrecy of the information warranting disclosure if only to protect the innocent would be victims or prevent such actions as suicide.

To uphold patient information confidentiality is both a duty and an ethical a moral right. The duty arises out of the need for trusting relationships between medical practitioners and their clients. The protection of private information may mean the protection of reputation, the protection of opportunities, and relations. Equally significant is the realization that safeguarding confidentiality inherently safeguards autonomy and aligns with the ethical principles of beneficence and non-maleficence. The disclosure of private information can potentially result in various forms of harm, encompassing financial burdens and personal humiliation (Casabona et al., 2011).

Breaches to confidentiality in clinical practice may arise out of indiscretion, malice, and callousness. They may take the form of informal sharing in social places, phone conversations, speaking about patients in public and when accessing or sharing data be it electronic or manual. Such breaches do dent the trust between the clients and their health care providers and therefore dampen the responsiveness (Beltran-Aroca et al., 2016). Some violations have been noted,

almost in a normalized way to those incarcerated especially in the developing countries where the living conditions in such places are often deplorable. Sometimes it appear justifiable to have shared confidentiality between the health care team and the security when caring for patients with behavioral risks (Eichelberger et al., 2023). The challenge is when medical teams have to do the balancing act between professional independence and loyalty to the employer at the expense of patient confidentiality.

An empirical study noted massive breaches whereby out of 630 questionnaires, 82.5% obtained situations where breaches of confidentiality were noted. The study classified close to half of those breaches as severe, and executed mostly in public places like corridors, stairs, elevators and eateries. The breaches were occasioned by multiple persons, with physicians most indicted in this breaches, accounting for 51% of all breaches (Beltran-Aroca et al., 2016). Another study noted the role of medical students in breach of confidentiality whereby about 71% had accessed patient histories without patients consent. Thus here the role of training schools and safeguards for patient records in training hospitals is brought to the fore (Beltran-Aroca et al., 2021).

Empirical findings in Tanzania observed very good ratings where confidentiality was the highest rated domain of responsiveness at 86.7%. (Kapologwe et al., 2020). Similarly, a study in Ethiopia noted confidentiality was the leading domain together with dignity at 71.7% (Negash et al., 2022). In regard to variations along patient characteristics, a study in Ethiopia noted confidentiality did not differ on account of age nor did it differ significantly on account of whether one is insured or not (Negash et al., 2022).

In regard to its valuations, Adesanya et al. (2012) noted clients in private hospitals ranked confidentiality second in importance to dignity. The same study observed that though private

hospital had better mean percent ratings for responsiveness domains, confidentiality did not differ in statistically significant ways between the private and public hospitals (Adesanya et al., 2012). This results are a stark contrast to a findings by a study in Germany that noted confidentiality was low at distressing levels during patients visits to doctors' offices (Tille et al., 2019).

2.4.4 Communication

Communication, defined as the exchange of ideas, messages, or information through speech, signals, or writing, holds indispensable significance within organizations. Effective communication is characterized by the clarity of information conveyed and the establishment of a shared understanding among participants. Language barriers or any factors disrupting the communication cycle hinder the attainment of mutual comprehension (Steinberg, 2017). The efficacy of communication is contingent upon its ability to enhance the comprehension of messages across all dimensions. Acknowledging the pivotal role of communication, it emerges as a vital determinant for upholding workplace safety and quality, particularly within multidimensional teams engaged in intricate tasks (Dartiguelongue & Cafiero, 2021).

A fundamental facet of responsiveness pertains to the notion that physicians should maintain transparency with patients and their families regarding the nature of the illness, necessary treatments, and available options. This practice empowers individuals to seek answers and acquire clarity as needed (Valentine et al., 2000). There is need to enhance efficient communication which is instrumental in ensuring high-quality care and patient safety. (Vermeir et al., 2018). Communication is a joint venture among health care providers and between health providers and patients foster participation trust and feelings of respect among the stakeholders in the caring process (Gilligan et al., 2018).

The manner in which individuals communicate can be influenced by both their environment and the socio-demographic characteristics of those with whom they engage (Vermeir et al., 2018). Within hospital settings, the majority of interactions between patients and healthcare providers occur in real-time, one-on-one scenarios, rendering them especially vulnerable to emotional influences. This process can be conceptualized as a series of interconnected stages encompassing diagnosis, treatment, and ongoing management.

The role of communication finds its elucidation within the context of ecological models of health, incorporating aspects like adherence, the notion of a compassionate institution, and the significance of culturally sensitive strategies that facilitate interdisciplinary collaboration and evidence-based decision-making (Penn & Watermeyer, 2019). Among healthcare providers, several factors such as societal norms, inherent cognitive tendencies, hierarchical structures, and personal relationships have been recognized as influences that impact communication within provider groups and during consultations (Liu et al., 2021).

Certainly, chronic illnesses typically require a long-term collaboration between patients and their healthcare providers. Effective communication plays a vital role in achieving better clinical results. By employing techniques such as asking open-ended questions, establishing functional objectives, and presenting various pain management alternatives, healthcare providers can create a cooperative and empathetic atmosphere. This method not only improves comprehension but also bolsters the relationship between patient and provider, resulting in treatment plans that are more deliberate and customized to the individual's specific requirements and desires (Kalra et al., 2024).

Intra-organizational communication accrues many benefits. On the provider side, it does affect job satisfaction and turnover. Empirically one study noted dissatisfaction with communication was significantly associated with nurse's intention to leave the organization (Vermeir et al., 2018). Clarity of communication does enhance not just trust but adherence to treatments. Without proper understanding, clients may elect not to undertake important health processes simply for lack of information clarity thus leading to poor health outcomes. Health providers are challenged to communicate clearly, including where there is risk and to do so in a language well understood by clients (Meuter et al., 2015).

A salient issue within the domain of public health revolves around the language barrier encountered by cultural minority populations, notably immigrants and refugees. This linguistic impediment can significantly hinder their access to critical healthcare services. Empirical inquiries have unveiled a spectrum of strategies, including "cultural mediation," interpretation services, health information translation, and the provision of guidance and training for healthcare practitioners, aimed at ameliorating the impact of this language barrier and thereby facilitating unimpeded access to healthcare services (McGarry et al., 2018).

Furthermore, the deployment of linguistic resources, encompassing healthcare professionals who are adept in multiple languages and the availability of interpreter tools, combined with the cultivation of cultural competence among healthcare personnel, characterized by an acute awareness of and respect for diverse cultural contexts, has been empirically demonstrated to engender heightened engagement between healthcare providers and their patient base (Larsen et al., 2021).

In instances necessitating interpreters, it has been substantiated that the engagement of professional interpreters yields superior outcomes compared to ad hoc alternatives (Karliner et al., 2007). This underscores the pivotal role played by proficient and specialized language mediation in enhancing healthcare communication and, consequently, the quality of care experienced by linguistically challenged populations.

In Germany ambulatory care, most clients generally rated communication as good during their last visit to the doctors. However, in the same that study, people with intermediate education rated communication as poor (Tille et al., 2019). In Thailand among women during delivery, over 80% rated communication as good alongside dignity prompt attention and autonomy (Liabsuetrakul et al., 2012). Similarly in Spain, a study noted communication the third most important domain in ranking and performance among the patients with mental illnesses (Coronado-Vázquez et al., 2022).

In a study in Nigeria to assess responsiveness found clients rated as most important the domain of communication,55.4% followed by dignity,54% and the last was choice at 42%.In the very study, despite ranking communication among the extremely important domains, it was rated among the least in actual experiences (Mohammed et al., 2013).A better scenario obtained in Tanzania where all the domains were rated relatively highly with communication leading at over 53% rating it as either good or very good (Amani et al., 2020). Similarly, in Nigeria, Adesanya et al. (2012) noted that in both private and public hospitals, the domain of communication had the best and comparable ratings (Adesanya et al., 2012).

2.4.5 Promptness of Services

In scholarly discourse, "prompt attention" denotes the immediate and timely provision of care, as discussed by Valentine et al. (2000). This concept emphasizes swift treatment, especially during emergencies, and reduced waiting times for medical procedures. It also pertains to efficient service delivery, considering timing and method. Notably, geographical proximity plays a role in ensuring accessibility.

This notion's significance is evident from its prominence in a survey of European primary care systems by Murante et al. (2017). The term encapsulates two key aspects. First, it relates to accessibility, where rapid access to healthcare, facilitated by strategically located medical facilities, impacts psychological well-being as well as objective health outcomes. Second, it addresses improved well-being through shortened waiting times for medical interactions, therapies, and surgeries, as highlighted by (Valentine et al., 2000).

In the context of chronic illnesses, prompt monitoring, and response to deviations in regard to health indicators, adherence to treatment regimens and adverse drug reactions is critical in maintaining within normal ranges the hitherto deranged parameters like blood pressure in hypertension, and glycemic levels in diabetes mellitus. indeed, chronic conditions can benefit more from internet of things where use of monitoring apps and gadgets can help detect derangements and enable timely response (Talpur et al., 2024).

The World Health Organization (WHO) added promptness to the list of quality dimensions within the health system (WHO, 2006). The quality assurance project identified organization of services in regard to time as a facet of organizational access dimension of health care quality. 'Organizational access refers to how well services are set up for potential customers, and it

includes things like waiting times, appointment scheduling procedures, clinic hours, and service delivery methods. For instance, the absence of evening clinics can make it harder for day laborers to access organizations. Lack of house visits or village-based services may cause an access issue where transportation is problematic. In the very first global study on responsiveness, the rapid attention was (Valentine et al., 2000) weighted higher among all the client orientation.

Likewise, in its report on bridging the gap in healthcare quality, the Institute of Medicine (IOM) in the United States recognized timeliness as one of the key aspects within the quality agenda for the American healthcare system. This emphasis involves tackling extended waiting periods and detrimental delays in both patient and provider care (Institute of Medicine (US), 2006).

Ensuring swift attention can be hampered by resource scarcities, including a shortage of human resources, as well as the absence of an effective mechanism for streamlining workflow over time. Geographic accessibility holds significance, as does the assurance that prompt healthcare is readily attainable during emergencies (Valentine, 2003). The duration of waiting time definitely impacts satisfaction levels concerning hospital services (Kaoje et al., 2015).

A mixed picture is obtained from empirical studies on prompt attention. A study in China noted that responsiveness though generally satisfactory by 52% of respondents, was rated least performing among all the domains at 6.88 scores out of the possible maximum of 10 (Chao et al., 2017).

In Ethiopia Negash et al. (2022b) noted promptness of services was badly rated where slight majority, 50.8% rated it as poor, and was third worst performing better than choice and quality of amenities (Negash et al., 2022). Similar results were noted in Ethiopia though in a different

context of the insured versus noninsured but whereby in both, still prompt attention and choice performed poorly compared to other domains (Negash et al., 2022a). In south Africa, one study observed prompt attention was better in private than public facilities on account of mean scores. The means in the same study showed prompt care ranked second lowest above autonomy in in patient assessment, while it was the lowest rated in the outpatient assessment (Peltzer & Phaswana-Mafuya, 2012).

Conducting research through a qualitative inquiry in Germany aimed at assessing the suitability of the World Health Organization's conceptual framework for responsiveness, the study revealed that although the framework provided a robust basis, there were prospects for incorporating additional elements. Regarding timely healthcare provision, the insights gathered unveiled a broad spectrum of participant experiences, ranging from prolonged waiting durations in emergency rooms to relatively briefer waits for consultations with specialized medical practitioners.

Participants also shared their struggles with scheduling or canceling appointments with healthcare providers, or even establishing communication with them. The waiting periods at medical facilities varied significantly, ranging from extensive waits of up to four hours or more, to instances where no waiting time was experienced. Participants' perceptions of waiting times were diverse, with different individuals attaching varying levels of importance to them. Some participants deemed extended waiting periods acceptable, provided that other expectations, particularly those related to respect and effective communication, were met. However, other participants displayed little tolerance for extended waits. This diversity in perceptions presents

a challenge for healthcare systems in structuring their approach to addressing waiting times, considering the wide array of client perspectives (Röttger et al., 2014).

A study reporting on cancer care responsiveness too found prompt care the least ranked with 3.77 score out of maximum five and this was highly correlated with satisfaction and age. Similarly in Tanzania, access to care was rated the last, 36% compared to other domains, the leading being confidentiality at 90.7% in the dispensaries (Kapologwe et al., 2020). In a similar setting different times, it performed worst of all the domains (Amani et al., 2020). The foregoing information shows a general pattern of low performance for prompt attention, though ranked high in importance. Thus, contextual factors ought to be explored whenever the concept is being reviewed.

2.4.6 Quality of Basic Amenities

The aspect concerning the quality of fundamental amenities pertains to the degree to which the physical infrastructure of a healthcare establishment fosters an inviting and agreeable environment. This encompasses factors such as environmental hygiene, the upkeep and rectification of facilities, adequate spatial provisions, and suitable furnishings, particularly within waiting areas and accommodations for patients. It further entails the provision of ample ventilation, clean water sources, sanitary facilities, and hygienic linens at an institutional level, as posited by Valentine and De Silva (2000) and Murray and Frenk (2001).

The domain of amenities is the most resource intensive compared to others. It requires investment in infrastructure and repair and maintenance. Its critical in regard for chronic conditions for a welcoming environment motivates access and continued adherence to clinic schedules. This domain often differentiates private hospitals that are well resourced from

public resource constrained facilities, influences choice of facility (Rawat et al., 2023) and determine service readiness and availability (Defar et al., 2024).

The assessment of amenity quality constitutes an integral facet among the tripartite constituents of overall quality. Additionally, these amenities substantially contribute to the welfare and safety of both recipients and providers of healthcare services, aligning with the perspectives of Donabedian (1980).

This particular dimension embodies the foundational principles of the Kenyan Constitution, which assures each individual the entitlement to an acceptable standard of living for oneself and one's family, encompassing adequate nourishment, clothing, housing, and the continuous enhancement of living conditions, notably through the provision of wholesome sustenance.

Furthermore, Article 11 of the International Covenant on Economic, Social, and Cultural Rights (ICESCR) underscores that this entitlement remains inviolable, irrespective of one's state of health or engagement with the healthcare framework. Supplementing this, the General Comment on the Right to Health, delineating the normative substance of ICESCR's Article 12, accentuates the necessity for healthcare institutions, commodities, and services to uphold elevated benchmarks, incorporating access to safe and potable water, alongside proper sanitation facilities, as expounded by (Hohmann, 2022).

The quality of amenities determines satisfaction with services. The importance of this domain is brought to the fore in a study in Ethiopia, whereby the client interactions and the quality of amenities, just two components out of five explained 96.4% variability in the satisfaction with quality of services (Asamrew et al., 2020). Similarly among diabetic patients it was noted that quality of amenities played a significant role in the quality of diabetic care and influenced client

perceptions in significant ways (Itumalla et al., 2022). A more equitable stance is evident in Malawi, where a study involving expectant mothers reveals a notable contrast. The findings highlight that the scarcity of physical facilities is infrequent when compared to deficiencies in patient communication and social support, as demonstrated by (Hughes, 2022).

A less favorable scenario comes to light in studies conducted in both Malawi and Uganda, which underscore the prevalence of sepsis treatment occurring within resource-constrained environments. This situation undermines the capacity of healthcare practitioners to deliver care that is secure, dependable, and easily accessible. The constraints are particularly evident in terms of limited space and the challenges posed by deficient water, sanitation, and hygiene (WASH) facilities and practices. These observations are highlighted in research conducted by (Limbani et al., 2023). Conversely, the investigations carried out by Mohammed et al. (2013) show contrasting outcomes. Their findings indicate that the domain of "quality of basic amenities" received the highest ratings, whereas aspects related to "communication" and "autonomy" were generally rated lower.

2.4.7 Choice of Provider

Choice can be defined as the inherent capacity or opportunity to select from a range of alternatives. This concept also encompasses an individual's ability to actively seek alternative viewpoints, particularly in instances involving serious or persistent illnesses or surgical procedures. The act of selecting a healthcare provider has been advocated for various purposes, including the mitigation of wait times, the stimulation of competition among providers, the optimization of operational efficiency, and the granting of patients a degree of autonomy when faced with discomfort towards certain providers (Valentine et al., 2003).

Choice is very critical for chronic illnesses given the sustained nature of interaction with the health system. Having care providers and institutions where patients feel most comfortable with promotes the partnership between clients and providers which is a key ingredient for effective treatments, adherence to treatment and better health outcomes. However, choice has been closely linked with information possessed by the client, ability to pay and availability of facilities or providers for choice (Schwarz et al., 2022; Zhang et al., 2022).

In order for patients to effectively exercise the selection of the most suitable healthcare provider, they necessitate access to comprehensive information pertaining to the proficiency of available providers. The interplay of factors originating from both the patient and provider exerts a complex influence on decision-making processes. The capacity, inclination, and disposition of patients to make choices, as well as the methodologies they employ in making such decisions, are contingent upon a multitude of patient-related variables. Patients evaluate a variety of structural, procedural, and outcome-related attributes of healthcare providers, with the relative significance attributed to each characteristic exhibiting variability (Victoor et al., 2012).

Numerous characteristics inherent to patients determine their inclination and capability to make choices, alongside the strategies they adopt in doing so. Patients additionally evaluate the structural, procedural, and outcome attributes of healthcare providers, though discrepancies exist in the degree of importance assigned to these attributes. Further influences on decision-making include socio-demographic factors, geographical proximity, financial considerations, and economic capacity (Amaghionyeodiwe, 2008).

A noteworthy contributor to unfavorable patient outcomes is the absence of the ability to exercise discretion in the selection of their medical practitioners. Assessments of choice-related performance across various contexts reveal a variable yet generally subdued landscape. An investigation conducted in Nigeria unveiled that the domains of care provider selection (80.0%) and individual autonomy (80.9%) yielded the lowest levels of perceived responsiveness, as contrasted with domains such as prompt attention (89.2%) and dignity (87.7%), which garnered higher respondent ratings (Ughasoro et al., 2017).

Analogous findings emerged from an Ethiopian study, where deficient performance was evident in the choice and prompt attention domains compared to the confidentiality and dignity domains; specifically, only approximately 26% of respondents evaluated choice favorably, while 83% assessed respect favorably (Asefa et al., 2021). A comparable pattern of underperformance within the choice domain was noted in Iran, where choice achieved subpar ratings, thereby underscoring the need for targeted interventions to ameliorate health system responsiveness (Bazzaz et al., 2015). Additional studies spotlighting suboptimal performance within the choice domain include Tille et al. (2019) in Germany, Kapologwe et al. (2020) in Tanzania, Adesanya et al. (2012) in Nigeria, as well as Negash et al. (2022) in Ethiopia.

2.4.8 Access to Social Support Networks

Patient well-being is most effectively served when individuals can access their families and other community support systems during the course of care (Letkovicova et al., 2005; Murray & Frenk, 2001; Valentine & Bonsel, 2016). The significance of social participation and robust social networks in the context of illness management is progressively acknowledged, and these

factors are believed to contribute to the overall quality of life for individuals grappling with chronic conditions (Koetsenruijter et al., 2015).

Social support is characterized as a reciprocal relational interaction aimed at enhancing the recipient's state of well-being. It holds a pivotal role in the physical and psychosocial welfare of individuals across both health and illness contexts (Waqas et al., 2018). Particularly in the realm of enduring medical conditions necessitating prolonged treatment, the presence of strong social support systems becomes even more imperative (Boele et al., 2024).

In regard to chronic illnesses, social support networks, including family members, friends, and the broader societal community, undertake the role of caregivers, often complementing the efforts of healthcare professionals in tandem with their customary social roles (Freytag et al., 2018).

The Patient Family Engagement (PFE) care model embodies an active collaboration involving healthcare providers, patients, and families. This approach encompasses various interventions, such as unrestricted visitation, family presence during care procedures, and shared decision-making between caregivers and medical staff (Brown et al., 2015). This form of involvement has demonstrated potential to augment safety, care quality, and service delivery, ultimately enhancing the experiences of both families and patients amidst illness. Yet, the effective implementation of this model hinges on the endorsement of healthcare providers and local communities (Hetland, 2019).

With the escalation of chronic conditions stemming from a confluence of new cases linked to evolving lifestyles and socioeconomic patterns, coupled with improved survival rates, the optimization of care assumes heightened importance. Ensuring the reach and effectiveness of

self-management support for individuals with persistent ailments, particularly among vulnerable groups residing in socially and economically disadvantaged contexts, emerges as a critical concern. The growing recognition of the paramountcy of social interaction and supportive social networks in effective illness management offers novel avenues for enhancing the quality of life for those grappling with chronic maladies (Koetsenruijter et al., 2015). Moreover, social support has exhibited the capacity to augment perceptions of the quality of healthcare services (Nambisan et al., 2016).

2.5 Responsiveness Versus Socio-Demographic Characteristics

The socio-demographic attributes encompassed facility location, age, gender, medical condition, religion, marital status, enrollment in medical insurance, occupation (main source of income), income level, and the highest level of education attained.

The relationship between socio-demographic characteristics and responsiveness is not consistently uniform. Findings from studies conducted by Ali et al. (2015), Letkovicova et al. (2005), and Paddison et al. (2015) demonstrate that socio-demographic attributes do indeed influence the responsiveness of health systems. However, these influences can vary based on contextual and temporal factors, occasionally yielding significant associations while at other times exhibiting no substantial correlation (Kapologwe et al., 2020).

In regard to the rural urban divide, findings by Raynald and Jean-Frédéric (2010) noted better responsiveness among rural than urban facilities; and Tremblay et al. (2015) which found geographic location of facilities was a significant predictor of health system responsiveness. In relation to the impact of gender, the idea that gender disparities are prevalent within health

systems is indicated by Alcalde-Rubio et al. (2020) and Kruk et al. (2018), who concluded that women were more prone to encountering unresponsive healthcare.

Focusing on age and responsiveness, Meesala and Paul (2018) study observed that age did not contribute significantly to responsiveness while another noted the young experienced more unresponsive care (Tille et al., 2019). Further findings about the role of age are documented that found the elderly had more favorable responsiveness experiences in a hospital in Tanzania (Amani et al., 2020) and those of Ali et al. (2015) which found age a significant determinant of responsiveness.

As concerns enrollment in insurance, a study in South Africa that noted perception of health system responsiveness improved with enrollment in insurance (Peltzer & Phaswana-Mafuya, 2012). Similar findings were observed in Nigeria where those insured had better responsiveness than those not insured (Adesanya et al., 2012). On the part of marital status, one study noted it was not significantly associated with responsiveness in Nigeria (Mohammed et al., 2013). Similarly in Tanzania, marital status was observed in one study as not a significant predictor of responsiveness (Kapologwe et al., 2020). The association between education and responsiveness also had mixed picture. One study that observed level of education was negatively related to responsiveness ratings (Zalmanovitch & Vashdi, 2015). While another noted that Education level played a significant part in responsiveness ratings (Liabsuetrakul et al., 2012; Tremblay et al., 2015).

Medical condition reflected only the conditions in context being diabetes mellitus, hypertension or both. A study in German had observed customers with poor health tended to

experience more unresponsive care (Tille et al., 2019). While another one noted medical condition did not matter in responsiveness scores (Stewart et al., 2020).

The association between religion and responsiveness is documented by a study that noted religion was significantly associated with health system responsiveness (Liabsuetrakul et al., 2012). Religion is a sociocultural practice that influences acceptability of health services and is central to social support (Kruizinga et al., 2018). Religion influences health-seeking behaviors, decisions regarding medical treatments, and ethical considerations in healthcare, which may impact responsiveness.

Similarly the association between economic status and responsiveness is demonstrated in literature by phenomenon that there are wealth inequalities in responsiveness (Stewart et al., 2020). Patients living in poverty have limited access to health services, are more likely to be accorded less consultations, and more unlikely to be involved in treatment decisions with thus more likely to get unresponsive care (Shaqura et al., 2022). There are also similar studies that concluded that income and occupation influence health system responsiveness (Liabsuetrakul et al., 2012).

2.6 The Predictors of Health System Responsiveness

The fundamental objectives of a health system encompass enhancing health, ensuring equitable financing, and promoting responsiveness. Evaluating performance within the realms of health and responsiveness necessitates an examination of both the achieved levels and their distribution. However, of equal significance are the underlying factors that might elucidate the differences in performance between health systems. Murray introduced a classification of determinants into three overarching categories: strategic design, structural arrangements, and

implementation management. Furthermore, they suggested that external factors in the broader macro environment, such as legal systems and governance structures, could also impact the performance of health systems.

The latter frameworks have proposed a consideration for supply side and demand side actors (Mirzoev & Kane, 2017), the environment of operation including resources and institutional arrangements (Robone et al., 2011) and accountability, client interaction and feedback loops (Khan et al., 2021). On the background of this frameworks, this study framed six variables as predictors of health system responsiveness in chronic care centers being responsiveness valuations, accountability mechanisms, access factors, structural factors, organizational culture and justice perceptions which would be analyzed as an independent predictor as well as a moderator between responsiveness and other predictors. The predictors are reviewed in the following sections,

2.6.1 Responsiveness Valuations

Responsiveness valuations reflect how persons value or perceive the usefulness of responsiveness and the relative importance placed upon the domains (Darby et al., 2003). Whereas in assessing health we assess clinical outcomes or analyse the care processes, in responsiveness we ask the consumers of the health services to report on their experiences with the health system.

In order for this premise to hold true, it is assumed that specific components of the health system, such as the domains of responsiveness, hold significance and value for the clients of the health system. This is the essence of the responsiveness valuations. They may care about these things because they are important in their own right, the welfare achieved and in part

because of the instrumental role they play in health care utilization, access, adherence to treatment and consequently health outcomes (Darby et al., 2003).

Valuations go beyond a reflection of importance of responsiveness, to a perception of the legitimacy of the concept and its domains, the power of the individuals in influencing the health system to accord citizens these goals and the individual contribution to the achievement or violation of this rights. Valuations thus beget expectation on the part of what the customers expect of the health system, and effort in regard to customers own contribution to achieving a responsive health system. In the end, during the interaction, satisfaction with the health system is determined by the expectations (Larson et al., 2019).

The essence of the valuations is how activated and engaged are clients likely to be in the interest of their care. This arises from value systems, information and in part how the system elects to deliberately empower clients. Treatment of patients with chronic diseases typically involves collaboration between numerous clinicians from diverse treatment settings. As a result, it's conceivable for professionals to show up for visits or assessments without having access to the most recent treatment plans, reports, or test results, or for patients and their carers to receive conflicting advice. If or when there is a lack of communication between the providers in this situation, patients may be at risk for decreased safety and quality of care. Enabling individuals with chronic diseases and their caregivers to assume a more proactive role in managing their care could potentially alleviate or overcome the challenges posed by such circumstances (Gruman et al., 2010).

Patients should be involved in making decisions about their own health, and those who do so report higher levels of satisfaction and wellbeing. This moral imperative has been the driving

force behind patient engagement. It takes the client and health worker collaboration. At play is the value systems and what each considers critical (Phillips et al., 2015).

Many issues are at play in terms of valuations. They may emanate from the client for instance the cultural values, the socioeconomic status and the wider societal background features including legal frameworks. Generally poor, minority cultures, the vulnerable, and marginable are more likely to have lower expectations of the being treated with dignity of even feeling they have a role in its enforcement and thus are less likely to question responsiveness violations (Lawrence & Kinn, 2012; Ratcliffe et al., 2020).

Empirical research indicates significant variability in how individuals perceive the importance of responsiveness. A study conducted by Rashidian and Russell (2011) in Iran revealed that responsiveness was highly desired and valued, with over 90% of respondents rating all domains as either important or very important. Upon closer examination of the domains, it was observed that the majority considered quality of basic amenities (98%), dignity (97.5%), and prompt attention (96%) to be very important or important. In contrast, autonomy and freedom of choice were rated as comparatively less important, with 92% of respondents expressing this view.

In a related study in Europe involving several countries, the favored model was a collaborative approach in regard to decision making where majority, 51% opted for joint decision making in treatment decisions. In the same study, an overwhelming majority wished to have a choice of medical providers (Coulter & Jenkinson, 2005).

In a parallel study conducted in Iran, similar outcomes emerged, where respondents expressed significance for all domains of responsiveness. However, the study highlighted that not all hospitals within the sampled population placed the same emphasis on responsiveness. The

domains were ranked in chronological order of importance as autonomy (5.33), dignity (4.85), social support (4.81), quality of basic amenities (4.76), rapid attention (4.52), confidentiality (3.96), and communication being ranked the least at 3.47 according to mean rankings on the Friedman test (Malekzadeh et al., 2021).

Another study conducted within the same study site also unveiled variations in the perceived importance of responsiveness domains. For instance, in the context of inpatient care, the domain rated most important was dignity at 89.5%, while the least important was confidentiality at 62%. Interestingly, in terms of performance, the confidentiality domain exhibited a leading score of 82% despite being rated as the least important (Mohammadi & Kamali, 2014).

In South Africa, a survey conducted to assess the importance of responsiveness domains found that when ranking domains based on overall mean results for each domain, the three highest-ranking domains were perceived quality of basic amenities, confidentiality, and dignity/respect of treatment (Peltzer & Phaswana-Mafuya, 2012).

Within Kenya, albeit in diverse settings, improvements in responsive care have been noted following interventions that targets value clarification, emotional support and coaching among providers and clients (Warren et al., 2023). Further health literacy on accountability mechanisms like patients charters and the exercise of patients responsibility has been shown to promote responsive care (Njuguna, 2020).

2.6.2 Structural Factors

Structural factors encompass a range of facility-related elements that exert significant influence on healthcare delivery (Owili et al., 2017). These factors comprise the professional and

organizational resources, such as the availability of medicines, equipment, and well-trained staff, that are integral to the effective provision of healthcare services (Ameh et al., 2017).

The conceptual framework introduced by Donabedian (1966) categorizes healthcare quality into three dimensions: structures, processes, and outcomes. Notably, the quality of structures can significantly impact the quality of processes, and conversely, effective processes can contribute to favorable outcomes (Donabedian, 1966).

In the context of healthcare, structures refer to the attributes of care settings, encompassing aspects such as physical facilities, infrastructure, equipment, human resources, economic conditions, and payment methods. Furthermore, organizational characteristics, including staff training, availability of equipment and medications, and adherence to care guidelines, reflect the overall readiness of the health system to provide responsive care (Leslie et al., 2017). These structural components play a pivotal role in shaping the behaviors of both healthcare providers and patients within the healthcare system, thereby contributing to the supply-side determinants of health system responsiveness (Mirzoev & Kane, 2017).

On a global scale, a responsiveness survey conducted across 35 countries revealed a discernible positive correlation between healthcare expenditure and certain dimensions of responsiveness, specifically prompt attention and the quality of basic amenities. However, the relationship between healthcare expenditure and other dimensions, such as dignity and confidentiality, displayed less clarity. Notably, per capita health expenditure emerged as a significant explanatory factor for the overall responsiveness score. Despite the relatively modest coefficient (0.002) and the adjusted R² value (0.14), per capita health expenditure demonstrated its influence on shaping the overall responsiveness of a healthcare system.

Notably, the impact of resources on confidentiality was particularly evident, as countries with higher per capita income exhibited better scores in terms of maintaining privacy during consultations. This phenomenon was attributed in part to improved infrastructure and partly to the heightened importance placed on this aspect in countries with greater resources (Valentine et al., 2000).

Correspondingly, findings from a survey encompassing 62 countries, as part of the World Health Survey, echoed similar trends, suggesting that higher healthcare expenditure per capita was positively associated with responsiveness across all domains (Murante et al., 2017; Robone et al., 2011).

Human resource issues have been at play in various ways. For instance, employment status of providers has been demonstrated to have effect on responsiveness, where Kringos et al. (2015) observed that capitation-based payments had better outcomes in quality of care, interpersonal continuity and access, but with undesirable results in regard to consultation time compared with salaried contracts. Also Doctors characteristics like age have shown a bearing on responsiveness.

A study noted that in Europe doctors' age had a positive relationship with the client experience of dignity but an inverse correlation with prompt attention (Murante et al., 2017). The insufficiency of healthcare personnel is also highlighted in mental health settings; part of the chronic conditions whereby Lund et al. (2018) observed the African regions had 1.4 to 100000 population ratio of psychiatrist compared to 43.5 in the European region (Lund, 2018).

In a related survey on quality of clinical care in relation to infrastructure among eight African countries revealed wide variations in among facilities with similar structural indices with some

facilities providing better quality at low structural indices compared to others with structural indices which provided low quality services. Generally, the facilities reported lack of key elements of basic amenities, equipment and medications. In this study the quality of care was generally lower than the input portfolio thus it would be misleading to estimate performance of a health system on the basis of inputs (Leslie et al., 2017). Against this background, this study contends that assessment of effect of infrastructure as perceived by clients would take the assessment process a step further as it reveals the outcomes beyond the normative.

A survey conducted in South Africa involving chronic care patients and operational managers revealed satisfaction (scores $\geq 50\%$) with all dimensions related to the structure of care in the Integrated Chronic Disease Management model (Ameh et al., 2017).

Kenya, classified as a lower-middle-income country with limited resources, continues to allocate less than 5% of its budget to healthcare, falling well short of the Abuja commitment of dedicating at least 15% of the budget to health. This situation often exacerbates issues related to access to healthcare services. The country is grappling with a severe shortage of healthcare workers. Additionally, there remains a substantial gap in the funding of pharmaceuticals, even with the implementation of various financing mechanisms. Public health facilities have often relied on user fees for the procurement of medicines. Out-of-pocket and household expenditures also contribute significantly to the overall national spending on medicines. These factors collectively have the potential to undermine the responsiveness of the healthcare system (Mulaki & Muchiri, 2019).

A study among patients with chronic non-communicable diseases in Kenya observed that access to medicines was a constant challenge due to stock outs, lack of affordability and

sometimes poor quality medicine (Onyango et al., 2018). Similarly, it has been noted that in one study in Kenya that for about half the patients, the costs of hypertension treatment are catastrophic (Oyando et al., 2019). Unresponsive behaviors among health workers in Kenya have been noted to undermine adherence to diabetes treatments (Waari et al., 2018).

2.6.3 Accountability Mechanisms

Accountability, as a governance concept, encompasses various aspects that can be conceptualized as both a key function and an outcome within health systems. It holds a critical role in enhancing health system performance, particularly in the context of public services in developing countries (World Bank, 2003).

Accountability operates through diverse relationships within health systems, involving various stakeholders like health service users, the Ministry of Health, enforcement agencies, funding bodies, parliament, local government officials, non-governmental organizations, health councils, professional associations, and healthcare providers (both individual and institutional). Several forms of accountability exist, including financial, political, social, and performance accountability, each contributing to the overall functioning of health systems (Brinkerhoff, 2014).

Within the realm of performance accountability, the focus revolves around demonstrating and justifying performance according to established targets. This encompasses services, outputs, and results, with the aim of enhancing service delivery through feedback and learning (Ameh et al., 2017). Nonetheless, health system performance accountability faces challenges like information asymmetry between providers and users, differing stakeholder interests, and institutional gaps that hinder effective accountability mechanisms. Strategies aimed at

enhancing accountability can target multiple levels, including the health system, healthcare facilities, and individual healthcare providers.

The organizational context in which healthcare providers operate significantly shapes their behaviors regarding accountability. Attitudes, professional norms, ethical values, and client power influence how providers perceive their responsibility towards the care they deliver. However, in situations where patients lack sufficient influence, their accountability may be compromised (Bloom, 2020).

The linkage between health system responsiveness and accountability is underlined in two frameworks. Berlan and Shiffman (2012) proposed factors such as oversight mechanisms, competition in the health sector, consumer information, and provider beliefs as determinants of accountability. They also suggested strategies to enhance provider responsiveness, including community participation mechanisms, consumer empowerment, and NGO involvement. Cleary et al. (2013), in their framework, categorized accountability into internal (within the health system) and external (public-oriented) dimensions, with bureaucratic accountability potentially constraining responsiveness.

In the context of Kenya, the role of health facility service charters in enhancing health system governance was explored, revealing that respondents found charters useful for understanding services, costs, and planning expenses. Challenges included non-adherence to charter provisions, language issues, and socio-cultural limitations. Another study demonstrated that participatory accountability and monitoring systems based on social sanctions can improve service delivery, with citizen reports leading to increased provider performance. However, studies in some regions, like Busia County, portrayed a less positive picture, with a low

awareness and utilization of facility service charters. Similarly, health facility committees faced challenges with limited community participation and weak oversight, thus affecting their overall utility (Masese et al., 2016).

Overall, accountability plays a vital role in shaping health system responsiveness, but its effectiveness is influenced by a multitude of factors, including stakeholder engagement, communication, and the alignment of goals and values across the health system.

2.6.4 Access Factors

Patient access to care is a fundamental priority across all health systems (Corcadden et al., 2018). This access encompasses the ability to recognize healthcare needs, seek services, and receive necessary care for overall well-being. Access can be understood through various dimensions, such as enrollment, service quality, geographic and economic reach, linguistic suitability, and acceptance. From the patient's perspective, accessing care involves recognizing the need, seeking, receiving, and benefiting from healthcare (Levesque et al., 2013).

Levesque et al. (2013) identified five key aspects that influence both the supply and demand sides of healthcare access: approachability, acceptability, availability, accommodation, and cost. The elements influencing responsiveness within a health system include the environment, demographic characteristics, and the ability to access and utilize services (Robone et al., 2011).

The Aday and Andersen Framework suggest that health policy influences access via the dimensions appertaining to the health providers (characteristics of health service delivery) and the clients of the health system (characteristics of populations and their satisfaction). Multiple indicators to measure access, including process indicators, utilization, satisfaction, and

different dimensions that reflect predisposing, enabling, and need factors (Aday & Andersen, 1974).

The link between access and responsiveness has been evidenced by studies (Farahbakhsh et al., 2019). However, access performance varies based on contexts and encounters numerous challenges. A survey spanning eleven developed countries highlighted deficiencies in patient engagement and chronic care management across these nations. A substantial proportion of adults faced care coordination issues, with more pronounced challenges among low-income individuals. Notably, the United States showed significant shortcomings in terms of recommended care and affordability (Osborn et al., 2016).

Barriers to accessing primary care have been investigated, revealing that a significant portion of adults encounter obstacles before and during their interactions with primary care facilities. Workload pressures, limited patient engagement, economic difficulties, and inadequate resources have been identified as hindrances to access to services among diabetic and hypertensive patients in India (Lall et al., 2020).

In Kenya, the work environment's impact on care quality has also been found to impede access to healthcare services (Genberg et al., 2019). Access factors have been demonstrated to enhance quality of services in a maternal setting in rural Kenya where facilities with higher volumes of deliveries were more ready to provide prompt services than those with low volumes, perhaps pointing at the priming effect on the most accessed facilities, and understaffing among the least accessed facilities (Kruk et al., 2016). The level of capacity and rural urban divide in access to services and its influence on responsive care was further noted in a study that urban hospitals were significantly more prepared and ready to offer services for

patients with non-communicable illness as compared to primary facilities especially those in rural areas (Ammoun et al., 2022).

2.6.5 Organizational Culture

Organizational culture holds significant potential to drive or hinder organizational progress (Fowler, 2019). This concept has been defined in various ways: as the established practices within an organization, as a pattern of fundamental assumptions that an organization develops to adapt to its environments, or as a system of values and norms guiding employee attitudes and behaviors (Gerber et al., 1998) Organizational culture encompasses shared beliefs, behavior norms, values, and traditions among members (Parmelli et al., 2011).

Different types of organizational cultures have been linked to positive or negative outcomes for both organizational effectiveness and employee well-being (Balthazard and Cooke, 2004). Positive outcomes include motivation and satisfaction, while negative ones entail job insecurity and stress. These outcomes directly impact the interactions between healthcare providers and clients, influencing health system responsiveness.

Studies highlight common traits among top-performing organizations, including a positive organizational culture that embraces change and fosters the adoption of initiatives to enhance patient safety and care quality. Struggling organizations, however, often exhibit poor culture, lack of clear mission and vision, inadequate infrastructure, system shocks, and dysfunctional external relations, all of which impact health system responsiveness (Vaughn et al., 2019).

Recognizing the importance of culture in health system performance, both clients and managers have emphasized its significance. For example, a survey of NHS primary and acute trusts in England indicated that clinical governance managers recognized the need to measure

local culture for improved performance and change, with nearly all acknowledging the importance of understanding and shaping local cultures (Konteh, 2009). However, effective strategies for improving organizational culture remain limited in evidence (Parmelli et al., 2011).

2.6.6 Justice Perceptions: Predictor and Moderation Variable

Justice perceptions was included both as an independent predictor as well as a moderator variable. The chosen model for organizational justice is the two-factor model, which has garnered consensus among researchers. This model consists of two components: distributive and procedural justice perceptions. Justice, in this context, pertains to actions or decisions that are perceived as morally correct based on ethical, religious, fairness, equity, legal, or societal principles (Pekurinen et al., 2017).

Distributive justice refers to the perception of fairness concerning decision outcomes and the allocation of resources. Procedural justice involves perceptions of procedural aspects, specifically the processes leading to outcomes based on accepted normative principles. When individuals perceive these processes to be consistent, accurate, ethical, and unbiased, procedural justice is strengthened. These perceptions of justice are rooted in the social exchange theory, which elucidates how parties in social interactions provide reciprocal rewards to one another. In this context, this theory pertains to the interaction between clients and healthcare providers (Choi & Lotz, 2018).

The justice perceptions influence trust in the health system, may affect access and therefore responsiveness both descriptions and predictors thereby playing a mediating role between the health system responsiveness and its predictors. Thus, it's important to determine the influence

of the moderating influence of the justice perceptions. The world health survey (Valentine et al., 2000) observed that 5.8% of the respondents reported feeling discriminated on various accounts including socio-demographics and socioeconomic class differences.

The Kenya constitution frames access to health with a justice lens, that its everyone's right to access the highest attainable quality of health care. However, realizing this promise for many still remains a pipe dream due to differential distribution of health workers, limited financial affordability of services and outright corruption that denies them this fundamental right. Procedural justice is dented a blow where some clients have to wait longer for procedures than others, either due to partisan approach by health providers or lack of affordability. While devolution was thought to improve access by taking services closer to people in regard to building infrastructure and supervision, little was done to bring up demand thus perpetuating exclusion (McCollum et al., 2019).

Similar findings of unjust health care landscape in Kenya is evident in a study which observed that those who were socially more connected, had a relative who is a health worker or had more health worker visits enjoyed better services, had more health literacy and better health outcomes pointing at the role of nepotism and further highlighting an unfair health system (Gatua, 2024).

2.7 Theoretical Frameworks

Owing to the diversity in the dimensions and drivers of responsiveness, it's unlikely that a single framework would sufficiently explain all the phenomena under study. Therefore, a number of theoretical frameworks will be utilized. They are the Donabedian (1980); Aday and Andersen (1974). Other related theories that are highlighted include justice and equity theories.

2.7.1 Donabedian Framework

The Donabedian (1980) framework proves its utility as it allows for an analysis of health system responsiveness by evaluating it against established normative or subjective standards, making it relevant to approaches for assessing quality. Donabedian (1980) identifies three components of healthcare quality: the technical aspects of quality, interpersonal aspects of quality, and amenities of care. The interpersonal component encompasses the quality of patient-provider interaction, encompassing aspects of responsiveness, friendliness, and attentiveness of healthcare providers (Chichirez & Purcărea, 2018). The interpersonal aspects of quality closely align with the concept of respect for persons within health system responsiveness.

In Donabedian's (1980) framework, three dimensions of quality of care are conceptualized: structures, processes, and outcomes. Structures refer to the attributes of care delivery settings, processes assess whether sound medical practices are followed, and outcomes measure the impact of care on health status. These dimensions are interconnected, where structures influence processes and processes influence outcomes. This theory was useful in conceptualizing responsiveness as quality-of-care indicator, and as well informed in part the conceptualizing of structural and organizational culture factors as predictors of health system responsiveness.

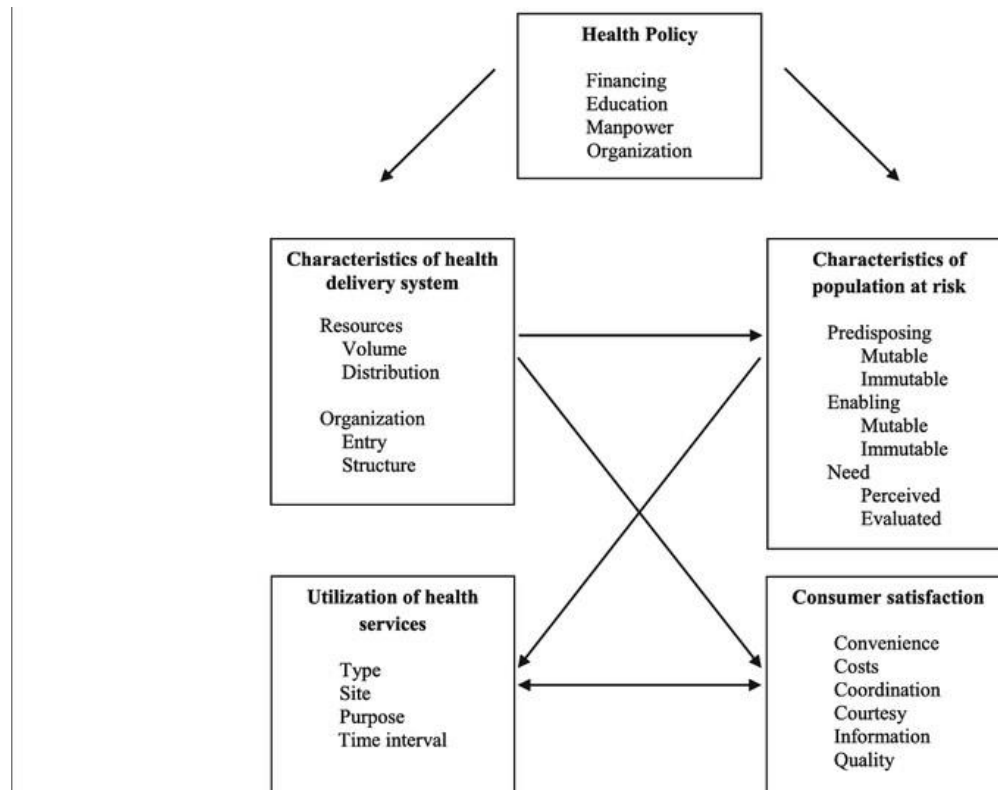
2.7.2 Aday and Andersen Framework

The Aday and Andersen (1974) framework propose system and population descriptors as process indicators for assessing healthcare access, while utilization and satisfaction are suggested as outcome indicators, forming a theoretical model of the access concept. This theory

helped the study in conceptualizing access factors as predictors of health system responsiveness. The framework is presented in figure 2.1.

Figure 2.1

Aday and Andersen Framework



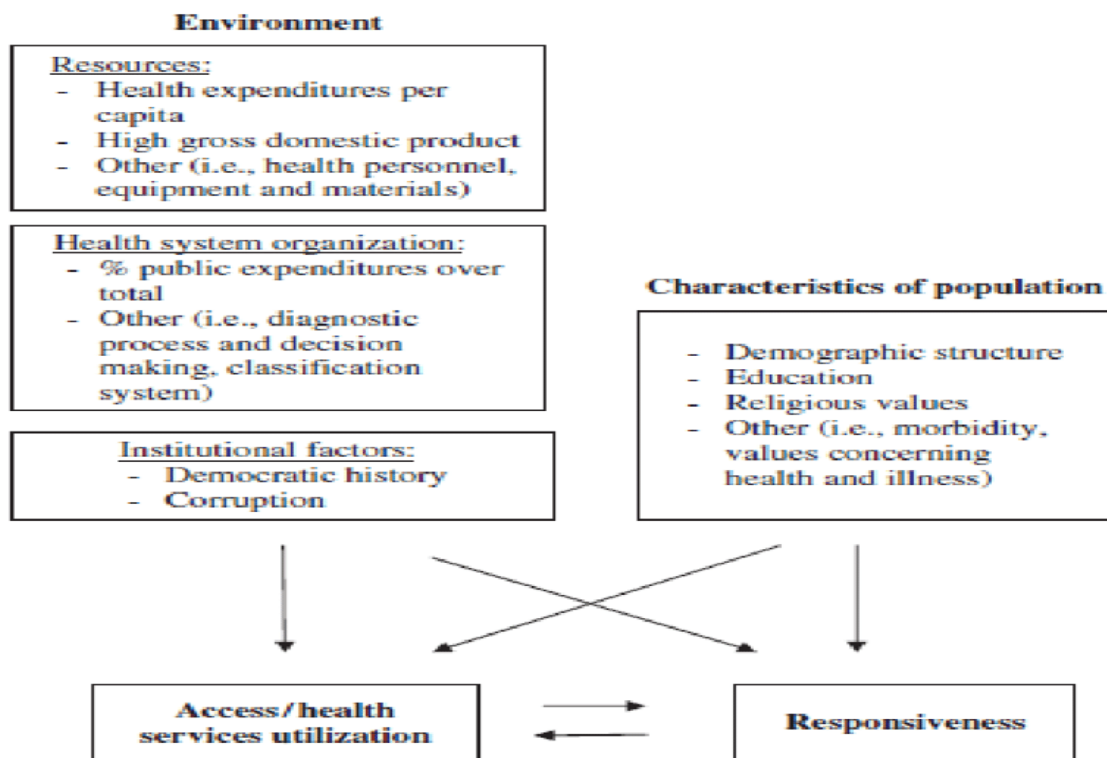
Source (Aday & Andersen, 1974)

2.7.3 Robone and Rice Framework

Robone et al. (2011) identify three determinants of health system responsiveness: the environment, population characteristics, and access to and utilization of health services. This theory was useful in guiding the conceptualization of access factors, bolstering the role of the Aday and Andersen (1974) framework. The framework is shown in figure 2.2.

Figure 2.2

Robone and Rice Framework



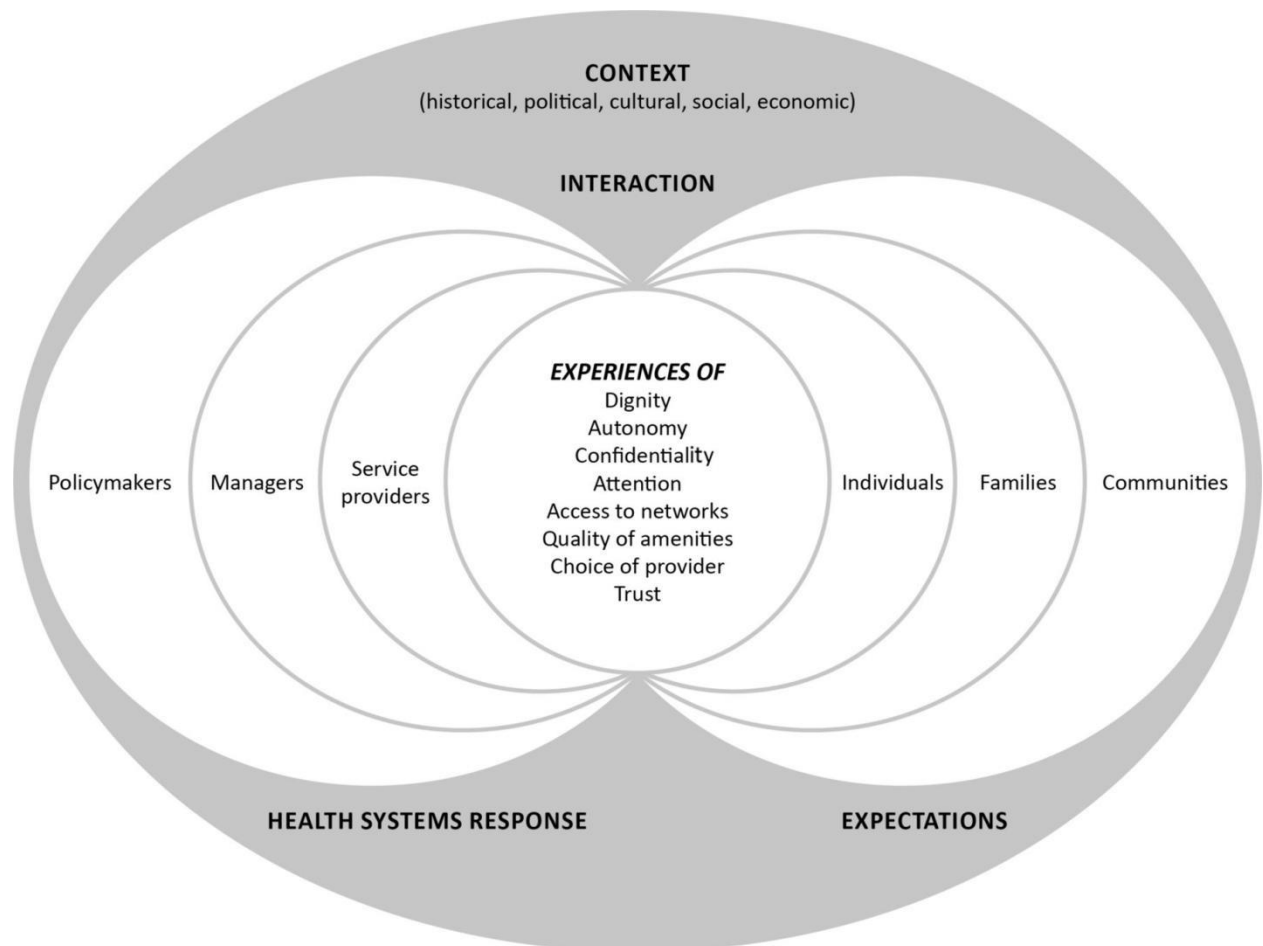
Source (Robone et al., 2011)

2.7.4 Mizoerv and Kane Framework

Mizoerv and Kane (2017) present a framework that centers on the interaction experience between individuals and the health system, considering both health systems (actors, processes) and individuals (initial expectations) as determinants of responsiveness experience. This theory was useful in guiding the conceptualization of the accountability mechanisms, valuations and in part access and organizational culture predictors of health system responsiveness. This framework is shown in figure 2.3.

Figure 2.3

Mirzoev and Kane Framework



Source (Mirzoev & Kane, 2017)

2.7.5 Equity Theory by Adams

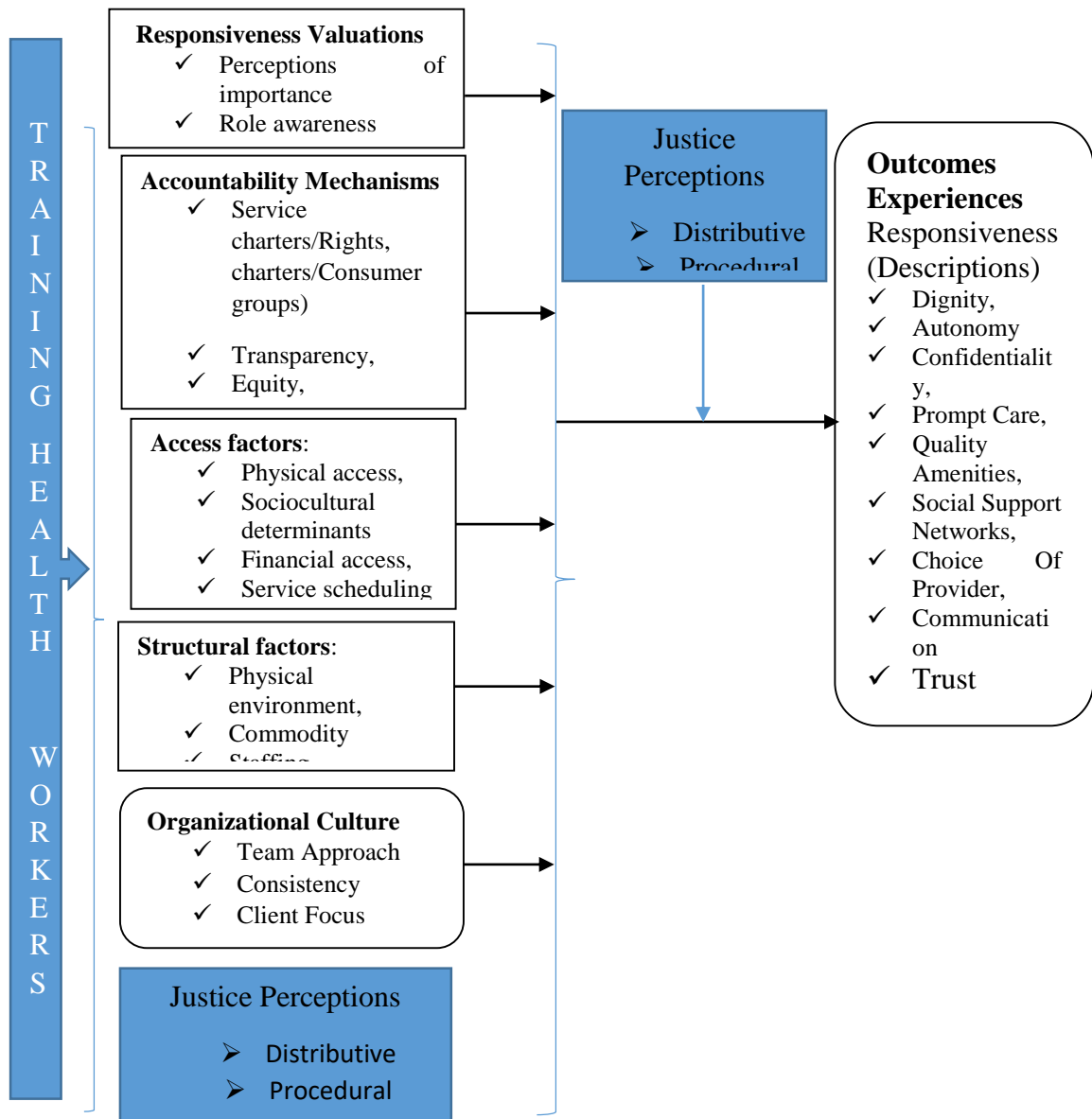
Adams' Equity Theory suggests that parties involved in social exchanges, such as healthcare interactions, compare the ratios of their inputs to outcomes and evaluate the fairness of the exchange. Perceptions of inequity arise when perceived inputs and outcomes are inconsistent with those of a reference point. In healthcare, clients seeking care consider how they are treated

compared to others, reflecting equity theory's principle (Adams, 1963). This was useful in guiding the framing of justice perceptions as both an independent predictor as well as moderator variable between responsiveness and other predictors.

2.8 Conceptual Framework

The conceptual framework relating the predictors, the moderator and the outcome variable responsiveness levels/descriptions is reflected in the figure 2.4

Figure 2.4
Conceptual Framework



Independent variables

Moderating variable

Dependent Variable

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter comprehensively addresses various aspects of the research, including the philosophical stance adopted, the research design chosen, the variables under study, the designated study sites, the intended target population, the rationale behind determining the sample size, the techniques employed for sampling, the methods employed for data collection, the procedures for data analysis, considerations of validity and reliability, and ethical concerns. Additionally, this chapter outlines the sequential steps followed throughout the research process.

3.2 Philosophical Stance

Philosophy encompasses the utilization of abstract concepts and beliefs and their influence on research endeavors. These paradigms encompass fundamental concepts that steer actions. As highlighted by Rehman and Alharthi (2016), these convictions relate to ontology (the essence of reality), epistemology (defining knowledge and validating knowledge assertions), axiology (the role of values in research), and methodology (the practical approach to conducting research).

The philosophical stance adopted in this study is the post-positivism which holds that causes probably determine effects or outcomes (Tenny et al., 2023). This position is reductionist in the sense that it seeks to condense the concepts into an efficient manageable number of factors that can have an impact, such as the variables that make up research questions and hypotheses. Careful measurement of the existing objective world is necessary for the knowledge that

emerges from the post-positivist perspective. The logic followed in knowledge creation in post-positivism is induction where empirical observations are used to either reject or support a theory. According to Creswell (2021), the research process starts with a hypothesis, frequently in the form of a conceptual framework, and data is then gathered to either support or contradict the theory.

Social constructionism, which contends that reality is built by social interaction in which social actors generate partially shared meanings and realities, is the ontological premise that has been adopted (Creswell, 2021). In this regard the experience of responsiveness is as a result of the social exchanges between healthcare providers and patients, and the responsiveness ratings are highly contextual reflecting variations across different social circumstances.

The post positivist philosophy assumes knowledge is conjectural, that there is no absolute truth thus knowledge gained from scientific research is imperfect, the reason why hypothesis is not proved but only either supported or not supported thus suffer the fate of being rejected. However, the axiological foundation espoused is objectivity in any process of inquiry where the methods leading to certain conclusions must be examined for validity and reliability (Creswell, 2021).

In this study following this post positivist philosophy, there is a proposition of predictors of responsiveness obtained from literature review. Following data collection, analysis and interpretation, these hypotheses have either be supported or rejected.

3.3 Research Design

This was a before and after quasi experimental study utilizing mixed methods (quantitative and qualitative approaches). The particular strategy was an embedded mixed method approach

whereby the collection of qualitative data was nested in the main approach which was a before and after intervention surveys (the quasi-experimental approach). In these kinds of design, the data collection using both the quantitative and qualitative approaches progress concurrently, however priority is given to one approach(Almeida, 2018). In this regard, priority was given to the quantitative surveys as the main source of data while qualitative approaches being focused group discussions and key informant interviews were executed concurrently for purposes of triangulation.

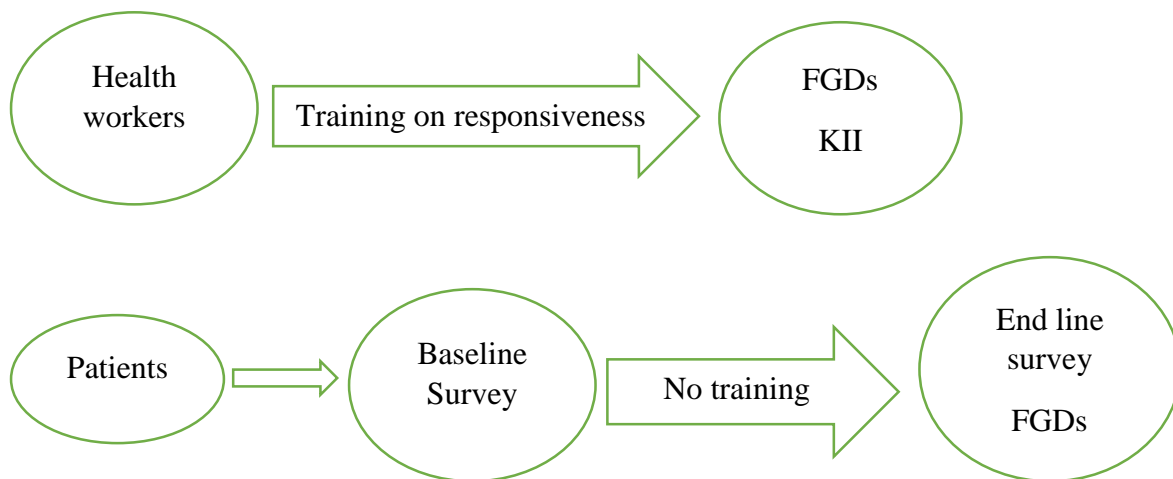
The assessments of the phenomenon responsiveness was undertaken at two different time points (two cross sectional surveys, which aimed to help review the change in responsiveness after the training intervention (Kumar, 2018). It did involve a baseline survey, an intervention and a survey later. This is a good way to look at how variables change over time especially after an intervention, as well as how they relate to one another (Menard, 2007).The study was quasi experimental because There was no control group but rather, we had a one group research design where (one-group posttest-only) the dependent variable was measured for one group of participants following the intervention.

The Quantitative approach employed was a survey which is useful in gathering data about responsiveness through structured questionnaires on responsiveness descriptions, rankings and the role of predictors being responsiveness valuations, accountability mechanisms, access factors structural factors, organizational culture and justice perceptions predictors. The survey approach is advantageous since it is necessary to learn about the customers' perceptions and experiences with regard to the responsiveness components and the function of predictors (Plano & Vicki, 2017).

The Qualitative design adopted is phenomenology which is useful in describing and understanding the experiences of clients with the health system (Matua & Van Der Wal, 2015). Phenomenology is widely used in understanding human phenomena in healthcare (Sundler et al., 2019). As clients interact with the health system, they are handled in certain ways. It's the description and interpretation of these experiences that was sought in this study to gain their perspective of reality as regards responsiveness of the health system. Qualitative data was obtained through key informant interviews with hospital/unit managers and focus group discussions with clients and health care providers.

The qualitative information was useful in corroborating and giving more insight on the quantitative findings obtained through the survey. The need for qualitative aspects is to help understand, and clarify the findings of the quantitative approaches and to explore the issues not vividly captured in the quantitative approach. The study procedure is represented in figure 3.1.

Figure 3.1
Study Procedure



3.4 The Intervention

The intervention entailed training the healthcare providers whose duty it is to provide health care for patients' having either diabetes mellitus and /or hypertension. A training manual to guide the trainings was developed and validated by participants at meetings in facilities. The training guide detailed a days' workshop with follow-up activities that ensure sustainability and mainstreaming of responsive care. Therefore, it required the support of not only the care providers but also the hospital management to entrench the tenets of a responsive care system. It requires formation of core teams of champions for sustaining the momentum and mobilization for promotion of responsive care.

The focus of this training was to foster soft skills among the health workers as they interact with clients. These largely reflect their attitudes and habits which are generally known to take long to change with studies observing from as low as three weeks to years for significant variation of habits. Taking this time lapse into account, this training guide adopted a paradigm that fosters a sustained engagement over the subject matter of responsive care to allow time enough for envisaged change to occur. Attitude change models propose learning approaches that facilitate engagement and which were adopted in this training; such as debates; role plays, panel discussions and simulations (Gardner & Lally, 2018).

The formal training roll was envisaged to involve a formal workshop of 16 hours spread over two days each. However, cognizant of the prior knowledge especially on health systems fundamentals, given the exigencies of work and the need to preserve service operations, a few variations were meted on the training guide. At Kimilili and Uasin Gishu where the diabetes and hypertension clinics were being run on two days a week, the training was rolled out on two

days that were not clinic days. In Gatundu where the clinics were run daily, the training was rolled for one half day followed by two other sessions of three -four hours each. The intervention was done from May to July in 2021

After the training there were follow up sessions on the subject matter once in two weeks spanning a month. There were also champions who acted as coaches to the teams and each team planned bi-weekly review to reflect on the events appertaining responsive care. After the intervention, formal review meetings to discuss emerging issues, challenges and opportunities for responsive care were scheduled one in September 2021 and November 2021 for each facility teams. Hospital managers were included too for leadership support.

The particular items for training involved:

- Health System Fundamentals: The foundation of responsiveness
- Responsiveness (concept, facets, importance, Status, approaches to improve and sustain and monitoring) and
- Self-reflection, Values and value clarification
- Action plan for improving and sustaining responsiveness.

The trainers were subject matter experts. The training did not involve clients, but it's deemed that changes on healthcare responsiveness are meant to be reflected in client experiences thus the rationale for assessing responsiveness descriptions before and after the training(De Man et al., 2016).

3.4.1 Participants Selection for The Training

It was clarified from the hospital management that those in post for the chronic care centers would not be moved to other departments within a year thus their training would be justified as they would be the ones continuing to offer the services in the unit.

For a focused interaction, the participants were selected among those who directly offer services in the primary hospitals. These included a census approach for the clinical officers, nurses, doctors, and nutritionists who were found to be stationed. These included the technical cadres of medical officers, nurses, clinical officers, laboratory staff, health records officers, administrative staff and the nonmedical staff including security, patient support staff. The hospital management offices including the medical superintendents and nursing service managers were included to give the training and the vision and managerial support.

For each facility, a census approach was used to select those intended for training. However, few would be participants missed the training. The distribution of those trained against those in post is presented in Table 3.1

Table 3.1
Distribution Of Staff Trained

Cadres	Kimilili		Uasin Gishu		Gatundu		Total
	Staff (N)	Trained (n)	Staff (N)	Trained (n)	Staff (N)	Trained (n)	
Doctors	3	2	2	2	3	2	6
Nurses	5	3	4	4	5	5	12
Clinical Officers	3	3	1	1	3	3	7
Pharmacists	2	2	1	1	2	2	5
Pharmaceutical Technologists	2	1	2	2	3	3	6
Nutritionists	1	1	1	1	1	1	3
Physiotherapists	0	0	0	0	1	1	1
Psychologists	1	1	1	1	1	1	3
Health Records Officers	2	2	4	4	1	1	7
Health Administrative Officers	1	1	1	0	1	0	1
Support staff	2	2	1	1	2	2	5
Totals	22	18	17	17	24	19	54

The summary of events is presented in Table 3.2

Table 3.2

Log Of Activities

Event	Sub activities	Time frame
Pretest	Survey, data analysis and revisions	September 2020
Baseline	Survey	September –December 2020
Intervention	Training	May-July 2021
	Follow up	May - July 2021
	Review Meetings 1	September 2021
	Review meeting 2	November 2021
End Line	Survey	February May 2022

3.5 Target Population

The study involved two groups being patients and health workers

3.5.1 Target Population for Patients

The targeted population included people with chronic conditions including the heart diseases, cancers, HIV/AIDS, Diabetes Mellitus, Hypertension, stroke Depression and schizophrenia. However, due to logistical constraints and variations in patient psychometric properties. The study's participants were restricted to those patients with Diabetes mellitus, hypertension or both conditions and enrolled in care in the respective hospitals.

3.5.2 Target Population Health Workers

Health workers were included for obtaining qualitative data through focused group discussions and key informant interviews. For purposes of focused group discussions, the target group was those health workers who offer services in the chronic care centers (doctors, nurses, clinical officers, pharmacists, nutritionists, physiotherapists, psychologists), the support staff (registry workers, security personnel, cleaners, grounds men) and the managers (Medical superintendent, Nursing service managers, health administrative officers, accounts department). For key informant interviews, the targeted group was the unit managers of the chronic care centers.

3.6 Study Sites

The study sites were tier three(Primary) hospitals that represent typical urban, peri- urban and rural facilities in Kenya (Palinkas et al., 2015). The urban facilities did include Gatundu level five hospital, in Kiambu County, the peri-urban facility was be Uasin Gishu Hospital in Uasin Gishu County and the rural hospital was Kimilili Hospital in Bungoma County. The counties

were purposively selected reflecting criterion of urban, peri-urban or rural to allow for maximum variation in respondents due to socioeconomic context (Palinkas et al., 2015) and literature pointing at gaps in responsiveness in various contexts of health care.

Bungoma county has been associated with catastrophic health expenditure in regard to diabetes care which portends an access barrier that has potential to undermine prompt seeking and provision of care (Oyando et al., 2020), has been characterized by exclusion and deprivation of rights of in some instances (Kamer-Mbote et al., 2017) and further unresponsive experiences had been noted where in one study, patients lamented that they had just been examined and sent to nearby private facilities (Judith et al., 2017).

In Kiambu county, there was continued bad publicity in regard to public hospitals (Maina, 2016) with hospitals generally having challenges in implementing the Kenya Quality of health care model that vouched for a responsive health system (Murugami, 2014).. Specific pointers to gaps in responsiveness in various domains and contexts include for instance communication challenges were noted among male nurses (Kamau, 2016) while patient involvement had been found to be low where one study noted where just about half the patients felt involved in their care and a majority 81.5% did not know the name of the nurse who was taking care of them (Githemo, 2017).

In Uasin Gishu, gaps in responsiveness are alluded to by a study that noted decision makers in public hospitals reported poor implementation of governance attributes especially those critical to responsiveness like participation, consensus orientation and equity (Sitienei et al., 2019). One study elucidated breaches in regard to responsive including occurrences of uncompassionate hurried communication sometimes done in unfriendly environments and

breaches in confidentiality where some patients reported learning of their diagnosis from other patients (Jerop, 2020). Further challenges to responsive health care in the area of choice is noted when health seeking behavior was hampered by the gender of the provider (Kemboi, 2018).

The foregoing studies highlights significant gaps in healthcare responsiveness across Bungoma, Kiambu, and Uasin Gishu counties, including issues of catastrophic health expenditure, exclusion, unresponsiveness, and challenges in implementing quality healthcare models. These gaps underscore the urgent need for further research to understand the underlying causes and implications, as well as interventions aimed at improving healthcare access, communication, patient involvement, and governance attributes in these regions, ultimately enhancing healthcare responsiveness and ensuring equitable access to quality care.

Kiambu County covers an area of about 2543 square kilometers and is located in the former central province. It borders Kenya's Capital city Nairobi and Kajiado counties to the south, Nakuru to the west, Murang'a and Nyandarua counties to the North and Machakos County to the east. It has about 300 health facilities in total comprising both government private and mission facilities. Government run facilities total one hundred and eight (108), out of which 14 are tier three hospitals. The County has twelve constituencies and 60 wards with over 1.8 million people (County Government of Kiambu, 2018).

Bungoma County is located furthest on the west of Kenya neighboring Uganda on the west. It shares boundaries with three Counties: Trans Nzoia to the north, Kakamega to the south, and Busia to the west. It has over 1.7 million people, nine constituencies and 45 wards. The county

has 143 health facilities which include 133 health centers and 10 sub-county hospitals (County Government of Bungoma, 2018).

The county of Uasin Gishu is along the Nairobi Malaba highway in the Midwest of the rift valley covering, 2700 meters above sea level, an area of about 3345 square kilometers about 500 kilometers on the west of Kenya's capital city Nairobi. It has six sub counties (Constituencies) and 30 wards. It shares boundaries with Elgeyo Marakwet County to the east, Trans Nzoia to the north, Kericho to the south, Baringo to the south east, Nandi to the south west, and Bungoma to the west. It has about 894179 people with urban population contributing about 31% of this population. The County has 170 health facilities with an average of 7 kilometers radius to health facilities. It has one tier four hospital, Moi teaching and referral hospital (County Government of Uasin Gishu, 2018).

Within the selected counties, the hospitals were selected using simple random probability sampling where a listing of all tier three hospitals was done, the hospitals were assigned numbers and these numbers were written each on a piece of paper and the papers were stirred up in a jar, then a piece was picked which had numbers representing the hospitals selected.

3.7 Sampling Procedures for Surveys and Focused Group Discussions

3.7.1 Patients Surveys

Reconnaissance visits to each of the facilities noted that there was a discrepancy between the values of clients with hypertension and diabetes mellitus reported in the DHIS, which in fact revealed workload and in some instances were simply not updated. Thus, we settled on the actual count of files of patients with those condition enrolled in the care at the three facilities to establish the sampling frame for estimating sample size. The sampling frame was 853. The

sampling frame is presented in table 3.2 alongside the sample size. To qualify for response, a client had to have had the condition for at least twelve months since diagnosis for them to effectively assess the health system temporal patterns in regard to responsive care.

3.7.2 Health Workers

The health workers involved in care for the chronic conditions in the respective facilities are represented in the Table 3.3.

Table 3.3
Distribution Of Health Workers Involved in The Chronic Care Centers

Cadres	Kimilili	Uasin Gishu	Gatundu	Totals
Doctors	3	2	3	8
Nurses	5	4	5	14
Clinical Officers	3	1	3	7
Pharmacists	2	1	2	5
Pharmaceutical Technologists	2	2	3	7
Nutritionists	1	1	1	3
Physiotherapists	0	0	1	1
Psychologists	1	1	1	3
Health Records Officers	2	4	1	7
Health Administrative Officers	1	1	1	3
Support staff	2	1	2	5
Totals	22	17	24	63

Source: Hospital Nursing Service Managers, Kimilili, Uasin Gishu and Gatundu.

3.8 Sample Size Determination for Patients

Data collection from patients included surveys at baseline and end line for quantitative data while for qualitative data was the focused group discussions. The sample size estimation is presented in the following sections.

3.8.1 Sample Size Determination for Patients' Surveys

For this study, as is customary for the majority of sociological studies, a 95% confidence level was used. The sampling frame reflecting clients enrolled in the chronic care centers in the three hospitals which by actual count of files was estimated to be about 853 clients who had either diabetes mellitus, hypertension or both. According to Cochran's formula (Taherdoost, 2017), the sample size was calculated as follows'

$$n = z^2 pq / d^2$$

Where;

n is the sample size estimate

When the required confidence level is used, z = is the standard normal deviate

The target population's estimated percentage of people with the attributes being measured is represented by the symbol p.

The specified level of statistical significance is d= and q=1-p reflecting the proportion of the population without the intended characteristics under study.

As is typical in social and educational surveys (Taherdoost, 2017), the margin of error adopted was 5% with a 95% confidence level. However, there being no other study on health system responsiveness in tier three hospitals in Kenya, there was no estimate available of the proportion in the target population, and to allow for maximum variability, (Singh & Masuku, 2014) thus 50% (0.5) was used as the value for 'p' as recommended by Fisher et al as a conservative value for maximum variability and corrected for a finite population for a definite sampling frame (Taherdoost, 2017). The sampling frame using actual file count of clients enrolled in care for diabetes mellitus, hypertension, or both conditions in the three facilities was 853 distributed as shown in Table 3.2.

Thus,

$$n=1.96^2*0.5*0.5/0.5^2=384.16$$

The sample sizes for the aggregate of the three facilities was as follows

$$nf=n/ \{(1+n)/N\} =384/ \{1+(384/853)\} =266.$$

The calculated sample size was thus 266. An addition of 10% was done to provide for non-retention and a further 10% added to provide for non-response (Fetene et al., 2022) thus total sample size was 323. Given that Gatundu Hospital had proportionately bigger representation, the difference of 59 was shared among Kimilili and Uasin Gishu Hospitals. Actual data collection was by using systematic random sampling where every other client was selected in the study (853/323). The sample distribution is shown in table 3.4.

Table 3.4

Distribution of the Sample Size

Hospital	Actual clients Total	Sample size	Adjusted Sample size
Kimilili (Rural)	167	52	81
Uasin Gishu (Peri-urban)	256	80	108
Gatundu (Urban)	430	134	134
Total	853	266	323

Source: Hospital Records; March 2019.

3.8.2 Sample Size Determination for Focus Group Discussions and Key Informant Interviews

The key informants included the unit in charge of the chronic care units. They were selected purposively because it's deemed, they possess the needed information about the supply side in regard to responsiveness as they are responsible for day-to-day coordination of services in the

units. There were held two focus groups discussions (FGD) per facility one with the healthcare providers and another with the clients having between 8 to 10 participants resulting to 27 participants and three focus group discussions with clients one in each facility between 6 to 8 in each FGD resulting to 20 participants as represented in Table 3.5.

Table 3.5

Sample Size Distribution for FGDs

Hospital	Health workers FGD	Patients FGD
Kimilili (Rural)	10	6
Uasin Gishu (Peri-urban)	8	6
Gatundu (Urban)	9	8
Total	27	20

3.9 Sampling Techniques

3.9.1 Quantitative approaches

The quantitative approach adopted was the survey. For the survey respondents, Systematic random sampling was used where every other patient was selected in the study (853/323) to obtain individual respondents. The respondents for both baseline and end line surveys were the same thus having been a respondent in the baseline formed the inclusions criteria for the end line survey as is the requirement for before and after study designs (Kumar, 2018).

3.9.2 Qualitative approaches

Qualitative approaches included three key informant interviews and six focus group discussions. An emergent approach was adopted such that regard for diversity among the professionals and clients was considered as per the facility context (Kumar, 2018).

The composition for health care providers’ focus group considered the diversity of the health workers who directly offer care to the clients to include the medical officers, the clinical officers, nursing officers, the nutritionists, pharmacists and administrative staff and support

staff. A range of between six to twelve officers were included in the discussions (Moser & Korstjens, 2018). The patients' focus groups reflected diversity in regard to sex (male, female) age (youth and old) employment status (formal and informal), residence (rural urban) to reflect as much diversity as possible. The list of participants was generated purposively in collaboration with health providers providing patient background information from the patient records.

3.10 Data collection methods and tools

3.10.1 Quantitative data from patient surveys: Structures questionnaire

Quantitative data from patients during baseline and end line surveys was collected using a structured questionnaire with closed ended questions administered to 323 respondents. Systematic random sampling was used where every other patient ($n=853/323$) was selected in the study the questionnaire entailed questions on respondent profile, responsiveness descriptions, ranking of responsiveness domains and role of predictors. Perceptions were rated on a five-point Likert scale. The scale was linearized with test anchors such that the score of "1" reflected the worst rating progressing through to "5" reflecting the best rating. The strategy, using a survey questionnaire, was chosen because it is an effective and tried method of evaluating data about huge populations, especially in situations when individual perceptions are desired, as in this study. The questionnaire is on appendix one.

3.10.2 Qualitative data from patients and health providers: Key informant guide and focus discussion guide

Qualitative information was obtained from key informants and focus group discussions. Key informant interviews were conducted using a key informant interview guide with the unit manager/nurse managers at the hospital level to explore administrative aspects. The key

informant elicited information about such issues as staff provisions for continuous education which is useful for capacity building, drug and medical commodities supplies, infrastructure, service organization and accountability mechanisms. The guide is provided in Appendix 2.

Health providers' focus group discussion followed a discussion guide that entailed questions on understanding responsive care, how to ensure responsive care, perception of need for responsive care and the challenges and opportunities and managerial support for provision of responsive care. The guide is presented in Appendix 3.

The patients' Focus group discussions similarly did follow a discussion guide. The guide elicited discussion on such issues as how they understood responsiveness, perception of need, their role and capacity to demand responsive care. Other issues included their perceptions of managerial support for responsive care, the areas the hospital was doing well or badly and suggestions for improving responsive care. The guide is presented in Appendix 4.

3.11 Study Variables

The dependent variable is responsiveness descriptions/levels whose domains are dignity/respect, clear communication, autonomy/involvement, confidentiality, prompt care, quality of amenities, access to social support networks, choice of provider and trust.

The independent variables were as follows:

Responsiveness valuations: these were measured by knowledge of responsiveness concept, domains, perception of usefulness, role awareness.

Accountability Mechanisms: These were measured by ratings on availability, perceptions and utility of service charters, patients' rights charters, hospital committees, and consumer voice

Access determinants: These were measured via ratings on sociocultural considerations, physical access, service scheduling, and financial access

Structural factors: The indicators included ratings on physical environment, staffing, and commodity availability

Organizational culture variables: The indicators included perceptions about language use, Team approach, consistency, client focus and focus on processes.

Justice Perceptions: This was included both as a predictor as well as a moderator variable. It was rated on perceptions of distributive justice, procedural justice, including how clients felt treated fairly, fairness of costs, fairness of processes, and protection of the minority communities.

3.12 Validity

According to Neumann (2005), a construct must be able to measure what it is designed to measure honestly in order for results to be applied and interpreted correctly. This was done in a number of methods, including: To lessen selection bias, a sample from the sample frame was randomly chosen. Key informant interviews, focus groups, and both quantitative (questionnaire) and qualitative (key informant conversations) approaches were combined to avoid subjectivity and the limitations of either approach alone, and to allow for triangulation which adds depth to research and help overcome personal biases.

The research concepts and constructs reflected the conceptual and empirical literature findings and were validated by subject matter experts to ensure construct and content validity. Empirical findings show studies reflecting such approaches in measuring responsiveness have been utilized in other similar settings thus ensuring criterion validity.

3.13 Reliability

As stated by Gümüş and Kukul (2023), reliability pertains to the capability of different researchers to reach identical conclusions when employing the same research design or study subjects, consistently generating consistent measurements. To ensure this, standardized data collection instruments were employed with the appropriate respondents. The focus group and key informants' discussion topics were consistent and reflected the study's objectives for each group. All tools of data collection were reviewed thoroughly and any gaps corrected for completeness and accuracy of reporting with the research team.

Reliability of quantitative test scores was analyzed done using Cronbach's alpha coefficient. A pretest study was done at Ruiru level four hospital, a tier three hospital not involved in the study, after which analysis informed revisions on the questionnaire to improve reliability. For qualitative data, quality assurance measures to ensure valid and credible data included reflexivity credibility and transferability.

In regard to reflexivity, the researcher did maintain a reflective attitude. It follows that the researcher didn't simply accept the results but interrogated them for meanings (Sundler et al., 2019). In this perspective, the researcher strove to understand the context of the responders so as to ground the findings in reality and to ensure the descriptions Its interpretations are based on the data acquired rather than the understanding of the researcher.

Credibility was upheld through a transparent and openly scrutinizable process. To achieve this, data were collected from key informants and focus group discussions conducted on different days and at various hospitals, allowing for triangulation (Moser & Korstjens, 2018). The discussions were video-recorded with participants' informed consent, ensuring verbatim

records. Themes extracted were supported by quotes to maintain consistency in content and conveyed meanings. An audit trail was maintained, comprehensively documenting the data collection, analysis, and interpretation processes. Noteworthy topics during data collection were recorded, and the rationale behind code creation and merging, along with the explication of theme meanings, were elucidated. Additionally, the findings were shared with respective hospitals, facilitating insight and clarification from clients, managers, and providers.

Transferability refers to the applicability, relevance, and extent to which findings from the data can be extrapolated to different settings or groups, akin to the notion of generalizability in quantitative research. Achieving transferability involved purposeful selection of representative respondents. For focus group discussions, participants represented diverse socioeconomic and demographic backgrounds to capture a range of perspectives.

3.14 Pretest Study

A test-run of the designed data collection tools was done in Ruiru level 4 hospital not involved in the actual study. It involved a total of 30 respondents. Revisions were then done to the tools to improve their reliability and validity.

The findings of the analysis were used to inform the editions to improve the questionnaire reliability and operationalization. The questions on socio-demographic factors were removed from access factors to remain as background factors given the focus of the intervention was on the providers thus, we would not change the client's socio-demographic characteristics. Particularly, the questions on the ranking of the responsiveness domains were removed from the predictor valuations for want of fit and operationalization and made to form a caption of

their own and are therefore analyzed and reported as an important concept in responsiveness assessment. The scale reliability results at pretest are shown in table 3.6.

Table 3.6

Scale Reliability Results at The Pretest

Variable	Cronbach's Alpha	Number Of Items
Responsiveness	0.936	31
Responsiveness Valuations, with ranking domains	0.505	4
Responsiveness Valuations, without ranking domains	0.654	4
Accountability Mechanisms	0.858	4
Access Factors	0.881	5
Structural Factors	0.829	3
Organizational Culture	0.859	7
Justice Perceptions	0.940	6

3.15 Ethical Considerations

Approval was obtained from the Research Ethics Committees of Kenya Methodist University (Approval No: KeMU/SERC/HSM/4/2020) and Moi University (Approval No: 0003643). A research license was obtained from NACOSTI (License No: NACOSTI/P/20/5650). Permissions were obtained from hospital management teams, while every participant in the study provided informed written consent, and they were informed of their right to withdraw from the study at any point. All collected data from participants were securely stored in password-protected folders, ensuring the highest level of data security was maintained at all times.

3.16 Data Analysis

3.16.1 Quantitative Data

Quantitative data analysis was conducted using SPSS program version 26, which facilitated the generation of descriptive and inferential statistics. The data were presented through

frequency counts displayed in tables and graphs. Measures of dispersion, including range, variance, and standard deviation, were employed to assess the extent of data spread. Additionally, measures of central tendency such as mean, mode, and median were utilized to characterize the central values of the data.

Cross tabulation and Chi square analysis were done to determine relationships between variables. The predictors of responsiveness were modeled using bivariate and multivariate binary logistic regression analysis. The change in ratings of domains, aggregate responsiveness and predictors between baseline and after end line was analyzed by use of a paired samples T test. Moderation effects were determined using -2log likelihood. The relationship between predictors of responsiveness and responsiveness descriptions/levels were modeled in the regression models as follows:

The predictors of responsiveness descriptions in chronic care centers were expressed in the following functional relationship.

$Y = f_n (X_1, X_2, X_3, X_4, X_5, X_6)$ Where Y represents the responsiveness descriptions, X_1 Responsiveness valuations, X_2 Accountability Mechanisms, X_3 Access, X_4 Structural and X_5 Organizational culture and X_6 represents justice perceptions

The research function is presented as a research model with addition of the error term as follows:

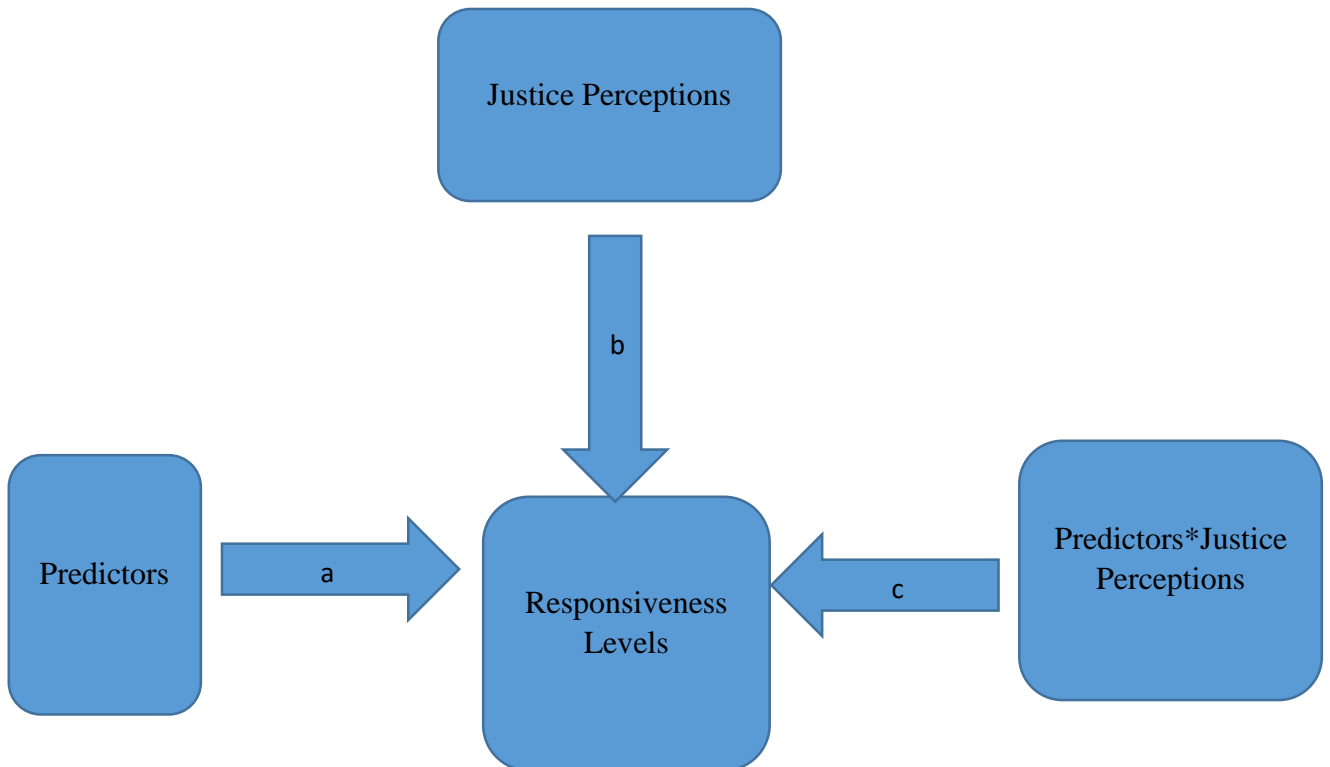
$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \varepsilon \dots \dots \dots (i)$$

The second modelling reflected whether the moderating variable of justice perceptions have significant moderating effect on the relationship between predictors of responsiveness and responsiveness descriptions.

Moderation means interaction (Baron & Kenny, 1986; Memon et al., 2019). In this study the moderating variable of justice perceptions is assumed to interact with the individual effects of predictors in influencing responsiveness descriptions. The path diagram for the moderation effects is reflected Figure 3.2.

Figure 3.2

Path Diagram for Interaction of Predictors and the Moderator on Responsiveness



There are three causal pathways that feed into the dependent variable of responsiveness descriptions:

The impact of the effect of predictors (path a), the impact of justice perceptions (path b) and the impact of the interaction of the product of these two (path c). The moderator hypothesis of no significance of the moderating effect is supported if the interaction (Path c) is not significant.

Modeling the effects of individual predictors on the responsiveness descriptions (Levels) is reflected in the following simple linear regression equations

Equation one

Effect of responsiveness valuations on responsiveness descriptions

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

Equation two

Effect of access predictors on responsiveness descriptions

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

Equation three

Effect of structural predictors on responsiveness descriptions

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

Equation four

Effect of accountability mechanisms on responsiveness descriptions

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

Equation five

Effect of organizational culture on responsiveness descriptions

$$Y = \beta_0 + \beta_5 X_5 + \varepsilon \dots \dots \dots (v)$$

Equation six

Effect of justice perceptions on responsiveness descriptions

$$Y = \beta_0 + \beta_6 X_6 + \varepsilon \dots\dots\dots (vi)$$

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

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon \dots\dots\dots (vii)$$

Where:

Y = Responsiveness descriptions

β_0 = intercept

$\beta_1 X_1$ = linear effect of responsiveness valuations

$\beta_2 X_2$ = linear effect of access predictors

$\beta_3 X_3$ = linear effect of structural predictors

$\beta_4 X_4$ = linear effect of accountability mechanisms

$\beta_5 X_5$ = linear effect of organizational culture

$\beta_6 X_6$ = linear effect of justice perceptions

ε = Predictive error

The change between the baseline and end line responsiveness following the intervention was analysed using a paired samples T test, given that the participation in the baseline survey formed the inclusion criteria for the end line survey.

3.16.2 Analysis of Qualitative Data

Qualitative data was collected through interviews and focused group discussions, which were meticulously documented in notebooks and recorded using audio devices. These data sets underwent content analysis to discern the primary themes that surfaced from the participants' responses and the observations made.

This analytical process followed a systematic sequence encompassing the identification of the core themes, allocation of codes to these central themes, categorization of participants' responses under the respective main themes, and ultimately integrating these themes and responses within the report. This integration was achieved through a combination of direct quotes and an exploration of theme frequencies, adhering to the approach outlined by Kumar (2018).

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter unveils the outcomes stemming from both the baseline survey and the end line survey. Commencing in September and extending through December 2020, the baseline survey laid the foundation. This was succeeded by an intervention occurring between May and July 2021, followed by the end line survey conducted from February to May 2022. To fortify the survey findings, a total of three focus group discussions were carried out with health care providers, and an additional three sessions were conducted with clients. Furthermore, to provide depth and context, three key informant interviews were conducted, each involving a manager of the chronic care units across the facilities. These key insights are interwoven within the presentation of the results, aligning with the approach described by (Howitt & Cramer, 2017).

Quantitative data was collected on socio-demographic variables facility, age, gender, medical condition, religion, and marital status, enrollment in medical insurance main source of income (Occupation), income level, and highest attained level of education. The dependent variable, responsiveness, along with the predictors—responsiveness valuations, accountability mechanisms, access factors, structural factors, organizational culture, and justice perceptions were assessed using a continuous, five-point Likert scale. The scale's values ranged from 1, indicating the lowest rating, to 5, representing the highest rating. The data per respondent on each of the indicators of responsiveness levels and the perceptions on predictors was summed up to give a composite value per indicator. Further disaggregation was done to reflect the

distribution along the various background factors. Comparisons have been made to determine the change between the baseline and end line across all the variables.

Descriptive statistics, including frequencies and percentages, as well as measures of central tendency like means and medians, were employed to analyze the quantitative data. Measures of dispersion, such as range and standard deviation, were also utilized in the analysis. Using the demarcation threshold formula, the summed-up data for the outcome responsiveness and the predictors was dichotomized into favourable and unfavourable outcomes. Odds ratios were used to analyze the relationship between each predictor and the responsiveness. Analysis of variance was used to determine significance of differences in rating among facilities, while a paired samples T test was used to determine significance of change between baseline and end line. Finally, the modelling of combined effects of predictors on the responsiveness was done by binary logistic regression. The model at baseline has been compared with the model at end line.

The data has been presented chronologically first descriptively then inferential statistics and lastly with the models whereas the qualitative themes are integrated along.

4.2 Response Rate

4.2.1 Baseline response rate

Three hundred and eight questionnaires were duly filled out of three hundred and twenty three administered yielding a response rate of 95.35% which was satisfactory (Sileyew, 2019).

4.2.2 End line Response rate

The inclusion criteria for the end line survey was having participated in the baseline survey. Therefore, the expected sample size was 308 out of which 258 questionnaires were duly filled

yielding a response rate of 83.7%%. This marked a drop from the baseline rate of 95.35% but was still satisfactory given there was oversampling at the baseline to provide for loss to follow up in the end line. The sample response rate was distributed as shown in Table 4.1.

Table 4.1

Sample Response Rate Distribution

Hospital	Sample size	Duly baseline	filled	Duly filled end line
	n	n (%)		n (%)
Kimilili (Rural)	81	80(98.7%)		69(85.1%)
Uasin Gishu (Periurban)	108	98(90.7%)		89(82.4%)
Gatundu (Urban)	134	130((97.0%)		100(74.6%)
Total	323	308(95.3%)		258(83.7%)

4.2.3 Qualitative data

After the surveys, there were three focus group discussion meetings with health care providers; one in each of the three facilities, having between 8 to 10 participants resulting to 27 participants and three focus group discussions with clients one in each facility between where Each FGD had 6 to 8 individuals, totaling 20. There were three key informant interviews with the unit managers of the chronic care centers, one for each facility.

4.3 Reliability Analysis

The outcome variable responsiveness and the predictor variables were measured on a 5 point continuous Likert scale with test anchors where 1 reflected the worst rating and 5 the best rating. The internal consistency was analyzed using the Cronbach’s alpha and the results are indicated in the table below. The independent variables responsiveness valuations and accountability mechanisms each had four questions thus sums of scores on these variables per respondent were expected to range between 4 and 20. The independent variables access,

structural, organizational culture and justice perceptions had 5, 3, 7 and 6 questions respectively and therefore their scores sums would be expected to range between 5 and 25, between 3 and 15, between 7 and 35 and between 6 and 30 respectively. Cronbach's alpha used to assess internal consistency was computed for the various scales. The minimum acceptable level has been suggested to be 0.5 (Mkalama, 2014; Sekaran & Bougie, 2016; Taber, 2018). The results are shown in table 4.2

Table 4.2

Reliability Statistics

Variable	Cronbach's Alpha	Number Of Items
Responsiveness	0.936	31
Responsiveness Valuations	0.740	4
Accountability Mechanisms	0.739	4
Access Factors	0.796	5
Structural Factors	0.687	3
Organizational Culture	0.829	7
Justice Perceptions	0.873	6

The results in Table 4.2 showed that the variables had a fair amount of consistency. Structural factors at had the lowest alpha (.687), whereas responsiveness levels had alpha above.90. Therefore, there was satisfactory scale reliability of all the study variables.

4.4 Sociodemographic Characteristics

The socio-demographic characteristics included facility location, age, gender, medical condition, religion, marital status and insurance enrollment, main source of income, income level, and highest attained level of education. The data has been analyzed for descriptive and inferential statistics.

The sociodemographic characteristics were measured as nominal and continuous variables. The continuous variables were age and average monthly income estimates. The Ages ranged

between 19 years and 95 years with a mean of 56.6. Further the ages were categorized into four groups along chronological development categories and the results are reflected with other variables in table 4.3 below. Majority, 159(51.6%) on baseline and 135(52.3%) at end line were within the 40-59 years age category.

In regard to income, the responses ranged from Ksh.1000 to Ksh.100000 with a median of Ksh.10000 at both surveys. Using median split, earnings were categorized as 'Low' and 'High'. Majority were in the low category; 217(70.5%) at baseline and 146(70.5%) at the end line.

Categorical variables included facility, gender, and religion, and marital status, main source of income (occupation), highest educational level, and enrollment in medical insurance and medical condition. The results distribution of sociodemographic variables summarized in table 4.3 below. Gatundu hospital had most respondents, at baseline 130(42.2%) and 100(38.8%) at end line. Majority of the respondents were female 213(69.2%) in the baseline and 180(69.8%) in the end line in the age category of the protestant faith 159(51.6%) in baseline and 138(53.5%) in the end line.

Most respondents were married 214(69.5%) in the baseline and 190(73.6%) in the end line, largely small-scale farmers, 130(42.2%) in the baseline and 113(42.8%) in the end line of low-income category, 136(86.6%) at baseline and 146(70.5%) at end line. Majority of the respondents were not enrolled in any medical insurance; 136(44.2%) at baseline and 110(42.6%) at end line. In regard to highest education level attained, most had primary school education 110(35.7%) at baseline and 90(34.9%) in the end line. Majority were low-income earners 136(86.6%) on baseline and 146(70.5%) on end line and mostly with no medical

insurance cover 172(55.8%) on baseline and 148(57.4%) at the end line. The results are presented in table 4.3.

The study highlights a significant lack of medical insurance coverage among respondents, potentially impacting their healthcare access. Thus, health policies should prioritize affordable insurance, particularly for low-income groups like small-scale farmers. Customized measures, such as incentives and subsidies, could encourage enrollment, resulting in improved health-seeking behavior, better outcomes, and reduced financial stress from unexpected medical costs.

Additionally, tailored education programs aimed at respondents with low levels of education can enhance health literacy, promote healthier habits, and preventive measures. This strategy underscores the importance of addressing healthcare access, insurance, and education, particularly for low-income individuals and small-scale farmers, to enhance health system responsiveness and overall well-being.

Table 4.3*Socio-Demographic Characteristics*

Variable	Subsets	Frequency	Frequency
		Baseline n (%)	End line n (%)
Facility	Kimilili (Rural)	80(26.0)	68(26.4)
	Uasin Gishu (Periurban)	98(31.8)	90(34.9)
	Gatundu (Urban)	130(42.2)	100(38.8)
Gender	Female	213(69.2)	180(69.8)
	Male	95(30.8)	78(30.2)
Age categories	<40 Years	28(9.1)	22(8.5)
	40-59 Years	159(51.6)	135(52.3)
	60-79 Years	96(31.2)	82(31.8)
	≥80 Years	25(8.1)	19(7.4)
Medical Condition	Diabetes Mellitus (DM)	95(30.8)	84(32.6)
	Hypertension (HP)	156(50.7)	132(51.2)
	DM/HP	57(18.5)	42(16.3)
Religion	Catholic	114(37)	100(38.8)
	Protestant	159(51.6)	136(52.7)
	Muslim	25(8.1)	16(6.2)
	African Traditional	10(3.2)	6(2.3)
Marital status	Single	46(14.9)	39(15.1)
	Married	214(69.5)	190(73.6)
	Divorced	10(3.2)	6(2.3)
	Widowed	22(7.1)	18(7)
	Separated	16(5.2)	5(1.9)
Educational level	No Formal	29(9.4)	26(10.1)
	Primary School	110(35.7)	90(34.9)
	Secondary	108(35.1)	87(33.7)
	Tertiary	61(19.8)	55(21.3)

Occupation	Business	79(25.6)	63(24.4)
	Farmer (large scale)	45(14.6)	38(14.7)
	Farmer (Small scale)	130(42.2)	113(42.8)
	Formal Employment	40(13.0)	30(11.6)
	Casual Labour	9(2.9)	9(3.5)
	Others	5(1.6)	5(1.9)
Income Level	1000-10000	217(70.5)	185(71.7)
	>10000	91(29.5)	73(28.3)
Medical Insurance	Yes	136(44.2)	110(42.6)
	No	172(55.8)	148(57.4)

The results reflects a similar pattern in regard to marital status as those of Kapologwe and others that noted 72% of the study participants were married but differed with the same study in regard to gender where it noted equal representation of gender, while in this study findings, respondents were mostly female(Kapologwe et al., 2020).The findings agrees with Mwangi et al. (2020) that too found majority of respondents,56% were female. Concerning age this study results differ with those of Mwangi et al (2020) that noted majority of the respondents ,70% were within 25-45 years and(Kapologwe et al., 2020) that noted majority, respondents in 20-35 years.

Concerning urban, rural divide, the urban facility of Gatundu had the most respondents. This differs with a similar study in Ethiopia on responsiveness that noted most respondents were from the rural,69.6% than urban 30.4%,majority male 226(54.2%),with no education 175(42%) and insured 295(70.7%), but agreed with the same study in regard to employment and marital status where the majority ,255(61.1%) were married and farmers 254(60.9%) (Negash et al., 2022b). As regards social status, the study agrees with Mwangi et al. (2020) that

noted generally the respondents had low socioeconomic status but differs with a study in Spain that noted majority of clients had intermediate to high social status earning over 900 euros per month and over 76% having either intermediate or higher education (Coronado-Vázquez et al., 2022).

4.5 Chronic Conditions: Diabetes Mellitus and Hypertension in the Study Sites

The target population for the study were persons with chronic conditions particularly diabetes mellitus and hypertension. Cross tabulations of medical condition were done to assess the distribution of medical condition versus other sociodemographic variables. The results are summarized in Table 4.4.

Majority of the clients had hypertension only, 156(50.7%) at baseline and 132(51.2%) at the end line. Within condition analysis, the distribution shows that in regard to hypertension, Gatundu Hospital had the highest contribution 61(39.1%) while Kimilili hospital and Uasin Gishu Hospital accounted for almost similar proportions of 47(30.1%) and 48(30.8%) respectively. In regard to diabetes mellitus, Gatundu hospital had a slight lead at 37(38.9%) over Uasin Gishu at 36(37.9%) whereas Kimilili was last accounting for 22(23.2%) of the respondents with Diabetes mellitus. In regard to those who had both medical conditions of Hypertension and diabetes mellitus, Gatundu hospital accounted for the greatest proportion,32(56.1%) followed by Uasin Gishu,14(24.6%) while Kimilili hospital was last at 11 (19.3%).

Within facility analysis of respondents' medical condition showed that in Kimilili hospital, most respondents 47(58.8%) on baseline and 41(59.4%) on end line had hypertension only, followed by diabetes only at 22(27.5%) baseline and 19(27.5%) at end line and lastly those

with both conditions diabetes mellitus and hypertension, 11(13.8%) at baseline and 9(13%) at end line. In Uasin Gishu Hospital, a similar pattern to Kimilili hospital was seen where, most respondents had Hypertension only, 48(49%) at baseline and 43(48.3%) at end line followed by diabetes mellitus only, 36(36.7%) at baseline and 33(37%) at end line and lastly both Diabetes mellitus and hypertension, 14(14.3%) at baseline and 13(14.6%) at end line. Similarly, Gatundu hospital had the highest proportion of respondents having hypertension only, 61(46.9%) at baseline and 48(48%) at end line followed by diabetes mellitus only, 37(28.5%) at baseline 32(32%) at end line and lastly both medical conditions diabetes mellitus and hypertension, 32(24.6%) at baseline and 20(20%) at end line.

Disaggregating the medical condition between the gender dichotomy shows females accounted for majority proportion across all the three disease states; accounting for 65(68.4%) at baseline and 58(69%) at end line of diabetes mellitus cases, 106(67.9%) of Hypertension only cases at baseline and 88(67.1%) at end line, and 42(73.7%) at baseline and 33(78.6%) at end line of the respondents with both diabetes mellitus and hypertension.

Most respondents within both genders had hypertension only, male 50(52.6 %) at baseline and 43(55.1%) at end line, female, 106(49.8 %) at baseline and 89(44.9%) at end line. However, the proportion of males with diabetes mellitus only 30(31.6%) at baseline and 26(33.3%) at end line, and hypertension only, 50(52.6%) at baseline 43(55.1%) at end line was greater than for females, 65(30.5%) at baseline and 58(32.2%) at end line, and 106(49.8%) at baseline and 89(44.4%) at end line respectively. The proportion of females with both medical conditions diabetes mellitus and hypertension, 19.7% was more than that of males, 15.8%.

The distribution of the medical condition was further disaggregated across the different age categories. The relatively young persons of below 40 years accounted for only 9.1% of the respondents while majority, 51.6% were within 40 to 59 years of age followed by those within 60 to 79 years of age at 31.2% (n=308). Among the relatively young hypertension was leading at 53.6% while none had both conditions both at baseline and end line

Among the middle-aged group, 40 to 59 years and; 60 to 79 years, hypertension accounted for majority of the respondents, 89(56 %) at baseline and 77(57%) on baseline and end line respectively. Among the older group of 60 to 79 years, still hypertension alone was the leading with 43(44.8%) at baseline and 36(44%) at end line. Among the elderly of 80 years and above the proportion of those with both conditions and hypertension only was even at 9(36 %). Among those respondents with both conditions, the elderly too had a comparatively greater proportion of those with both conditions, 36%(n=25), followed by the old ;60-79 years at 29%(n=96) and lastly the middle aged, 40 to 59 years old at 12.6%(n=159). None of the relatively young respondents had both conditions. Thus, the likelihood of having both conditions increased with increase in age.

Table 4.4

Cross Tabulation of Socio-Demographic Characteristics Vs Medical Condition

		Baseline			End line		
		DM (n)	HP (n)	Both (n)	DM (n)	HP (n)	Both (n)
Facility	Kimilili	22	47	11	19	41	9
	Uasin Gishu	36	48	14	33	43	13
	Gatundu	37	61	32	32	48	20
Gender	Female	65	106	42	58	89	33
	Male	30	50	15	26	43	9
Age	<40	13	15	0	10	12	0
	40-59	50	89	20	44	77	14
	60-79	25	43	28	24	36	22
	80+	7	9	9	6	7	6
Education	None	6	15	8	6	14	8
	Primary	30	59	21	27	49	15
	Secondary	38	51	19	34	43	10
	Tertiary	21	31	9	17	26	9
Religion	Catholic	32	63	19	28	57	15
	Protestant	56	75	28	53	62	21
	Muslim	4	14	7	2	10	4
	African Traditional	3	4	3	1	3	2
Marital Status	Single	13	24	9	11	18	8
	Married	72	112	30	64	96	22
	Divorced	1	5	4	1	4	1
	Widowed	5	8	9	4	7	7
	Separated	4	7	5	4	7	4
Occupation	Business	26	39	14	23	33	7
	Farmers (LS)	13	21	11	12	19	7
	Farmer (SS)	34	70	26	31	60	22
	Formal	19	16	5	15	10	5
	Casual	1	8	0	1	8	0
	Others	2	2	1	2	2	1
Income	1000-10000	64	111	42	58	97	30
	>10000	31	45	15	26	35	12
Medical Insurance	Yes	40	75	21	32	62	16
	No	55	81	36	52	70	26

DM Diabetes HP Hypertension LS Large Scale SS Small Scale

These results show generally the more urban persons were affected by the conditions than the rural setting. In regard to gender more females were affected by the medical conditions. The prevalence of conditions and especially multimorbidity increased with age. Those with low educational levels and low incomes were more likely affected by the medical conditions than the rest of the sociodemographic characteristics.

This study results are in tandem with those observed by a study in China that noted the urban levels of diabetes almost double the rural prevalence levels (Zhao et al., 2023). The findings also agree with those of Micklesfield et al. (2023) which noted multimorbidity with chronic conditions including diabetes and hypertension in six African countries including Kenya were such that the females had higher prevalence than males in all the countries in all the conditions. The results differ with those of Nagai et al. (2023) that noted males had more 3.2 higher odds of having diabetes than females, unlike in this study where the females had higher odds than males. Further analysis to determine the significance of association between the medical condition and the sociodemographic characteristics was done using a chi square.

Comparing the mean responsiveness across the medical conditions, those with hypertension alone had better responsiveness levels, and distribution with means of 100.36(64.7%) and 105.48(68%) at baseline and end line respectively, followed by those with diabetes alone with means of 98.9(63.8%) and 104.2((67.2%) while those with both conditions had the least responsiveness mean scores;94.21(60.7%) and 102.23(65.9%).In regard to distribution, those with hypertension alone and diabetes alone had similar proportions of favorable experiences,40(42.1%)and 66(42.3%)respectively while those with both conditions had the least,12(21.1%)at baseline while on end line, there were notable variations whereby47(56%)

of those with diabetes alone,69(52.3%) of those with hypertension alone and 20(47.6%) of those with both conditions had favorable responsiveness.

It may be noted responsiveness level and distribution improved across all conditions. However, those with both conditions had comparatively low mean responsiveness and distribution both at baseline and end line. These findings are in agreement with those of another study that noted persons with multimorbidity felt the health system was not responding adequately to their needs in terms of prompt care (Tran et al., 2024)and a similar study that identified challenges in regard to communication and coordination of care for those clients with multiple conditions (Simpson et al., 2024).

4.6 Responsiveness Levels

Responsiveness was scored through the indicators of; Promptness, Dignity, Autonomy, clarity of Communication. Choice, Confidentiality, Amenities, Social Support and Trust of the facilities with care outcomes. The responsiveness experiences were rated on a five-point Likert scale (from 1 indicating the worst experience to 5 indicating the best experience), assuming an interval scale. There was a total of 31 questions items eliciting responses in respect of responsiveness descriptions. To obtain the overall levels of responsiveness the ratings were summed for every respondent. Therefore, the sum of the descriptions/levels was expected to range between 31 and155. Further, a split of the sums of responsiveness levels was also done using the Demarcation Threshold Formula (Fetene et al., 2022) to categorize the levels as either favourable or unfavorable. Scores equal or greater to the cut point counted as favourable experiences.

Descriptive statistics including measures of central tendency and variability were computed to describe the data. Means have been used to determine averages and to judge level of agreement with how the indicator is achieved whereby means more than 3.4 suggest good agreement while means scores less than 3.4 suggest poor agreement (Owino, 2019; Wanjohi & Syokau, 2021).The domains or responsiveness are analyzed first followed by the aggregate responsiveness levels in the following sections

4.6.1 Promptness

The domain of promptness was rated using questions scored on a continuous Likert scale progressing through form 1 showing the worst and 5 the best ratings. The analysis has progressed from summary statistics to scores of individual indicators at both baseline and end line. The ratings summary statistics for promptness are shown in Table 4.5.

Table 4.5

Promptness Summary Statistics

Indicator	Baseline		End line	
	M	SD	M	SD
Promptness at This visit	3.37	1.027	3.52	0.979
Service readiness	3.32	1.016	3.46	0.979
Promptness Overall	3.33	1.008	3.50	0.967

The first questions was 'at your visit today, overall, how would you rate your experience of getting prompt attention at the hospital? The responses ranged from Very good, Good Fair Poor Very Poor being scored as very good 5 through to very poor being 1. The ratings are reflected in the table below. The mean score for this question was 3.37 with a median of 3. Most respondents on the baseline while in the end line had a mean of 3.52 and median of 4 reflecting a general improvement on this indicator. Respondents were asked how often they got care as soon as they wanted it. Means score was 3.46 with a median of 3. Only a third of

respondents said few times 107(34.7%) and 89(34.5%) at baseline and end line respectively. Finally, respondents were asked to rate overall promptness. The mean was 3.33 at baseline while it was 3.5 at end line. Majority were in the fair category 110(35.7 %) at baseline and 94(36.4%) at end line.

In all the promptness indicators, promptness at the particular visit, service readiness, and overall perception of responsiveness had a positive deviation from the baseline to the end line. All indicators had generally low ratings in the baseline with means less than 3.4 but were rated better at the end line with means more than 3.4. The ratings for promptness indicators are shown in table 4.6.

Table 4.6

Ratings Of Indicators of Promptness

		Baseline		End line	
	Promptness Ratings	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
Promptness At the visit	Very Poor	13	4.2	8	3.1
	Poor	44	14.3	25	9.7
	Fair	109	35.4	92	35.7
	Good	99	32.1	91	35.3
	Very good	43	14.0	42	16.3
Service Readiness	Never	9	2.9	5	1.9
	Rarely	58	18.8	37	14.3
	Few Times	107	34.7	89	34.5
	Many Times,	94	30.5	88	34.1
	Always	40	13.0	39	15.1
Promptness Overall	Very Poor	8	2.6	5	1.9
	Poor	57	18.5	31	12.0
	Fair	110	35.7	94	36.4
	Good	92	29.9	86	33.3
	Very good	41	13.3	42	16.3

The average mean for the three indicators on baseline was 3.34(66.8%) while on end line was 3.5(70%) showing a general shift from negative ratings to positive ratings. Promptness is not only a domain of health system responsiveness but also a determinant of satisfaction with services (Srivastava et al., 2015).The results reflect a slightly better picture as compared to a study in Ethiopia where over 50% rated promptness and poor (Negash et al., 2022a). Similar results are however were observed in a comparative analysis of responsiveness among the insured and non-insured, where in both categories only about 45% rated waiting time as either good or very good (Negash et al., 2022).

4.6.2 Dignity

Dignity was measured by asking respondents to rate how they felt treated with respect on that visit, in the last 12 months and how often they felt respected by clinical and non-clinical staff. It was measured by a total of 5 questions. The results are summarized Table 4.7. At both the baseline and end line, the median and modal response was 4. The mean score for all the indicators was 3.45(69%) at baseline and 3.6(72%) at end line.

Table 4.7

Dignity Summary Statistics

Indicator	Baseline		End line	
	M	SD	M	SD
Respect at This visit	3.52	1.044	3.69	0.980
Respect From Clinicians	3.51	1.084	3.71	0.986
Respect from Nonclinical Staff	3.33	1.158	3.47	1.088
Respects For Privacy During Physical Exam	3.44	1.020	3.53	1.006
Respects overall in last 12 months	3.44	0.958	3.56	0.941

M: Mean SD: Standard deviation

The interpretation of the provided information suggests that dignity indicators in the context being discussed were generally perceived positively by the respondents. This means that the aspects related to respect, especially those demonstrated during the day's visit and interactions with clinicians, were positively evaluated by the participants. However, there was room for improvement in terms of the respect shown by non-clinical staff, as it received the least favorable rating among the indicators.

The trend over time, indicated by both baseline and end line assessments, demonstrates a positive trajectory. The mean scores for all dignity indicators consistently remained above 3.4, indicating a generally favorable perception throughout the study period. This upward trend implies that efforts were made to enhance the perceived dignity in the healthcare setting, as evidenced by improved ratings over time.

Furthermore, the fact that all indicators had combined scores indicating "good" or "very good/sometimes" or "always" satisfaction levels exceeding 50% of respondents at both baseline and end line is encouraging. This suggests that a majority of participants felt that their dignity was respected and upheld in the healthcare environment.

Overall, the individual ratings of each indicator align with the positive trend observed in the study, indicating that measures taken to enhance dignity-related aspects in healthcare yielded improvements in how patients perceived their interactions and treatment experiences. The ratings of individual indicators are reflected in Table 4.8

Treating patients in a dignified way is both a moral duty as well as an instrumental goal for good health outcomes as well as satisfaction with health services (Roos et al., 2022). It's

usually a concern for many clients especially those in chronic care. Positive ratings on this domain generally suggest a preservation of client dignity. This findings are incongruent with those (Wang et al., 2019) that noted most patients did experience loss of dignity during treatments. The findings are congruent with Sajjad and others that found dignity among diabetes mellitus patients was well rated at 73% (Sajjadi et al., 2015). The positive changes between baseline and end line agrees with findings of a study in Canada that observed the ratings for dignity improve after treatment (Solomon et al., 2016).

There were generally improvements in the individual ratings too between baseline and end line.

Table 4.8***Dignity Ratings***

<i>Dignity ratings</i>			Baseline	End line
Indicator			n (%)	n (%)
Respect at This visit	Very Poor 1		5(1.9)	1(0.4)
		Poor 2	59(19.2)	38(14.4)
		Fair 3	69(22.4)	55(21.3)
		Good 4	120(39)	109(42.2)
		Very good 5	55(17.9)	55(21.3)
Respect From Clinicians	Very Poor 1		9(2.9)	2(0.8)
		Poor 2	59(19.2)	36(14)
		Fair 3	63(20.5)	54(20.9)
		Good 4	121(39.3)	110(42.6)
		Very good 5	56(18.2)	56(21.7)
Respect from Nonclinical Staff	Never 1		14(4.5)	5(1.9)
		Rarely 2	79(25.6)	59(22.9)
		Few Times 3	58(18.8)	49(19)
		Sometimes 4	106(34.4)	99(38.4)
		Always 5	51(16.6)	46(17.8)
Respects For Privacy During Physical Exam	Never 1		5(1.6)	5(1.9)
		Rarely 2	61(19.8)	40(15.5)
		Few Times 3	83(26.9)	69(26.7)
		Sometimes 4	113(36.7)	101(39.1)
		Always 5	46(14.9)	43(16.7)
Respect Overall in the last 12 Months	Never 1		4(1.3)	2(0.8)
		Rarely 2	50(16.2%)	36(14)
		Few Times 3	101(32.8)	75(29.1)
		Sometimes 4	112(36.4)	105(40.7)
		Always 5	41(13.3)	40(15.5)

4.6.3 Communication

The ratings on communication were rated by five questions regarding clarity, providers listening attentively, providers offering clear explanations, according clients' opportunity to ask questions and overall perceptions of performance of communication. There was a positive deviation on all the indicators of communication between the baseline and end line. The median and mode for all indicators was 4 at baseline and end line. The mean score for the domain was 3.5(70%) at baseline and 3.64(73%) at end line. The summary statistics are shown in table 4.9.

Table 4.9*Communication Summary Statistics*

Indicator	Baseline		End line	
	M	SD	M	SD
Clarity Communication Today	3.46	1.145	3.68	1.036
Communication In the Last 12 months	3.42	1.090	3.56	1.062
Clarity Of Explanations	3.53	1.090	3.70	1.002
Opportunity to ask questions	3.47	1.057	3.64	0.961
Overall Communication Rating	3.45	1.008	3.60	0.950

M: Mean, SD: Standard Deviation

The interpretation of the provided information highlights positive findings regarding communication indicators. The fact that communication indicators received mean scores above 3.4 at both baseline and end line suggests that communication within the healthcare setting was generally perceived positively by the participants. The positive trend in communication indicators holds significant public health implications due to its pivotal role within healthcare systems.

Effective communication plays a vital role in ensuring patient comprehension, enabling well-informed choices, promoting adherence to treatment, fostering trust, elevating patient contentment, advancing care quality, and safeguarding patient well-being. Clear and open communication between healthcare providers and patients not only empowers patients to make well-informed choices about their health but also fosters trust, treatment compliance, and overall satisfaction. Moreover, it contributes to better patient outcomes, personalized care, and reduced risks of errors in medical practices. The fact that all communication indicators had ratings of "good" or "very good" combined from over 50% of respondents at both baseline and end line is encouraging from a public health perspective. It suggests that efforts to enhance

communication in the healthcare setting have been effective. The ratings for specific communication indicators are shown in table 4.10.

Table 4.10

Ratings For Indicators of Communication

		Baseline	End line
Indicator	Rating	n (%)	n (%)
Clarity Communication Today	Very Poor	14(4.5)	4(1.6)
	Poor	60(19.5)	38(14.7)
	Fair	65(21.1)	54(20.9)
	Good	108(35.1)	102(39.5)
	Very good	61(19.8)	60(23.3)
Communication In the Last 12 months	Very Poor	8(2.6)	6(2.3)
	Poor	66(21.4)	42(16.3)
	Fair	78(25.3)	65(25.2)
	Good	101(32.8)	92(35.7)
	Very good	55(17.9)	53(20.5)
Clarity Of Explanations	Very Poor	11(3.6)	5(1.9)
	Poor	46(14.9)	29(11.2)
	Fair	83(26.9)	62(24.0)
	Good	105(34.1)	104(40.3)
	Very good	63(20.5)	58(22.5)
Opportunity to ask questions	Very Poor	11(3.6)	4(1.6)
	Poor	44(14.3)	25(9.7)
	Fair	97(31.5)	83(32.2)
	Good	100(32.5)	94(36.4)
	Very good	56(18.2)	52(20.2)
Overall Communication Rating	Very Poor	7(2.3)	4(1.6)
	Poor	48(15.6)	27(10.5)
	Fair	102(33.1)	84(32.6)
	Good	102(33.1)	97(37.6)
	Very good	49(15.9)	46(17.8)

This findings agree with those of Tremblay et al that measured provider patient communication on a similar five point Likert scale and noted mean communication score of 3.6 (Tremblay et al., 2015) and Kapologwe et al. (2020) that found communication ratings between 73% and

74% (Kapologwe et al., 2020). However, these results reflect a lower rating as compared to those of Tille et al. (2019) in Germany that noted over 90 percent rated communication as good. Effective communication is cardinal not only for proper history taking, diagnosis and treatment but also for safety and client satisfaction. However, it can be challenging in some situations for instance end of life prognostication or highlighting deterioration in the condition as is the case for the progression of many chronic diseases care may pose challenges in communicating it with both patients and relatives. That clarity of communications was rated highly agrees with findings by Anderson et al. (2019) that nurses did communicate to clients in a clearer manner about their medical treatments. The fact that allowing clients opportunity to ask questions aids what many clients and their caretakers desire; to be involved. These findings agree with those of Baker et al. (2015) that noted patient involvement in clarifying courses of treatment.

4.6.4. Autonomy

Autonomy was rated by the indicators of perceptions of the level of involvement in care decisions, the frequency of involvement, seeking client consent before doing medical procedures on them, and overall judgment on involvement. The summary statistics are reflected in Tables 4.11.

The consistently negative ratings of all autonomy indicators with mean scores below 3.4 at both baseline and end line assessments reveal a concerning aspect of the health system's performance in providing autonomy to patients. Despite a slight positive shift in mean scores from baseline to end line, the overall negative perceptions persist. The increase in the modal response from 2 to 3 suggests a subtle improvement, but the mean scores of 3 (60%) at baseline

and 3.24 (65%) at end line indicate that a significant proportion of respondents still hold negative perceptions regarding autonomy in the healthcare system.

Table 4.11

Autonomy Summary Statistics

Indicator	Baseline		End line	
	M	SD	M	SD
Involvement at today's visit	2.98	1.112	3.20	1.083
Involvement over time	2.97	1.166	3.24	1.112
Seeking Consent for Treatment	3.02	1.140	3.28	1.116
Overall Rating on Involvement	2.99	1.095	3.23	1.070

M: Mean SD: Standard deviation

This indicates a notable gap in the health system's ability to provide patients with the necessary level of autonomy in their healthcare decisions and experiences. Addressing these issues is crucial to enhancing patient empowerment, involvement, and satisfaction within the healthcare system.

The ratings for the individual indicators of autonomy are represented in the Table 4.11. All the indicators had ratings of sometimes and always combined from between 33% to 36% of the respondents.

Autonomy reflects level of patient independence and therefore demands of the health care providers to involve clients, and seek their consent in care. It also plays an instrumental role in client dignity (Sullivan, 2016). Similar generally negative perceptions were noted by Sajjad and others that observed among diabetic patients, autonomy was the least rated domain with only 51% rating it as good compared to 84% in confidentiality (Sajjadi et al., 2015) and noted

ratings for good or very good had only 57% (Mohammed et al., 2018). The ratings for autonomy specific indicators are reflected in table 4.12.

Table 4.12

Ratings Of Autonomy Indicators

Indicator	Rating	Baseline n (%)	End line n(%)
Involvement at today's visit	Never	19(6.2)	9(3.5)
	Rarely	103(33.4)	68(26.4)
	Few Times	84(27.3)	78(30.2)
	Sometimes	69(22.4)	68(26.4)
	Always	33(10.7)	35(13.6)
Involvement over time	Never	27(8.8)	11(4.3)
	Rarely	97(31.5)	64(24.80)
	Few Times	79(25.6)	72(27.9)
	Sometimes	69(22.4)	73(28.3)
	Always	36(11.7)	38(14.7)
Seeking Consent for Treatment	Never	23(7.50)	11(4.3)
	Rarely	94(30.5)	62(24.0)
	Few Times	77(25.0)	67(26.0)
	Sometimes	81(26.3)	79(30.6)
	Always	33(10.7)	39(15.1)
Overall Rating on Involvement	Never	17(5.5)	7(2.7)
	Rarely	102(33.1)	68(26.4)
	Few Times	87(28.2)	76(29.5)
	Sometimes	70(22.7)	72(27.9)
	Always	32(10.4)	35(13.6)

Moral concerns concerning caregiving obligations are raised by the shift toward autonomy in healthcare. Patients, professional care givers, and informal caregivers should all work together to promote patient autonomy. This demands of health workers to adjusting to the individual, utilize patients' strengths, and working together with patients, unofficial carers, and family (Jacobs, 2019). The findings paint a fair picture in regard to patient involvement compared to the bumper situation painted by Molina-Mula and Estrada (2020) that suggest some of the

health workers would prefer more submissive clients who question less and label those that are inquisitive about their situation as difficult patients. That seeking consent was not always points at a serious gap that measures ought to be put in place for improvement as seeking consent is in fact an absolute demand on health providers to do before caring for patients and especially so in ambulant and communicative patients.

4.6.5 Confidentiality

Confidentiality as a domain of responsiveness was rated via the indicators of confidentiality during medical care, privacy during conversation with clients, privacy of records and overall perception of confidentiality. The summary statistics are presented in Table 4.13. There was generally minimal change in the indicators between the baseline and end line. The mean score was 2.9(58%) at baseline and 3.1(62%) at end line.

Table 4.13

Confidentiality Summary Statistics

Indicator	Baseline		End line	
	M	SD	M	SD
Confidentiality Todays Visit	2.94	1.046	3.11	1.058
Confidentiality Of Conversations	2.91	1.028	3.16	1.032
Confidentiality Of Records	2.87	1.085	3.04	1.131
Confidentiality	2.87	1.021	3.06	1.044

M: Mean SD: Standard deviation

The interpretation is that the indicators related to confidentiality received consistently low ratings both at the baseline and end line assessments, with mean scores below 3.4 for all indicators. Similar to the trend seen in autonomy ratings, there was a slight improvement between the baseline and end line assessments; however, this improvement was insufficient to

elevate the ratings to a more positive level. This suggests that while there was some progress in addressing the concerns related to confidentiality, it was not substantial enough to significantly alter the negative perceptions and experiences reported by respondents. The individual indicators were rated as shown in Table 4.14.

Table 4.14

Ratings Of Confidentiality Domains

		Baseline	End line
Indicator	Rating	n (%)	n(%)
Confidentiality Visit	Today's Very poor	12(3.9)	7(2.7)
	Poor	116(37.7)	84(32.6)
	Fair	85(27.6)	66(25.6)
	Good	69(22.4)	75(29.1)
	Very Good	26(8.4)	26(10.1)
Confidentiality Conversations	Of Never	12(3.9)	5(1.9)
	Rarely	119(38.6)	78(30.4)
	Few Times	86(27.9)	74(28.7)
	Sometimes	68(22.1)	74(28.7)
	Always	23(7.5)	27(10.5)
Confidentiality Records	Of Never	27(8.8)	21(8.1)
	Rarely	102(33.1)	72(27.9)
	Few Times	85(27.6)	64(24.8)
	Sometimes	73(23.7)	77(29.8)
	Always	21(6.8)	24(9.3)
Confidentiality Overall	Never	13(4.2)	7(2.7)
	Rarely	119(38.6)	86(33.3)
	Few Times	94(30.5)	76(29.5)
	Sometimes	58(18.8)	63(24.4)
	Always	24(7.8)	26(10.1)

Such low performances on this domain are an issue of concern to the health systems. Confidentiality does influence the quality of consultations and the trust clients put in the health systems. Breaches are associated with mistrust and even instances where patients change their

narrative if they realize it's being exposed to people not involved in their care or those they would wish do not access their personal and medical information (Sankar et al., 2003).

All the indicators had ratings of sometimes and always combined, from just between 25% of the respondents for confidentiality overall to 30.8% for confidentiality on the days visit at baseline and 34. % to 39.2% at end line respectively. This findings are not consistent with those of Mohammad study that noted confidentiality having the highest score 82.5% (Mohammadi & Kamali, 2014) and Malekzadeh study that observed mean score for confidentiality of about 3.96(79%) (Malekzadeh et al., 2021).

4.6.6 Choice

Choice of provider or facility was rated on indicators of opportunity to choose at the current visit, the ease of choice, the historical trends of being accorded the opportunity to choose and the overall perception of availability of choice. As shown in table 4.15, the means were generally low suggesting a poor perception on this domain. There were very minimal changes in the means scores between the baseline 2.67(53.5%) and end line 2.83(56.7%).

Table 4.15

Choice Summary Statistics

Indicator	Baseline		End line	
	M	SD	M	SD
Choice of Provider/Facility	2.74	1.067	2.87	1.050
Choice Of Provider	2.60	1.074	2.78	1.093
Choice Overall	2.69	1.020	2.84	1.032

M: Mean SD: Standard deviation

Choice was negatively rated with all indicators having mean scores below 3.4 at both end line and baseline. The indicators of choice were rated as shown in the table below

Slightly over half the respondents 161(52.2%) at baseline and 115(44%) at end line rated choice of provider as either poor or very poor while only 72(23.4%) at baseline and 76(29.5%) at end line rated choice of provider as either good or very good. This trend is in tandem with the Bazzaz study and Asefa study both of which noted choice was the least scored domain of health system responsiveness (Asefa et al., 2021; Bazzaz et al., 2015).

The ratings for good and very good combined were from a small proportion of the respondents ranging from 22.4% at baseline and 27.6% at end line on choice overall to 27.6% at baseline and 30.3% at end line on choice of facility. The ratings for choice indicators is shown in table 4.16.

Table 4.16

Ratings On Choice Indicators

Indicator	Rating	Baseline n (%)	End line n (%)
Choice of Facility	Very Poor 1	38(12.3)	27(10.5)
	Poor 2	100(32.5)	69(26.7)
	Fair 3	85(27.6)	84(32.6)
	Good 4	74(24.0)	67(26.0)
	Very good 5	11(3.6)	11(4.3)
Choice of provider	Very Poor 1	46(14.9)	31(12.0)
	Poor 2	115(37.3)	84(32.6)
	Fair 3	75(24.4)	67(26.0)
	Good 4	61(19.8)	64(24.8)
	Very good 5	11(3.6)	12(4.7)
Choice Overall	Very Poor 1	34(11.0)	25(9.7)
	Poor 2	107(34.7)	73(28.3)
	Fair 3	98(31.8)	89(34.5)
	Good 4	57(18.5)	59(22.9)
	Very good 5	12(3.9)	12(4.7)

This paints a picture where choice is severely limited in the study settings. Probably it may be due to the limited resources and the consequent shortages of staff such that clients have to make do with those in post. On the same breadth, the public facilities are spaced to provide for geographical coverage thus if one needs alternative, they may have to travel long distances. The private alternative facilities are more likely to be expensive beyond the affordability of many clients.

4.6.7 Amenities

Amenities were rated via the indicators of the cleanliness of the facility at the current visit, the cleanliness historically and the overall quality of the environment. The results are summarized in table 4.17. The baseline ratings were generally low, means of all indicators below 3.4. There was a positive change in the mean score from baseline, 3.22(64.4%) and the end line 3.46(69.2%). These findings suggest lower performance in this domain compared to those of a similar study in Ethiopia that found mean ratings of social amenities at 72.4%.

Table 4.17

Amenities Summary Statistics

Variable	Baseline		End line	
	M	SD	M	SD
Cleanliness Ratings Today	3.22	1.023	3.44	1.016
Cleanliness Record	3.23	0.932	3.48	0.955
Cleanliness Overall Rating	3.21	0.911	3.45	0.877

M: Mean SD: Standard deviation

Quality of amenities was generally negatively rated at baseline with all indicators having mean scores of less than 3.4 whereas at end line, all indicators were positively rated with mean scores

above 3.4 suggesting an improvement. The individual indicators of quality of amenities were rated as shown in the Table 4.18.

The interpretation is that a relatively smaller percentage of individuals provided favorable ratings for this particular domain, which encompasses ratings categorized as "good" and "very good" combined. These favorable ratings ranged from 35.7% at the baseline assessment to 45.7% at the end line assessment regarding overall cleanliness. Similarly, for other specific indicators within this domain, the favorable ratings ranged from 42.9% to 52.4% at the end line assessment. This suggests that while there was some improvement over time, a notable portion of respondents still did not rate this domain as highly satisfactory, indicating room for further enhancements in this aspect.

Table 4.18

Ratings On Amenities Indicators

Indicator	Rating	Baseline n (%)	End line n (%)
Cleanliness Today	Very Poor 1	17(5.5)	9(3.5)
	Poor 2	56(18.2)	35(15.1)
	Fair 3	103(33.4)	75(
	Good 4	105(34.1)	100(38.8)
	Very good 5	27(8.8)	35(13.6)
Cleanliness Record	Very Poor 1	9(2.9)	6(2.3)
	Poor 2	54(17.5)	32(12.4)
	Fair 3	127(41.2)	88(34.1)
	Good 4	93(30.2)	97(37.6)
	Very good 5	25(8.1)	35(13.6)
Cleanliness Overall Rating	Very Poor 1	6(1.9)	2(.8)
	Poor 2	59(19.2)	30(11.6)
	Fair 3	133(43.2)	108(41.9)
	Good 4	85(27.6)	87(33.7)
	Very good 5	25(8.1)	31(12.0)

Quality of Amenities have implication on structural variables and they do matter greatly quality of diabetes care (Itumalla et al., 2022). This study results agree with those of Forouzan study that found quality of amenities among the worst performing domains (Forouzan et al., 2015).

4.6.8 Social support

Social support was rated on indicators of allowing family support during the visits on the material visit, the track record in regard to allowing social support and the overall perceptions of how the hospital handles clients social support networks. The results are indicated in the table 4.19. There was improvement in the mean scores between baseline 3.19(63.8%) and end line 3.4(68%). This improvement suggests that there was a positive shift in how respondents perceived the hospital's approach to social support, indicating that the hospital's efforts led to an enhanced perception of its handling of social support-related matters among the surveyed population.

Table 4.19

Summary Statistics Social Support

<i>Indicator</i>	Baseline		End line	
	M	SD	M	SD
Social Support Today	3.23	0.911	3.40	0.908
History Of Social Support	3.17	0.931	3.40	0.890
Social Support Overall Rating	3.17	0.862	3.38	0.856

M: Mean SD: Standard deviation

Social support indicators were generally poorly rated at baseline with all indicators having mean less than 3.4 than end line. The individual indicators ratings are reflected in Table 4.20. Fewer, less than 50% respondents reported good ratings (Good and very good) at baseline and end line.

Table 4.20***Ratings On Social Support Indicators***

Indicator	Rating	Baseline n (%)	End line n (%)	
Social Today	Support	Very Poor 1	7(2.3)	5(1.9)
		Poor 2	56(18.2)	34(13.2)
		Fair 3	127(41.2)	98(38.0)
		Good 4	95(30.8)	95(36.8)
		Very good 5	23(7.5)	26(10.1)
History Of Support	Social	Very Poor 1	11(3.6)	4(1.6)
		Poor 2	60(19.5)	37(14.3)
		Fair 3	120(39.0)	92(35.7)
		Good 4	99(32.1)	103(39.9)
		Very good 5	18(5.8)	22(8.5)
Social Overall Rating	Support	Very Poor 1	4(1.3)	2(.8)
		Poor 2	61(19.8)	35(13.6)
		Fair 3	140(45.5)	108(41.9)
		Good 4	84(27.3)	90(34.9)
		Very good 5	19(6.2)	23(8.9)

4.6.9 Trust

This was rated by just one question of how clients rated their overall trust in the health system.

The results are reflected in table 4.21.

Table 4.21***Trust ratings***

<i>Statistics</i>	<i>Baseline</i>	<i>End line</i>
Mean	3.39	3.57
Std. Deviation	.887	.853
<i>Ratings indicators</i>	<i>n (%)</i>	<i>Frequency n (%)</i>
Very Poor	5(1.6%)	2(0.7%)
Poor	42(13.6%)	25(9.7%)
Fair	115(37.3%)	85(32.9%)
Good	119(38.6%)	115(44.6%)
Very good	27(8.8%)	31(12%)

Interpersonal trust is based on a variety of factors, including evaluations of a third party's dependability, sincerity, generosity, and fairness, in addition to assessments of their level of competence. Additionally, it has been shown that interpersonal trust is time-sensitive, developing or deteriorating over time as a result of frequent interactions that lead to the accumulation of opinions about and expectations for particular behaviors. In the context of chronic care therefore trust is critical to achieve the behavioral modifications needed for optimal clinical outcomes and adherence to clinic schedules and treatments (Topp & Chipukuma, 2016).

Generally, in this study, trust was better rated with more respondents reporting better trust (good and very good) 46% at baseline and 56% at end line compared to other domains like choice, confidentiality, quality of amenities and social support. There was a positive deviation in the mean scores between the baseline and end line surveys. The median score shifted from 3 in the baseline to 4 in the end line. Trust determines whether persons will seek services and continue to use the needed services (Aday & Andersen, 1974).

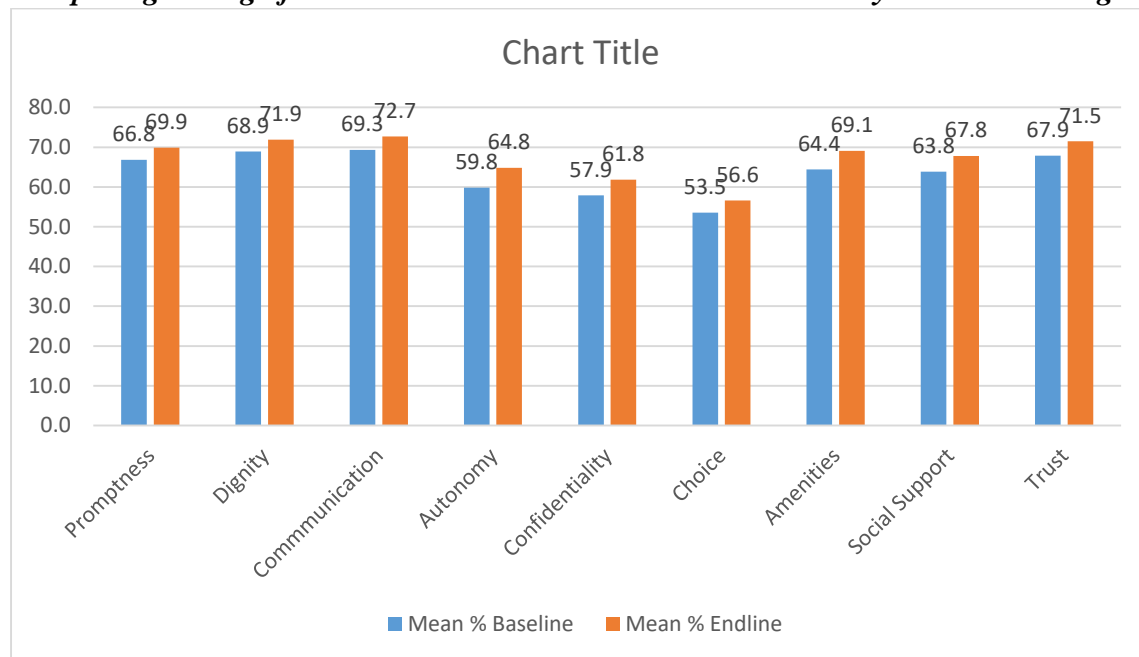
4.7 Comparative Ratings of domains

4.7.1 Baseline to end line

Responsiveness was scored through domains of; Promptness, Respect (dignity), autonomy, Communication. Choice, Confidentiality, Amenities, Social Support and overall Trust of the facilities with care outcomes as outlined above. To determine the best rated and the worst rated domains was done through comparing their mean percent score which was arrived at by getting the mean frequency as a percentage of the maximum possible. The ratings of the domains are shown in figure 4.1

Figure 4.1

Comparing Rating of Domains Between Baseline and End Line by Mean Percentage



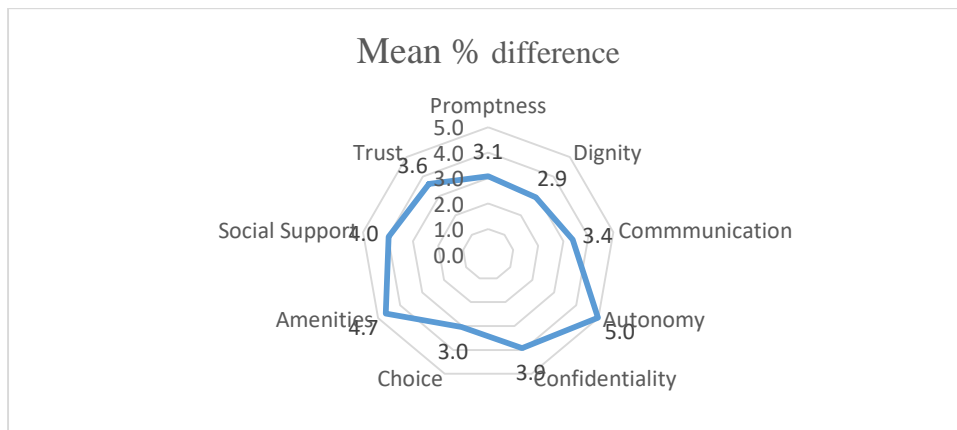
From the percentage mean scores, it may be seen none of the domains scored in the upper quartile, in regard to percent scores, over 75% mean score. The highest rated domain was communication at 69% mean score at baseline and 72.7% at end line followed by dignity 68.8%, at baseline and 69.9% at end line. The lowest performing domains was choice 53.3%, in the very lowest followed by confidentiality at second last at 57.9%.

Out of the client orientation domains being choice, cleanliness of amenities social support and promptness; choice was the worst performing, was the only one among its category to score below the trend line and was also the worst performing overall. Among the respect for persons domains; dignity as measured by respect, clarity of communication, autonomy as measured by the proxy involvement, and confidentiality; two of them; dignity and communication were above the trend line while autonomy and confidentiality were below the trend line.

Form the results, it may be seen that there was an improvement in all the domains mean scores from the baseline survey to the second survey. The positive deviation in percentage mean, ranged from dignity which had the least change of 2.9 to autonomy which had the most change of 5 Percentage points. The mean deviations are represented in figure 4.2.

Figure 4.2

Percent Mean Difference of Domain Ratings Between Baseline and End Line



These study findings that communication was the leading domain agree with those of a study in Germany ambulatory care, where most clients generally rated communication as good during their last visit to the doctors (Tille et al., 2019) and in Thailand among women during delivery, where over 80% rated communication as good alongside dignity prompt attention and autonomy (Liabsuetrakul et al., 2012). Similar results were noted in Spain where communication the third most important domain in ranking was the best performance among the patients with mental illnesses (Coronado-Vázquez et al., 2022). The study agrees with that of Anderson et al. (2019) that training improves communication.

The findings on the leading domain of responsiveness however are not uniform. Focused group discussions yielded contrasting results among the facilities.

For instance, an elderly respondent in Kimilili hospital when asked to comment of how staff talk to clients, he quipped

“...I am an old man, and I have to be explained matters about my health and treatment slowly. And I like the staff here because they don't usually hurry me up when we are having a discussion. On that one I commend them...” (Elderly Male Participant FGD, Kimilili Hospital)

On the same subject matter of communication, In Gatundu, the clients brought up the notion that when teachings for groups, are well organized, they are better handled than during consultations for individual clients. Below is an Excerpt from the FGD.

“...I think the staff look like they in a hurry a lot of times, that is why we may not discuss so much, plus you see the line of patients are long. But they do very well during the health teachings, so if you want information, come early during the patient teaching sessions...” (Female Participant FGD, Gatundu Hospital)

In Uasin Gishu Hospital, a respondent drew a comparative between the hospital and the nearby facilities as captured below

“...This place is better, our staff talk to you till you understand, unlike the MTRH which is like a busy supermarket. That is why since started coming here, i have not changed for the last three years now...” (Female Participant FGD Uasin Gishu Hospital)

The findings on the leading domains however differ with several studies. For instance (Ahmadi et al., 2017) noted the best performing as quality of amenities, while the worst was choice more like in this study. Further, Ebrahimipour et al. (2013) observed the best performing domain was social support, Najafi et al. (2016) found the best rated domain was dignity while the worst

was autonomy. Peltzer & Phaswana-Mafuya (2012) observed amenities were the best rated responsiveness domain while the worst was prompt attention.

In a study in Nigeria, despite respondents ranking communication among the extremely important domains, unlike in our study findings, it was rated among the least responsive domains in actual experiences (Mohammed et al., 2013). A better scenario than our results is obtained in Tanzania where all the domains were rated relatively highly with communication leading at over 53% rating it as either good or very good (Amani et al., 2020). Similarly, in Nigeria, Adesanya et al noted that in both private and public hospitals, the domain of communication had the best and comparable ratings (Adesanya et al., 2012).

This study findings that choice was rated the worst reflects a trend seen in many other studies across the globe. Choice performance across different contexts shows a fluctuating but generally low pattern. Similar to this study, one study in Nigeria observed that choice of care provider (80.0%) was the lowest perceived responsiveness domain compared to prompt attention (89.2%) which was rated highest (Ughasoro et al., 2017a). Similar results were noted in a study in Ethiopia whereby poor results were noted in the domain of choice and prompt attention compared to confidentiality and dignity domains, where only about 26% of the respondents rated choice as good while 83% rated respect as good (Asefa et al., 2021).

A similar trend of low performance in the choice domain was noted in Iran where choice was noted among those that received low ratings and thus needed more attention for improvement of health systems responsiveness (Bazzaz et al., 2015). Other studies that noted poor performance in the domain of choice include Tille et al. (2019) in Germany, Kapologwe et al. (2020) in Tanzania, Adesanya et al. (2012) in Nigeria and Negash et al. (2022a) in Ethiopia.

The problem of choice is corroborated by both client and staff key informant interviews as captured below

One of the nursing officers in charge of the unit noted that

“...It is very difficult to offer variety of providers for clients to choose from. We are struggling with even making sure the units are covered fully all the hours. But once in a while if a client is not comfortable with the provider, we check to see who is on duty to see if we can give them an alternative nurse or clinician. But it’s a habit that we take cautiously because some clients may start profiling providers leading to acrimony...”

(Female KII Kimilili Hospital)

This very phenomenon is also captured by a client in an FGD who said

“...us we just come and whoever we find on duty, that is it, even if you wish to choose, where from and they are just not there. Unless you go to big hospitals like Nairobi where you can request your own physician. And most of us will not afford that...”

(Female Participant FGD Gatundu)

From the foregoing therefore it implies the debate about choice of provider is far from over as it has many angles of looking at. The challenge stems from both sides of the divide, clients and providers.

To accord choices of providers and or facilities for health care means there ought to be variety. Probably this may be the explainer to a consistently low trend of performance in choice domain as it requires huge investment to diversify the providers and the range of facilities available for customers to choose from. Further, the notion of getting a second opinion as embedded in choice especially from specialists is a pipe dream for many generally because most of the

specialists are concentrated in urban centers, are few compared to the demand and costly to afford their private practice.

Further, for chronic or specialist services, the aspect of choice demands of the health system to avail many specialists at the disposal of the clients, a fact that is heavily constrained by the thin resource parcel in low- and middle-income countries. Similarly clients may exercise limited choice because they don't wish to, or are not well informed and activated (Victoor et al., 2012).

The themes suggested for improvement of responsiveness emerging from the KIs and FGDs include strengthening the logistics systems to enables drug availability, having common forum for feedback between clients and providers and, imploring clients to understand diverse personalities and cultural backgrounds with empathetic attitude. Sharing information on appointed sessions with client was also suggested to encourage more activation of client. Further the discussion vouched for integrated care where most services are offered at one site to minimize movement of patients and the fatigue that comes with it.

4.7.2 Comparison of Ratings for Responsiveness domains among the Facilities

The relative ratings of the domains along the three facilities have been summarized using means and standard deviations and summarized in the Table 4.22. This study findings shows that as concerns the facilities, comparatively Kimilili hospital had the highest ratings in all the domains except promptness where Gatundu was the leading in rating with a mean of 10.1 out of possible 15(67.6%) on this domain.

Table 4.22***Responsiveness domains summary statistics across the facilities***

	Variable	Statistic	Pro	Dig	Com	Aut	Con	Cho	Ame	Soc	Tru
Baseline	Kimilili	M	9.9	18.5	19.1	13.2	12.5	8.7	10.0	10.0	3.6
		SD	2.6	3.6	3.4	3.9	3.6	2.8	2.4	2.1	.8
	Uasin Gishu	M	9.9	18.2	18.7	12.9	11.6	7.8	9.5	9.9	3.5
		SD	2.8	4.8	4.7	4.1	3.7	3.1	2.2	2.1	.8
	Gatundu	M	10.1	15.8	15.2	10.4	11.1	7.8	9.6	9.1	3.1
		SD	2.9	4.7	4.5	3.7	3.7	2.6	2.6	2.7	.9
End line	Kimilili	M	10.3	18.6	18.9	13.6	12.7	8.9	10.3	10.4	3.7
		SD	2.7	3.6	3.4	3.7	3.6	2.7	2.3	2.3	.8
	Uasin Gishu	M	10.3	18.4	19.1	13.4	12.1	7.9	9.7	10.1	3.6
		SD	2.6	4.8	4.5	3.9	3.8	2.9	2.3	2.2	.8
	Gatundu	M	10.8	17.1	16.8	12.1	12.3	8.7	11.0	10.1	3.5
		SD	2.6	4.4	4.4	4.1	4.1	3.1	2.5	2.7	.9

Key **B**: Baseline. **E**: End line, **DM**: Diabetes Mellitus, **HTN**: Hypertension, **M**: Mean,

SD: Standard Deviation, **Pro**: promptness, **Dig**: Dignity, **Com**: Communication, **Aut**: Autonomy, **Con**: Confidentiality, **Cho**: Choice, **Ame**: Amenities, **Soc**: Social Support, **Tru**: Trust

Despite choice performing the lowest in regard to mean score for the three facilities, the least rated domain was in involvement in Gatundu hospital at 10.45 out of 20 (52.3%) mean score while the highest rated domain was communication at 19.11 out of 25 (76.45%) mean score. Kimilili hospital had comparatively better average responsiveness on all domains except promptness which was best rated in Gatundu hospital.

4.8 Ranking of Responsiveness Domains

Respondents were asked to name the domain they consider the most important domain for them. The frequencies per domain were summed up to come up with the ranking, thus the one

with the highest frequency of rankings as the most important would be the most valued domain.

The results are summarized in Figure 4.3 for baseline and Figure 4.4 for end line.

Figure 4.3
Ranking Of Domains at Baseline

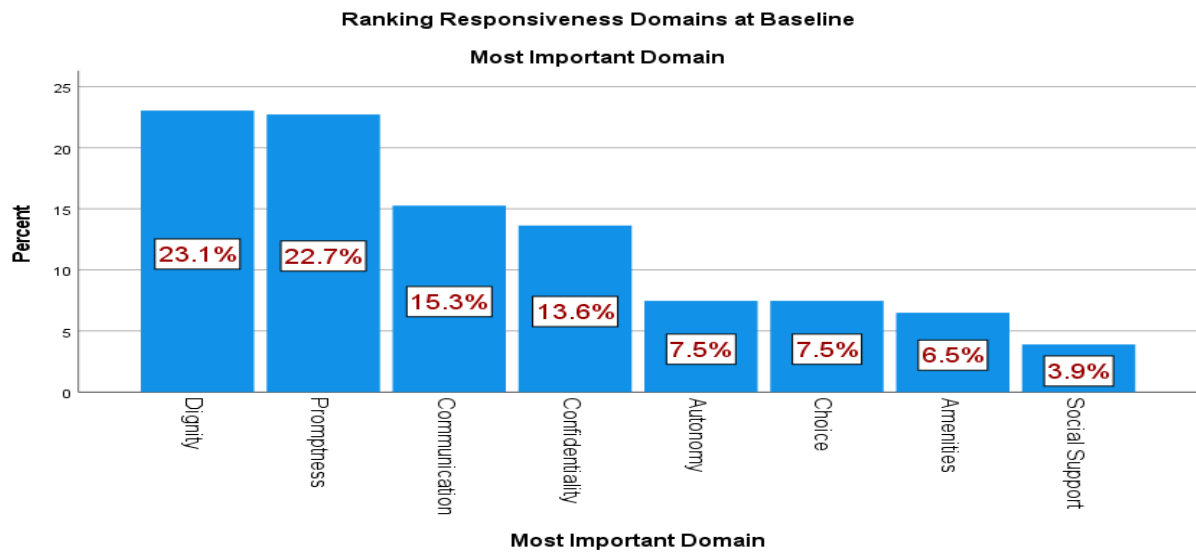
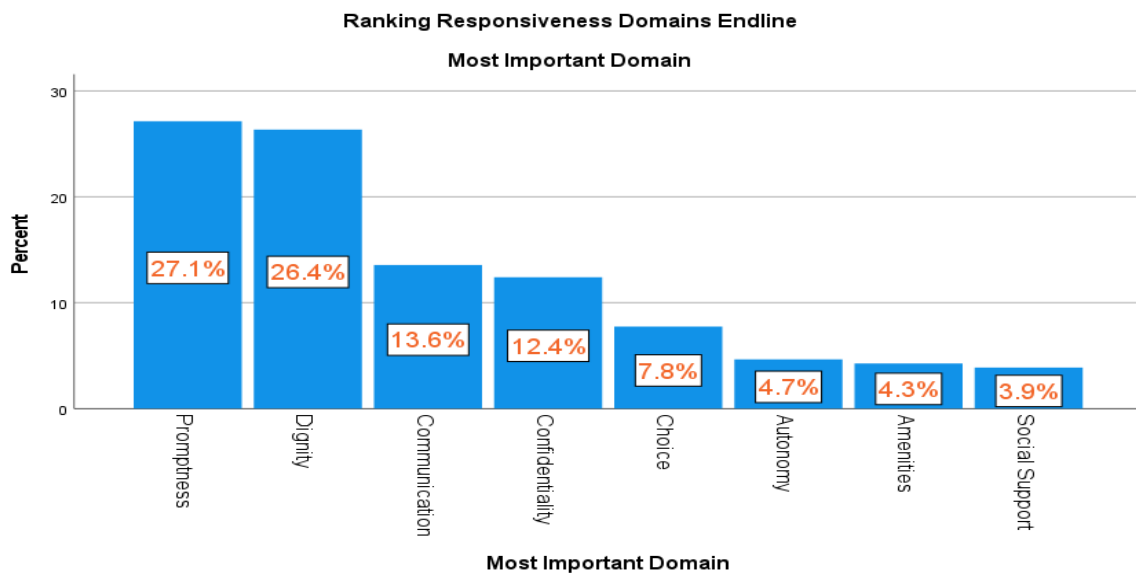


Figure 4.4
Ranking Of Domains at End Line



The same pattern of ranking is maintained where dignity and promptness are the most valued while social support and amenities were the least valued domains.

Overall, It may be seen that dignity and promptness were the most valued responsiveness domains, at 23.1% and 22.7% respectively during baseline while at end line promptness had a slight 27.1 % and dignity at 26.4% during end line followed by communication while the least valued domain was social support at 3.9%.this results agree with those of that noted clients wished they were accorded more prompt services than considering promptness better than increasing consultation time (Srivastava et al., 2015).

From the focus group discussions, both staff and clients agreed in unison that responsiveness is very important. However, the concept had various interpretations and the emerging themes included regarding it as patient centered care, timely treatment, and respectful treatment and having knowledge of patient.

One staff noted that,

“...responsive care is to know your patient well, know their condition, plan their care and follow it well...” (Male Nurse, FGD Kimilili Hospital)

Another health worker said,

“... to be responsive is to have a good attitude to towards your clients...” (Male Clinician, Female Clinician, Gatundu Hospital)

Similarly, a client FGD, one client said

“...responsive care is when we are handled well with respect and treated on time, not to wait here long hours....” (Female participant FGD Uasin Gishu Hospital)

Therefor generally clients and providers though in diverse ways capture the essence of a responsive health system, but have yet to grasp it with clarity.

The results that the dignity domain was best ranked agree with those of (Ahmadi et al., 2017)and (Mohammadi & Kamali, 2014) while the studies that speak to prompt attention as the most valued responsiveness domain include (Ughasoro et al., 2017). The results differ from a study in Nigeria to assess responsiveness found clients rated as most important the domain of communication, 55.4% followed by dignity, 54% and the last was choice at 42% (Mohammed et al., 2013).

Asked how fair the system handled clients, it was noted that elements of favoritisms are experienced. One client said

“...Sometimes you may see people cross the line and are taken in for treatment first while those who arrived early still wait on the line. Or you see a medic just tell you drop it in my lab coat. In reference to money....” (Male participant FGD Gatundu Hospital).

A key informant had the following to say

“...we know some people are asking for informal payments but we do our best to stop it. Those who are found are dealt with seriously to serve as an example to the rest...” (Male KII Kimilili Hospital).

In regard to facility location, though dignity and promptness were the most preferred when considering the aggregates, there were some variations across the three facilities. Promptness was the most valued in Gatundu while dignity was the most preferred in both Kimilili and Uasin Gishu Hospitals. Though social support was the least preferred in aggregate, the pattern in Kimilili hospital was different where social support was second last after amenities.

Comparatively it may be discerned that, save for promptness, most respondents across the three facilities generally valued more of the respect for person domains of dignity, communication, confidentiality and autonomy. The ranking across the facilities is shown in Figure 4.5 for baseline and Figure 4.6 for end line below.

Figure 4.5

Cross Tabulation of Rankings Of Domains Per Facility At Baseline

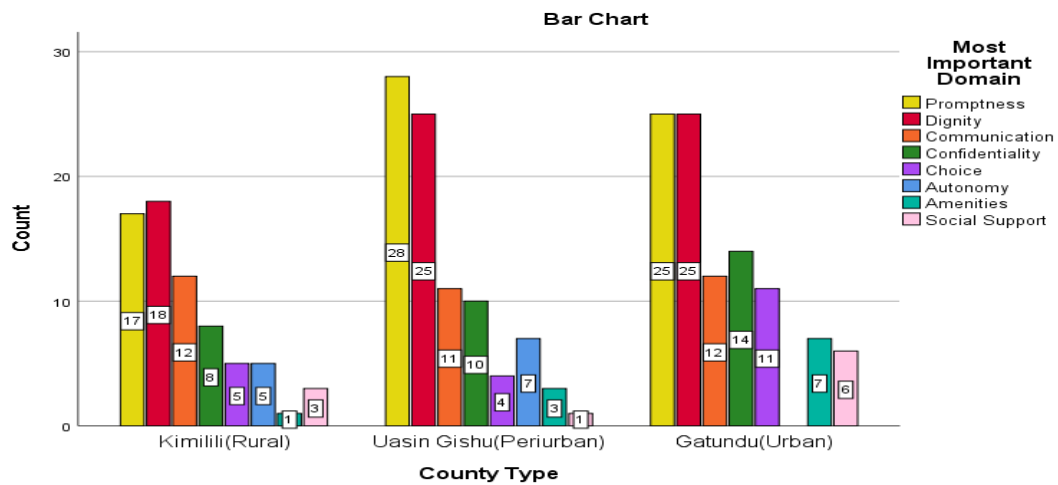
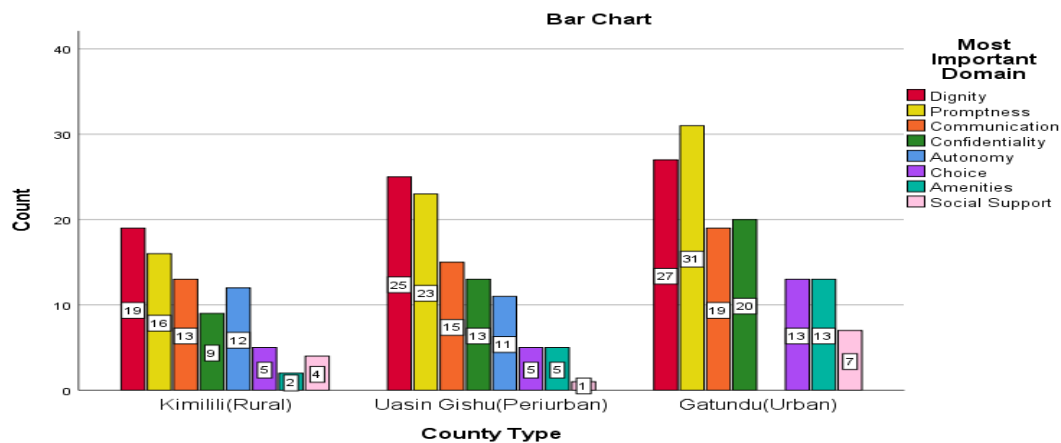


Figure 4.6

Cross Tabulation of Rankings of Responsiveness Domains at End Line



It may be noted that the dignity was the most valued domain for Kimilili while promptness was the most valued in Uasin Gishu and Gatundu Hospitals both at baseline and end line. Amenities and social support were the least valued. There was no change in the rankings of domains between baseline and end line.

4.9 Responsiveness Levels

The assessment for responsiveness was measured via nine domains each with several indicators totaling to 31 indicators. The indicators responses were framed as text anchors denoting an intervalistic approach where a score of 1 was the least and 5 the highest rating. Responsiveness levels were arrived at by summing the scores per client on each domain to get the aggregate (South et al., 2022). Since the domains were measured through 31 questions rated on five-point linearized scale, from 1 indicating the worst rating to 5 indication the best rating. The minimum expected was 31 while the maximum expected was 155.

The responsiveness levels ranged between 59 and 149 having a range of for baseline and between 62 and 149 at end line. The results are as summarized in the table 4.23. The percentage mean responsiveness level was computed as a percentage of mean, 98.8 over the maximum possible, 155 and was found to be 63.7% Whereas for the end line survey the mean percent was 67.5%.

Table 4.23
Summary Statistics for Responsiveness levels

<i>Statistics</i>	<i>Baseline</i>	<i>End line</i>
Mean	98.80(63.7%)	104.55(67.5%)
Median	98.00	106.000
Mode	106	115.0
Std. Deviation	18.799	18.2445
Range	90	87.0

This results agree with observations in south Africa that found mean responsiveness level was 69% for outpatient (Peltzer & Phaswana-Mafuya, 2012),in Ethiopia that found mean responsiveness at about 62% (Negash et al., 2022a) and in Tanzania that noted responsiveness to be 69% (Kapologwe et al., 2020). This results reveal a poor picture compared to studies in developed countries that noted overall good responsiveness for instance in Spain, where 77% of clients rated responsiveness as good Coronado-Vázquez et al. (2022), in Qatar a study noted high levels of responsiveness,82%(Ali et al., 2015) and in Thailand where 80% of women rated responsiveness domains as good (Liabsuetrakul et al., 2012).

4.9.1 Responsiveness Levels Versus Socio-Demographic Variables

Having described the responsiveness domains and aggregate levels, we further disaggregated the mean ratings per domain and the aggregate of responsiveness across the different socio-demographic variables.

Following the means, it may be seen Kimilili had recorded comparatively better responsiveness followed by Uasin Gishu and lastly Gatundu hospital. Females had better responsiveness than males at baseline but at end line they reported similar ratings. Regarding age, there were minimal differences in responsiveness across the age categories at baseline whereas at end line, the elderly reported far better responsiveness. In regard to marital status, the separated respondents had better responsiveness than the other categories at both baseline and end line.

Those who reported enrollment in medical insurance cover reported better responsiveness than the non-insured. As for occupation, those who were in casual labour reported better responsiveness than all other categories at baseline and end line whereas those with no formal education and lower monthly earnings had relatively better responsiveness than other levels at

baseline and end line. Concerning medical condition, those with both conditions reported the least levels of responsiveness. As for religious faith, Catholics reported better responsiveness levels than other faiths. The summaries of means responsiveness levels versus socio-demographic variables are cross tabulated in Table 4.24.

Table 4.24

Responsiveness Levels Vs socio-demographic variables

<i>Variable</i>	<i>Baseline</i>			<i>End line</i>				
	<i>Mean</i>	<i>%</i>	<i>n</i>	<i>SD</i>	<i>Mean</i>	<i>%</i>	<i>n</i>	<i>SD</i>
Facility								
Kimilili	105.5		80	15.2	107.3		69	15.7
Uasin Gishu	102.1		98	18.1	104.7		89	18.2
Gatundu	92.2		130	19.3	102.5		100	19.8
Gender								
Male	97.4		95	18.6	104.3		78	18.5
Female	99.4		213	18.9	104.6		180	18.2
Age								
<40	97.5		28	16.7	100.4		22	17.4
40-59	99.8		159	18.9	104.9		135	18.5
60-79	97.5		96	19.2	103.6		82	18.3
80+	98.8		25	19.1	111.0		19	16.6
Religion								
Catholic	102.7		114	18.7	107.5		100	18.3
Protestant	98.1		159	17.7	103.2		136	17.3
Muslim	92.8		25	22.6	104.5		16	22.7
Traditionalist	80.2		10	11.9	85.7		6	14.7
Marital Status								
Single	94.3		46	19.2	100.8		37	18.8
Married	99.7		214	18.8	105.2		182	18.2
Divorced	88.7		10	11.7	98.7		6	8.9
Widowed	95.2		22	16.7	98.8		18	19.2
Separated	111.1		16	17.6	115.5		15	14.2
Insured								
Yes	99.4		136	18.6	105.9		110	17.8
No	98.3		172	18.9	103.5		148	18.5
Occupation								
Business	99.0		79	20.9	107.5		63	19.3
Farmer (LS)	89.2		45	10.9	98.8		38	13.7

Farmer (SS)	101.2	130	18.4	104.9	113	17.9
Formal	100.1	40	19.4	104.1	30	20.5
Casual labour	107.7	9	11.1	110.3	9	8.9
Others	92.0	5	32.8	94.0	5	32.1
Educational						
No Education	100.9	29	20.9	106.7	26	19.6
Primary	99.8	110	18.5	104.6	89	17.6
Secondary	96.9	108	19.6	104.4	88	18.9
Tertiary	99.3	61	16.9	103.7	55	17.8
Condition						
DM	98.9	95	19.2	104.2	84	19.1
HTN	100.3	156	19.1	105.5	132	17.9
DM & HTN	94.2	57	16.7	102.2	42	17.7
Income (Ksh.)						
1000-10000	96.9	217	18.9	103.5	185	18.4
>10000	103.4	91	17.7	107.1	73	17.6

n: Sample, SD: Standard Deviation

This study findings are not in tandem by those of Sajjadi et al. (2015) and (Kruk et al., 2018) who found that women were four times more likely to be discriminated than men and that one out every five women was likely to report discrimination, respectively. These findings do not move along the postulation by (Valentine et al., 2000) that expects better responsiveness with increased education. Similarly the trend is different from that found by (Sajjadi et al., 2015) that noted discrimination in hospitals was more likely to the lowly educated, 32% compared to the highly educated, 23%.

In regard to age categories those above 80 years had better responsiveness in matters of prompt attention and respectful care, choice and social support. The relatively young had better responsiveness in the domains of communication, involvement and confidentiality whereas the middle aged, 40-59 years led in choice and overall trust in the health system domain. This findings are inconsistent with those of the Valentine et al. (2000) that observed the very old are

more likely to be treated with less dignity. however, they agree with those (Stewart et al., 2020) that noted fewer unresponsiveness among the very elderly in several countries.

In conclusion, there are wide variations in regard to how the health system responds to persons in regard to the domains and the socio-demographic characteristics. This trend is alluded to also by(Shaquura et al., 2022) . The emerging patterns are that those without multimorbidity, the rural facilities, and the females, catholic, casual and small-scale farmers, and the elderly had generally better responsiveness than the rest of the categories.

4.10 Predictors of Health System Responsiveness

The predictor variables were responsiveness valuations, accountability mechanisms, access, structural, organizational culture and justice perceptions. Valuations (Franken & Koolman, 2013) were measured through ratings on role awareness, importance of responsiveness, role in enforcing. Accountability mechanisms were measured by scores on role and utility service charters, patients' rights charters, Transparency and equity. Access factors (Escarce & Kapur, 2006) were measured by ratings on physical access, sociocultural, financial and organizational access. Structural factors (Lindqvist et al., 2015) were measured via scores on commodities availability, staffing levels, and physical environments. Organizational culture was scored on indicators of customer focus, team spirit, and consistency whereas justice perceptions (Pritchard, 1969) were rated by indicators of fairness in procedures and fairness to persons, and fairness of costs.

The predictors' individual indicators were analyzed descriptively by means and standard deviations and for proportions of those that scored in the categories of 4 and 5 which suggest

favourable ratings for the predictors. Finally comparative analysis among the predictors was done to determine the relative position of each predictor.

4.10.1 Valuations

Responsiveness valuations were rated in regard to client’s awareness of their rights, their obligations, and their regard for the legitimacy of expectations of reflecting responsiveness domains and how they perceived their influence to have responsiveness expectations met. The responses were rated on a five-point interval Likert scale. The valuations summary statistics are represented in Table 4.25.

Table 4.25

Summary Statistics for Valuations Ratings

<i>Indicator</i>	Baseline		End line	
	M	SD	M	SD
Awareness of client rights	3.00	1.158	3.06	1.149
Awareness of client Obligations	3.16	1.163	3.27	1.145
Legitimacy of expectations	3.54	1.222	3.64	1.218
Client Power	2.66	1.267	2.71	1.261

M: Mean SD: Standard deviation

Only legitimacy of expectations was well rated with mean above 3.4 at baseline and end line. Thus, responsiveness valuations were generally negatively rated. These findings are in tandem with the qualitative findings where it emerged not only clients feel powerless but even the health care providers to feel the same sometimes, exemplified as follows:

“...we value respect so much and would like to be handled well. But truly we are limited on what we can do whenever we don’t feel treated well. You can’t insist on accusing someone assisting you. You focus more on your treatment than other issues...”

(Female Participant, FGD Kimilili Hospital)

“...here sometimes you may have good plans to improve care, but those who control the system also look at issues differently and at times we maintain a wait and see attitude...”

(KII Gatundu Hospital)

This is a contrast of the expectations and thus has potential to undermine health systems responsiveness. It portends a policy implication to establish measures that align expectations with actual outcomes in order to enhance the overall responsiveness of health systems. The ratings for individual indicators are presented in Table 4.26.

Except for legitimacy of expectations, no other indicator had ratings of category 4 and 5 combined (good/very good or, legitimate/very legitimate or significant influence/great influence combined having over 50% respondents. The awareness and perceptions of client voice were mainly in the low category of both poor and fair both in baseline and end line while ratings on client expectations and obligations had majority in the high categories of 4 and 5 in both baseline and end line.

Table 4.26***Responsiveness Valuations Indicators***

Indicator	<i>Ratings</i>	n	%	n	%
Awareness of client Rights	Very Poor	28	9.1	22	8.5
	Poor	87	28.2	65	25.2
	Fair	85	27.6	77	29.8
	Good	73	23.7	63	24.4
	Very Good	35	11.4	31	12
Awareness of client Obligations	Very Poor	23	7.5	17	6.6
	Poor	76	24.7	53	20.5
	Fair	80	26.0	70	27.1
	Good	87	28.2	79	30.6
	Very Good	42	13.6	39	15.1
Legitimacy Of expectations	Very illegitimate	19	6.2	16	6.2
	Illegitimate	52	16.9	36	14.0
	Somewhat Legitimate	64	20.8	50	19.4
	Legitimate	91	29.5	79	30.6
	Very Legitimate	82	26	77	29.8
Client Voice	No influence	69	22.4	54	20.9
	Little influence	84	27.3	68	26.4
	Not sure	64	20.8	56	21.7
	Significant Influence	65	21.1	58	22.5
	Great Influence	26	8.4	22	8.5

Overall, the interpretation suggests a mix of positive and less positive perceptions among respondents. While the legitimacy of expectations is viewed positively, there are potential areas of concern related to client voice, awareness and perceptions. The hospitals might benefit from focusing on strategies to enhance client engagement, gather feedback, and ensure that client perspectives are considered in decision-making processes. Additionally, the importance of addressing client expectations and obligations is emphasized by their consistently high ratings.

4.10.2 Accountability Mechanisms

Accountability mechanisms was rated via the indicators of collective engagement, grievance procedures, utility of hospital charter and client rights charters. There was a general improvement in all the indicators between the baseline and end line as shown in Table 4.27

Table 4.27

Accountability Mechanisms Summary Statistics

<i>Indicator</i>	Baseline		End line	
	M	SD	M	SD
Staff/client engagement	2.38	1.022	2.74	1.129
Grievance Procedure utility	2.53	0.986	2.76	1.085
Hospital service charter	2.51	1.051	2.83	1.117
Client Rights charter	2.33	0.976	2.72	1.125

All the accountability indicators were negatively rated, with all with means below 3.4 at baseline and end line. The low ratings could reflect a lack of accountability within the hospital administration and staff. This might mean that concerns or complaints are not being adequately addressed or resolved. This should be a concern for hospital administrators and healthcare providers. The findings are corroborated with the qualitative findings where the following excerpts illustrate the deficiency:

“...for sure I have never looked at the hospital service charter and I didn't even know what it is.

(Male client Participant, Uasin Gishu FGD)

Further staff reveal some level of callous attitude about the accountability mechanisms when one said:

“...I think the service charters and feedback mechanisms are just routine and more an administrative requirement, but really most of us don't pay a lot of attention to them...”

(KII Gatundu Hospital)

The scores for individual indicators are presented in Table 4.28

Table 4.28
Accountability Mechanisms Individual Indicators

Variable	Subsets	Frequency	Percent	Frequency	Percent
		Baseline		End line	
Client engagement	Very Poor	65	21.1	42	16.3
	Poor	114	37.0	69	26.7
	Fair	80	26.0	72	27.9
	Good	44	14.3	64	24.8
	Very Good	5	1.6	11	4.3
Grievance handling	Very poor	51	16.6	39	15.1
	Poor	97	31.5	69	23.6
	Fair	112	36.4	91	35.3
	Good	42	13.6	56	21.7
	Very Good	6	1.9	11	4.3
Hospital Charter Utility	Very poor	49	15.9	28	10.9
	Poor	126	40.9	86	33.3
	Fair	71	23.1	62	24.0
	Good	52	16.9	66	25.6
	Very good	10	3.2	16	6.2
Client Charter Utility	Very poor	63	20.5	34	13.2
	Poor	125	40.6	90	34.9
	Fair	79	25.6	63	24.4
	Good	37	12.5	55	21.3
	Very good	4	1.3	16	6.2

Except for grievance handling procedure, the other three indicators of client engagement, utility of service charter and clients' charter all had the very poor and poor ratings combined being more than 50%, suggesting a generally more unfavourable perceptions about the accountability indicators.

The fact that three out of the four accountability indicators—client engagement, utility of service charter, and clients' charter received poor ratings combined indicates that there are significant shortcomings in how the hospital operates and engages with clients. Managements of the respective hospitals ought to recognize the gravity of these issues and take immediate action to improve these aspects. While there were some improvements observed between the baseline and end line measurements, it's essential to acknowledge that these improvements were not sufficient to change the overall negative perception about these accountability indicators.

4.10.3 Access factors

Access factors were rated via the indicators of convenience of distance, clinic schedules, service organization, affordability and cultural respect. The summary results are tabulated in table 4.29.

Table 4.29

Access summary statistics

<i>Indicator</i>	Baseline		End line	
	M	SD	M	SD
Distance convenience	3.44	1.043	3.47	1.002
Clinic Schedules	3.41	1.016	3.45	0.994
Service Organization	3.39	0.988	3.49	0.955
Affordability	3.21	1.037	3.24	0.995
Sociocultural respect	3.28	0.949	3.36	0.916

Access factors were generally fairly rated with two of the five indicators having means of 3.4 at baseline and end line.

The ratings for individual indicators of access factors are represented in table 4.30. Two indicators regarding convenience of distance, and clinic schedules had more favourable perceptions in both having the proportion that rated as either good or very good combined being over fifty percent. The other three indicators regarding service organizations, affordability and sociocultural respect though had more centered ratings reflecting average performance. There were generally minimal changes between baseline and end line suggesting the intervention had minimal effect on this predictor.

Table 4.30
Access indicators ratings

Variable	Subsets	Frequency Baseline	Percent	Frequency End line	Percent
Distance convenience	Very Poor	10	3.2	6	2.3
	Poor	52	16.9	42	16.7
	Fair	86	27.9	73	28.3
	Good	113	36.7	100	38.8
	Very Good	47	15.3	37	14.3
Clinic schedules	Very poor	11	3.6	8	3.1
	Poor	49	15.9	38	14.7
	Fair	89	28.9	75	29.1
	Good	120	39.0	104	40.3
	Very Good	39	12.7	33	12.8
Service Organization	Very poor	9	2.9	6	2.3
	Poor	45	14.6	29	11.2
	Fair	111	36.0	94	36.4
	Good	102	33.1	91	35.3
	Very good	41	13.3	38	14.7
Affordability	Very poor	8	2.6	5	1.9
	Poor	76	24.7	59	22.9
	Fair	105	34.1	94	36.4
	Good	80	26.0	70	27.1
	Very good	39	12.7	30	11.6
Sociocultural respect	Very poor	9	2.9	5	1.9
	Poor	52	16.9	37	14.3
	Fair	118	38.3	102	39.5
	Good	101	32.8	88	34.1
	Very good	28	9.1	25	10.1

4.10.4 Structural factors

Structural factors were measured through ratings on how available were the needed supplies for medical procedures, how often the prescriptions were honored, and ratings on the quality of the physical environment. This domain was generally poorly rated in all the three indicators, with only marginal positive change between baseline and end line as shown in table 4.31

Table 4.31*Structural Summary Statistics*

<i>Indicator</i>	Baseline		End line	
	M	SD	M	SD
Supplies availability	2.68	1.117	2.78	1.107
Honoring Prescriptions	2.65	1.155	2.81	1.141
Infrastructure	2.93	1.090	3.00	1.111

Structural factors were generally negatively rated with all indicators having means scores of less than 3.4 at baseline and end line. The individual indicators for structural variables are shown in table 4.32 below. In summary, the data shows that none of the indicators reached a satisfactory level of "good" and "very good" ratings from respondents. This highlights the need for attention and improvement in the areas of supplies, honoring prescriptions, and physical infrastructure to enhance overall satisfaction among the respondents.

Table 4.32

Structural Indicators Ratings

Variable		Subsets	Baseline		Endline	
			Frequenc y	Percen t	Frequenc y	Percen t
Supplies	Availability	Never	46	14.9	35	13.6
		Rarely	102	33.1	75	29.1
		Few Times	80	26.0	74	28.7
		Sometime s	64	20.8	61	23.6
		Always	16	5.2	13	5.0
Honoring prescriptions	Never	52	16.9	13	12.8	
	Rarely	101	32.8	80	31.0	
	Few Times	77	25.0	67	26.0	
	Sometime s	58	18.8	60	23.3	
	Always	20	6.5	18	7.0	
Physical Infrastructure	Very poor	23	7.5	19	7.4	
	Poor	94	30.5	72	27.9	
	Fair	104	33.8	85	32.9	
	Good	56	18.2	53	20.5	
	Very Good	31	10.1	29	11.2	

None of the indicators had the combined ratings of good and very good reaching 50%, in fact in all the indicators, the ratings of good and very good were less than 30%, (Supplies, 26% at baseline and 28.6% at end line, honoring prescriptions, 25.3% at baseline and 30.3% at end line, physical infrastructure, 28.3% at baseline and 31.7% at end line).

4.10.5 Organizational culture

Organizational culture was measured through the indicators of respectful language, cultural sensitivity, adherence to processes, convenience of processes, Convenience of pay

arrangements, how customer opinions are handled and focus on client interest. The summary statistics are presented in Table 4.33.

Table 4.33

Organizational Culture Summary Statistics

<i>Indicator</i>	Baseline		End line	
	M	SD	M	SD
Language	3.19	1.041	3.28	1.077
Cultural sensitivity	3.12	1.040	3.26	1.073
Process adherence	3.08	0.985	3.22	1.033
Client flow	3.09	1.009	3.17	1.045
Pay arrangements	3.00	1.034	3.16	1.059
Client opinions	2.98	1.022	3.12	1.068
Client focus	3.02	0.983	3.09	1.017

M mean SD Standard Deviation

The means suggest all the indicators were fairly rated though below the threshold 3.4 for good determination of favourable ratings. There were notable positive deviations on all indicators between the baseline and end line surveys.

The ratings for individual indicators are presented in Table 4.34 below. The indicators of language, cultural sensitivity, and process adherence had fairer perceptions with over 40% of the respondents rating each as either good or very good combined whereas all the others had the ratings of good or very good combined between 30 to 40%.

Table 4.34
Organizational culture indicators

Variable	Subsets	Frequency	Percent	Frequency	Percent
		Baseline		End line	
Language	Very Poor	13	4.2	10	3.9
	Poor	77	25.0	63	24.4
	Fair	85	27.6	59	22.9
	Good	106	34.4	96	37.2
	Very Good	27	8.8	30	11.6
Cultural Sensitivity	Very poor	12	3.9	10	3.9
	Poor	84	27.3	58	22.5
	Fair	98	31.8	79	30.6
	Good	84	27.3	76	29.5
	Very Good	30	9.7	35	13.6
Process adherence	Very poor	9	2.9	9	3.5
	Poor	88	28.6	60	23.3
	Fair	104	33.8	82	31.8
	Good	84	27.3	79	30.6
	Very good	23	7.5	28	10.9
Client flow	Very poor	9	2.9	10	3.9
	Poor	89	28.9	63	24.4
	Fair	101	32.8	87	33.7
	Good	82	26.6	69	26.7
	Very good	27	8.8	29	11.2
Pay arrangements	Very poor	16	5.2	12	4.7
	Poor	89	28.9	61	23.6
	Fair	109	35.4	89	34.5
	Good	67	21.8	66	25.6
	Very good	27	8.8	30	11.6
Client opinions	Very poor	17	5.5	14	5.4
	Poor	95	30.8	67	26
	Fair	92	29.9	75	29.1
	Good	86	27.9	78	30.2
	Very Good	18	5.8	24	9.3
Customer focus	Very Poor	14	4.5	13	5.0
	Poor	82	26.6	62	24.0
	Fair	119	38.6	92	35.7
	Good	71	23.1	70	27.1
	Very Good	22	7.1	21	8.1

4.10.6 Justice perceptions

Justice perceptions were rated on the indicators of non-discrimination. Fairness in costs, equity, protecting the vulnerable, the minority communities and according equal opportunity to all.

The summary statistics are shown in table 4.35.

Table 4.35

Justice Perceptions Summary Statistics

<i>Indicator</i>	Baseline		End line	
	M	SD	M	SD
Non-discrimination	3.65	0.983	3.71	1.034
Fairness of costs	3.47	1.006	3.59	1.037
Equity	3.43	1.011	3.51	1.041
Protecting the vulnerable	3.51	0.987	3.61	1.032
Protecting the minorities	3.57	0.971	3.64	1.005
Equal Opportunity	3.56	0.931	3.61	0.965

M: mean SD: Standard deviation

Justice perceptions were more positively rated with all indicators having means scores above 3.4. The ratings for the perceptions of individual indicators of justice are presented in table 4.36.

All the indicators had over 50 % of the respondents rating them as either good or very good combined. There were notable positive deviations between the baseline and end line suggesting the intervention had notable effect on the predictor of justice perceptions.

Table 4.36
Justice perceptions indicators

Variable	Subsets	Frequency		Percent	
		Baseline	End line	Baseline	End line
Non-Discrimination	Never	4	4	1.3	1.6
	Rarely	37	34	12.0	13.2
	Few times	87	59	28.2	22.9
	Sometimes	116	96	37.7	37.2
	Always	64	65	20.8	25.2
Fairness Of costs	Very poor	4	5	1.3	1.9
	Poor	57	41	18.5	15.9
	Fair	85	59	27.6	22.9
	Good	114	102	37.0	39.5
	Very Good	48	51	15.6	19.8
Equity	Very poor	4	4	1.3	2.7
	Poor	58	47	18.8	14.3
	Fair	96	69	31.2	20.9
	Good	101	90	32.8	43.4
	Very good	49	48	15.9	18.6
Protecting the vulnerable	Very poor	5	7	1.6	2.7
	Poor	50	37	16.2	14.4
	Fair	81	54	26.3	20.9
	Good	126	112	40.9	43.4
	Very good	46	48	14.9	18.6
Protecting the minorities	Very poor	5	3	1.6	1.2
	Poor	40	40	13.0	15.5
	Fair	90	55	29.2	21.3
	Good	121	109	39.3	42.2
	Very good	52	51	16.9	19.8
Equal opportunity	Very poor	2	2	0.6	0.8
	Poor	44	39	14.3	15.1
	Fair	88	61	28.6	23.6
	Good	129	112	41.9	43.4
	Very Good	45	44	14.6	17.1

4.11 Comparing perceptions of the predictors across the facilities

The predictors were analyzed to determine their ratings across the three study sites using means and standard deviations. A one-way ANOVA was used to determine the significance of differences in ratings. The results are summarized in table 4.37.

Table 4.37

Comparative Analysis of Predictors Across Facilities

		VAL	ACC	ACCE	STRU	ORG	JUS
Kimilili (Baseline, N=80)	M	13.2	10.2	17.5	9.4	22.0	22.2
	%	66.0	51.0	70.0	62.7	62.9	74.0
	SD	3.2	3.1	3.3	2.7	5.7	4.3
End line (N=69)	M	13.4	11.7	17.4	9.4	22.4	22.7
	%	67.0	58.5	69.6	62.7	64.0	75.7
	SD	3.0	3.6	3.3	2.6	6.1	4.6
Uasin Gishu (Baseline, N=98)	M	13.3	9.8	17.4	8.4	21.3	21.6
	%	66.5	49.0	69.6	56.0	60.9	72.0
	SD	3.2	3.4	3.7	2.3	4.3	4.8
End line (N=89)	M	13.5	11.1	17.6	8.7	22.1	21.8
	%	67.5	55.5	70.4	58.0	63.1	72.7
	SD	3.0	4.0	3.6	2.3	5.1	5.1
Gatundu (Baseline, N=130)	M	11.2	9.5	15.8	7.4	21.3	20.2
	%	56.0	47.5	63.2	49.3	60.9	67.3
	SD	3.9	2.7	3.8	2.6	5.0	4.5
End line (N=100)	M	11.5	10.6	16.2	7.9	22.5	20.8
	%	57.5	53.0	64.8	52.7	64.3	69.3
	SD	4.1	3.6	3.8	2.9	5.8	5.8
Total (Baseline=308)	M	12.4	9.7	16.7	8.3	21.5	21.2
	%	62.0	48.5	66.8	55.3	61.4	70.7
	SD	3.6	3.0	3.7	2.6	5.0	4.6
End line (N=258)	M	12.7	11.1	17.0	8.6	22.3	21.7
	%	63.5	55.5	68.0	57.3	63.7	72.3
	SD	3.6	3.7	3.6	2.7	5.6	5.3
ANOVA	Statistics						
Baseline							
d.f between		2	2	2	2	2	2
d.f within		305	305	305	305	305	305
F statistic		13.457	1.240	8.082	15.11	0.528	5.501
P value		<0.01	0.291	<0.001	<0.001	0.590	0.004
ANOVA	Statistics						
End line							
d.f between		2	2	2	2	2	2
d.f within		255	255	255	255	255	255
F statistic		10.137	1.690	3.959	6.592	0.152	2.502
P value		<0.001	0.187	0.020	0.002	0.873	0.084

Key: VAL: Valuations, ACC: Accountability, ACCE: Access, ORG: Organizational Culture, JUS: Justice Perceptions, M: mean, SD: Standard Deviation

Valuations were better rated in Uasin Gishu compared to Gatundu and Kimilili. Accountability mechanisms recorded the least ratings especially in Gatundu at 47.5% and in the aggregate both at the baseline and end line, though it also recorded the most positive deviation of 7 Percentage points from baseline to end line. Access factors were generally well rated across all the facilities with all having over 60%. In regard to structural factors, Gatundu had the worst rating while Kimilili had the best rating at 62.7% both at baseline and end line. Organizational culture was generally well rated with all facilities scoring above 60% on both baseline and end line. Justice perceptions was the best rated predictor leading in all the facilities both at baseline and end line surveys.

Between baseline and end line Kimilili recorded marginal positive changes in valuations, organizational culture and justice perceptions. It had the best change in accountability mechanisms, access factors recorded a small decline while organizational culture remained stable at 62.7%. Uasin Gishu recorded marginal positive changes in valuations, access, structural factors, organizational culture and justice perceptions while accountability had the most positive change of 6.5% points. Gatundu just like Uasin Gishu recorded marginal positive changes in valuations, access, structural factors, and organizational culture and justice perceptions while accountability had the most positive change of 6.0% points.

To determine differences in regard to valuations across the three facilities, data were analysed using an unrelated one-way analysis of variance. It was found that there was a significant effect of the independent variable facility on the dependent variable valuations at baseline ($F(2, 305) = 13.457, p < 0.001$) and at end line, $F(2, 305) = 10.137, P < 0.001$. The means for Kimilili at baseline ($M = 13.2$) and end line ($M = 13.4$) and for Uasin Gishu at baseline ($M = 13.23$) and end line

(M=13.5) were significantly higher than the means for Gatundu at both baseline (M = 11.15) and end line (M = 11.47) respectively.

There were no significant differences in regard to accountability scores across the three facilities at both baseline, $P=0.291$ and end line, $P=0.187$. Similarly, organizational culture did not differ significantly across the three facilities at both baseline= 0.590 and end line, $P=0.873$.

Access factors differed significantly across the facilities at baseline ($F(2,255) = 8.082, P < 0.001$) and at end line, $F(2,255) = 3.959, P = 0.020$. Whereas there were significant differences between Kimilili and Uasin Gishu, the means of Kimilili baseline (M=17.5) and end line (M=17.4) and Uasin Gishu, baseline (M=17.4) and baseline (M=17.6) were significantly higher than those of Gatundu, at baseline (M=15.8) and end line (M=16.2) respectively.

Structural factors differed significantly across the facilities at baseline ($F(2,305) = 15.11, P < 0.001$), and at end line, $F(2,255) = 6.592, P = 0.002$. The mean for Kimilili and baseline (M=9.4) was significantly higher than that of Uasin Gishu (M=8.7) and which was also higher than that of Gatundu (M=7.9). At end line, however, while Kimilili and Uasin Gishu did not differ significantly= 0.087 , the means Kimilili= 0.049 and for Uasin Gishu, $P < 0.001$, were significantly higher than those of Gatundu.

In regard to justice perceptions, at baseline significant differences were noted between Kimilili and Gatundu= 0.002 , and between Uasin Gishu and Gatundu, $P=0.019$. At end line, though overall the differences were not significant, $P=0.084$, means for Kimilili significantly differed with those of Gatundu, $P=0.028$.

4.12 Inferential analysis

Inferential analysis proceeded with tests of normality of the data on the outcome variable responsiveness levels and the predictors followed by tests for multicollinearity and autocorrelations, homoscedasticity, tests of associations and finally modeling of the predictors of responsiveness.

4.12.1 Tests of normality

Numerous statistical techniques, such as correlation, regression, t-tests, and analysis of variance, rely on the supposition that the data has a normal distribution. Accordingly, it is believed that the sample populations come from naturally distributed populations. Normality is crucial because it would be impossible to infer correct and trustworthy conclusions about reality if the underlying assumptions were to fail. Since the assumptions are not always true, it is typically done to determine how much the variables of interest assume a normal probability distribution. If normalcy is not achieved for certain of the variables, then these variables would end up portraying the incorrect picture of the situation.

The null hypothesis is that the sample data distribution does not deviate significantly from a normal distribution. To determine this, several methods were used simultaneously to minimize the risk of making type 1 error in deciding on the normality. This is because a number of methods have inherent weaknesses and thus need corroboration. The methods employed included computing the z scores for skeweness and plotting the Q-Q plot for visual observation of the distribution along the expected line (Trunfio et al., 2022).

These were done by getting the skeweness and dividing it by the standard error of skeweness. At 95% confidence; we reach significance when the z scores exceed the standard normal

deviate of 1.96. The standard error of skewness was 0.139 for all variables. The results are summarized in table 4.38 below.

Table 4.38

Normality Tests: Z Score for Skewedness

Variable	Baseline			End line		
	Standard error of skewness	Skewness	Z score	Standard error of skewness	Skewness	Z score
Valuations	0.139	0.048	0.345	0.152	-0.158	1.0394
Accountability	0.139	0.318	2.288	0.152	0.186	1.2236
Access	0.139	0.097	0.698	0.152	0.111	0.7302
Structural	0.139	0.212	1.525	0.152	-0.033	0.2171
Organizational culture	0.139	0.194	1.396	0.152	0.053	0.3486
Justice Perceptions	0.139	0.182	1.309	0.152	0.307	2.0197
Responsiveness	0.139	0.231	1.662	0.152	-0.029	0.1907

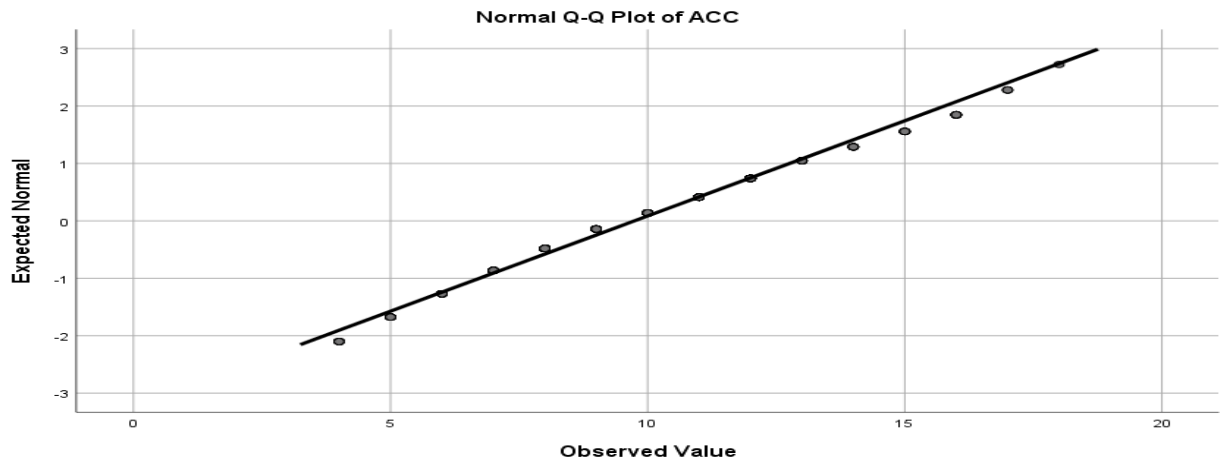
On the baseline, The Z scores for skewness at the 95% confidence level reveals that the variables valuations, access, structural, organizational culture justice perceptions and responsiveness descriptions/levels, while on the end line, valuations, accountability, access, structural, organizational culture and responsiveness descriptions/levels all had values less than the minimum 1.96 required to be statistically significant at the 5% significance level with a two tailed test thus did not deviate significantly from a normal distribution ($0 < z < 1.96$) and thus could be analyzed using parametric tests.

On the baseline, one variable; accountability deviated significantly though it was not extreme ($z=2.288 > 1.96$). While on the end line too one variable, justice perceptions had a significant deviation ($Z=2.0197 > 1.96$) though it was not extreme as it was less than 3 required for extreme skewness. The two variables accountability on baseline and justice perceptions on end line

were explored further using a Q-Q plot to observe the pattern of distribution of the data along the expected line.

Figure 4.7

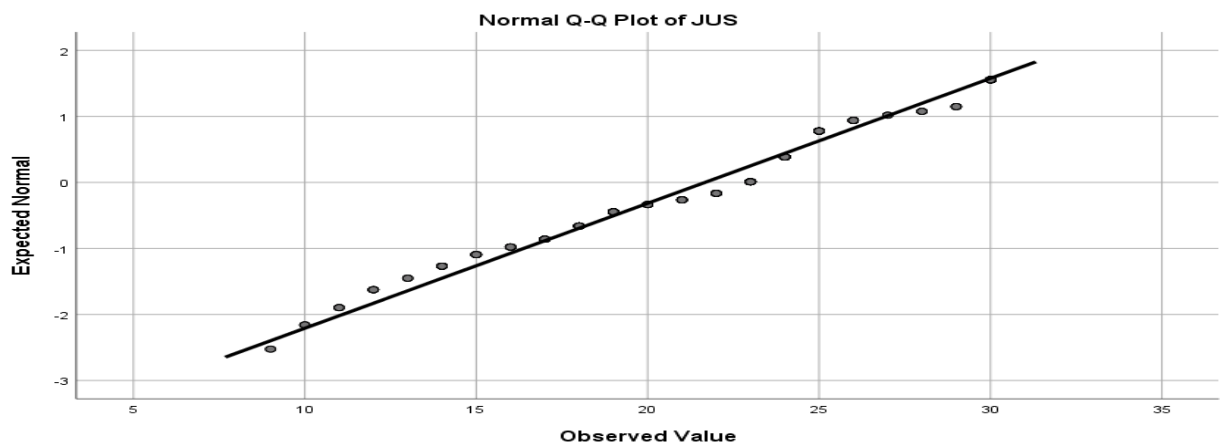
Q-Q plot for Accountability at baseline



The Q-Q plot for accountability shows that the data are clustered closely thus generally follows a normal distribution as there are no extreme deviations from the line of expected value.

Figure 4.8

Q-Q Plot for Justice Perceptions and End Line



4.12.2 Tests for assumptions of homoscedasticity

Homoscedasticity is the assumption that the response variable residuals vary in a constant way for all the values of the predictors. This was assessed using a scatter plot of standardized residuals against the predicted Y -values. The results are reflected in the figures 4.9 and 4.10 below.

The plots in the figures 4.11 and 4.12 of the dependent variable responsiveness levels versus standardized residuals is not showing any fanning in or fanning out. The plot reflects a fairly constant error variance that does not either fan out or fan in as it would otherwise be the case with increasing or reducing variances (Doane & Seward, 2016).

Figure 4.9

Homoscedasticity Assessment for Baseline

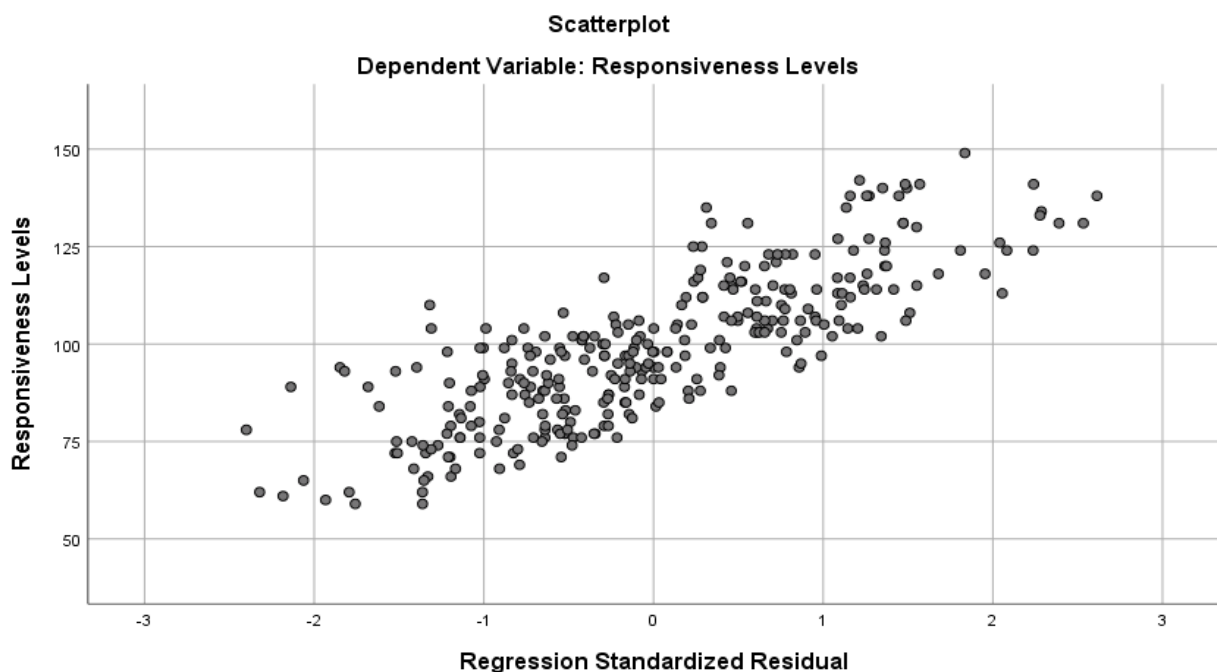
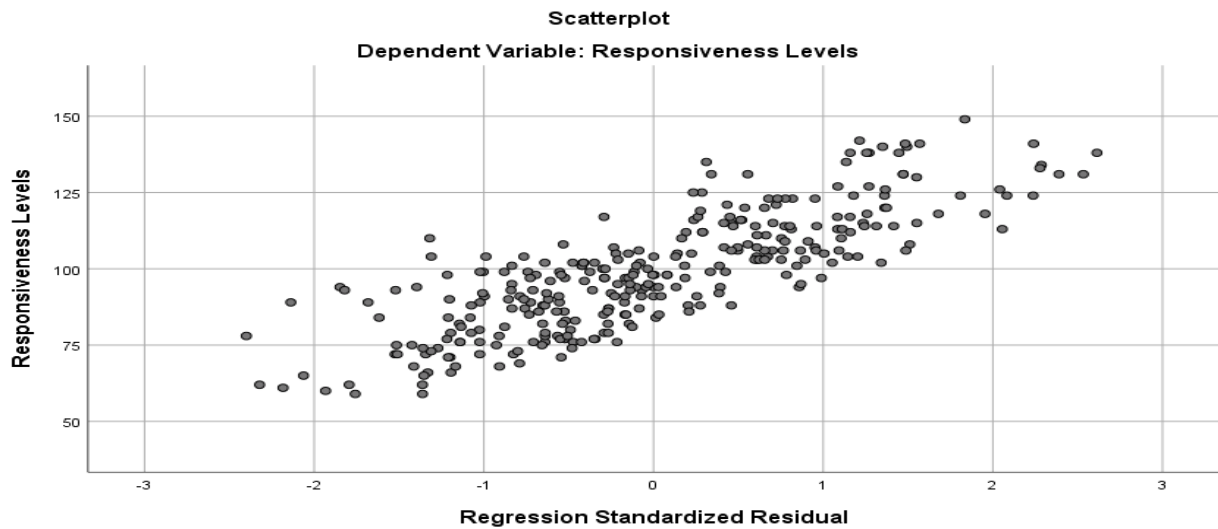


Figure 4.10

Homoscedasticity Assessment For End line



4.12.3 Testing for autocorrelation

Autocorrelation reflects the tendency for items within a variable to correlate highly among themselves. To test for autocorrelation, the Durbin Watson statistic was computed with all the six predictors entered in to the regression as a block yielding a value of 1.415 for baseline and 1.690 for the end line survey. This is within acceptable ranges of between 1 to 3.

4.12.4 Tests for Multicollinearity

Multicollinearity reflects the tendency where by predictor variable correlate highly among themselves such that it renders the model inefficient. Multicollinearity diagnostics was carried out by assessing tolerance levels, condition index versus Eigen values and variance inflation factor. The decision criteria for multicollinearity was variance inflation factor(VIF) >10 and tolerance values >0.2 (Kim, 2019). The results are shown in the output table below.

Table 4.39***Multicollinearity diagnostics***

	Baseline		Endline	
	Tolerance	VIF	Tolerance	VIF
Valuations	.872	1.147	.889	1.124
Accountability	.936	1.068	.808	1.238
Access	.852	1.174	.873	1.146
Structural	.852	1.173	.728	1.373
Organisational	.825	1.212	.713	1.402
Culture				
Justice Perceptions	.816	1.226	.680	1.471

The results in the table above show there were generally high tolerances and low VIF therefore there the data sets for the predictors did not have serious multicollinearity problems

The diagnostic reveal therefore that the data distribution for both baseline and end line does not violate assumptions of normality and is amenable to parametric testing.

4.13 Tests of association

In regard to context, inferential analysis involved determining the significance of association between medical condition and other sociodemographic variables. Examining the influence of background factors, the inferential analysis was determining the strength of the association between sociodemographic variables and ranking of domains and the association between sociodemographic variables and responsiveness levels. Finally inferential analysis was done to determine the association between the predictors of responsiveness (valuations, accountability mechanisms, access, structural, organizational culture and justice perceptions) and responsiveness levels.

4. 13.1 Association between Medical condition Vs other -demographic variables

The medical condition was in three categories of either having diabetes mellitus alone, hypertension alone or having both diabetes mellitus and hypertension. Since the sociodemographic variables were also categories, the association between medical condition and other socio-demographic conditions was assessed using a chi square test. The results are shown in the table 4.40 below. On the baseline, two factors; age χ^2 (6, N=308) =23.884, P=0.001 and marital status χ^2 (8, N=308) =16.102, P=0.041 had statistically significant influence on distribution of medical condition, while at the end line only age, χ^2 (6, N=308) =18.785 had statistically significant influence on distribution of medical condition.

That rural urban was not different significantly differs with Zhao et al. (2023) study that noted rural urban difference in prevalence of diabetes was significant. Similar results are echoed in a study in Ethiopia whereby the prevalence of diabetes and hypertension was significantly higher among those the over 40 years than those of the under 40 years of age. Whereas this morbidity in this study increased with increasing education, these results in regard to educational attainment, differ with those of (Zhang et al., 2022).

Table 4.40
Association Between Medical Condition and Sociodemographic Characteristics

Variable	d.f	Baseline		End line	
		χ^2	P value	χ^2	P value
Facility	4	7.621	0.106	3.803	0.433
Gender	2	0.679	0.712	1.908	0.385
Age	6	23.884	0.001	18.785	0.005
Education	6	4.614	0.594	6.925	0.328
Occupation	10	13.499	0.198	13.342	0.205
Insurance	2	2.371	0.306	2.076	0.354
Marital status	8	16.102	0.041	11.953	0.153
Religion	6	6.493	0.370	8.673	0.193
Income	2	0.757	0.685	0.500	0.779

4.13.2 Association between Socio-demographic characteristics vs ranking of domains

In ranking the domains, the respondents were asked to rate the most important domain therefore frequencies were computed for each domain. Given sociodemographic variables were treated as categorical data, therefore as to whether socio-demographic characteristics had significant influence on ranking of responsiveness domains in regard to what the respondents considered the most important was analyzed using a chi-square test as reflected in the Table 4.41 below.

Table 4.41

Socio-Demographic Variables and Ranking of Domains

Variable	d.f	Baseline		End line	
		χ^2	P value	χ^2	P value
Facility	14	28.858	0.011	38.812	0.001
Gender	7	7.320	0.396	6.292	0.505
Age	21	22.780	0.356	21.800	0.411
Education	21	21.660	0.419	20.576	0.485
Occupation	35	22.054	0.957	35.228	0.457
Insurance	7	5.402	0.611	9.733	0.204
Marital status	28	43.413	0.032	26.040	0.571
Religion	21	23.944	0.296	22.470	0.373
Income	7	7.150	0.413	5.5892	0.552

On the baseline; facility, marital status and significantly influenced ranking of the domains while at end line only facility significantly influenced the ranking of domains.

4.14 Significance of the Change between Baseline and End Line Responsiveness

Analysis of significance of change in ratings of domains between the baseline and end line was done using a paired samples “T” test with the baseline mean scores being the reference values. The results are summarized in the table below. All the domains recorded a significant change. The change in the responsiveness level which is a summation of the domains ratings was significant too. The results are shown in table 4.42

Table 4.42***Significance Of Change in Responsiveness Domains and Responsiveness Levels Between Baseline and End Line***

	Mean deviation	t	d.f	P value
Promptness	-.17829			.000
Dignity	-.384	-4.179	257	.000
Communication	-.403	-3.951	257	.000
Autonomy	-.612	-5.265	257	.000
Confidentiality	-.709	-5.935	257	.000
Choices	-.457	-4.986	257	.000
Amenities	-.585	-5.560	257	.000
Social support	-.302	-4.089	257	.000
Trust	-.089	-3.424	257	.001
Responsiveness Levels	-3.7209	-6.920	257	.000

These results show that the intervention had led to significant improvements in all domains of responsiveness and the aggregate responsiveness levels. These results agree with those of Reinaldi et al. (2024) that noted training improved handover communication among nurses. The training approaches do matter, just as it was found by Kim (2019) that more involving training akin to those adopted in this study intervention; approaches like debates fostered better ethical decision making and moral judgement among nursing students than the passive lecture method.

4.15 Significance of Change among Predictors between Baseline and End line

The significance change between baseline and end line perceptions on predictors of responsiveness similarly were assessed using a paired samples “T” test. The results are presented in table 4.43 below. All the predictors recorded a positive deviation between baseline and end line. However, only three predictors being accountability mechanisms, structural factors and organizational culture recorded statistically significant positive change between baseline and end line.

Table 4.43***Significance Of Change in Predictors Between Baseline and End Line***

	Mean deviation	T test value	d.f	P value
Valuations	-.062	-2.153	257	.032
Accountability	-1.112	-6.058	257	.000
Access	-.062	-1.558	257	.120
Structural	-.205	-3.280	257	.001
Organizational Culture	-.488	-2.629	257	.009
Justice Perceptions	-.074	-.368	257	.713

These results show that the effects of the training intervention have varied effects on the predictors. That organizational culture improved is in tandem with findings by Govere and Govere (2016) that noted trainings do improve cultural competence and attitudes of respect towards clients. The findings that accountability ratings improved significantly agrees with those of Abuga et al. (2022) that training enhanced social accountability among community health volunteers.

4.16 Hypothesis testing: Predictors of responsiveness vs Responsiveness

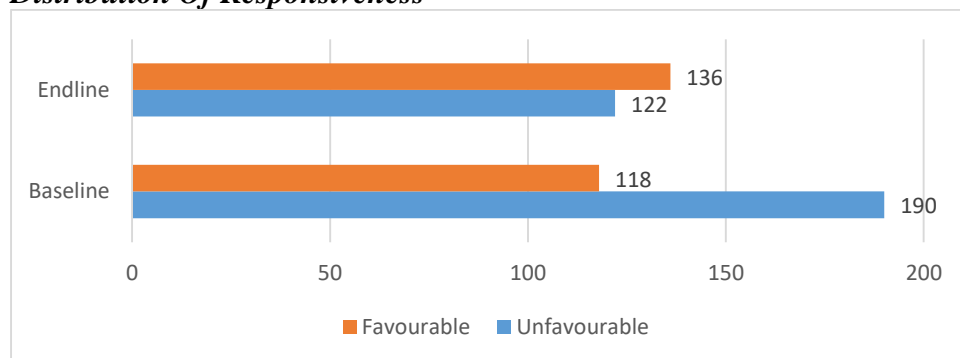
In regard to modelling the predictors of responsiveness, despite the data for responsiveness levels and the predictors having met the assumptions for normal distribution, there is debate on handling Likert data, on the one hand proponents of parametric analysis arguing they are more robust and on the other hand the proponents of non-parametric analysis questioning validity of such measures as averages on a scale that even when assigned equidistant numbers for ratings, it's doubtful what the real meaning may be of averages of perceptions (South et al., 2022).

4.16.1 Demarcation of predictors and responsiveness levels

Given the interest of measuring health systems responsiveness is to determine both level and distribution (Khan et al., 2021a), the parametric treatment of data though useful in telling about levels and averages would not significantly help to determine the distribution of responsiveness as is the need in the current situation. Further, we hinge on the essence of modelling predictors as to help us determine whether on their account one may experience responsive care or not rather than simply knowing about the influence they have on responsiveness on averages (Adema et al., 2024). On this account therefore, the interval data obtained via Likert scale was reclassified into categorical data for both the predictors and the outcome variable responsiveness level.

To categorize the data ,we used the demarcation threshold formula [$\{(highest\ rating - lowest\ rating)/2\} + lowest\ rating]$ which has been used in similar studies (Adema et al., 2024; Fetene et al., 2022)to classify responsiveness as favorable or unfavorable. For baseline the demarcation threshold for responsiveness levels was 104 while for end line was 105.5.

Figure 4.11
Distribution Of Responsiveness



The results show that at baseline, majority 190(61.7%) had unfavourable responsiveness while at end line majority, 136(52%) were in the favourable category.

The distribution of experiences as either favourable or unfavourable for both responsiveness levels and predictors are summarized in the table 4.44 below.

Table 4.44

Distribution Of Categories of Predictors as Favourable or Unfavourable

	Variable	Min	Max	Demarcation Threshold Value	Favourable	Unfavourable
Baseline	Valuations	4	20	12	181(58.8%)	127(41.2%)
	Accountability	4	18	11	120(39%)	188(61%)
	Access	7	25	16	184(59.7%)	124(40.3%)
	Structural	3	15	9	135(43.8%)	173(56.2%)
	Organizational	9	35	22	142(46.1%)	166(53.9%)
	Culture					
	Justice	11	30	20.5	170(55.2%)	138(44.8%)
	Perceptions					
End line	Responsiveness Levels	59	149	104	118(38.3%)	190(61.7%)
	Valuations	4	20	12	161(62.4%)	97(37.6%)
	Accountability	4	20	12	114(44.2%)	144(55.8%)
	Access	7	25	16	162(62.8%)	96(37.2%)
	Structural	3	15	9	137(53.1%)	121(46.9%)
	Organizational	7	35	21	157(60.9%)	101(39.1%)
	Culture					
	Justice	9	30	19.5	166(64.3%)	92(35.7%)
Perceptions						
Responsiveness Levels	62	149	105.5	136(52.7%)	122(47.3%)	

Source: Field data, 2021, 2022

Min: Minimum

Max: maximum

4.17 Tests of associations for Responsiveness categories vs sociodemographic variables

Having dichotomized all the predictors and the outcome variable responsiveness levels into binary data, chi square and odds ratios were used to determine association between the sociodemographic variables and responsiveness, and between predictors and responsiveness.

The chi-square (χ^2) test was used to determine the statistical significance of association between socio-demographic variables and responsiveness. At baseline, five characteristics;

Facility location, medical condition, religion, marital status and income source/occupation were significantly associated with responsiveness whereas gender age education level, income level and enrollment in insurance did not have statistically significant association with responsiveness. At end line, only income source/occupation and marital status were significantly associated with responsiveness as shown in table 4.45

Table 4.45

Chi square Analysis of Association between Socio-demographic Variables and Responsiveness Categories

	Categories		d.f	χ^2	P value Baseline	χ^2 End line	P value End line
Facility	3	2		14.554	0.001	3.002	0.223
Gender	2	1		1.245	0.265	1.930	0.165
Age Categories	4	3		0.647	0.886	2.009	0.571
Medical Condition	3	2		8.817	0.012	0.801	0.670
Religion	4	3		8.721	0.033	5.097	0.165
Marital Status	5	4		18.389	0.001	12.884	0.012
Education Level	4	3		4.498	0.212	1.068	0.785
Income source	6	5		32.155	0.0001	11.699	0.039
Income level	2	1		3.361	0.067	3.257	0.071
Insurance	2	1		0.846	0.358	1.025	0.311

This findings agree with other studies (Ali et al., 2015; Letkovicova et al., 2005; Paddison et al., 2015), that Socio-demographic characteristics do matter in responsiveness of health systems. They however vary in context and time, sometimes being significant yet at times have no significant association (Kapologwe et al., 2020).

Favorable experiences declined progressively; from Kimilili hospital within Bungoma County, which is largely rural through Uasin Gishu, hospital considered a periurban facility, and lastly Gatundu hospital located within Kiambu County considered largely an urban county. This are

in tandem with findings by Raynald and Jean-Frédéric (2010) that noted better responsiveness among rural than urban facilities; and Tremblay et al. (2015) which found geographic location of facilities was a significant predictor of health system responsiveness.

4.18 Test of Association between Predictors and Responsiveness

Given that both the predictors and responsiveness have been categorized into binary data of as either favourable or unfavourable, Chi square test or odds ratios were used to determine association between the predictors and responsiveness. These are represented in table 4.46.

Table 4.46

Chi Square and Odds Ratio Tests of Association

Variable	d.f	Baseline			End line		
		OR	χ^2	P value	OR	χ^2	P value
Valuations	1	1.553	3.323	0.068	1.152	0.301	0.538
Accountability	1	2.241	11.064	0.001	4.271	30.259	0.001
Access	1	1.849	6.035	0.012	1.359	1.411	0.235
Structural	1	2.804	18.645	0.001	4.112	29.627	0.001
Organizational Culture	1	2.532	15.230	0.001	3.930	26,741	0.001
Justice Perceptions	1	2.339	12.283	0.001	5.409	37.416	0.001

OR: Odds Ratio

The results indicate that on baseline, accountability mechanisms, access factors, structural, organizational culture and justice perceptions all had a P value <0.05 thus were all significantly associated with responsiveness while valuations were not significantly associated with responsiveness. On End line, accountability mechanisms, structural factors, organizational culture and justice perceptions all had p values <0.05 thus were significantly associated with responsiveness while valuations just like in baseline, and access factors were not significantly associated with responsiveness >0.05. Despite the two variables valuations and access not being

significantly associated with responsiveness as per chi square test, the odds ratio reveal that indeed they are associated only though not in significant ways .All the odds ratios are >1 implying having favourable scores in each of the predictors is associated with having favourable scores on responsiveness levels.

4.19 Modeling predictors of responsiveness

Modelling predictors of responsiveness progressed through bivariate, modelling the moderation effect of justice perceptions on the relationship between other predictors and responsiveness and finally multivariate analysis.

4.19.1 Bivariate analysis

Having dichotomized the data into binary variables, bivariate analysis was done using binary logistic regression. The bivariate modelling of the predictors of responsiveness proceeded in an iterative way with the main effects assuming there was no interaction between the independent factors to ascertain the impact of each independent variable on the dependent variable. This was followed by analyzing the effects of the interaction of the predictor and the moderator predictor being justice perceptions; on the dependent variable responsiveness. The results for bivariate analysis are summarized in Table 4.47.

The results show that on baseline five variables accountability ($p=0.001$), access ($p=0.013$), structural ($p=0.001$) Organizational culture ($p=0.001$) and justice perceptions ($p=0.001$) all had p value less than 0.05 and thus were significantly associated with responsiveness, while valuations ($p=0.069$) were more than 0.05 thus was not significantly associated with responsiveness. On the end line four variables, accountability ($p=0.001$), structural ($p=0.001$), organizational culture ($p=0.001$) and justice perceptions ($p=0.001$) were all significantly associated with responsiveness while two variables; valuations ($p=0.583$) and access ($p=0.235$)

were not significantly associated with responsiveness. The model summary in the bivariate analysis which can be explained by the R^2 shows the contribution of each independent variable towards the responsiveness holding all other factors constant.

Table 4.47

Bivariate Analysis Of Predictors Of Responsiveness

	Variable	B	SE	Odds Ratio	P value	R²
Baseline	Valuations					
	Unfavourable(ref)			1.000		
	Favourable	0.440	0.242	1.553	0.069	0.015
	Accountability					
	Unfavourable(ref)					
	Favourable	0.807	0.241	2.241	0.001	0.049
	Access					
	Unfavourable(ref)			1.000		
	Favourable	0.615	0.246	1.849	0.013	0.029
	Structural					
	Unfavourable(Ref)			1.000		
	Favourable	1.031	0.242	2.804	0.001	0.080
	Organizational Culture					
	Unfavourable(Ref)			1.000		
Favourable	0.921	0.241	2.532	0.001	0.066	
Justice Perceptions						
Unfavourable9Ref)						
Favourable	0.850	0.245	2.339	0.001	0.054	
End line	Valuations					
	Unfavourable(ref)			1.000		
	Favourable	0.141	0.257	1.152	0.583	0.002
	Accountability					
	Unfavourable(ref)			1.000		
	Favourable	1.452	0.270	4.271	0.001	0.151
	Access					
	Unfavourable(ref)					
	Favourable	0.304	0.258	1.359	0.235	0.007
	Structural					
	Unfavourable(Ref)					
	Favourable	1.414	0.265	4.112	0.001	0.147
	Organizational Culture					
	Unfavourable(Ref)					
Favourable	1.369	0.271	3.930	0.001	0.133	
Justice Perceptions						
Unfavourable						
Favourable	1.688	0.287	5.409	0.001	0.185	

It may be inferred that on the baseline, structural factors were the leading influencer of responsiveness in the three facilities under study with an R^2 of 0.080 implying it accounted for 8% of the variation in responsiveness. This was followed by organizational culture accounting for 6.6%, justice perceptions, 5.4%, accountability accounting for 4.9, access 2.9 and lastly valuation accounting for 1.5%. On the end line the leading contributor to responsiveness was justice perceptions with R^2 of 0.185 implying it accounted for 18.5% variation in responsiveness. This was followed by accountability accounting for 15.1%, structural 14.7%, organizational culture 13.3% while the last two being access and valuations each accounted for less than a percentage.

4.19.2 Moderating effect of justice perceptions on predictors of responsiveness

Justice perceptions were included both as an independent predictor as well as a moderator for the relationship between other predictors and responsiveness. To determine whether justice perceptions play any role in moderating the effects of the predictors on responsiveness, we compared the 2-log likelihood also called deviate between models of main effects of the predictor and the interaction effects of the predictor and justice perceptions on responsiveness.

Deviante scores (-2 log likelihood) evaluate models based on which one fits the data the best. Models with a smaller deviation score were considered superior to those with a high deviate score. Interaction between the moderator and the predictors was determined by changes in the deviate scores between main effects model and the model having both the independent predictor and the moderator. A reduction in the deviate scores from the main effects model to the combined effects model of predictor and moderator signified moderation. The outcomes are represented in the Table 4.48 below.

Table 4.48***Moderation Analysis***

Variable	Baseline		End line			
	Model with justice perceptions(-2 log likelihood)	Model without justice perceptions(-2Log likelihood)	Model with justice perceptions(-2 log likelihood)	Model with justice perceptions(-2 log likelihood)	Model without justice perceptions(-2Log likelihood)	Model without justice perceptions(-2Log likelihood)
Valuations	396.241	406.639	318.378		356.603	
Accountability	388.391	398.687	299.343		325.874	
Access	393.210	403.595	318.393		355.493	
Structural	382.016	391.290	302.425		326.716	
Organizational Culture	388.983	394.688	308.363		329.729	

The variable justice perceptions had significant moderation effect on the relationship between responsiveness and all the other predictors of responsiveness at baseline and end line.

4.19.3 Multivariate analysis at baseline

Multivariate analysis a backward conditional binomial logistic regression. The regression outputs at baseline are presented in tables 4.49 to 4.51 as follows. The omnibus test of model fit was used to assess the fit the model to the data while the Nagelkerke pseudoR² was used to determine the explained variance in the dependent variable on account of the predictors in the model. The omnibus test for model fit for every stage and the Nagelkerke test are shown in the Table 4.49 below.

Table 4.49***Omnibus Test of Models Fit and Model Summary at Baseline***

		Chi-square	Df	Sig.	Nagelkerke R Square
Step 1	Model	39.997	6	.000	.166
Step 2	Model	39.952	5	.000	.165
Step 3	Model	37.795	4	.000	.157

The omnibus test of model fit at every stage was significant showing a good fit of the model to the data.

The model outputs are presented in the table below.

Table 4.50

The Regression Models at Baseline

			Predicted		Percentage Correct
			Responsiveness	Categories	
Step 0	Variables in the model		Unfavourable	Favourable	
	Responsiveness	Unfavourable	190	0	100%
	Categories	Favourable	118	0	0
	Overall Percentage				61.7
Model 1	Valuations	Unfavourable	155	35	81.6
	Accountability	Favourable	72	46	39
	Access				
	Structural				
	Organisational Culture				
	Justice				
	Overall Percentage				65.3
Model 2	Accountability	Unfavourable	155	35	81.6
	Access	Favourable	72	46	39
	Structural				
	Organisational Culture				
	Justice				
	Overall Percentage				65.3
Model 3	Accountability	Unfavourable	151	39	79.5
	Structural	Favourable	63	55	46.6
	Organisational Culture				
	Justice				
		Overall Percentage			

The intercept only model had the correct prediction of 61.7%. Models 1 and 2 did not differ despite removal of valuations; the correct prediction remained at 65.3% showing no improvement. In model 3 after variables access and valuations were removed, the overall correct prediction was improved to 66.9%.

The final model to emerge therefore included four predictors of responsiveness; accountability, structural, organizational culture and justice perceptions. Taking the four predictors as a block yielded the output in Table 5 below.

Table 4.51

The Final Regression Model Output at Baseline

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Accountability	.523	.259	4.085	1	.043	1.687	1.016	2.802
Structural	.770	.257	8.976	1	.003	2.160	1.305	3.574
Organisational Culture	.605	.263	5.275	1	.022	1.831	1.093	3.069
Justice	.530	.268	3.916	1	.048	1.698	1.005	2.870
Constant	-1.647	.249	43.708	1	.000	.193		

B-Beta (β) weights. S.E-Standard error, d.f-Degrees of freedom. Exp (B)-The odds, CI Confidence interval

All the odds ratios are above '1'; shows that with favourable experiences the predictors, the likelihood of having favourable responsiveness too increases. The odds of having favourable experiences matched for favourable responsiveness were highest for structural factors followed by organizational culture then justice perceptions and lastly accountability mechanisms.

The logit for the odds of having favorable responsiveness was computed as follows:

Y (Logit) = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 = -1.647 + (1 * 0.523) + (1 * 0.770) + (1 * 0.605) + (1 * 0.530) = 0.781$ This logit of 0.781 corresponds to the odds of about 2.1836. Thus, the probability that one will experience favourable responsiveness conditional on favorable experiences among the predictors = $\frac{\text{odds}}{1 + \text{odds}} = \frac{2.1836}{1 + 2.1836} = \frac{2.1836}{2.1836 + 1} * 100 = 68.5\%$.

The models Nagelkerke pseudo r-square was 0.157 and this implies that the fit of the model to the data possibly could be improved with the addition of further predictors. The model was 66.9 % successful in overall prediction, 79.5% successful for predicting unfavourable responsiveness and 46.6% successful for predicting favourable responsiveness.

4.19.4 Multivariate analysis at end line

The end line modelling of predictors of responsiveness was done to compare the change in the baseline model and for purposes of validation.

4.19.4.1 Modelling Steps

A backward conditional binomial logistic regression was used. Out of 258 respondents, it emerged that majority, 136 were within favourable responsiveness thus the intercept only model correctly classified 52.7% ($136/258 * 100\% = 52.7\%$) of the outcomes.

As for the baseline analysis, the omnibus test of model fit was used to assess the fit the model to the data while the Nagelkerke pseudoR² was used to determine the explained variance in the dependent variable on account of the predictors in the model. The omnibus test for model fit for every stage and the Nagelkerke test are shown in the Table 4.52 below.

Table 4.52

Test of Models Fit and Model Summary at Endline

		Omnibus Test			Hosmer and Lemeshow		Nagelkerke R Square
		Chi-square	Df	Sig.	Test P value		
					d.f	Sig.	
Step 1	Model	73.76	6	.000	8	.976	.332
Step 2	Model	73.69	5	.000	8	.905	.332
Step 3	Model	72.79	4	.000	8	.728	.328

The omnibus test of model fit at every stage was significant while the Hosmer and Lemeshow test were not significant showing a good fit of the model to the data as presented in table 4.53

Table 4.53***The Regression Models at End line***

			Predicted		Percentage Correct
			Unfavourable	Favourable	
Step 0	Variables in the model				
	Responsiveness	Unfavourable	122	0	100%
	Categories	Favourable	136	0	0
	Overall Percentage				52.7
Model 1	Valuations	Unfavourable	85	37	69.7
	Accountability	Favourable	36	100	73.5
	Access				
	Structural				
	Organisational Culture				
	Overall Percentage				71.7
Model 2	Accountability	Unfavourable	84	38	68.9
	Access	Favourable	35	101	74.3
	Structural				
	Organisational Culture				
	Justice				
	Overall Percentage				71.7
Model 3	Accountability	Unfavourable	88	34	72.1
	Structural	Favourable	42	94	69.1
	Organisational Culture				
	Justice				
	Overall Percentage				

The intercept only model had a correct prediction of 52.7%. Models 1 and 2 did not differ despite removal of valuations; the correct prediction remained at 71.7 % showing no improvement. In model 3 after variables access and valuations were removed, the overall correct prediction was reduced slightly to 70.5 %. The final model to emerge therefore included four predictors of responsiveness; accountability, structural, organizational culture and justice perceptions. Taking the four predictors as a block yielded the output in Table 4.54 below.

Table 4.54*The Final Regression Model Output at End line*

Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	Accountability Categories (1)	1.004	.303	11.001	1	.001	2.730
	Structural Categories (1)	.775	.303	6.561	1	.010	2.171
	Organizational Categories (1)	.819	.313	6.850	1	.009	2.267
	Justice Categories (1)	1.068	.323	10.903	1	.001	2.909
	Constant	-1.924	.318	36.563	1	.000	.146

Key B-Beta (β) weights. S.E-Standard error, d.f-Degrees of freedom. Exp (B)-The odds, CI Confidence interval.

All the odds ratios are above '1'; showing that with favourable experiences on the predictors, the likelihood of having favourable responsiveness too increases. The odds of having favourable experiences matched for favourable responsiveness were highest justice perceptions followed by accountability mechanisms then organizational culture and lastly structural factors.

The logit for the odds of having favorable responsiveness is computed as follows:

$$Y (\text{Logit}) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 = -1.647 + (1 * 1.004) + (1 * 0.775) + (1 * 0.819) + (1 * 1.068) = 1.742$$

This logit of 1.742 corresponds to the odds of about 5.7087 Thus the probability that one will experience favourable responsiveness conditional on favorable experiences among the predictors = $\{\text{odds}/(1+\text{odds})\} = 5.7087/(1+5.7087) = 5.7087/6.7087 * 100 = 85.09\%$.

The models Nagelkerke pseudo-R-square was 0.328 is a moderate relationship and this implies that the fit of the model to the data possibly could be improved with the addition of further predictors. The model was 70.5% successful in overall prediction, 72.1% successful for predicting unfavourable responsiveness and 69.1% successful for predicting favourable responsiveness.

These findings validate the baseline model that the predictors of accountability, structural, organizational culture and justice perceptions are significant predictors of health system responsiveness in chronic care centers. After the training intervention, the model has improved significantly in its predictive power from 66.9% to 70.5% overall prediction. The probability of having responsive care on the basis of the favourable responsiveness on the basis of modelled factors improved from 68.5% to 85.1% between the baseline and end line models.

The access factors and valuations did not significantly influence health systems responsiveness. This findings are inconsistent with other studies that found access factors like income levels were barriers to responsiveness (Corcadden et al., 2018).

That structural factors were significant predictors is consistent with previous findings that found that higher budget on health is positively correlated with responsiveness (Robone et al., 2011) and across OECD countries (Murante et al., 2017). These results differ from a South African survey of chronically ill patients, patients and facility managers who reported satisfaction with all structural aspects of care in an integrated chronic disease management model (Ameh et al., 2017).

In regard to accountability, health system responsiveness is influenced by accountability and may as well be viewed as a form of accountability (Berlan & Shiffman, 2012). This study

findings agree with a study in Nigeria where accountability dampened responsiveness and was found to be constrained by corruption, higher level government and political interference (Uzochukwu et al., 2018). In Kenya, similarly, a study noted that the clients spoke well of accountability mechanism like service charters but paid little attention to them (Masese et al., 2016).

This study found organizational culture significantly predicted responsiveness. Organizational culture appertains what is shared generally among people within an organization, including such issues as beliefs, norms of behavior, values and traditions (Parmelli et al., 2011). Top performing organization share such features as a positive organizational culture that embraces change which accelerate quality of care thereby effectively affecting responsiveness of health systems (Hendsun & Achmadi, 2022).

Justice is perceived as an act that is understood to be morally correct based on ethics, law, or social beliefs (Pekurinen et al., 2017).Distributive justice refers to the perception of fairness regarding the outcomes of decision-making and the allocation of resources, whereas procedural justice refers to procedures, which are processes leading to outcomes related to specific types of normatively accepted principles. It reflects perceptions in social elements. These results are consistent with research findings that customer perceptions of justice influence organizational engagement and trust (Choi & Lotz, 2018).

From the qualitative analysis more insights were observed that had influence on responsiveness. From the health provider interviews and focus group discussions, the following was elucidated. When asked about the challenges for effecting responsive care the emerging themes included challenges in staffing, drug availability shortages, weak logistics systems and

challenges about patient awareness about their conditions. In a focus group discussion, one participant had the following to say:

“...I think major challenge is staffing, Kimilili is a center which is growing, the population is expanding, which is affecting almost all facilities, and with skeleton staff, really sometimes you are overwhelmed and a bit irritable. And to add to these drugs are not cheap, yet these conditions are chronic diseases which require lifelong treatment, affordability is an issue, and the other challenge is how clients know about the disease and thus health promotion campaigns may help in care ...” (Male participant Kimilili FGD)

Another participant spoke to the need for innovative financing to stem the access barrier

“...This is a condition clients will have for a lifelong, there ought to be a way all the clients can be enrolled in nhif...” (Female participant, Kimilili FGD)

Similar sentiments to navigate the access barrier were alluded to when one participant suggested a waiver system for clients with the chronic conditions

In regard to opportunities for responsive care, the management was applauded for some measures in Kimilili where one participant said

“... The unit department here has tried by starting specialized clinics, and now we are in the process of rolling out massive enrollment in nhif...” (Male participant Kimilili FGD).

Similar sentiments were echoed in Gatundu vouching for specialized services when one participant said:

“...Since the inception of the specialized unit for chronic conditions we have had much change and improvement, we are now in a position to monitor our clients better...” (Female participant, Gatundu FGD).

Asked about how to improve services, one manager said:

“...if we leverage on technology, we can actually improve client contact, and tracking especially if we can have some mobile apps for medical communication, and to automate services so that we have ease of service coordination. But the major challenge is those at policy and the resource allocation which is very minimal...” (Female participant, Uasin Gishu FGD)

On the same note about use of technology, a participant had the following to say:

“...a good proportion of the clients here are from rural areas and poverty is high. Most do not even have smart phones and this can be a real challenge trying to deploy technology...” (Male participant Kimilili FGD).

Further, from the Patient FGDs the following excerpts were obtained in regard to challenges faced. When asked how they understood their illnesses, one said:

“..., you know some of us from the hinterland don't even have phones to check the net and know about our disorders...” (Female participant. Kimilili Client FGD)

In summary. The issues raised from the qualitative may be summarized in to four broad categories as resources, policy issues, sociocultural and geographical location

Similarly, one client from the same FGD lamented

“...some of the medics now days just don't know they dealing with people their parents, maybe it's the generation issue. But here we are we can only try understand and cope with them for our help...” (Male Participant, Kimilili FGD)

4.20 Factoring client profile and context in the model

From the qualitative analysis, it was deemed that apart from the predictors, client profile and context of facility had an effect on responsiveness. The significant factors at end line being

client occupation (main source of income) and the marital status were modelled to determine their moderating effect on the predictors of responsiveness.

The analysis was done using the -2-log likelihood ratio, which were compared when the predictors were entered alone and when entered together with either occupation or marital status or occupation. The results are presented in Table 4.55.

Table 4.55

Moderation Analysis for Marital Status and Occupation on Predictors Of Responsiveness

Variable	End line		
	Model with marital status (-2 log likelihood)	Model with occupation (-2 log likelihood)	Model without justice perceptions (-2Log likelihood)
Valuations	343.359	344.911	356.603
Accountability	315.241	317.096	325.874
Access	341.975	343.890	355.493
Structural	312.242	316.667	326.716
Organizational	316.324	319.295	329.729
Culture			
Justice Perceptions	306.831	307.330	318.494

The addition of the socioeconomic factors marital status and occupation reduced the -2log likelihood ratios for the relationship between responsiveness and each of the predictors. Thus, the variables occupation and marital status had a moderating effect on the relationship each of the predictors and responsiveness.

Adding the two variables marital status and occupation to the predictors in one block yielded a better model with the explained variation in the responsiveness rising to 40.4% by Nagelkerke R² with an improved classification level of 74.4%. Overall, it seems that incorporating the socioeconomic variables of marital status and occupation as additional predictor variables led to a better-fitting model that explains more of the variation in responsiveness and makes more

accurate predictions. This indicates that these two variables are important in understanding and predicting responsiveness in the context of the analysis. The implication of this is such that as we consider the context and the predictors of responsiveness, it's imperative to also factor the person's socioeconomic variables.

4.21 Summary of the findings

The overall findings indicate that responsiveness domains and overall responsiveness improved after intervention. The mean responsiveness levels improved by over 4 percentage points from 63% to 67% while the proportion of those respondents who reported favourable responsiveness improved about 14 Percentage points from 38% to 52 % from baseline to end line. These findings demonstrate that honing health workers soft skills through focused training improves the experience of responsive care by clients in chronic care centers. It also demonstrated that training improves the predictors of responsiveness thus vouching for its pivotal role in improving responsive health systems.

The final model for prediction of responsiveness from these findings therefore is such that responsiveness is mainly influenced by accountability mechanisms, structural factors, organizational culture and justice perceptions. The model worked better after intervention and was validated by end line survey findings where the explained variation improved from 15.7% to 32.8% while its logit improved from 68.5 to 85.1%. Considering the moderating effect of the socioeconomic factors of occupation and marital status further improved the model, explaining 40.4% variation in responsiveness.

4.22 Explanatory model for health system responsiveness in chronic care centers

This study has in a novel way elucidated the contribution of training in improving responsiveness and from literature and data from the field deductively proposed an explanatory framework for health system responsiveness among chronic care centres. The framework is presented in figure 4.12

The framework posits responsiveness as the outcome of the interaction of three critical factors being the context, drivers and the actors. Each is highlighted.

In regard to context, the variables of consideration are the policy factors, the resource parcel the geographical and sociocultural contexts. This is premised on the findings that variations in performance of responsiveness have been witnessed across the three facilities representing the rural urban diversity. Further to these, is the sociocultural context which in part is influenced by the rural urban divide reflecting the cultural diversity of the persons in the different geographical settings.

The resource endowments of the institutions have implications on how the care is provided, the environment in which care is provided, the structures, the supplies and the provision of quality amenities. Resources also determine the number of facilities and the providers hired and their motivations stemming from pay thus play a pivotal role in granting choice and the providers being enabled to offer responsive care.

The next layer is the drivers. Within different context, the drivers are the levers that directly influence the interaction between the clients and the health care providers. From the systematic literature search these drivers were conceptualized as the predictors of health systems responsiveness and they include responsiveness valuations, accountability mechanisms, access factors, structural factors, and organizational culture and justice perceptions.

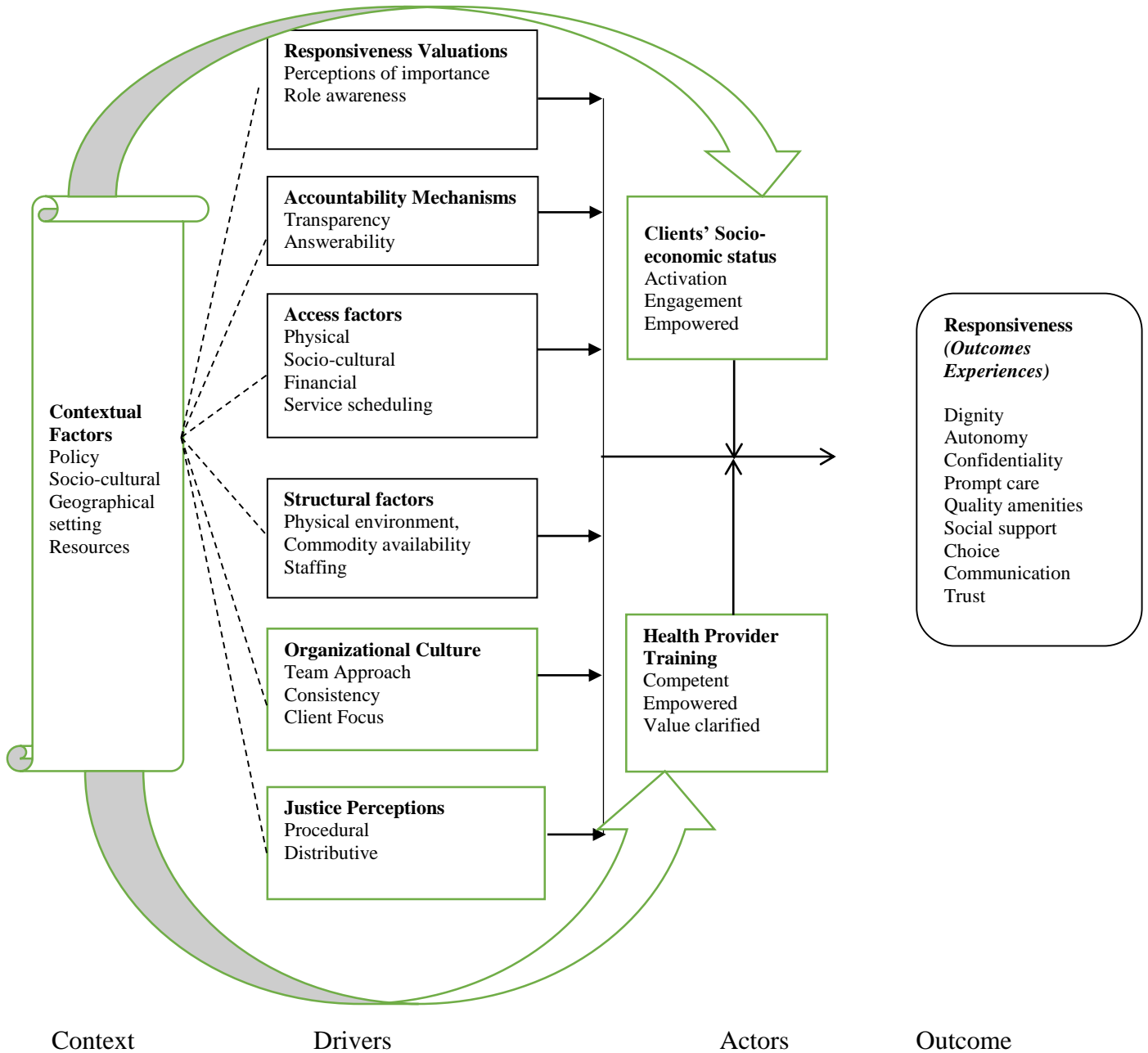
Valuations involve client's awareness of the importance and legitimacy of their expectations of responsive care and the perceptions of their obligations and role in its enforcement. Accountability mechanisms entail measures for answerability and transparency, including use of feedback mechanisms, service charters, and rights charters and redress mechanisms. Access factors include physical access, sociocultural acceptability of services, financial access and organizational access reflecting how convenient the service schedules are. Structural variables reflect the physical and built environment, the supplies and staffing factors. Organizational culture is concerned with how the system is client centric, consistent and espouses team approach. The justice perceptions reflect perceptions of both procedural and distributive fairness.

The preceding two layers of context and drivers are realized at the moment of interaction between the clients and the care providers heralding the third layer of actors in responsive care. To realize a responsive system clients ought to be activated thus are aware of their rights, obligations and expectations; engaged implying they are keen on what the system offers and are ready to respond, and lastly ought to be empowered implying their voice counts and they are aware of that. A person's socioeconomic status has implication on how empowered, engaged and activated they are likely to be.

On the other hand of the healthcare divide is the health care provider. To provide responsive care, providers ought to be competent, empowered and value clarified in the sense that they apart from possession of the technical health care skills mastery, they espouse responsive care as cardinal and critical quality component. Towards this end, training of health providers in this concept of responsive care is vouched for as was evidenced by improvements in responsive care following the training intervention. Indeed, such training ought to be embedded in the

mainstream curriculum to have production of health workers who place a premium on responsive care. The framework is presented diagrammatically in figure 4.12.

Figure 4.12
Health Systems Responsiveness Model (2024)



Source: Field data, 2024

CHAPTER 5

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study's summary, conclusions and recommendations are all included in this chapter, along with suggestions for additional research.

5.2 Summary of findings

This study aimed to assess the levels of responsiveness, their predictors, and the influence of training within chronic care centers located in primary hospitals. The research employed a combination of quantitative and qualitative methodologies to enhance understanding of responsiveness, the factors influencing it, and its distribution based on socio-demographic characteristics.

Regarding the context of the study, the majority of respondents suffered from hypertension only. The prevalence of both hypertension and diabetes mellitus increased with age and urbanization. Most participants fell into the middle-aged and married category. The location with the highest number of respondents was Gatundu, followed by Uasin Gishu and Kimilili. Their monthly earnings were below 10,000 units, and many had received primary school education while lacking insurance coverage. Additionally, a considerable portion of participants were involved in small-scale farming.

In terms of ranking the domains of responsiveness, dignity and promptness were identified as the most valued, whereas quality of amenities and social support were the least valued domains. Generally, aspects related to personal respect such as dignity, autonomy, and clarity of communication held higher value than client-oriented aspects. Notably, the Gatundu facility in

the predominantly urban Kiambu County prioritized client-oriented domains like promptness, while the rural and periurban facilities in Kimilili and Uasin Gishu placed greater emphasis on dignity.

Examining the levels of responsiveness revealed a general deficiency in responsiveness across all facilities. Rural centers displayed comparatively better responsiveness than periurban and urban ones. The distribution of responsiveness along socio-demographic variables was complex, yet individuals facing greater socioeconomic disadvantages tended to report higher responsiveness. Qualitative insights indicated this could be due to lowered expectations among socioeconomically disadvantaged individuals.

The evaluation of responsiveness domain performance indicated that none of the domains achieved a score above 75%, placing them in the upper quartile. The domains of communication and dignity received the highest ratings, starting at 69% and 68.8% respectively at baseline, and improving to 72.7% and 69.9% at end line. Choice and confidentiality domains had the lowest overall scores, with choice scoring 53.5% at baseline and 56.6% at end line, while confidentiality received scores of 57.9% at baseline and 61.8% at end line.

Overall, there was improvement in all responsiveness domains from baseline to end line, with positive changes ranging from 2.9 percentage points for dignity to 5 percentage points for autonomy. Notably, despite the choice domain having the lowest overall scores, the lowest-rated domain was autonomy in Gatundu hospital (52.3%), while communication received the highest rating at 76.45% in Kimilili hospital. The study noted enhancements in responsiveness domains and overall responsiveness following the intervention. Mean responsiveness levels

increased by over 4 percentage points (from 63% to 67%), and the proportion of respondents reporting favorable responsiveness rose by about 14 percentage points (from 38% to 52%) between baseline and end line.

The research investigated the connections between various factors and responsiveness within a healthcare context at both baseline and end line. Notably, accountability mechanisms, structural factors, organizational culture, and perceptions of justice consistently and significantly influenced responsiveness at both assessment points. While valuations and access factors did not exhibit significant associations based on chi-square tests, odds ratios indicated their subtle impact on responsiveness. The findings underline the necessity for a comprehensive approach to enhance healthcare responsiveness, including targeted interventions to improve significant factors, as well as further qualitative exploration to understand the nuanced effects of valuations and access.

Modelling predictors of responsiveness noted that key predictors of responsiveness were identified as accountability mechanisms, structural factors, organizational culture, and perceptions of justice. Importantly, the performance of the predictive model improved post-intervention, as indicated by the increased explained variation (from 15.7% to 32.8%) and enhanced logit value (from 68.5 to 85.1%), as validated by the end line survey findings.

5.3 Conclusions

Socioeconomic and demographic conditions have effect on the prevalence of hypertension and diabetes mellitus. The prevalence of hypertension and diabetes is skewed more towards the urban middle aged female persons. The regional variations suggest need for targeted health

campaigns, improved healthcare facilities, and accessibility to medical services that are context specific.

Most respondents had generally low socioeconomic status and this has public health and health policy implications. The prevalence of primary school education among the majority of respondents suggests a need for health literacy initiatives. The lack of medical insurance coverage among a significant portion of the participants raises concerns about financial barriers to healthcare. It is crucial to explore and implement mechanisms to make healthcare services more affordable and accessible to this population, such as subsidized health insurance programs or community health initiatives.

In regard to ranking of responsiveness domains, dignity and promptness were consistently identified as the most valued domains across the assessed facilities. This indicates that individuals receiving services place a high importance on being treated with respect and receiving timely responses. The results indicate a stronger preference for person-centric domains, such as dignity, autonomy, and clarity of communication, compared to client orientation domains. This suggests that individuals prioritize how they are treated and their personal agency over other service-related factors. Quality of amenities and social support were ranked as the least valued domains. This suggests that the physical environment and social interactions might not be as significant to respondents as other aspects of responsiveness.

Facility context counts in regard to how responsiveness domains are ranked. The Gatundu facility in the predominantly urban Kiambu County showed a higher valuation for client orientation domains like promptness. This could be due to the fast-paced nature of urban settings where individuals might prioritize efficient and prompt service. On the other hand, the

rural and periurban facilities of Kimilili and Uasin Gishu indicated a stronger emphasis on dignity, even above other domains. This might reflect the cultural context or the specific needs of these communities thus underscores the diversity of priorities among respondents.

The comparison between ranking and performance in the domains of responsiveness reveals interesting insights. While ranking indicates the perceived importance of different domains, performance measures how well these domains are actually executed. There appears to be a divergence between the ranking of domains based on importance and their actual performance.

The responsiveness domains of dignity and promptness, highly regarded in terms of importance, also exhibited commendable performance. Interestingly, communication, while not the most valued, emerged as the best-rated in terms of performance. Conversely, domains like choice and confidentiality, which held intermediate value rankings, registered the lowest performance scores. A notable instance is communication, where its significance in importance didn't match its relatively strong performance, albeit with potential for further enhancement. Communication's significant role in responsiveness is evident, as it bridges the gap between individual expectations and actual service delivery.

The strong alignment in respect-centric domains suggests that the organization recognized their importance and implemented measures accordingly. However, there are discrepancies between perceived importance and performance, particularly in client orientation domains, indicating potential areas for improvement and further alignment.

In summary, the study concludes that responsiveness levels were initially low at baseline but demonstrated significant improvement by the end line survey. While interventions have proven effective in enhancing responsiveness across all domains, further efforts are necessary to fortify

the health system's responsiveness. Notably, a positive shift was observed in all responsiveness domains between baseline and end line.

Regarding associations with sociodemographic indicators, the transition from baseline to end line indicated changes in factors linked with responsiveness. While various characteristics initially correlated with responsiveness, only income source/occupation and marital status retained significance by the end line. This suggests potential progress in addressing responsiveness disparities based on sociodemographic factors, indicating positive changes in the healthcare system's capacity for equitable care and engagement.

In terms of predictors, all predictors exhibited positive changes between baseline and end line. However, only three predictors—accountability mechanisms, structural factors, and organizational culture showed statistically significant positive changes. Consistent associations between several factors and responsiveness were found at both baseline and end line. Accountability mechanisms, structural factors, organizational culture, and justice perceptions exhibited significant relationships with responsiveness at both time points. While valuations and access factors didn't show statistically significant associations, the odds ratios highlighted a nuanced relationship between these variables and responsiveness, emphasizing their subtle influence on shaping favorable responsiveness levels.

The study identified the combined effect of four predictor variables accountability mechanisms, structural factors, organizational culture, and justice perceptions as explaining the most variation in responsiveness. The end line survey model notably improved over the baseline model in the binary logistic model, enhancing correct predictions from 66.9% to 70.5%. Justice perceptions displayed significant moderation effects on the relationship

between responsiveness and other predictors. The probability of receiving responsive care based on favorable experiences in significant predictors increased from 68.5% to 85.1% between baseline and end line, showcasing how training significantly improved both responsiveness experiences and predictor outcomes.

The study's intervention led to noteworthy improvements in responsiveness, evident through increased mean responsiveness levels and a higher proportion of favorable responses. The enhanced performance of the predictive model underscores the substantial impact of accountability mechanisms, structural factors, organizational culture, and justice perceptions in shaping healthcare responsiveness.

5.4 Recommendations

The study recommends Implementation of targeted health campaigns addressing risk factors and prevention, and improve healthcare facilities and accessibility in regions with higher prevalence rates.

Given the skewed prevalence of hypertension and diabetes towards urban middle-aged females, it's crucial to implement targeted health campaigns aimed at raising awareness about these conditions, their risk factors, and preventive measures. These campaigns should be tailored to address the specific socio-economic and demographic conditions of the affected population. Collaborating with community leaders, local organizations, and healthcare providers will help ensure the campaigns are culturally sensitive and context-specific.

Furthermore, the regional variations in prevalence suggest a need for improved healthcare facilities and accessibility to medical services. Health system administrators should work to enhance healthcare infrastructure in areas with higher prevalence rates. This could include

establishing more clinics, diagnostic centers, and outreach programs in these regions. Ensuring easy access to regular health check-ups, screenings, and early detection will play a significant role in managing and preventing these chronic conditions.

The findings reveal a link between low socioeconomic status, limited education, and the prevalence of hypertension and diabetes. Health literacy initiatives need to be designed and implemented to address this gap. Workshops, community seminars, and educational materials should focus on enhancing understanding of these conditions, promoting healthy lifestyles, and facilitating informed healthcare decision-making.

Additionally, the lack of medical insurance coverage poses a significant barrier to healthcare access. To mitigate this issue, health system administrators and policymakers should explore mechanisms to make healthcare services more affordable and accessible. This could involve subsidizing health insurance programs specifically targeting low-income individuals and families. Community health initiatives, where local healthcare services are provided at reduced costs or free of charge, can also be effective in increasing access to care.

These recommendations acknowledge the importance of context-specific interventions, community involvement, and addressing both health system infrastructure and individual empowerment. By targeting these areas, health administrators, providers, researchers, and the community can work collaboratively to address the prevalence of hypertension and diabetes while also improving overall healthcare responsiveness.

To consolidate the progress made in achieving more equitable responsiveness, it is advisable to implement targeted initiatives that focus on addressing the remaining associations between income source/occupation and marital status with responsiveness. This could include

interventions such as financial assistance programs for those with lower income sources and tailored communication strategies for different marital status groups. Regular monitoring and data-driven adjustments will ensure that these changes are sustained and that the healthcare system continues to provide equitable and responsive care to all segments of the population

Building upon the intervention's success, it is recommended to further strengthen the factors that were identified as key predictors of responsiveness. Targeted strategies should focus on enhancing accountability mechanisms, improving structural factors, fostering a positive organizational culture, and ensuring fairness in justice perceptions. These efforts can lead to sustained improvements in healthcare responsiveness and ultimately enhance overall patient experiences and outcomes. The study recommends enhancing accountability mechanisms through clear protocols, independent oversight, audits, and provider training, and fostering a supportive organizational culture by promoting values like empathy, open communication, leadership development, and continuous quality improvement. These strategies aim to improve responsiveness, enhancing patient experiences and outcomes as demonstrated by significant improvements in predictive outcomes and responsiveness experiences highlighted in the study. Further it is recommended to conduct more in-depth qualitative research to explore the nuanced associations between valuations, access factors, and responsiveness. Such research can provide insights into the qualitative aspects that might not be captured through quantitative methods alone.

In summary, addressing the healthcare disparities faced by different group requires collaborative efforts from the government, NGOs, healthcare institutions, and the community itself. By tailoring interventions to their specific needs and circumstances, it is possible to

enhance the responsiveness and overall quality of healthcare services, ensure financial protection, and ultimately improve the well-being of even the most vulnerable groups.

5.5 Suggestion for Further Research

The study recommends the following suggestions for further research

Expansive Research Scope: Undertake a comprehensive study encompassing a broader range of health facilities, stakeholders, and variables. This will transcend current logistical limitations and yield a more holistic understanding of the factors shaping health system responsiveness.

Community-Based Insights on Access and Responsiveness: Recommend a community-based survey to delve into the correlation between access to healthcare services and the responsiveness of health systems. Examine variations in responsiveness based on access factors, shedding light on how community dynamics influence responsiveness outcomes.

Impact of Culture-Tailored Strategies: Investigate the effects of culturally tailored strategies within health systems. Study the impact of culturally sensitive interventions on responsiveness, particularly within specific demographic groups. Assess their effectiveness compared to conventional approaches and gauge the enduring sustainability of the resultant improvements.

Sustainable Progress in Health System Responsiveness: Advocate for a longitudinal investigation into the durability of improved health system responsiveness. Monitor the trajectory of enhanced responsiveness over an extended timeframe to determine its longevity and ascertain if there are fluctuations, offering insights into the enduring impact of interventions.

Contextual Variations in Health System Responsiveness: Extend research across varied healthcare settings, such as public versus private or rural versus urban, to comprehend how

responsiveness factors fluctuate in diverse contexts. Undertake a comparative analysis to unearth contextual intricacies and identify optimal practices for distinct healthcare settings.

Economic Implications of Enhanced Health System Responsiveness: Evaluate the economic implications stemming from improved health system responsiveness. Investigate potential cost efficiencies and resource allocation gains resulting from heightened responsiveness. Consider variables like patient satisfaction, adherence, and overall health outcomes in the assessment.

Leveraging Technology for Health System Responsiveness: Explore the integration of technology (e.g., digital health platforms, electronic medical records) within health systems to enhance responsiveness. Scrutinize how technological advancements can streamline communication, bolster accountability mechanisms, and cultivate a patient-centric approach within health systems.

REFERENCES

- Abdi, S., Spann, A., Borilovic, J., de Witte, L., & Hawley, M. (2019). Understanding the care and support needs of older people: a scoping review and categorisation using the WHO international classification of functioning, disability and health framework (ICF). *BMC geriatrics*, *19*(1), 1-15. <https://link.springer.com/article/10.1186/s12877-019-1189-9>
- Abelsson, A., & Lindwall, L. (2017). What is dignity in prehospital emergency care? *Nursing Ethics*, *24*(3), 268–278. <https://doi.org/10.1177/0969733015595544>
- Abuga, K. M., Muriuki, J. M., Uyoga, S. M., Mwai, K., Makale, J., Mogire, R. M., ... & Atkinson, S. H. (2022). Hepcidin regulation in Kenyan children with severe malaria and non-typhoidal *Salmonella* bacteremia. *Haematologica*, *107*(7), 1589–1598. <https://doi.org/10.3324/haematol.2021.279316>
- Abuya, T., Warren, C. E., Miller, N., Njuki, R., Ndwiga, C., Maranga, A., Mbehero, F., Njeru, A., & Bellows, B. (2015). Exploring the prevalence of disrespect and abuse during childbirth in Kenya. *PLoS One*, *10*(4), e0123606. <https://doi.org/10.1371/journal.pone.0123606>
- Adams, J. S. (1963). Towards an understanding of inequity. *The Journal of Abnormal and Social Psychology*, *67*(5), 422–436. <https://doi.org/10.1037/h0040968>
- Aday, L. A., & Andersen, R. (1974). A framework for the study of access to medical care. *Health Services Research*, *9*(3), 208-220. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1071804/pdf/hsresearch00560-0030.pdf>
- Adema, J. L., Ahiskali, A., Fida, M., Mediwala Hornback, K., Stevens, R. W., & Rivera, C. G. (2024). Correction: Adema et al. Heartbreaking Decisions: The Dogma and Uncertainties of Antimicrobial Therapy in Infective Endocarditis. *Pathogens* 2023, *12*, 703. *Pathogens (Basel, Switzerland)*, *13*(3), 190. <https://doi.org/10.3390/pathogens13030190>
- Adesanya, T., Gbolahan, O., Ghannam, O., Miraldo, M., Patel, B., Verma, R., & Wong, H. (2012). Exploring the responsiveness of public and private hospitals in lagos, Nigeria. *Journal of public health research*, *1*(1),2–6. <https://doi.org/10.4081/jphr.2012>
- Ahmadi, K., S., Zarei, E., Daneshkohan, A., & Khodakarim, S. (2017). Hospital responsiveness and its effect on overall patient satisfaction: a cross-sectional study in Iran. *International journal of health care quality assurance*, *30*(8), 728-736. <https://doi.org/10.1108/IJHCQA-07-2016-0098>
- Alcalde-Rubio, L., Hernández-Aguado, I., Parker, L. A., Bueno-Vergara, E., & Chilet-Rosell, E. (2020). Gender disparities in clinical practice: are there any solutions? Scoping review of interventions to overcome or reduce gender bias in clinical practice.

International journal for equity in health, 19, (1), 166-168.
<https://doi.org/10.1186/s12939-020-01283-4>

- Ali, F. M. H., Nikoloski, Z., & Reka, H. (2015). Satisfaction and responsiveness with health-care services in Qatar—Evidence from a survey. *Health Policy*, 119(11), 1499–1505. <https://doi.org/10.1016/j.healthpol.2015.09.012>
- Almeida, F. (2018). Strategies to perform a mixed methods study. *European Journal of Education Studies*, 5(1), 1-15. <http://dx.doi.org/10.46827/ejes.v0i0.1902>
- Altabbaa, G., Flemons, W., Ocampo, W., Babione, J. N., Kaufman, J., Murphy, S., Lamont, N., Schaefer, J., Boscan, A., Stelfox, H. T., Conly, J., & Ghali, W. A. (2024). Deployment of a human-centred clinical decision support system for pulmonary embolism: evaluation of impact on quality of diagnostic decisions. *BMJ open quality*, 13(1), e002574. <https://doi.org/10.1136/bmjjoq-2023-002574>
- Amaghionyeodiwe, L. A. (2008). Determinants of the choice of health care provider in Nigeria. *Health care management science*, 11(1), 215-227. <https://doi.org/10.1007/s10729-007-9038-3>
- Amani, P. J., Tungu, M., Hurtig, A.-K., Kiwara, A. D., Frumence, G., & San Sebastián, M. (2020). Responsiveness of health care services towards the elderly in Tanzania: Does health insurance make a difference? A cross-sectional study. *International Journal for Equity in Health*, 19(1), 1–9. <https://doi.org/10.1186/s12939-020-01270-9>
- Ameh, S., Gómez-Olivé, F. X., Kahn, K., Tollman, S. M., & Klipstein-Grobusch, K. (2017). Relationships between structure, process and outcome to assess quality of integrated chronic disease management in a rural South African setting: Applying a structural equation model. *BMC Health Services Research*, 17, (1) 1–15. <https://doi.org/10.1186/s12913-017-2177-4>
- American Geriatrics Society Expert Panel on Person-Centered Care (2016). Person-Centered Care: A Definition and Essential Elements. *Journal of the American Geriatrics Society*, 64(1), 15–18. <https://doi.org/10.1111/jgs.13866>
- Ammoun, R., Wami, W. M., Otieno, P., Schultz, C., Kyobutungi, C., & Asiki, G. (2022). Readiness of health facilities to deliver non-communicable diseases services in Kenya: A national cross-sectional survey. *BMC Health Services Research*, 22(1), 985. <https://doi.org/10.1186/s12913-022-08364-w>
- Anderson, R. L., Balasas, T., Callaghan, J., Coombes, R. C., Evans, J., Hall, J. A., & Cancer Research UK and Cancer Therapeutics CRC Australia Metastasis Working Group. (2019). A framework for the development of effective anti-metastatic agents. *Nature Reviews Clinical Oncology*, 16(3), 185-204. <https://doi.org/10.1038/s41571-018-0134-8>

- Arokiasamy, P., Salvi, S., & Selvamani, Y. (2021). *Global burden of diabetes mellitus. In Handbook of global health.* Springer International Publishing. https://link.springer.com/referenceworkentry/10.1007/978-3-030-05325-3_28-2
- Arokiasamy, P., Uttamacharya, Kowal, P., Capistrant, B. D., Gildner, T. E., Thiele, E., Biritwum, R. B., Yawson, A. E., Mensah, G., & Maximova, T. (2017). Chronic noncommunicable diseases in 6 low-and middle-income countries: Findings from wave 1 of the World Health Organization's study on global Ageing and adult health (SAGE). *American Journal of Epidemiology*, *185*(6), 414–428. <https://doi.org/10.1093/aje/kww125>
- Asamrew, N., Endris, A. A., & Tadesse, M. (2020). Level of Patient Satisfaction with Inpatient Services and Its Determinants: A Study of a Specialized Hospital in Ethiopia. *Journal of Environmental and Public Health*, *2020*, 2473469. <https://doi.org/10.1155/2020/2473469>
- Asefa, S., Aga, F., Dinegde, N. G., & Demie, T. G. (2021). Knowledge and practices on the safe handling of cytotoxic drugs among oncology nurses working at tertiary teaching hospitals in Addis Ababa, Ethiopia. *Drug, healthcare and patient safety*, *2020*, 71-80. <https://doi.org/10.2147/DHPS.S289025>
- Askari, R., Arab, M., Rashidian, A., Akbari-Sari, A., Hosseini, S. M., & Gharaee, H. (2016). Designing Iranian model to assess the level of health system responsiveness. *Iranian Red Crescent Medical Journal*, *18*(3), e24527. <https://doi.org/10.5812/ircmj.24527>
- Atella, V., Piano Mortari, A., Kopinska, J., Belotti, F., Lapi, F., Cricelli, C., & Fontana, L. (2019). Trends in age-related disease burden and healthcare utilization. *Aging Cell*, *18*(1), e12861. <https://doi.org/10.1111/accel.12861>
- Aung, T. N. N., Shirayama, Y., Moolphate, S., Lorga, T., Jamnongprasatporn, W., Yuasa, M., & Aung, M. N. (2022). Prevalence and risk factors for hypertension among myanmar migrant workers in thailand. *International Journal of Environmental Research and Public Health*, *19*(6), 3511. <https://doi.org/10.3390/ijerph19063511>
- Bai, J., Cui, J., Shi, F., & Yu, C. (2023). Global epidemiological patterns in the burden of main non-communicable diseases, 1990–2019: Relationships with socio-demographic index. *International Journal of Public Health*, *68*, 1605502. <https://doi.org/10.3389/ijph.2023.1605502>
- Baker, R., Camosso-Stefinovic, J., Gillies, C., Shaw, E. J., Cheater, F., Flottorp, S., Robertson, N., Wensing, M., Fiander, M., Eccles, M. P., Godycki-Cwirko, M., van Lieshout, J., & Jäger, C. (2015). Tailored interventions to address determinants of practice. *The Cochrane database of systematic reviews*, *2015*(4), CD005470. <https://doi.org/10.1002/14651858.CD005470.pub3>

- Balthazard, P. A., & Cooke, R. A. (2004, January). *Organizational culture and knowledge management success: assessing the behavior-performance continuum*. In 37th Annual Hawaii International Conference on System Sciences, 2004. Proceedings of the (10). IEEE. <https://doi.org/10.1109/HICSS.2004.1265577>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Bazzaz, M. M., Taghvaei, M. R. E., Salehi, M., Bakhtiari, M., & Shaye, Z. A. (2015). Health System’s Responsiveness of Inpatients: Hospitals of Iran. *Global Journal of Health Science*, *7*(7), 106–113. <https://doi.org/10.5539/gjhs.v7n7p106>
- Beltran-Aroca, C. M., Girela-Lopez, E., Collazo-Chao, E., Montero-Pérez-Barquero, M., & Muñoz-Villanueva, M. C. (2016). Confidentiality breaches in clinical practice: What happens in hospitals? *BMC Medical Ethics*, *17*(1), 52. <https://doi.org/10.1186/s12910-016-0136-y>
- Beltran-Aroca, C. M., Ruiz-Montero, R., Labella, F., & Girela-López, E. (2021). The role of undergraduate medical students training in respect for patient confidentiality. *BMC Medical Education*, *21*(1), 273. <https://doi.org/10.1186/s12909-021-02689-6>
- Berlan, D., & Shiffman, J. (2012). Holding health providers in developing countries accountable to consumers: A synthesis of relevant scholarship. *Health Policy and Planning*, *27*(4), 271–280. <https://doi.org/10.1093/heapol/czr036>
- Bernell, S., & Howard, S. W. (2016). Use your words carefully: What is a chronic disease? *Frontiers in Public Health*, *4*, 159. <https://doi.org/10.3389/fpubh.2016.00159>
- Blakley, D., Kroth, M., & Gregson, J. (2011). The impact of nurse rounding on patient satisfaction in a medical-surgical hospital unit. *Medsurg Nursing*, *20*(6), 327. <https://pubmed.ncbi.nlm.nih.gov/22409118/>
- Bloom, D. E., Chen, S., Kuhn, M., McGovern, M. E., Oxley, L., & Prettner, K. (2020). The economic burden of chronic diseases: Estimates and projections for China, Japan, and South Korea. *The Journal of the Economics of Ageing*, *17*, 100163. <https://doi.org/10.1016/j.jeoa.2018.09.002>
- Bodenheimer, T., Lorig, K., Holman, H., & Grumbach, K. (2002). Patient self-management of chronic disease in primary care. *Jama*, *288*(19), 2469-2475. <https://doi.org/10.1001/jama.288.19.2469>
- Boele, F., Harley, C., Pini, S., Kenyon, L., Daffu-O’Reilly, A., & Velikova, G. (2024). Cancer as a chronic illness: Support needs and experiences. *BMJ Supportive & Palliative Care*, *14*(e1), e710–e718.

- Boyd, J. E., Otilingam, P. G., & DeForge, B. R. (2014). Brief version of the Internalized Stigma of Mental Illness (ISMI) scale: psychometric properties and relationship to depression, self-esteem, recovery orientation, empowerment, and perceived devaluation and discrimination. *Psychiatric rehabilitation journal*, 37(1), 17. <https://psycnet.apa.org/buy/2014-09950-002>
- Bozzo, A. (2018). A challenge to unqualified medical confidentiality. *Journal of Medical Ethics*, 44(4), 248–252. <https://doi.org/10.1136/medethics-2017-104359>
- Bridges, J., Pope, C., & Braithwaite, J. (2019). Making health care responsive to the needs of older people. *Age and Ageing*, 48(6), 785–788. <https://doi.org/10.1093/ageing/afz085>
- Brinkerhoff, D. W., & Bossert, T. J. (2014). Health governance: Principal-agent linkages and health system strengthening. *Health Policy and Planning*, 29(6), 685–693. <https://doi.org/10.1093/heapol/czs132>
- Brown, M. C., Donadini, F., Korte, M., Nilsson, A., Korhonen, K., Lodge, A., & Constable, C. G. (2015). GEOMAGIA50. v3: 1. General structure and modifications to the archeological and volcanic database. *Earth, Planets and Space*, 67(2015), 1-31. <https://doi.org/10.1186/s40623-015-0232-0>
- Busse, C., Kach, A. P., & Wagner, S. M. (2017). Boundary conditions: What they are, how to explore them, why we need them, and when to consider them. *Organizational Research Methods*, 20(4), 574–609. <https://doi.org/10.1177/1094428116641191>
- Bygrave, H., Golob, L., Wilkinson, L., Roberts, T., & Grimsrud, A. (2020). Let’s talk chronic disease: Can differentiated service delivery address the syndemics of HIV, hypertension and diabetes? *Current Opinion in HIV and AIDS*, 15(4), 256–260. <https://doi.org/10.1097/COH.0000000000000629>
- Calderón-Larrañaga, A., Vetrano, D. L., Onder, G., Gimeno-Feliu, L. A., Coscollar-Santaliestra, C., Carfí, A., Pisciotta, M. S., Angleman, S., Melis, R. J., & Santoni, G. (2017). Assessing and measuring chronic multimorbidity in the older population: A proposal for its operationalization. *Journals of Gerontology Series A: Biomedical Sciences and Medical Sciences*, 72(10), 1417–1423. <https://doi.org/10.1093/gerona/glw233>
- Canadian Institute for Health Information (2021). *Health Indicators*. <https://www.cihi.ca/en/health-indicators-e-publication>
- Casabona, F., Friedman, D., Puglisi, M., De Cian, F., Ansaldi, F., & Campisi, C. (2011). Surgical prevention of arm lymphedema after breast cancer treatment. *Annals of surgical oncology*, 18(1), 2500-2505. <https://doi.org/10.1245/s10434-011-1624-4>
- Chao, A. M., Jastreboff, A. M., White, M. A., Grilo, C. M., & Sinha, R. (2017). Stress, cortisol, and other appetite-related hormones: Prospective prediction of 6-month

- changes in food cravings and weight. *Obesity (Silver Spring, Md.)*, 25(4), 713–720. <https://doi.org/10.1002/oby.21790>
- Chichirez, C. M., & Purcărea, V. L. (2018). Interpersonal communication in healthcare. *Journal of medicine and life*, 11(2), 119–122. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6101690/>
- Cho, N. H., Shaw, J. E., Karuranga, S., Huang, Y., da Rocha Fernandes, J. D., Ohlogge, A. W., & Malanda, B. (2018). IDF Diabetes Atlas: Global estimates of diabetes prevalence for 2017 and projections for 2045. *Diabetes Research and Clinical Practice*, 138, 271–281. <https://doi.org/10.1016/j.diabres.2018.02.023>
- Choi, L., & Lotz, S. L. (2018). Exploring antecedents of customer citizenship behaviors in services. *The Service Industries Journal*, 38(9–10), 607–628. <https://doi.org/10.1080/02642069.2017.1414194>
- Chowdhury, M. A. B., Epnere, K., Haque, M. A., & Mkuu, R. S. (2021). Urban rural differences in prevalence and risk factors of self-reported hypertension among Kenyan women: A population-based study. *Journal of Human Hypertension*, 35(10), 912–920. <https://doi.org/10.1038/s41371-020-00435-x>
- Cleary, S. M., Molyneux, S., & Gilson, L. (2013). Resources, attitudes and culture: An understanding of the factors that influence the functioning of accountability mechanisms in primary health care settings. *BMC Health Services Research*, 13(1), 1–11. <https://doi.org/10.1186/1472-6963-13-320>
- Comes, Y., Trindade, J. de S., Shimizu, H. E., Hamann, E. M., Bargioni, F., Ramirez, L., Sanchez, M. N., & Santos, L. M. P. (2016). Evaluation of user satisfaction and service responsiveness in municipalities enrolled in the Mais Médicos (More Doctors) Program. *Ciência & Saúde Coletiva*, 21, 2749–2759. <https://doi.org/10.1590/1413-81232015219.16202016>
- Conti, A. (2018). Entrepreneurial finance and the effects of restrictions on government R&D subsidies. *Organization Science*, 29(1), 134–153. <https://doi.org/10.1287/orsc.2017.1168>
- Coronado-Vázquez, V., Gil-de-Gómez, M. J., Rodríguez-Eguizábal, E., Oliván-Blázquez, B., Gómez-Salgado, J., Magallón-Botaya, R., & Sánchez-Calavera, M. A. (2022). Evaluation of primary care responsiveness by people with mental illness in Spain. *BMC Health Services Research*, 22(1), 1–9. <https://doi.org/10.1186/s12913-022-07516-2>
- Corscadden, L., Levesque, J. F., Lewis, V., Strumpf, E., Breton, M., & Russell, G. (2018). Factors associated with multiple barriers to access to primary care: An international analysis. *International Journal for Equity in Health*, 17(1), 1–10. <https://doi.org/10.1186/s12939-018-0740-1>

- Corscadden, L., Levesque, J. F., Lewis, V., Strumpf, E., Breton, M., & Russell, G. (2018). Factors associated with multiple barriers to access to primary care: an international analysis. *International journal for equity in health*, 17, 1-10. <https://doi.org/10.1186/s12939-018-0740-1>
- Coulter, A., & Jenkinson, C. (2005). European patients' views on the responsiveness of health systems and healthcare providers. *European Journal of Public Health*, 15(4), 355–360. <https://doi.org/10.1093/eurpub/cki004>
- Council for International Organizations of Medical Sciences. (2017). *International ethical guidelines for health-related research involving humans. International Ethical Guidelines for Health-Related Research Involving Humans*. <https://www.cabdirect.org/cabdirect/abstract/20173377536>
- County Government of Bungoma (2018). *County Government Reports 2018/2019 -Bungoma* . <https://devolutionhub.or.ke/resource/county-government-reports-2018-2019-bungoma-county-assembly>
- County Government of Kiambu (2018). *Health Services – Kiambu County Government*. <https://kiambu.go.ke/departments/health-services/>
- County Government of Uasin Gishu (2018). *County Government of Uasin Gishu – The Champions*. <https://uasingishu.go.ke/>
- Creswell, J. W. (2021). *A concise introduction to mixed methods research*. SAGE publications.
- Cygańska, M., Kludacz-Alessandri, M., & Pyke, C. (2023). Healthcare Costs and Health Status: Insights from the SHARE Survey. *International Journal of Environmental Research and Public Health*, 20(2), 1418. <https://doi.org/10.3390/ijerph20021418>
- da Silva, L., Girardi, L., Pasquini, L., Setiawan, J., von Der Lühe, O., De Medeiros, J. R., ... & Weiss, A. (2006). Basic physical parameters of a selected sample of evolved stars. *Astronomy & Astrophysics*, 458(2), 609-623. <https://www.aanda.org/articles/aa/abs/2006/41/aa5105-06/aa5105-06.html>
- Darby, C., Valentine, N., De Silva, A., Murray, C. J., & Organization, W. H. (2003). *World Health Organization (WHO): Strategy on measuring responsiveness*. <https://apps.who.int/iris/bitstream/handle/10665/68703/a84044.pdf>
- Dartiguelongue, J. B., & Cafiero, P. J. (2021). Communication in health care teams. *Arch Argent Pediatr*, 119(6), e589-e93. https://sap.org.ar/uploads/archivos/general/files_ae_dartiguelongue_eng_26-10pdf_1634067314.pdf
- De Man, J., Roy, W. M., Sarkar, N., Waweru, E., Leys, M., Van Olmen, J., & Criel, B. (2016). Patient-centered care and people-centered health systems in sub-Saharan Africa: Why so little of something so badly needed? *International Journal of Person Centered Medicine*, 6(3), 162. <https://doi.org/10.5750/ijpcm.v6i3.591>

- Defar, A., Zeleke, G. T., Berhanu, D., Lemango, E. T., Bekele, A., Alemu, K., & Biadgilign, S. (2024). Health system's availability and readiness of health facilities for chronic non-communicable diseases: evidence from the Ethiopian national surveys. *Plos one*, *19*(2), e0297622. <https://doi.org/10.1371/journal.pone.0297622>
- Doane, D. P., & Seward, L. W. (2016). *Applied statistics in business and economics* (5th ed.). McGraw-Hill Education. [file:///C:/Users/User/Desktop/RESEARCH%20AND%20STATS/Applied%20Statistics%20in%20Business%20and%20Economics%20\(David%20Doane,%20Lori%20Seward\)%20\(z-lib.org\).pdf](file:///C:/Users/User/Desktop/RESEARCH%20AND%20STATS/Applied%20Statistics%20in%20Business%20and%20Economics%20(David%20Doane,%20Lori%20Seward)%20(z-lib.org).pdf)
- Donabedian, A. (1966). Evaluating the Quality of Medical Care. *The Milbank Memorial Fund Quarterly*, *44*(3), 166–206. <https://doi.org/10.2307/3348969>
- Donabedian, A. (1980). An examination of some directions in health care policy. *American journal of public health*, *63*(3), 243-246. <https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.63.3.243>
- Douraki, T. (1999). *Ethical and legal dimensions of medical confidentiality in European law of human rights*. In *Manage or Perish? The Challenges of Managed Mental Health Care in Europe* (pp. 421–427). Springer. https://link.springer.com/chapter/10.1007/978-1-4615-4147-9_50
- Doyle, C., Lennox, L., & Bell, D. (2013). A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open*, *3*(1), e001570. <https://doi.org/10.1136/bmjopen-2012-001570>
- Dura, N. V. (2015). *The universal declaration of human rights*. *EIRP Proceedings*, *10*. <https://proceedings.univ-danubius.ro/index.php/eirp/article/view/1607>
- Ebrahimipour, H., Vafaei Najjar, A., Khani Jahani, A., Pourtaleb, A., Javadi, M., Rezazadeh, A., Vejdani, M., & Shirdel, A. (2013). Health system responsiveness: A case study of general hospitals in iran. *International Journal of Health Policy and Management*, *1*(1), 85–90. <https://doi.org/10.15171/ijhpm.2013.13>
- Eichelberger, L., Hansen, A., Cochran, P., Hahn, M., & Fried, R. (2023). COVID-19 vaccine decision-making in remote Alaska between November 2020 and November 2021. *International Journal of Circumpolar Health*, *82*(1), 2242582. <https://doi.org/10.1080/22423982.2023.2242582>
- Escarce, J. J., & Kapur, K. (2006). *Access to and quality of health care* (Vol. 2006). National Academies Press.
- Farahbakhsh, E., Chandra, R., Eslamkish, T., & Müller, R. D. (2019). Modeling geochemical anomalies of stream sediment data through a weighted drainage catchment basin

- method for detecting porphyry Cu-Au mineralization. *Journal of Geochemical Exploration*, 204, 12-32. <https://doi.org/10.1016/j.gexplo.2019.05.003>
- Fetene, M. B., Bayable, S. D., Wendimu, E. S., Belehu, K. D., Almaw, A. A., Dula, P. K., & Bejiga, B. Z. (2022). Perioperative patient satisfaction and its predictors following surgery and anesthesia services in North Shewa, Ethiopia. A multicenter prospective cross-sectional study. *Annals of Medicine and Surgery*, 76, 103478. <https://doi.org/10.1016/j.amsu.2022.103478>
- Forouzan, A. S., Ghazinour, M., Dejman, M., Rafeiey, H., & Sebastian, M. S. (2011). Testing the WHO responsiveness concept in the Iranian mental healthcare system: A qualitative study of service users. *BMC Health Services Research*, 11(1), 311-325. <https://doi.org/10.1186/1472-6963-11-325>
- Forouzan, S., Padyab, M., Rafiey, H., Ghazinour, M., Dejman, M., & San Sebastian, M. (2015). Measuring the Mental Health-Care System Responsiveness: Results of an Outpatient Survey in Tehran. *Frontiers in Public Health*, 3, 285. <https://doi.org/10.3389/fpubh.2015.00285>
- Fowler, S. A. (2019). *Chinese Public Education and Global Social Justice: The Organizational Challenges of Initiating an Access Scholarship in a Chinese Public School*. [Doctoral Dissertation, Western University]. <https://ir.lib.uwo.ca/oip/78>
- Franken, M., & Koolman, X. (2013). Health system goals: A discrete choice experiment to obtain societal valuations. *Health Policy*, 112(1-2), 28-34. <https://doi.org/10.1016/j.healthpol.2012.12.013>
- Freytag, J., Street Jr, R. L., Xing, G., Duberstein, P. R., Fiscella, K., Tancredi, D. J., ... & Epstein, R. M. (2018). The ecology of patient and caregiver participation in consultations involving advanced cancer. *Psycho-Oncology*, 27(6), 1642-1649. <https://doi.org/10.1002/pon.4710>
- Gafane-Matemane, L. F., Craig, A., Kruger, R., Alaofin, O. S., Ware, L. J., Jones, E. S., & Kengne, A. P. (2024). Hypertension in sub-Saharan Africa: The current profile, recent advances, gaps, and priorities. *Journal of Human Hypertension*, 10 1-16. <https://doi.org/10.1038/s41371-024-00913-6>
- Gardner, B., Lally, P. (2018). *Modelling Habit Formation and Its Determinants*. In: Verplanken, B. (eds) *The Psychology of Habit*. Springer, Cham. https://doi.org/10.1007/978-3-319-97529-0_12
- Garin, N., Koyanagi, A., Chatterji, S., Tyrovolas, S., Olaya, B., Leonardi, M., ... & Haro, J. M. (2016). Global multimorbidity patterns: a cross-sectional, population-based, multi-country study. *Journals of Gerontology Series A: Biomedical Sciences and Medical Sciences*, 71(2), 205-214. <https://doi.org/10.1093/gerona/glv128>

- Gathura, G. (2018). *Patient abuse rampant in Kenyan hospitals: Ministry report. Health.* <https://www.standardmedia.co.ke/health/health-science/article/2001267409/patient-abuse-rampant-in-kenyan-hospitals-ministry-report>
- Gatimu, S. M., & Nduati, J. N., (2020). Diabetic Foot Risk Assessment among Patients with Type 2 Diabetes in Kenya. *EA Health Research Journal*, 6(2), 196–202. <https://doi.org/10.24248/eahrj.v6i2.698>
- Gatua, J. G. (2024). Decentralization, social connections and primary health care: Evidence from Kenya. *World Development*, 178, 106562. <https://doi.org/10.1016/j.worlddev.2024.106562>
- Geldsetzer, P., Haakenstad, A., James, E. K., & Atun, R. (2018). Non-technical health care quality and health system responsiveness in middle-income countries: A cross-sectional study in China, Ghana, India, Mexico, Russia, and South Africa. *Journal of Global Health*, 8(2). <https://10.7189/jogh.08.020417>
- Genberg, B., Wachira, J., Kafu, C., Wilson, I., Koech, B., Kamene, R., Akinyi, J., Knight, J., Braitstein, P., & Ware, N. (2019). Health system factors constrain HIV care providers in delivering high-quality care: Perceptions from a qualitative study of providers in Western Kenya. *Journal of the International Association of Providers of AIDS Care (JIAPAC)*, 18, 2325958218823285 <https://doi.org/10.1177/2325958218823285>
- Gerber, H. U., & Shiu, E. S. (1998). On the time value of ruin. *North American Actuarial Journal*, 2(1), 48-72. <https://doi.org/10.1080/10920277.1998.10595671>
- Gilligan, T., Salmi, L., & Enzinger, A. (2018). Patient-Clinician Communication Is a Joint Creation: Working Together Toward Well-Being. American Society of Clinical Oncology Educational Book. American Society of Clinical Oncology. *Annual Meeting*, 38, 532–539. https://doi.org/10.1200/EDBK_201099
- Githemo, G. K. (2017). *Quality of nursing care through patient participation: An integration of Orem's theory to the nursing process in Kiambu and Thika hospitals-Kenya.* [Doctoral Thesis, University of Nairobi]. <http://erepository.uonbi.ac.ke/handle/11295/102891>
- Gluyas H. (2015). Patient-centred care: improving healthcare outcomes. *Nursing standard (Royal College of Nursing (Great Britain): 1987)*, 30(4), 50–59. <https://doi.org/10.7748/ns.30.4.50.e10186>
- Gong, J. B., Yu, X. W., Yi, X. R., Wang, C. H., & Tuo, X. P. (2018). Epidemiology of chronic noncommunicable diseases and evaluation of life quality in elderly. *Aging medicine*, 1(1), 64–66. <https://doi.org/10.1002/agm2.12009>
- Gostin, L. O. (Ed.). (2010). *Public health law and ethics: a reader (Vol. 4)*. Univ of California Press.

- Gould, J. C. (2019). *Quality in Obesity Treatment*. https://link.springer.com/chapter/10.1007/978-3-030-25173-4_4
- Govere, L., & Govere, E. M. (2016). How effective is cultural competence training of healthcare providers on improving patient satisfaction of minority groups? A systematic review of literature. *Worldviews on Evidence-Based Nursing*, 13(6), 402-410. <https://doi.org/10.1111/wvn.12176>
- Government of Kenya. (2010). *Kenya Health systems Assessments 2010*. <https://www.hfgproject.org/wp-content/uploads/2015/02/Kenya-Health-Systems-Assessment-2010.pdf>
- Grable, J. E. (2016). Financial risk tolerance. *European management research*, 41(6), 19-31. https://link.springer.com/chapter/10.1007/978-3-319-28887-1_2
- Greeley, R., Waller, D. A., Cabrol, N. A., Landis, G. A., Lemmon, M. T., Neakrase, L. D., ... & Whelley, P. L. (2010). Gusev Crater, Mars: Observations of three dust devil seasons. *Journal of Geophysical Research: Planets*, 115(E7), 1-18. <https://doi.org/10.1029/2010JE003608>
- Grilo, A. M., dos Santos, M. C., Gomes, A. I., & Rita, J. S. (2017). Promoting patient-centered care in chronic disease In *Patient Centered Medicine*. (pp.51–64). <https://doi.org/10.5772/67380>
- Gruman, J., Rovner, M. H., French, M. E., Jeffress, D., Sofaer, S., Shaller, D., & Prager, D. J. (2010). From patient education to patient engagement: implications for the field of patient education. *Patient education and counseling*, 78(3), 350-356. <https://doi.org/10.1016/j.pec.2010.02.002>
- Guiao, R. A. S., Adviento, D. A., Angeles, T. G. C., Belandres, J. A. V., De Guzman, N. A. S., Librea, G. A., ... & Hago-sojos, B. M. (2021). Positive Influence of Probiotics on the Mental Health Status of College Students: A Review. *Asian Journal of Biological Life Science*, 10(2), 300-308. <https://doi.org/10.5530/ajbls.2021.10.42>
- Gümüş, M. M., & Kukul, V. (2023). Examination of digital competences of teachers according to different variables. *Journal of Teacher Education and Lifelong Learning*, 5(1), 111-129. <https://doi.org/10.51535/tell.1231192>
- Hajat, C., & Stein, E. (2018). The global burden of multiple chronic conditions: A narrative review. *Preventive Medicine Reports*, 12, 284–293. <https://doi.org/10.1016/j.pmedr.2018.10.008>
- Hanefeld, J., Powell-Jackson, T., & Balabanova, D. (2017). Understanding and measuring quality of care: Dealing with complexity. *Bulletin of the World Health Organization*, 95(5), 368. <https://doi.org/10.2471/BLT.16.179309>

- Hassan, H. E., Abozid, A., Elmghwry, A., & Ibrahim, E. M. (2021). Compassionate care: Correlation and predictors of nurses' and patients' opinions. *American Journal of Public Health Research*, 9(5), 234–243. <https://doi.org/10.12691/ajphr-9-6-2>
- Hellebo, A., Kengne, A. P., Ademi, Z., & Alaba, O. (2024). The Burden of Type 2 Diabetes on the Productivity and Economy in Sub-Saharan Africa: A Life Table Modelling Analysis from a South African Perspective. *PharmacoEconomics*, 42(4), 463–473. <https://doi.org/10.1007/s40273-024-01353-3>
- Henderson, S. (2003). Power imbalance between nurses and patients: A potential inhibitor of partnership in care. *Journal of Clinical Nursing*, 12(4), 501–508. <https://doi.org/10.1046/j.1365-2702.2003.00757.x>
- Hendsun, H., & Achmadi, H. (2022). Antecedent Hospital Environment, Communication and Responsiveness in Hospitals during the Covid-19 Pandemic According to Patient Perceptions of Willingness to Recommend. *Budapest International Research and Critics Institute-Journal*, 5(1), 118-124. <https://www.bircu-journal.com/index.php/birci/article/view/4384>
- Hetland, P. (2019). Constructing publics in museums' science communication. *Public Understanding of Science*, 28(8), 958-972. <https://doi.org/10.1177/0963662519870692>
- Hewitt, J., & Liang, P. (2019). *Designing and interpreting probes with control tasks*. <https://doi.org/10.48550/arXiv.1909.03368>
- Hohmann, N. (2022). Global compilation of surface mixed layer parameters (sedimentation rate, bioturbation depth, mixing intensity) from marine environments: The SMLBase v1. 0. *Frontiers in Earth Science*, 10(1), 1013174. <https://doi.org/10.3389/feart.2022.1013174>
- Holm, S. (2002). Principles of Biomedical Ethics, 5th edn.: Beauchamp T L, Childress J F. Oxford University Press, 2001, £19.95, pp 454. ISBN 0-19-514332-9. *Journal of Medical Ethics*, 28(5), 332–332. <https://doi.org/10.1136/jme.28.5.332-a>
- Hossain, Md. J., Al-Mamun, Md., & Islam, Md. R. (2024). Diabetes mellitus, the fastest growing global public health concern: Early detection should be focused. *Health Science Reports*, 7(3), e2004. <https://doi.org/10.1002/hsr2.2004>
- Howitt, D., & Cramer, D. (2017). *Understanding Statistics in Psychology with SPSS (7th ed.)*. Pearson Education.
- Hsu, D. K., Burmeister-Lamp, K., Simmons, S. A., Foo, M. D., Hong, M. C., & Pipes, J. D. (2019). “I know I can, but I don't fit”: Perceived fit, self-efficacy, and entrepreneurial intention. *Journal of business venturing*, 34(2), 311-326. <https://doi.org/10.1016/j.jbusvent.2018.08.004>

- Hughes, D. (2022). *What is in the so-called COVID-19 “vaccines”?* Part 1: evidence of a global crime against humanity. <https://doi.org/10.56098/ijvtpr.v2i2.52>
- Hvidberg, M. F., Johnsen, S. P., Davidsen, M., & Ehlers, L. (2020). A Nationwide Study of Prevalence Rates and Characteristics of 199 Chronic Conditions in Denmark. *PharmacoEconomics - Open*, 4(2), 361–380. <https://doi.org/10.1007/s41669-019-0167-7>
- Igai, Y. (2020). Concept analysis of dignity-centered care for people with chronic progressive disease. *Japan Journal of Nursing Science*, 17(2), e12302. <https://doi.org/10.1111/jjns.12302>
- Institute of Medicine (US) Committee on Quality of Health Care in America. (2001). *Crossing the Quality Chasm: A New Health System for the 21st Century*. National Academies Press (US). <https://www.ncbi.nlm.nih.gov/books/NBK222274/> doi: 10.17226/10027
- Institute of Medicine (US)(2006). *Committee on Crossing the Quality Chasm: Adaptation to Mental Health and Addictive Disorders. Improving the Quality of Health Care for Mental and Substance-Use Conditions: Quality Chasm Series*. National Academies Press. <https://www.ncbi.nlm.nih.gov/books/NBK19830/> doi: 10.17226/11470
- Iott, B. E., Campos-Castillo, C., & Anthony, D. L. (2020). Trust and Privacy: How Patient Trust in Providers is related to Privacy Behaviors and Attitudes. *AMIA ... Annual Symposium proceedings. American Medical Informatics Association. AMIA Symposium, 2019*, 487–493. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7153104/>
- Itumalla, R., Kumar, R., Perera, B., Elabbasy, M. T., Kumar Cg, S., & Kundur, R. (2022). Patient’s Perception of Diabetes Care Services in Hail, Kingdom of Saudi Arabia. *Health Psychology Research*, 10(3), 38119. <https://doi.org/10.52965/001c.38119>
- Jacobs, G. (2019). Patient autonomy in home care: Nurses’ relational practices of responsibility. *Nursing Ethics*, 26(6), 1638–1653. <https://doi.org/10.1177/0969733018772070>
- Jacobs, J., Dougherty, A., McCarn, B., Saiyed, N., Ignoffo, S., Wagener, C., San Miguel, C., & Martinez, L. (2024). *Impact of a multi-disciplinary team-based care model for patients living with diabetes on health outcomes: A mixed-methods study*. <https://doi.org/10.21203/rs.3.rs-3871585/v1>
- Jerop, C. (2020). Health Care Providers’ Communication: The Cancer Patients’ Perspective-A Study among Cervical Cancer Patients in Uasin Gishu County, Kenya. <http://41.89.205.12/handle/123456789/1524>
- Jin, S., & Song, Y. (2024). Factors Influencing the Dietary Behavior of Patients with Type 2 Diabetes Mellitus: A Cross-sectional Study. *Journal of Korean Academy of Fundamentals of Nursing*, 31(1), 80–89. <https://doi.org/DOI:https://doi.org/10.7739/jkafn.2024.31.1.80>

- Johnson, M. J., & May, C. R. (2015). Promoting professional behaviour change in healthcare: What interventions work, and why? A theory-led overview of systematic reviews. *BMJ Open*, 5(9), e008592. <http://dx.doi.org/10.1136/bmjopen-2015-008592>
- Joshi, M. D., Ayah, R., Njau, E. K., Wanjiru, R., Kayima, J. K., Njeru, E. K., & Mutai, K. K. (2014). Prevalence of hypertension and associated cardiovascular risk factors in an urban slum in Nairobi, Kenya: A population-based survey. *BMC Public Health*, 14, 1–10. <https://doi.org/10.1186/1471-2458-14-1177>
- Judith, S., Sakataka, W., & Wanyonyi, W. E. (2017). The Existing Systems of Customer Relations Activities in Bungoma County Referral Hospital. *Africa Journal of Technical and Vocational Education and Training*, 2(1), 191–202. https://d1wqtxts1xzle7.cloudfront.net/57940182/54-Article_Text-186-1-10-20171024_1-libre.pdf?1544129929=&response-content-disposition=inline%3B+filename%3D54_Article_Text_186_1_10_20171024_1
- Kalra, S., Arora, S., & Kapoor, N. (2024). Communication in Chronic Disease Care: A Collaborative Conversation Map. JPMA. *The Journal of the Pakistan Medical Association*, 74(5), 1003–1004. <https://doi.org/10.47391/jpma.24-38>
- Kamau, W. T. (2016). *A study of the performance of male nurses as care givers in selected public health care facilities in Kiambu County* [Doctoral Thesis, University of Nairobi]. <http://erepository.uonbi.ac.ke/handle/11295/98251>
- Kamer-Mbote, P., Aura-Odhiambo, R., & Mumma, C. (2017). *Devolved Health Care Service Delivery in Kenya within the Human Rights-Based Approach: Success or a Mirage*. <https://heinonline.org/HOL/LandingPage?handle=hein.journals/easfrilaj2017&div=6&id=&page=>
- Kaoje, U. A., Sambo, M. N., Oche, M. O., Saad, A., Raji, M. O., & Isah, B. A. (2015). Determinants of client satisfaction with family planning services in government health facilities in Sokoto, Northern Nigeria. *Sahel Medical Journal*, 18(1), 20-26. <https://doi.org/10.4103/1118-8561.152154>
- Kaplan, D. L., Bhalerao, V. B., van Kerkwijk, M. H., Koester, D., Kulkarni, S. R., & Stovall, K. (2013). A metal-rich low-gravity companion to a massive millisecond pulsar. *The Astrophysical Journal*, 765(2), <https://doi.org/10.1088/0004-637X/765/2/158>
- Kapologwe, N. A., Kibusi, S. M., Borghi, J., Gwajima, D. O., & Kalolo, A. (2020). Assessing health system responsiveness in primary health care facilities in Tanzania. *BMC Health Services Research*, 20(1), 1–10. <https://doi.org/10.1186/s12913-020-4961-9>
- Karliner, L. S., Jacobs, E. A., Chen, A. H., & Mutha, S. (2007). Do professional interpreters improve clinical care for patients with limited English proficiency? A systematic review of the literature. *Health services research*, 42(2), 727-754. <https://doi.org/10.1111/j.1475-6773.2006.00629.x>

- Kasango, A., Kabwijamu, L., Negesa, L., Daama, A., Muteesasira, E., & Buregyeya, E. (2024). *Prevalence and Factors Associated With Selected Non-communicable Diseases (Hypertension, Type 2 Diabetes, and Depression) Among People Living With HIV at Kalisizo Hospital in Kyotera District, Uganda: A Cross-Sectional Study*. *Qeios*. <https://doi.org/10.32388/RTCT47>
- Kemboi, G. J. (2018). *Knowledge, Attitudes and Socio-Cultural Practices That Influence the Control of Cervical Cancer among Women in Uasin Gishu County, Kenya*. [Doctoral Thesis, Masinde Muliro of Science and Technology]. <http://41.89.195.24:8080/jspui/bitstream/123456789/1141/1/Georgine%20Jebet%20Kemboi.pdf>
- Khan, G., Kagwanja, N., Whyte, E., Gilson, L., Molyneux, S., Schaay, N., Tsofa, B., Barasa, E., & Olivier, J. (2021). Health system responsiveness: A systematic evidence mapping review of the global literature. *International Journal for Equity in Health*, 20(1), 1–24. <https://doi.org/10.1186/s12939-021-01447-w>
- Kim, J. H. (2019). Multicollinearity and misleading statistical results. *Korean Journal of Anesthesiology*, 72(6), 558–569. <https://doi.org/DOI:https://doi.org/10.4097/kja.19087>
- Kirigia, J. M., & Kirigia, D. G. (2011). The essence of governance in health development. *International Archives of Medicine*, 4(1), 1–13. <https://doi.org/10.1186/1755-7682-4-11>
- Koetsenruijter, J., van Lieshout, J., & Wensing, M. (2015). Higher monetary incentives led to a lowered response rate in ambulatory patients: a randomized trial. *Journal of Clinical Epidemiology*, 68(11), 1380-1382. <https://doi.org/10.1016/j.jclinepi.2015.03.018>
- Kohl, H., Murray, T., & Salvo, D. (2019). *Foundations of physical activity and public health*. Human Kinetics Publishers.
- Konteh, F. H. (2009). Urban sanitation and health in the developing world: reminiscing the nineteenth century industrial nations. *Health & place*, 15(1), 69-78. <https://doi.org/10.1016/j.healthplace.2008.02.003>
- Koroma, T. R., Russell, J. B., Samura, S. K., Coker, J., Conteh, S., Yendewa, G. A., & Lisk, D. R. (2024). *Prevalence of Hypertension, awareness, treatment, and blood pressure control in Sierra Leone: A systematic review and meta-analysis*. medRxiv, 2024–01. <https://doi.org/doi:https://doi.org/10.1101/2024.01.05.24300711>
- Kringos, D. S., Boerma, W. G., Hutchinson, A., Saltman, R. B., & World Health Organization. (2015). *Building primary care in a changing Europe*. World Health Organization. Regional Office for Europe. <https://iris.who.int/handle/10665/154350>

- Kruizinga, R., Scherer-Rath, M., Schilderman, H. J., Puchalski, C. M., & van Laarhoven, H. H. (2018). Toward a fully fledged integration of spiritual care and medical care. *Journal of Pain and Symptom Management*, 55(3), 1035–1040. <https://doi.org/10.1016/j.jpainsymman.2017.11.015>
- Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., Adeyi, O., Barker, P., Daelmans, B., & Doubova, S. V. (2018). High-quality health systems in the Sustainable Development Goals era: Time for a revolution. *The Lancet Global Health*, 6(11), e1196–e1252. [https://doi.org/10.1016/S2214-109X\(18\)30386-3](https://doi.org/10.1016/S2214-109X(18)30386-3)
- Kruk, M. E., Leslie, H. H., Verguet, S., Mbaruku, G. M., Adanu, R. M., & Langer, A. (2016). Quality of basic maternal care functions in health facilities of five African countries: An analysis of national health system surveys. *The Lancet Global Health*, 4(11), e845–e855. [https://doi.org/DOI:https://doi.org/10.1016/S2214-109X\(16\)30180-2](https://doi.org/DOI:https://doi.org/10.1016/S2214-109X(16)30180-2)
- Kumar, R. (2018). *Research methodology: A step-by-step guide for beginners*. Sage. [https://books.google.co.ke/books?hl=en&lr=&id=J2J7DwAAQBAJ&oi=fnd&pg=PP1&dq=Kumar,+R.+\(2019\)](https://books.google.co.ke/books?hl=en&lr=&id=J2J7DwAAQBAJ&oi=fnd&pg=PP1&dq=Kumar,+R.+(2019))
- L'heveder, R., & Nolan, T. (2013). International diabetes federation. *Diabetes research and clinical practice*, 101(3), 349-351. [https://www.diabetesresearchclinicalpractice.com/article/S0168-8227\(13\)00281-7/abstract](https://www.diabetesresearchclinicalpractice.com/article/S0168-8227(13)00281-7/abstract)
- Lall, U., Josset, L., & Russo, T. (2020). A snapshot of the world's groundwater challenges. *Annual Review of Environment and Resources*, 45(1), 171-194. <https://doi.org/10.1146/annurev-environ-102017-025800>
- Larsen, M. D., de Graaf, E. L., Sonneveld, M. E., Plomp, H. R., Nouta, J., Hoepel, W., ... & Vidarsson, G. (2021). Afucosylated IgG characterizes enveloped viral responses and correlates with COVID-19 severity. *Science*, 371(6532), eabc8378. <https://doi.org/10.1126/science.abc837>
- Larson, S., Mahendran, A., Peper, J. J., Clarke, C., Lee, A., Hill, P., ... & Mars, J. (2019). *An evaluation dataset for intent classification and out-of-scope prediction*. <https://doi.org/10.48550/arXiv.1909.02027>
- Lawrence, M., & Kinn, S. (2012). Defining and measuring patient-centred care: An example from a mixed-methods systematic review of the stroke literature. *Health Expectations: An International Journal of Public Participation in Health Care and Health Policy*, 15(3), 295–326. <https://doi.org/10.1111/j.1369-7625.2011.00683.x>
- Leer-Salvesen, S., Dybvik, E., Engesaeter, L. B., Dahl, O. E., & Gjertsen, J. E. (2018). Low-molecular-weight heparin for hip fracture patients treated with osteosynthesis: should thromboprophylaxis start before or after surgery? An observational study of 45,913 hip fractures reported to the Norwegian Hip Fracture Register. *Acta orthopaedica*, 89(6), 615–621. <https://doi.org/10.1080/17453674.2018.1519101>

- Leslie, H. H., Sun, Z., & Kruk, M. E. (2017). Association between infrastructure and observed quality of care in 4 healthcare services: A cross-sectional study of 4,300 facilities in 8 countries. *PLoS Medicine*, *14*(12), e1002464. <https://doi.org/10.1371/journal.pmed.1002464>
- Letkovicova, H., Prasad, A., Vallée, R. L., Valentine, N., Adhikari, P., & van der Heide, G. W. (2005). *The health systems responsiveness analytical guidelines for surveys in the multi-country survey study*. Geneva: World Health Organization. https://repub.eur.nl/pub/125931/Repub_125931_O-A.pdf
- Levesque, J. F., Harris, M. F., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International journal for equity in health*, *12*, 1-9. <https://doi.org/10.1186/1475-9276-12-18>
- Liabsuetrakul, T., Petmanee, P., Sanguanchua, S., & Oumudee, N. (2012). Health system responsiveness for delivery care in Southern Thailand. *International Journal for Quality in Health Care*, *24*(2), 169–175. <https://doi.org/10.1093/intqhc/mzr085>
- Liabsuetrakul, T., Petmanee, P., Sanguanchua, S., & Oumudee, N. (2012). Health system responsiveness for delivery care in Southern Thailand. *International Journal for quality in health care*, *24*(2), 169-175. <https://doi.org/10.1093/intqhc/mzr085>
- Limbani, T., & Mahesh, A. (2023). Study of brush coating and spin coating on stannic oxide thin film for the electron transport layer in a perovskite solar cell. *Nano-Structures & Nano-Objects*, *35*, 101010. <https://doi.org/10.1016/j.nanoso.2023.101010>
- Lindqvist, R., Smeds Alenius, L., Griffiths, P., Runesdotter, S., & Tishelman, C. (2015). Structural characteristics of hospitals and nurse-reported care quality, work environment, burnout and leaving intentions. *Journal of Nursing Management*, *23*(2), 263–274. <https://doi.org/10.1111/jonm.12123>
- Lindwall, L., & Lohne, V. (2021). Human dignity research in clinical practice—a systematic literature review. *Scandinavian Journal of Caring Sciences*, *35*(4), 1038-1049. <https://doi.org/10.1111/scs.12922>
- Liu, Y., Liu, J., Xia, H., Zhang, X., Fontes-Garfias, C. R., Swanson, K. A., ... & Shi, P. Y. (2021). Neutralizing activity of BNT162b2-elicited serum. *New England Journal of Medicine*, *384*(15), 1466-1468. <https://doi.org/10.1056/NEJMc21020>
- Lodenstein, E., Dieleman, M., Gerretsen, B., & Broerse, J. E. (2017). Health provider responsiveness to social accountability initiatives in low-and middle-income countries: A realist review. *Health Policy and Planning*, *32*(1), 125–140. <https://doi.org/10.1093/heapol/czw089>
- Longkumer, I., Yadav, S., Rajkumari, S., & Saraswathy, K. N. (2023). Trends in hypertension prevalence, awareness, treatment, and control: An 8-year follow-up study from rural

- North India. *Scientific Reports*, 13(1), 9910. <https://doi.org/10.1038/s41598-023-37082-4>
- Lund, C. (2018). Improving quality of mental health care in low-resource settings: Lessons from PRIME. *World Psychiatry*, 17(1), 47. <https://doi.org/doi: 10.1002/wps.20489>
- Lusambili, A. M., Naanyu, V., Wade, T. J., Mossman, L., Mantel, M., Pell, R., Ngetich, A., Mulama, K., Nyaga, L., Obure, J., & Temmerman, M. (2020). Deliver on Your Own: Disrespectful Maternity Care in rural Kenya. *PloS one*, 15(1), e0214836. <https://doi.org/10.1371/journal.pone.0214836>
- Maina, S. M. (2016). *Determining the differences between patients' and employees' perceptions and expectations of quality of service in outpatient departments in Kiambu County Public Hospitals*. [Doctoral Thesis, Strathmore University]. <https://suplus.strathmore.edu/server/api/core/bitstreams/94d0851e-2b98-4b91-8078-bb34ffce5101/content>
- Malekzadeh, R., Yaghoobian, S., Hasanpoor, E., & Ghasemi, M. (2021). Health system responsiveness in Iran: A cross-sectional study in hospitals of Mazandaran province. *International Journal of Human Rights in Healthcare*, 14(2), 133–142. <https://doi.org/10.1108/IJHRH-03-2020-0018>
- Masese, C. O., Tenambergen, W. M., & Muiruri, L. (2016). Utilization of Service Charters in Public Hospitals in Kenya: A Case of Thika Level 5 Hospital, Kiambu County. *International Journal of Scientific and Research Publications*, 6(6), 1–6. <http://repository.kemu.ac.ke:8080/bitstream/handle/123456789/1203/charles%20masese.pdf?sequence=1&isAllowed=y>
- Mattei, J.-F. (2018). Respecting the patient's autonomy. *La Revue De Reference Infirmiere*, 63(824), 25–27. <https://doi.org/10.1016/j.soim.2018.02.004>
- Matua, G. A., & Van Der Wal, D. M. (2015). Differentiating between descriptive and interpretive phenomenological research approaches. *Nurse researcher*, 22(6), 1-27. <https://doi.org/10.7748/nr.22.6.22.e1344>
- McCollum, R., Taegtmeier, M., Otiso, L., Tolhurst, R., Mireku, M., Martineau, T., Karuga, R., & Theobald, S. (2019). Applying an intersectionality lens to examine health for vulnerable individuals following devolution in Kenya. *International journal for equity in health*, 18(1), 24. <https://doi.org/10.1186/s12939-019-0917-2>
- McGarry, T., Biniecka, M., Veale, D. J., & Fearon, U. (2018). Hypoxia, oxidative stress and inflammation. *Free Radical Biology and Medicine*, 125, 15-24. <https://doi.org/10.1016/j.freeradbiomed.2018.03.042>
- McGilton, K. S., Vellani, S., Yeung, L., Chishtie, J., Commisso, E., Ploeg, J., ... & Puts, M. (2018). Identifying and understanding the health and social care needs of older adults

- with multiple chronic conditions and their caregivers: a scoping review. *BMC geriatrics*, 18, 1-33. <https://doi.org/10.1186/s12877-018-0925-x>
- Meesala, A., & Paul, J. (2018). Service Quality, Consumer Satisfaction and Loyalty in Hospitals: Thinking for the Future. *Journal of Retailing and Consumer Services*, 40, 261-269. <https://doi.org/10.1016/j.jretconser.2016.10.011>
- Memon, M. A., Cheah, J.-H., Ramayah, T., Ting, H., Chuah, F., & Cham, T. H. (2019). Moderation analysis: Issues and guidelines. *Journal of Applied Structural Equation Modeling*, 3(1), 1–11. <https://www.researchgate.net/profile/Mumtaz->
- Menard, S. (2007). *Handbook of longitudinal research: Design, measurement, and analysis*. Elsevier.
- Meuter, R. F. I., Gallois, C., Segalowitz, N. S., Ryder, A. G., & Hocking, J. (2015). Overcoming language barriers in healthcare: A protocol for investigating safe and effective communication when patients or clinicians use a second language. *BMC Health Services Research*, 15, 371. <https://doi.org/10.1186/s12913-015-1024-8>
- Micklesfield, L. K., Munthali, R., Agongo, G., Asiki, G., Boua, P., Choma, S. S., Crowther, N. J., Fabian, J., Gómez-Olivé, F. X., Kabudula, C., Maimela, E., Mohamed, S. F., Nonterah, E. A., Raal, F. J., Sorgho, H., Tluway, F. D., Wade, A. N., Norris, S. A., & Ramsay, M. (2023). Identifying the prevalence and correlates of multimorbidity in middle-aged men and women: A cross-sectional population-based study in four African countries. *BMJ Open*, 13(3), e067788. <https://doi.org/10.1136/bmjopen-2022-067788>
- Mikkelsen, G., & Frederiksen, K. (2011). Family-centred care of children in hospital—a concept analysis. *Journal of advanced nursing*, 67(5), 1152-1162. <https://doi.org/10.1111/j.1365-2648.2010.05574.x>
- Mills, K. T., Bundy, J. D., Kelly, T. N., Reed, J. E., Kearney, P. M., Reynolds, K., Chen, J., & He, J. (2016). Global disparities of hypertension prevalence and control: A systematic analysis of population-based studies from 90 countries. *Circulation*, 134(6), 441–450. <https://doi.org/10.1161/CIRCULATIONAHA.115.018912>
- Mirzoev, T., & Kane, S. (2017). What is health systems responsiveness? Review of existing knowledge and proposed conceptual framework. *BMJ global health*, 2(4), e000486. <https://doi.org/10.1136/bmjgh-2017-000486>
- Mkalama, R. N. (2014). *Top management demographics, strategic decision making, macro-environment and performance of Kenyan state corporation*. [Doctoral Thesis, University of Nairobi]. <http://erepository.uonbi.ac.ke/handle/11295/76868>
- Mohamed, S. F., Mwangi, M., Mutua, M. K., Kibachio, J., Hussein, A., Ndegwa, Z., Owondo, S., Asiki, G., & Kyobutungi, C. (2018). Prevalence and factors associated with pre-diabetes and diabetes mellitus in Kenya: Results from a national survey. *BMC Public Health*, 18(3), 1–11. <https://doi.org/10.1186/s12889-018-6053-x>

- Mohammadi, A., & Kamali, K. (2014b). Responsiveness in the healthcare settings: A survey of inpatients. *International Journal of Hospital Research*, 3(3), 123–132. https://ijhr.iuums.ac.ir/?_action=articleInfo&article=7706
- Mohammed, S., Bermejo, J. L., Souares, A., Sauerborn, R., & Dong, H. (2013). Assessing responsiveness of health care services within a health insurance scheme in Nigeria: users' perspectives. *BMC health services research*, 13, 1-13. <https://doi.org/10.1186/1472-6963-13-502>
- Molina-Mula, J., & Gallo-Estrada, J. (2020). Impact of nurse-patient relationship on quality of care and patient autonomy in decision-making. *International journal of environmental research and public health*, 17(3), 2-24. <https://doi.org/10.3390/ijerph17030835>
- Molyneux, S., Atela, M., Angwenyi, V., & Goodman, C. (2012). Community accountability at peripheral health facilities: A review of the empirical literature and development of a conceptual framework. *Health Policy and Planning*, 27(7), 541–554. <https://doi.org/10.1093/heapol/czr083>
- Moore, L., Britten, N., Lydahl, D., Naldemirci, Ö., Elam, M., & Wolf, A. (2017). Barriers and facilitators to the implementation of person-centred care in different healthcare contexts. *Scandinavian journal of caring sciences*, 31(4), 662-673. <https://doi.org/10.1111/scs.12376>
- Moser, A., & Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *European journal of general practice*, 24(1), 9-18. <https://doi.org/10.1080/13814788.2017.1375091>
- Mulaki, A., & Muchiri, S. (2019). *Kenya health system assessment*. USAID.
- Murante, A. M., Seghieri, C., Vainieri, M., & Schäfer, W. L. (2017). Patient-perceived responsiveness of primary care systems across Europe and the relationship with the health expenditure and remuneration systems of primary care doctors. *Social Science & Medicine*, 186, 139–147. <https://doi.org/10.1016/j.socscimed.2017.06.005>
- Murray, C., & Frenk, J. (2001). World Health Report 2000: a step towards evidence-based health policy. *The Lancet*, 357(9269), 1698-1700. [https://doi.org/10.1016/S0140-6736\(00\)04826-1](https://doi.org/10.1016/S0140-6736(00)04826-1)
- Murugami, R. W. (2014). *Challenges of implementing Kenya quality model for health strategy in Kiambu county, Kenya* [Doctoral Thesis, University of Nairobi]. <http://erepository.uonbi.ac.ke/handle/11295/75134>
- Mwangi, V., Owuor, S., Kiteme, B., Giger, M., Jacobi, J., & Kirui, O. (2020). Linking household food security and food value chains in North West Mt. Kenya. *Sustainability*, 12(12), 4999. <https://doi.org/10.3390/su12124999>
- Nagai, T., Inomata, T., Kohno, T., Sato, T., Tada, A., Kubo, T., & Japanese Circulation Society Joint Working Group. (2023). JCS 2023 guideline on the diagnosis and treatment of

myocarditis. *Circulation Journal*, 87(5), 674-754. <https://doi.org/10.1253/circj.CJ-22-0696>

- Naghavi, M., Abajobir, A. A., Abbafati, C., Abbas, K. M., Abd-Allah, F., Abera, S. F., Aboyans, V., Adetokunboh, O., Afshin, A., & Agrawal, A. (2017). Global, regional, and national age-sex specific mortality for 264 causes of death, 1980–2016: A systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*, 390(10100), 1151–1210. [https://doi.org/10.1016/S0140-6736\(17\)32152-9](https://doi.org/10.1016/S0140-6736(17)32152-9)
- Naik, A. D., Dyer, C. B., Kunik, M. E., & McCullough, L. B. (2009). Patient autonomy for the management of chronic conditions: a two-component re-conceptualization. *The American Journal of Bioethics*, 9(2), 23-30. <https://doi.org/10.1080/15265160802654111>
- Najafi-Tavani, S., Sharifi, H., & Najafi-Tavani, Z. (2016). Market orientation, marketing capability, and new product performance: The moderating role of absorptive capacity. *Journal of business research*, 69(11), 5059-5064. <https://doi.org/10.1016/j.jbusres.2016.04.080>
- Nambisan, S., & Zahra, S. A. (2016). The role of demand-side narratives in opportunity formation and enactment. *Journal of Business Venturing Insights*, 5(1), 70-75. <https://doi.org/10.1016/j.jbvi.2016.05.001>
- National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Health Care Services, Board on Global Health, & Committee on Improving the Quality of Health Care Globally. (2018). *Crossing the Global Quality Chasm: Improving Health Care Worldwide*. National Academies Press (US). <http://www.ncbi.nlm.nih.gov/books/NBK535653/>
- National Institute for Health and Care Excellence (2012). *Endorsed clinical guidelines* <https://www.ncbi.nlm.nih.gov/books/NBK11822/>
- Nduati, J. N., Gatimu, S. M., & Kombe, Y. (2022). Diabetic Foot Risk Assessment among Patients with Type 2 Diabetes in Kenya. *The East African Health Research Journal*, 6(2), 196-212. www.eahealth.org
- Negash, W. D., Atnafu, A., Asmamaw, D. B., & Tsehay, C. T. (2022a). Does Health System Responsiveness Differ between Insured and Uninsured Outpatients in Primary Health Care Facilities in Asagirt District, Ethiopia? A Cross-Sectional Study. *Advances in Public Health*, 2022. <https://doi.org/10.1155/2022/3857873>
- Negash, W. D., Tsehay, C. T., Yazachew, L., Asmamaw, D. B., Desta, D. Z., & Atnafu, A. (2022b). Health system responsiveness and associated factors among outpatients in primary health care facilities in Ethiopia. *BMC Health Services Research*, 22(1), 249. <https://doi.org/10.1186/s12913-022-07651-w>

- Neumann, R. (2005). Doctoral differences: Professional doctorates and PhDs compared. *Journal of Higher Education Policy and Management*, 27(2), 173-188. <https://doi.org/10.1080/13600800500120027>
- Njeru, M. K., Blystad, A., Nyamongo, I. K., & Fylkesnes, K. (2009). A critical assessment of the WHO responsiveness tool: Lessons from voluntary HIV testing and counselling services in Kenya. *BMC Health Services Research*, 9(1), 243. <https://doi.org/10.1186/1472-6963-9-243>
- Njuguna, R. S. (2020). *The Influence of Health Literacy on Patients' Rights Charter on Health Systems responsiveness at a Primary Health Care facility in Machakos County* [Doctoral Thesis, KeMU]. <http://41.89.31.5/handle/123456789/851>
- Nwafor, C. E., Edeogu, J., Stanley, R., Enyichukwu, B., & Ogoegbunam, M. (2024). Prevalence of Diabetes Mellitus among Adult Population Within a Southern Nigerian Community. *European Journal of Medical and Health Research*, 2(1), 131-137. <https://orcid.org/0009-0007-7255-6058>
- O'Mahony, M., & Stevens, P. (2004). *International comparisons of performance in the provision of public services: Outcome based measures for education*, London: National Institute of Economic and Social Research. 1(1). 1-51. [https://doi.org/10.1016/S2214-109X\(15\)00287-9](https://doi.org/10.1016/S2214-109X(15)00287-9)
- Okati-Aliabad, H., Nazri-Panjaki, A., Mohammadi, M., Nejabat, E., & Ansari-Moghaddam, A. (2023). Determinants of diabetes self-care activities in patients with type 2 diabetes based on self-determination theory. *Acta Diabetologica*, 61(3), 297-307. <https://doi.org/10.1007/s00592-023-02186-w>
- Olmsted, M. P., & McFarlane, T. (2004). Body weight and body image. *BMC women's health*, 4, 1-9. <https://doi.org/10.1186/1472-6874-4-S1-S5>
- Olowoyo, P., Barango, P., Moran, A., Williams, B., Whelton, P. K., Owolabi, M., Dzudie, A., Okekunle, A. P., Obiako, R., & Mocumbi, A. (2024). Priorities to reduce the burden of hypertension in Africa through ACHIEVE. *The Lancet Global Health*, 12(2), e192-e193. [https://doi.org/DOI:https://doi.org/10.1016/S2214-109X\(23\)00540-5](https://doi.org/DOI:https://doi.org/10.1016/S2214-109X(23)00540-5)
- Ong, K. L., Stafford, L. K., McLaughlin, S. A., Boyko, E. J., Vollset, S. E., Smith, A. E., Dalton, B. E., Duprey, J., Cruz, J. A., & Hagins, H. (2023). Global, regional, and national burden of diabetes from 1990 to 2021, with projections of prevalence to 2050: a systematic analysis for the Global Burden of Disease Study 2021. *Lancet (London, England)*, 402(10397), 203-234. [https://doi.org/10.1016/S0140-6736\(23\)01301-6](https://doi.org/10.1016/S0140-6736(23)01301-6)
- Onyango, M. A., Vian, T., Hirsch, I., Salvi, D. D., Laing, R., Rockers, P. C., Ashigbie, P. G., & Wirtz, V. J. (2018). Perceptions of Kenyan adults on access to medicines for non-communicable diseases: A qualitative study. *PloS One*, 13(8), e0201917. <https://doi.org/10.1371/journal.pone.0201917>

- Osborn, R., Squires, D., Doty, M. M., Sarnak, D. O., & Schneider, E. C. (2016). In new survey of eleven countries, US adults still struggle with access to and affordability of health care. *Health Affairs*, *35*(12), 2327-2336. <https://doi.org/10.1377/hlthaff.2016.1088>
- Owili, P. O., Lien, W. H., Muga, M. A., & Lin, T. H. (2017). The associations between types of ambient PM_{2.5} and under-five and maternal mortality in Africa. *International journal of environmental research and public health*, *14*(4), 359. <https://doi.org/10.3390/ijerph14040359>
- Owino, C. A. (2019). *Influence of performance management systems on employee productivity in county referral hospitals in Kiambu County, Kenya* [PhD Thesis, KeMU]. <http://repository.kemu.ac.ke/bitstream/handle/123456789/745/Carolyn%20Akinyi%20Owino.pdf?sequence=1&isAllowed=y>
- Oyando, R., Njoroge, M., Nguhiu, P., Kirui, F., Mbui, J., Sigilai, A., Bukania, Z., Obala, A., Munge, K., & Etyang, A. (2019). Patient costs of hypertension care in public health care facilities in Kenya. *The International Journal of Health Planning and Management*, *34*(2), e1166–e1178. <https://doi.org/10.1002/hpm.2752>
- Oyando, R., Njoroge, M., Nguhiu, P., Sigilai, A., Kirui, F., Mbui, J., Bukania, Z., Obala, A., Munge, K., & Etyang, A. (2020). Patient costs of diabetes mellitus care in public health care facilities in Kenya. *The International Journal of Health Planning and Management*, *35*(1), 290–308. <https://doi.org/10.1002/hpm.2905>
- Paddison, C. A., Abel, G. A., Roland, M. O., Elliott, M. N., Lyratzopoulos, G., & Campbell, J. L. (2015). Drivers of overall satisfaction with primary care: Evidence from the English General Practice Patient Survey. *Health Expectations*, *18*(5), 1081–1092. <https://doi.org/10.1111/hex.12081>
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, *42*(1), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Parmelli, E., Flodgren, G., Beyer, F., Baillie, N., Schaafsma, M. E., & Eccles, M. P. (2011). The effectiveness of strategies to change organisational culture to improve healthcare performance: a systematic review. *Implementation Science*, *6*(1), 1-8. <https://doi.org/10.1186/1748-5908-6-33>
- Pekurinen, V., Willman, L., Virtanen, M., Kivimäki, M., Vahtera, J., & Välimäki, M. (2017). Patient Aggression and the Wellbeing of Nurses: A Cross-Sectional Survey Study in Psychiatric and Non-Psychiatric Settings. *International journal of environmental research and public health*, *14*(10), 1245. <https://doi.org/10.3390/ijerph14101245>
- Peltzer, K. (2009). Patient experiences and health system responsiveness in South Africa. *BMC health services research*, *9*, 1-12. <https://doi.org/10.1186/1472-6963-9-117>

- Peltzer, K., & Phaswana-Mafuya, N. (2012). Patient experiences and health system responsiveness among older adults in South Africa. *Global Health Action*, 5(1), 18545. <https://doi.org/10.3402/gha.v5i0.18545>
- Penn, C. & Watermeyer, J., (2019). Community perspectives on tuberculosis care in rural South Africa. *Health & Social Care in the Community*, 27(1), 182-190. <https://doi.org/10.1111/hsc.12637>
- Phelan, A., McCormack, B., Dewing, J., Brown, D., Cardiff, S., Cook, N. F., ... & Van Lieshout, F. (2020). *Review of developments in person-centred healthcare*. <https://doi.org/10.19043/ipdj.10Suppl2.003>
- Phillips, R. L., Short, A., Kenning, A., Dugdale, P., Nugus, P., McGowan, R., & Greenfield, D. (2015). Achieving patient-centred care: The potential and challenge of the patient-as-professional role. *Health Expectations: An International Journal of Public Participation in Health Care and Health Policy*, 18(6), 2616–2628. <https://doi.org/10.1111/hex.12234>
- Plano, C. & Vicki, L. (2017). Mixed methods research. *The Journal of Positive Psychology*, 12(3), 305-306. <https://doi.org/10.1080/17439760.2016.1262619>
- Pritchard, R. D. (1969). Equity theory: A review and critique. *Organizational Behavior and Human Performance*, 4(2), 176–211. [https://doi.org/10.1016/0030-5073\(69\)90005-1](https://doi.org/10.1016/0030-5073(69)90005-1)
- Pyone, T., Smith, H., & van den Broek, N. (2017). Frameworks to assess health systems governance: A systematic review. *Health Policy and Planning*, 32(5), 710–722. <https://doi.org/10.1093/heapol/czx007>
- Rashidian, A., & Russell, I. (2011). Intentions and statins prescribing: can the theory of planned behaviour explain physician behaviour in following guideline recommendations?. *Journal of evaluation in clinical practice*, 17(4), 749-757. <https://doi.org/10.1111/j.1365-2753.2011.01690.x>
- Ratcliffe, H. L., Bell, G., Awoonor-Williams, K., Bitton, A., Kim, J.-H., Lipstiz, S., Macarayan, E., Ofosu, A., Otupiri, E., Schwarz, D., & Hirschhorn, L. R. (2020). Towards patient-centred care in Ghana: Health system responsiveness, self-rated health and experiential quality in a nationally representative survey. *BMJ Open Quality*, 9(2), e000886. <https://doi.org/10.1136/bmjopen-2019-000886>
- Rawat, D., Sharma, U., Yadav, A., Poria, P., Farooqi, F., Pani, B., ... & Mishra, V. (2023). A bottom-up approach to select microbes from textile wastewater for detoxification of aromatic amine and azo dye in a single stage. *Journal of Water Process Engineering*, 53, 103668. <https://doi.org/10.1016/j.jwpe.2023.103668>
- Raynald, P. M. D., & Jean-Frédéric, L. M. D. (2010). The experience of primary health care users: A rural-urban paradox. *Canadian Journal of Rural Medicine*, 15(2), 61.

<https://www.proquest.com/openview/e9c787516dfc128b3b90d6172ca9ea65/1?pq-origsite=gscholar&cbl=45825>

- Rego, N., Pereira, H. S., & Crispim, J. (2021). Perceptions of patients and physicians on teleconsultation at home for diabetes mellitus: Survey study. *JMIR Human Factors*, 8(4), e27873. <https://doi.org/doi:10.2196/27873>
- Rehman, A. A., & Alharthi, K. (2016). An introduction to research paradigms. *International journal of educational investigations*, 3(8), 51-59. <http://www.ijeionline.com/attachments/article/57/IJEI.Vol.3.No.8.05.pdf>
- Reinaldi, R., Hendri, E., & Novalia, N. (2024). The Influence of Teamwork and Work Discipline towards Employees' Performance. *Journal of Social Work and Science Education*, 5(3), 951-959. <https://doi.org/10.52690/jswse.v5i3.874>
- Rijken, M., Hujala, A., van Ginneken, E., Melchiorre, M. G., Groenewegen, P., & Schellevis, F. (2018). Managing multimorbidity: Profiles of integrated care approaches targeting people with multiple chronic conditions in Europe. *Health Policy*, 122(1), 44–52. <https://doi.org/10.1016/j.healthpol.2017.10.002>
- Robone, S., Rice, N., & Smith, P. C. (2011). Health systems' responsiveness and its characteristics: A cross-country comparative analysis. *Health services research*, 46(6pt2), 2079-2100. <https://doi.org/10.1111/j.1475-6773.2011.01291.x>
- Roos, C., Alam, M., Swall, A., Boström, A.-M., & Hammar, L. M. (2022). Factors associated with older persons' perceptions of dignity and well-being over a three-year period. A retrospective national study in residential care facilities. *BMC Geriatrics*, 22(1), 515. <https://doi.org/10.1186/s12877-022-03205-1>
- Rosenlund, M., Kinnunen, U. M., & Saranto, K. (2023). The use of digital health services among patients and citizens living at home: scoping review. *Journal of Medical Internet Research*, 25, e44711. <https://www.jmir.org/2023/1/e44711/>
- Rostami, F. (2019). Effect of educational intervention on nurses' attitude, intention and behaviour towards family-centered care in pediatric wards in Iran: A randomized control trial utilizing prospect theory. *Advances in Emergency Medicine*, 8(1), 7. <https://doi.org/10.18686/aem.v8i1.144>
- Röttger, J., Blümel, M., Engel, S., Grenz-Farenholtz, B., Fuchs, S., Linder, R., Verheyen, F., & Busse, R. (2015). Exploring health system responsiveness in ambulatory care and disease management and its relation to other dimensions of health system performance (RAC)—study design and methodology. *International Journal of Health Policy and Management*, 4(7), 431. <https://doi.org/doi: 10.15171/ijhpm.2015.97>
- Röttger, J., Blümel, M., Fuchs, S., & Busse, R. (2014). Assessing the responsiveness of chronic disease care-is the World Health Organization's concept of health system

- responsiveness applicable?. *Social Science & Medicine*, 113, 87–94. <https://doi.org/10.1016/j.socscimed.2014.05.009>
- Sabapathy, K., Mwita, F. C., Dauya, E., Bandason, T., Simms, V., Chikwari, C. D., Doyle, A. M., Ross, D., Shah, A., & Hayes, R. J. (2024). Prevalence of hypertension and high-normal blood pressure among young adults in Zimbabwe: Findings from a large, cross-sectional population-based survey. *The Lancet Child & Adolescent Health*, 8(2), 101–111. [https://doi.org/10.1016/S2352-4642\(23\)00287-0](https://doi.org/10.1016/S2352-4642(23)00287-0)
- Saitz, R., Larson, M. J., LaBelle, C., Richardson, J., & Samet, J. H. (2008). The case for chronic disease management for addiction. *Journal of addiction medicine*, 2(2), 55–65. <https://doi.org/10.1097/ADM.0b013e318166af74>
- Sajjadi, F., Moradi-Lakeh, M., Nojomi, M., Baradaran, H. R., & Azizi, F. (2015). Health system responsiveness for outpatient care in people with diabetes Mellitus in Tehran. *Medical Journal of the Islamic Republic of Iran*, 29, 293. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4764286/>
- Sankar, P., Mora, S., Merz, J. F., & Jones, N. L. (2003). Patient perspectives of medical confidentiality: A review of the literature. *Journal of General Internal Medicine*, 18(8), 659–669. <https://doi.org/10.1046/j.1525-1497.2003.20823.x>
- Sarah, K., Abdillahi, H. S., Reuben, M., & Lydia, A. (2021). Prevalence and risk factors associated with diabetes in Meru County, Kenya: A cross-sectional study. *International Journal of Diabetes in Developing Countries*, 41, 412–418. <https://doi.org/10.1007/s13410-020-00902-8>
- Sarfo, J. O., Obeng, P., Kyereh, H. K., Ansah, E. W., & Attafuah, P. Y. A. (2023). Self-Determination Theory and Quality of Life of Adults with Diabetes: A Scoping Review. *Journal of Diabetes Research*, 2023, 1–12. <https://doi.org/10.1155/2023/5341656>
- Schutte, A. E., Srinivasapura Venkateshmurthy, N., Mohan, S., & Prabhakaran, D. (2021). Hypertension in low-and middle-income countries. *Circulation Research*, 128(7), 808–826. <https://doi.org/10.1161/CIRCRESAHA.120.318729>
- Schwarz, T., Schmidt, A. E., Bobek, J., & Ladurner, J. (2022). Barriers to accessing health care for people with chronic conditions: A qualitative interview study. *BMC Health Services Research*, 22(1), 1037. <https://doi.org/10.1186/s12913-022-08426-z>
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & sons.
- Shaqura, I. I., Jaafaripooyan, E., Ahmadi, B., & Akbari Sari, A. (2022). Responsiveness of hospitals to inpatient and outpatient services in the low-and middle-income countries: A systematic review. *The International Journal of Health Planning and Management*, 37(1), 78–93. <https://doi.org/10.1002/hpm.3328>

- Sharma, J. R., Mabhida, S. E., Myers, B., Apalata, T., Nicol, E., Benjeddou, M., Muller, C., & Johnson, R. (2021). Prevalence of hypertension and its associated risk factors in a rural black population of Mthatha town, South Africa. *International Journal of Environmental Research and Public Health*, *18*(3), 1215. <https://doi.org/10.3390/ijerph18031215>
- Shields, C. M. (2010). Transformative leadership: Working for equity in diverse contexts. *Educational administration quarterly*, *46*(4), 558-589. <https://doi.org/10.1177/0013161X10375609>
- Siddiqi, S., Masud, T. I., Nishtar, S., Peters, D. H., Sabri, B., Bile, K. M., & Jama, M. A. (2009). Framework for assessing governance of the health system in developing countries: gateway to good governance. *Health policy*, *90*(1), 13-25. <https://doi.org/10.1016/j.healthpol.2008.08.005>
- Sileyew, K. J. (2019). *Research design and methodology*. IntechOpen <https://doi.org/10.5772/intechopen.85731>
- Simpson, G., Morrison, L., Santer, M., Hijryana, M., Farmer, A., & Dambha-Miller, H. (2024). Perceptions and experiences of living with and providing care for multimorbidity: A qualitative interview study. *Journal of Multimorbidity and Comorbidity*, *14*, 26335565241240820. <https://doi.org/10.1177/26335565241240820>
- Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of Economics, Commerce and Management*, *2*(11), 1–22. <https://www.scirp.org/reference/referencespapers?referenceid=2589928>
- Sitienei, I., Gillespie, J., & Scaglia, G. (2019). Forage management practices used in production of US grass-fed beef. *Applied Animal Science*, *35*(6), 535-542. <https://doi.org/10.15232/aas.2019-01890>
- Solomon, B. K., Wilson, K. G., Henderson, P. R., Poulin, P. A., Kowal, J., & McKim, D. A. (2016). Loss of Dignity in Severe Chronic Obstructive Pulmonary Disease. *Journal of Pain and Symptom Management*, *51*(3), 529–537. <https://doi.org/10.1016/j.jpainsymman.2015.11.007>
- South, L., Saffo, D., Vitek, O., Dunne, C., & Borkin, M. A. (2022). Effective use of Likert scales in visualization evaluations: A systematic review. *Computer Graphics Forum*, *41*(3), 43–55. <https://doi.org/10.1111/cgf.14521>
- Srivastava, A., Avan, B. I., Rajbangshi, P., & Bhattacharyya, S. (2015). Determinants of women's satisfaction with maternal health care: A review of literature from developing countries. *BMC Pregnancy and Childbirth*, *15*(1), 97. <https://doi.org/10.1186/s12884-015-0525-0>

- Srivastava, A., Brewer, A. K., Mauser-Bunschoten, E. P., Key, N. S., Kitchen, S., Llinas, A., Ludlam, C. A., Mahlangu, J. N., Mulder, K., Poon, M. C., Street, A., & Treatment Guidelines Working Group on Behalf of The World Federation Of Hemophilia (2013). Guidelines for the management of hemophilia. *Haemophilia : the official journal of the World Federation of Hemophilia*, 19(1), e1–e47. <https://doi.org/10.1111/j.1365-2516.2012.02909.x>
- Steinberg, L. (2017). Adolescent brain science and juvenile justice policymaking. *Psychology, Public Policy, and Law*, 23(4), 410. <https://doi.org/10.1037/law0000128>
- Stewart, J., Myléus, A., Chatterji, S., & Valentine, N. (2020). Health systems responsiveness among older adults: Findings from the World Health Organization Study on global AGEing and adult health. *Global Public Health*, 15(7), 999–1015. <https://doi.org/10.1080/17441692.2020.1742365>
- Sullivan, M. (2016). *The patient as agent of health and health care: Autonomy in patient-centered care for chronic conditions*. Oxford University Press. <https://global.oup.com/academic/product/the-patient-as-agent-of-health-and-health-care-9780195386585?cc=us&lang=en&>
- Sun, H., Saeedi, P., Karuranga, S., Pinkepank, M., Ogurtsova, K., Duncan, B. B., Stein, C., Basit, A., Chan, J. C. N., Mbanya, J. C., Pavkov, M. E., Ramachandaran, A., Wild, S. H., James, S., Herman, W. H., Zhang, P., Bommer, C., Kuo, S., Boyko, E. J., & Magliano, D. J. (2022). IDF Diabetes Atlas: Global, regional and country-level diabetes prevalence estimates for 2021 and projections for 2045. *Diabetes research and clinical practice*, 183, 109119. <https://doi.org/10.1016/j.diabres.2021.109119>
- Sundler, A. J., Lindberg, E., Nilsson, C., & Palmér, L. (2019). Qualitative thematic analysis based on descriptive phenomenology. *Nursing Open*, 6(3), 733–739. <https://doi.org/10.1002/nop2.275>
- Taber, K. S. (2018). The use of Cronbach’s alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48, 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Taherdoost, H. (2017). Determining Sample Size: How to Calculate Survey Sample Size. *International Journal of Economics and Management Systems*, 2(1), 1-3. <https://ssrn.com/abstract=3224205>
- Talpur, M. S. H., Abro, A. A., Ebrahim, M., Kandhro, I. A., Manickam, S., Arfeen, S. U., Dandoush, A., & Uddin, M. (2024). Illuminating Healthcare Management: A Comprehensive Review of IoT-Enabled Chronic Disease Monitoring. *IEEE Access*, 12(2) 1-4. <https://doi.org/DOI: 10.1109/ACCESS.2024.3382011>
- Tenny, S., Brannan, J. M., & Brannan, G. D. (2023). *Qualitative Study*. In StatPearls. StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK470395/>

- Tille, F., Röttger, J., Gibis, B., Busse, R., Kuhlmeier, A., & Schnitzer, S. (2019). Patients' perceptions of health system responsiveness in ambulatory care in Germany. *Patient Education and Counseling*, 102(1), 162–171. <https://doi.org/10.1016/j.pec.2018.08.020>
- Topp, S. M., & Chipukuma, J. M. (2016). A qualitative study of the role of workplace and interpersonal trust in shaping service quality and responsiveness in Zambian primary health centres. *Health Policy and Planning*, 31(2), 192–204. <https://doi.org/10.1093/heapol/czv041>
- Tran, P. B., Ali, A., Ayesha, R., Boehnke, J. R., Ddungu, C., Lall, D., Pinkney-Atkinson, V. J., & van Olmen, J. (2024). An interpretative phenomenological analysis of the lived experience of people with multimorbidity in low-and middle-income countries. *BMJ Global Health*, 9(1), e013606. <https://doi.org/10.1136/bmjgh-2023-013606>
- Trehearne, B., Fishman, P., & Lin, E. H. (2014). Role of the Nurse in Chronic Illness Management: Making The Medical Home More Effective. *Nursing Economic\$, 32(4)*. <https://web.p.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=1&sid=46ee7686-64b1-4017-ab90-256f88fac70d%40redis>
- Tremblay, D., Roberge, D., & Berbiche, D. (2015). Determinants of patient-reported experience of cancer services responsiveness. *BMC Health Services Research*, 15(1), 1–10. <https://doi.org/10.1186/s12913-015-1104-9>
- Tripathy, P., Nair, N., Sinha, R., Rath, S., Gope, R. K., Rath, S. & Prost, A. (2016). Effect of participatory women's groups facilitated by Accredited Social Health Activists on birth outcomes in rural eastern India: a cluster-randomised controlled trial. *The Lancet Global Health*, 4(2), e119-e128. [https://doi.org/10.1016/S2214-109X\(15\)00287-9](https://doi.org/10.1016/S2214-109X(15)00287-9)
- Trunfio, T. A., Scala, A., Giglio, C., Rossi, G., Borrelli, A., Romano, M., & Improta, G. (2022). Multiple regression model to analyze the total LOS for patients undergoing laparoscopic appendectomy. *BMC Medical Informatics and Decision Making*, 22(1), 1–8. <https://doi.org/10.1186/s12911-022-01884-9>
- Ughasoro, M. D., Okanya, O. C., Uzochukwu, B., & Onwujekwe, O. E. (2017a). An exploratory study of patients' perceptions of responsiveness of tertiary health-care services in Southeast Nigeria: A hospital-based cross-sectional study. *Nigerian Journal of Clinical Practice*, 20(3), 267–273. <https://doi.org/10.4103/1119-3077.183255>
- Ughasoro, M. D., Okanya, O. C., Uzochukwu, B., & Onwujekwe, O. E. (2017b). An exploratory study of patients' perceptions of responsiveness of tertiary health-care services in Southeast Nigeria: A hospital-based cross-sectional study. *Nigerian Journal of Clinical Practice*, 20(3), 267–273. <https://doi.org/10.4103/1119-3077.183255>

- Üstün, T. B., Ayuso-Mateos, J. L., Chatterji, S., Mathers, C., & Murray, C. J. (2004). Global burden of depressive disorders in the year 2000. *The British journal of psychiatry*, *184*(5), 386-392. <https://doi.org/10.1192/bjp.184.5.386>
- Uzochukwu, B., Onwujekwe, E., Mbachu, C., Okeke, C., Molyneux, S., & Gilson, L. (2018). Accountability mechanisms for implementing a health financing option: The case of the basic health care provision fund (BHCPF) in Nigeria. *International Journal for Equity in Health*, *17*, 1–16. <https://doi.org/10.1186/s12939-018-0807-z>
- Valentine, N. B., & Bonsel, G. J. (2016). Exploring models for the roles of health systems' responsiveness and social determinants in explaining universal health coverage and health outcomes. *Global Health Action*, *9*(s3). <https://doi.org/10.3402/gha.v9.29329@zgha20.2016.9.issue-s3>
- Valentine, N., De Silva, A., & Murray, C. (2000). *Estimating responsiveness level and distribution for 191 countries: methods and results (Vol. 22)*. Geneva: World Health Organization. https://www.researchgate.net/publication/239572452_Estimating_Responsiveness_Level_and_Distribution_for_191_Countries_Methods_and_Results
- Valentine, T., Pickering, A., & Darling, S. (2003). Characteristics of eyewitness identification that predict the outcome of real lineups. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, *17*(8), 969-993. <https://doi.org/10.1002/acp.939>
- Vaughn, S., Fall, A. M., Roberts, G., Wanzek, J., Swanson, E., & Martinez, L. R. (2019). Class percentage of students with reading difficulties on content knowledge and comprehension. *Journal of Learning Disabilities*, *52*(2), 120-134. <https://doi.org/10.1177/0022219418775117>
- Vemuri, P., Graff-Radford, J., Lesnick, T. G., Przybelski, S. A., Reid, R. I., Reddy, A. L., ... & Jack Jr, C. R. (2021). White matter abnormalities are key components of cerebrovascular disease impacting cognitive decline. *Brain communications*, *3*(2), fcab076. <https://doi.org/10.1093/braincomms/fcab076>
- Vermeir, P., Downs, C., Degroote, S., Vandijck, D., Tobback, E., Delesie, L., Mariman, A., De Veugele, M., Verhaeghe, R., Cambré, B., & Vogelaers, D. (2018). Intraorganizational Communication and Job Satisfaction Among Flemish Hospital Nurses: An Exploratory Multicenter Study. *Workplace Health & Safety*, *66*(1), 16–23. <https://doi.org/10.1177/2165079917703411>
- Victoor, A., Delnoij, D. M. J., Friele, R. D., & Rademakers, J. J. D. J. M. (2012). Determinants of patient choice of healthcare providers: A scoping review. *BMC Health Services Research*, *12*(1), 272. <https://doi.org/10.1186/1472-6963-12-272>

- Waari, G., Mutai, J., & Gikunju, J. (2018). Medication adherence and factors associated with poor adherence among type 2 diabetes mellitus patients on follow-up at Kenyatta National Hospital, Kenya. *Pan African Medical Journal*, 29(1), 1-15. <https://www.ajol.info/index.php/pamj/article/view/176911>
- Wairiuko, J. M., Cheboi, S. K., Ochieng, G. O., & Oyore, J. P. (2017). Access to healthcare services in informal settlement: perspective of the elderly in Kibera slum Nairobi-Kenya. *Annals of Medical and Health Sciences Research*, 7(1), 5-9. <https://www.ajol.info/index.php/amhsr/article/view/158610>
- Wang, H., Naghavi, M., Allen, C., Barber, R. M., Bhutta, Z. A., Carter, A., Casey, D. C., Charlson, F. J., Chen, A. Z., & Coates, M. M. (2016). Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980–2015: A systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053), 1459–1544. [https://doi.org/10.1016/S0140-6736\(16\)31012-1](https://doi.org/10.1016/S0140-6736(16)31012-1)
- Wang, L., Wei, Y., Xue, L., Guo, Q., & Liu, W. (2019). Dignity and Its Influencing Factors in Patients with Cancer in North China: A Cross-Sectional Study. *Current Oncology*, 26(2), 188-193. <https://doi.org/10.3747/co.26.4679>
- Wanjohi, A., & Syokau, P. (2021, November 8). *How To Conduct Likert Scale Analysis*. <https://www.kenpro.org/how-to-conduct-likert-scale-analysis>
- Waqas, M., Nizami, A. S., Aburizaiza, A. S., Barakat, M. A., Ismail, I. M. I., & Rashid, M. I. (2018). Optimization of food waste compost with the use of biochar. *Journal of environmental management*, 216, 70-81. <https://doi.org/10.1016/j.jenvman.2017.06.015>
- Warren, C. E., Sripad, P., Ndwiga, C., Okondo, C., Okwako, F. M., Mwangi, C. W., & Abuya, T. (2023). Lessons from a behavior change intervention to improve provider-parent partnerships and care for hospitalized newborns and young children in Kenya. *Global Health: Science and Practice*, 11(Supplement 1). <https://doi.org/10.9745/GHSP-D-23-00004>
- Willassen, E., Blomberg, A. C., von Post, I., & Lindwall, L. (2015). Student nurses' experiences of undignified caring in perioperative practice—Part II. *Nursing ethics*, 22(6), 688-699. <https://doi.org/10.1177/0969733014542678>
- Woodward, A., Fuhr, D. C., Barry, A. S., Balabanova, D., Sondorp, E., Dieleman, M. A., Pratley, P., Schoenberger, S. F., McKee, M., & Ilkkursun, Z. (2023). Health system responsiveness to the mental health needs of Syrian refugees: Mixed-methods rapid appraisals in eight host countries in Europe and the Middle East. *Open Research Europe*, 3(14), 14. <https://doi.org/10.12688/openreseurope.15293.1>
- World Bank (2003). *The World Development Report 2003*. <https://openknowledge.worldbank.org/entities/publication/a4294d6c-53f8-5631-813b-1aa778134123>

- World Health Organisation. (2018). Noncommunicable diseases country profiles 2018. <https://apps.who.int/iris/bitstream/handle/10665/274512/9789241514620-eng.pdf>
- World Health Organization (2002). *World health report: 2002*. <https://www.who.int/publications/i/item/9241562072>
- World Health Organization (2006). *The world health report 2006: Working together for health*. <https://www.who.int/publications/i/item/9241563176>
- World Health Organization (2008). *The Tallinn Charter: Health Systems for Health and Wealth*. World Health Organization. Regional Office for Europe. <https://iris.who.int/handle/10665/349648>
- World Health Organization. (2000). *The World health report : 2000 : health systems : improving performance*. World Health Organization. <https://iris.who.int/handle/10665/42281>
- Wu, F., Guo, Y., Chatterji, S., Zheng, Y., Naidoo, N., Jiang, Y., Biritwum, R., Yawson, A., Minicuci, N., Salinas-Rodriguez, A., Manrique-Espinoza, B., Maximova, T., Peltzer, K., Phaswanamafuya, N., Snodgrass, J. J., Thiele, E., Ng, N., & Kowal, P. (2015). Common risk factors for chronic non-communicable diseases among older adults in China, Ghana, Mexico, India, Russia and South Africa: The study on global AGEing and adult health (SAGE) wave 1. *BMC Public Health*, *15*(1), 88. <https://doi.org/10.1186/s12889-015-1407-0>
- Yakob, B., & Ncama, B. P. (2017). Measuring health system responsiveness at facility level in Ethiopia: performance, correlates and implications. *BMC health services research*, *17*, 1-12. <https://doi.org/10.1186/s12913-017-2224-1>
- Yeoh, B. S. (2018). Cosmopolitanism and its exclusions in Singapore. In *Globalisation and the Politics of Forgetting* (137-151). Routledge.
- Zalmanovitch, Y., & Vashdi, D. R. (2015). The relationship between socio-economic factors and responsiveness gaps in primary, preventative and health promotion services. *Health Expectations*, *18*(6), 2638–2650. <https://doi.org/10.1111/hex.12238>
- Zhang, J., Chen, Z., Pärna, K., van Zon, S. K. R., Snieder, H., & Thio, C. H. L. (2022). Mediators of the association between educational attainment and type 2 diabetes mellitus: A two-step multivariable Mendelian randomisation study. *Diabetologia*, *65*(8), 1364–1374. <https://doi.org/10.1007/s00125-022-05705-6>
- Zhao, Y., Li, H.-F., Wu, X., Li, G.-H., Golden, A. R., & Cai, L. (2023). Rural-urban differentials of prevalence and lifestyle determinants of pre-diabetes and diabetes among the elderly in southwest China. *BMC Public Health*, *23*(1), 603. <https://doi.org/10.1186/s12889-023-15527-9>
- Zhou, B., Carrillo-Larco, R. M., Danaei, G., Riley, L. M., Paciorek, C. J., Stevens, G. A., Gregg, E. W., Bennett, J. E., Solomon, B., & Singleton, R. K. (2021). Worldwide trends

in hypertension prevalence and progress in treatment and control from 1990 to 2019: A pooled analysis of 1201 population-representative studies with 104 million participants. *The Lancet*, 398(10304), 957–980. [https://doi.org/10.1016/S0140-6736\(21\)01330-1](https://doi.org/10.1016/S0140-6736(21)01330-1)

Zhu, B., & Qu, S. (2022). The relationship between diabetes mellitus and cancers and its underlying mechanisms. *Frontiers in Endocrinology*, 13, 75. <https://doi.org/10.3389/fendo.2022.800995>

APPENDIX 1: QUESTIONNAIRE

CLIENT SOCIO-DEMOGRAPHIC CHARACTERISTICS

1.1 What is your age? (In years).....

1.2 What is your gender? Male Female

1.3 What is your religion?

Catholic Protestant Muslim Traditionalist

Other (Specify).....

1.4 What is your marital status?

Single Married Divorced Separated Widowed Others

Are you enrolled in any health insurance Yes No

If Yes, which one

If No, why?.....

What is your occupation?

Business farmer (large scale) Farmer (small scale) Salaried Casual labour

Others

1.7 How much do you earn per month on average?

.....

1.8 How do you categorize your place of usual residence?

Urban Rural Peri-urban

Responsiveness Descriptions

2.1 At your visit today, overall, how would you rate your experience of getting prompt attention at the hospital?

Very good Good Fair Poor Very Poor

- 2.2 When you wanted care, how often did you get care as soon as you wanted?
- Always Sometimes Few times Rarely Never
- 2.3 Now, overall, how would you rate your experience of getting prompt attention at the health services in the last 12 months or since you started attending this facility ?
- Very good Good Fair Poor Very Poor
- 3.1 At your visit today, how would you rate your experience of being treated with respect?
- Very good Good Fair Poor Very Poor
- 3.2 In the last 12 months, when you sought health care, how often did doctors, nurses or other health care providers treat you with respect?
- Always Sometimes Few times Rarely Never
- 3.3 In the last 12 months, how often did the office staff, such as receptionists or clerks treat you with respect?
- Always Sometimes Few times Rarely Never
- 3.4 In the last 12 months, how often were your physical examinations and treatments done in a way that your privacy was respected?
- Always Sometimes Few times Rarely Never
- 3.5 Now, overall, how would you rate your experience of being treated with dignity at the health services in the last 12 months?
- Always Sometimes Few times Rarely Never
- 4.1 At your visit today, how would you rate your experience of being given clear communication?
- Very good Good Fair Poor Very Poor
- 4.1 In the last 12 months, how often did doctors, nurses or other health care providers listen carefully to you?

- Always Sometimes Few times Rarely Never
- 4.2 In the last 12 months, how often did doctors, nurses or other health care providers, explain things in a way you could understand?
- Always Sometimes Few times Rarely Never
- 4.3 In the last 12 months, how often did doctors, nurses, or other health care providers' give you time to ask questions about your health problem or treatment?
- Always Sometimes Few times Rarely Never
- 4.4 Now, overall, how would you rate your experience of how well health care providers communicated with you in the last 12 months?
- Always Sometimes Few times Rarely Never
- 5.1 At your visit today, how would you rate your involvement in your health care decisions?
- Very good Good Fair Poor Very Poor
- 5.2 In the last 12 months, how often did doctors, nurses or other health care providers involve you as much as you wanted in deciding about the care, treatment or tests?
- Always Sometimes Few times Rarely Never
- 5.3 In the last 12 months, how often did doctors, nurses or other health care providers ask your permission before starting the treatment or tests?
- Always Sometimes Few times Rarely Never
- 5.4 Now, overall, how would you rate your experience of getting involved in making decisions about your care or treatment as much as you wanted in the last 12 months?
- Always Sometimes Few times Rarely Never
- 6.1 At your visit today, how would you rate the level of confidentiality accorded to you during care

- Very good Good Fair Poor Very Poor
- 6.2 In the last 12 months, how often were talks with your doctor, nurse or other health care provider done privately so other people who you did not want to hear could not overhear what was said?
- Always Sometimes Few times Rarely Never
- 6.3 In the last 12 months, how often did your doctor, nurse or other health care provider keep your personal information confidential? This means that anyone whom you did not want informed could not find out about your medical conditions
- Always Sometimes Few times Rarely Never
- 6.4 Now, overall, how would you rate your experience of the way the health services kept information about you confidential in the last 12 months?
- Always Sometimes Few times Rarely Never
- 7.1 At your visit today, how would you rate your opportunity to choose a facility or a care provider?
- Very good Good Fair Poor Very Poor
- 7.2 Over the last 12 months, with the doctors, nurses and other health care providers available to you how easy was it to get a health care provider you were happy with?
- Very Easy Easy a bit easy Difficult Very Difficult
- 7.3 Over the last 12 months, how easy was it to get to use other health services other than the one you the one you went to?
- Very Easy Easy a bit easy Difficult Very Difficult
- 7.4 Overall, how would you rate your experience of being able to use a health care provider or service of your choice over the last 12 months?
- Very Good Good Fair Poor Very Poor

- 8.1 At your visit today, how would you rate the cleanliness of the place?
 Very Good Good Fair Poor Very Poor
- 8.2 In the last 12 months, how would you rate the cleanliness of the place?
- 8.3 Overall, how would you rate the quality of the surroundings, for example, space, seating, fresh air and cleanliness of this hospital
 Very Good Good Fair Poor Very Poor
- 9.1 In the last 12 months, when you visited the hospital, how easy has it to get the hospital to allow your family and friends to take care of your personal needs, and support you socially.
 Very Good Good Fair Poor Very Poor
- 9.2 During your stay in the hospital, how easy was it to have the hospital allow you to practice religious or traditional observances if you wanted to?
 Very Good Good Fair Poor Very Poor
- 9.3 Now, overall, how would you rate your experience of how the hospital allowed you to interact with family, friends and to continue your social and/ or religious customs during your stay over the last 12 months?
 Very Good Good Fair Poor Very Poor
- 9.4 How would you rate the staff respect for your "religion, education, income, ethnicity sex ...any other consideration?
 Very Good Good Fair Poor Very Poor
- Responsiveness Valuations
- 10.1 How would you rate your awareness of your rights as a patient?
 Very Good Good Fair Poor Very Poor
- 10.2 How would you rate your awareness of your obligations as a patient?

Very Good Good Fair Poor Very Poor

Responsiveness Valuations

Rankings

10.3 Read the cards below. These provide descriptions of some different ways health care services show respect for people and make them the center of care.

PROMPTNESS Timely care	AUTONOMY Being involved in care decisions	CONFIDENTIALITY Patient's medical information being kept private
COMMUNICATION Clarity of information	SOCIAL SUPPORT Being allowed contact and support of family and friends	AMENITIES A conducive clean, adequate physical environment
CHOICE Having liberty to choose care provider and facility	DIGNITY Being treated with respect and courtesy	TRUST Having transparent processes

Using the ranks 1 to 9, 1 being the most important, and 9 being the least important, rank the elements from the most important to the least important.

Please note that each element should have its own number between 1 and 9 unless you think that certain elements share the same rank.

10.6 Rate the most important

10.7 Rate the least important

Domain	Ranking
Dignity	
Autonomy	
Confidentiality of Information	
Communication	
Prompt Attention	
Social Support during care	
Quality of Surroundings (Environment)	
Choice of care provider/Institution	
Trust	

10.8 How do you perceive the legitimacy of these expectations?

Very legitimate, legitimate, somewhat legitimate, illegitimate, very illegitimate

10.9 How would you rate your role in ensuring these expectations are achieved by the hospital?

Great Influence, Significant Influence, Not Sure, Little Influence, No Influence

Accountability mechanisms

11.1 How would you rate the level of collective staff-clients engagement in addressing issues appertaining care?

Very Good Good Fair Poor Very Poor

11.2 How would you rate the utility of formal grievance and redress procedures?

Very Good Good Fair Poor Very Poor

11.1 How would you rate the utility of the hospital service charter?

Very Good Good Fair Poor Very Poor

11.2 How would you rate the utility of the client rights charter?

Very Good Good Fair Poor Very Poor

Access factors

12.1 How convenient is the distance you have to cover to the facility

Very convenient, convenient, somewhat convenient, inconveniencing, very inconveniencing

12.2 How convenient are your clinic schedules

Very convenient, convenient, somewhat convenient, inconveniencing, very inconveniencing

12.3 How often do you get the services any time you need them

Always, Sometimes, , few times, rarely never

12.4 How would you rate the cost of services in this facility?

Very affordable, affordable, somewhat affordable, unaffordable, very unaffordable

12.5 To what extent does the services offered reflect respect for your culture?

Very Good Good Fair Poor Very Poor

Structural factors

13.1 How often do you get the needed supplies whenever you need them?

Always, sometimes, few times, rarely, never

13.2 How often are your prescriptions honored in this facility?

Always, sometimes, few times, rarely never

13.3 How would you rate the physical infrastructure in regard to promoting patient dignity?

Very Good Good Fair Poor Very Poor

Organizational culture

14.1 To what extent does the language use by providers reflect respect for clients?

- Very Good Good Fair Poor Very Poor
- 14.2 How is the level of respect for different cultures in the care processes?
 Very Good Good Fair Poor Very Poor
- 14.3 How often are the designated steps in the care process adhered to?
 Always Sometimes Few times Rarely Never
- 14.4 How convenient are the care processes/movements/steps that one must go through in while in the hospital for care
 Very Good Good Fair Poor Very Poor
- 14.5 How convenient are the pay arrangements to you?
 Very Good Good Fair Poor Very Poor
- 14.6 How often are Customers Opinions taken seriously?
 Always, sometimes, few times, rarely never
- 14.7 How often are customer interests considered?
 Always, sometimes, few times, rarely never

Moderating variables: Justice Perceptions

- 15.1 How often are customers treated in a nondiscriminatory manner?
 Always, sometimes, few times, rarely never
- 15.2 How would you rate the level of equity in the costs for the services?
 Very Good Good Fair Poor Very Poor
- 15.3 How would you rate the level of equity reflected in the care processes
 Very Good Good Fair Poor Very Poor
- 15.4 To what extent would you say the healthcare costs protects the poor
 Very Good Good Fair Poor Very Poor

15.5 To what extent would you say the minority tribes are well respected by the care providers?

Very Good Good Fair Poor Very Poor

15.6 To what extent would you say the poor are and minority groups are given fair chances in care processes

Very Good Good Fair Poor Very Poor

APPENDIX 2: KEY INFORMANT INTERVIEW QUESTIONNAIRE

1. How many staff are in this department (work out staff patient ratios)
2. Is there any provision for continuous education?
3. How are the drug supply and other supplies? How adequate are the supplies?
4. How is the infrastructure in regard to promoting responsive care?
5. How are services organized/ scheduled?
6. What accountability mechanisms are in place, and how are they utilized

APPENDIX 3: FOCUS GROUP DISCUSSION GUIDE FOR STAFF

- 1 How do you understand responsive care?
- 2 What are some of the ways in which you can ensure responsive care?
- 3 What is your perception of the need for responsive care?
- 4 What are the enabling factors for provision of responsive care?
- 5 How are accountability mechanisms utilized?
6. Comment on the management support for providing responsive care
- 7 What challenges do you face in trying to provide care in a responsive way?
- 8 How can the challenges be overcome?

APPENDIX 4: FOCUSED DISCUSSION GUIDE FOR CLIENTS

- 1 How do you understand responsive care?
- 2 What is your perception of the need for responsive care?
- 3 Comment on your experiences with this hospital in regard to responsive care?
- 4 How do you perceive your role in ensuring responsive care?
- 5 How do you perceive your capacity in demanding responsive care?
6. Comment on the management support for providing responsive care
- 7 In which areas of responsive care is the hospital doing better
- 8 In which areas of responsive care is the hospital doing badly
- 9 What would you propose as improvement measures for improving responsive care?

APPENDIX 5: LETTER OF INTRODUCTION

RE: DATA COLLECTION

I am a student of Doctor of Philosophy in The Kenya Methodist University. I am carrying out research titled '*AN PREDICTORS OF RESPONSIVENESS IN CHRONIC CARE CENTERS IN SELECTED TIER 3 HOSPITALS IN KENYA.*' This is a prerequisite for the partial fulfillment for the award of a Doctor of Philosophy Degree.

The purpose of this letter is to request your facility to permit me collect data for this study. I will uphold the ethical standards in regard to all interactions with the clients and workers in this facility.

Thank you

Most sincerely

Hillary Kibiriti

APPENDIX 6: CONSENT FORM

1.1: Introduction

You are kindly requested to participate as a respondent in this research study titled **‘PREDICTORS OF RESPONSIVENESS IN CHRONIC CARE CENTERS IN SELECTED TIER 3 HOSPITALS IN KENYA.’**

1.2: Study Purpose

The study purpose is to assess the health system responsiveness levels and predictors within chronic care centers in tier 3 hospitals in Kenya and to and test effectiveness of training on responsiveness

The study will be conducted by Hillary Kibiriti, Student of PhD at the Kenya Methodist University under the supervision of Dr. Wanja Mwaura Tenambergen and Dr. Job Mapesa as the University supervisors.

1.3: Study procedures

The study will involve collecting baseline data on responsiveness followed by training of health providers on responsiveness and further collection of data at two more time intervals of 4 months and three months after the baseline to evaluate the change after the intervention. The information you provide as a respondent will be useful in assessing the status of responsiveness and the effect of the training of health workers on responsiveness.

1.4: Study duration

The projected time frame for the study is 8 months. However, for the respondent, you are requested to respond only at the time of contact. To fill the questionnaire will take about 15

minutes. Key informants' interviews may take about 30 minutes to complete the interview, while focus group sessions will take about one hour per discussion session.

1.5: Confidentiality

The information volunteered will be kept confidential. The data collection will be taken in private. The respondent will not be required to indicate their name anywhere on the data collection tools. Any codes used for identification purposes will be known only by the research team. The utility of such codes will be limited to enumeration purposes as there is no follow-up of respondents. The data obtained will be kept in password protected folders. The report will give account of the population and not individual account. Where verbatim reports will be useful as for key informants, they will not reveal the name of the respondent.

1.6: Risks

The respondent will be required to volunteer information that reflects his/her experience with the hospital. There is no intervention on the client side. Therefore, there is no risk accruing from participation in the research

1.7: Benefits

The information shared by the respondent will be useful in knowing gaps in responsiveness and areas for improvement. It will also help in assessing the effectiveness of interventions and thus help determine strategies for improvement of responsiveness. The findings of this study will be shared with the respective hospitals management.

1.8: Withdrawal

You are kindly requested to participate in this study on your free will without any coercion. You will have the liberty to decline to answer any or all of the questions or opt out of the study any time you choose. Declining participation will not involve no penalty whatsoever.

1.9: Concerns

In case of any concerns, kindly contact the researcher on numbers 0715604285, or the supervisors Dr. Wanja on 0726678020 and Dr. Mapesa on 0703567768.

1.10: Respondent Declaration of Consent

I do hereby acknowledge that I have been requested to participate in this study voluntarily and I have been explained to the nature and purpose of the study which I have properly understood and henceforth have consented to participate in this research upon my own will.

Signed..... Date.....

In the presence of..... Sign.....

Researcher/Assistant

Date.....

Appendix 7: Kenya Methodist University Ethical Clearance



KENYA METHODIST UNIVERSITY

P. O. BOX 267 MERU - 60200, KENYA
TEL: 254-064-30301/31229/30367/31171

FAX: 254-64-30162
EMAIL: INFO@KEMU.AC.KE

14th February 2020

KeMU/SERC/HSM/4/2020

Kibiriti Hillary Marakaru
HSM-4-1948-3/2017
Kenya Methodist University

Dear Hillary,

SUBJECT: *PREDICTORS OF HEALTH SYSTEM RESPONSIVENESS IN CHRONIC CARE CENTERS IN SELECTED TIER 3 HOSPITALS 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/4/2020. The approval period is 14th February 2020 – 14th February 2021.

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,

Dr. A. WAMACHI
Chair, SERC




KENYA METHODIST UNIVERSITY

P. O. Box 267 Meru - 60200, Kenya
Tel: 254-064-30301/31229/30367/31171

Fax: 254-64-30162
Email: info@kemu.ac.ke

3rd March 2020

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.O. Box 30623-00100,
NAIROBI.

Dear sir/ Madam.

RE: KIBIRITI HILLARY MARAKARU (HSM-4-1948-3/2017)

This is to confirm that the above named is a bona fide student of Kenya Methodist University, Department of Health Systems Management undertaking a Degree of Doctor of Philosophy in Health Systems Management. He is conducting research on, '*Predictors of health system responsiveness in chronic care centers in selected tier 3 hospitals in Kenya*'.

We confirm that his Research proposal has been defended and approved by the University.

In this regard, we are requesting your office to issue a permit to enable him collect data for his research.

Any assistance accorded to him will be appreciated.

Thank you.


13 MAR 2020

Dr. John Muchiri, PHD.
Director Postgraduate Studies

Cc: COD, HSM
Dean, SMHS

Appendix 8: Moi University and Moi Teaching and Referral Hospital Ethical Clearance



MOI TEACHING AND REFERRAL HOSPITAL,
P.O. BOX 3
ELDORET
Tel: 33471/2/3

Reference: IREC/2020/142
Approval Number: 0003643

Hillary Kibiriti Marakaru,
Kenya Methodist University,
School of Medicine and Health System Management,
P.O. Box 30623-00100,
NAIROBI-KENYA.



MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET
Tel: 33471/2/3
3rd September, 2020

Dear Mr. Kibiriti,

RE: RATIFICATION OF THE DECISION TO GRANT FORMAL APPROVAL

Please note that in the IREC meeting of 27th August, 2020 the Full Committee did not ratify your Formal Approval for study "*Predictors of Health System Responsiveness in Chronic Care Centers in Selected Tier 3 Hospitals in Kenya*" However, after adequately addressing the concerns raised by the Committee your Formal Approval is now ratified.

You may continue with your study.

Sincerely,

MS. CATHERINE OKWIRI
HUMAN PARTICIPANT ADMINISTRATOR
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE



MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 334711/2/3

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)



MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET
Tel: 33471/2/3
17th August 2020

Reference: IREC/2020/142
Approval Number: 0003643

Hillary Kibiriti Marakaru,
Kenya Methodist University,
School of Medicine and Health Systems Management,
P.O. Box 30623-00100,
NAIROBI-KENYA.



Dear Mr. Kibiriti,

PREDICTORS OF HEALTH SYSTEM RESPONSIVENESS IN CHRONIC CARE CENTERS IN SELECTED TIER 3 HOSPITALS IN KENYA

This is to inform you that **MU/MTRH-IREC** has approved your above research proposal on the basis of your study review and approval by Kenya Methodist University Scientific Ethics and Review Committee (KeMU/SERC). Your application approval number is **FAN:0003643**. The approval period is **17th August, 2020 – 16th August, 2021**.

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 **MU/MTRH-IREC**.
- 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 **MU/MTRH-IREC** 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 **MU/MTRH-IREC** 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 **MU/MTRH-IREC**.


Prior to commencing your study; you will be required to obtain a research license from the National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and other relevant clearances. Further, a written approval from the CEO-MTRH is mandatory for studies to be undertaken within the jurisdiction of Moi Teaching & Referral Hospital (MTRH), which includes 22 Counties in the Western half of Kenya.

Sincerely,


DR. S. NYABERA
DEPUTY-CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc	CEO -	MTRH	Dean -	SOP	Dean -	SOM
	Principal -	CHS	Dean -	SON	Dean -	SOD

Appendix 9: Research Permit By NACOSTI




REPUBLIC OF KENYA



**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: 275569 **Date of Issue: 10/July/2020**


RESEARCH LICENSE



This is to Certify that Mr. Hillary Marakuru Kibiriti of Kenya Methodist University, has been licensed to conduct research in Bungoma, Kiambu, Uasin-Gishu on the topic: Predictors of Health System Responsiveness in Chronic Care Centres in Selected Tier 3 Hospitals in Kenya for the period ending : 10/July/2021.


License No: NACOSTI/P/20/5650

Applicant Identification Number: 275569



**Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION**

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