IMPLEMENTATION OF PRIMARY HEALTH CARE SERVICES BY NURSES WORKING IN LEVEL 3 HEALTH FACILITIES IN KIAMBU COUNTY, KENYA

EUNICE GITAHI

Reg. No.: R50/CE/34230/2017

A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF COMMUNITY HEALTH IN THE SCHOOL OF HEALTH SCIENCES OF KENYATTA UNIVERSITY

NOVEMBER, 2025

DECLARATION

This research thesis is my own personal work and has not been offered to any other University for a degree or examination.

Signature ..... Date .....

Eunice Gitahi

Department of Community & Reproductive Health Nursing

Supervisors' approval

This research thesis is offered for evaluation with our permit as University Supervisors.

Signature ..... Date .....

Dr. Priscilla Kabue, PhD, RN

Department of Community & Reproductive Health Nursing

Kenyatta University

Signature ..... Date .....

Mrs. Elizabeth Ambani, MPHE, RN

Department of Community & Reproductive Health Nursing

Kenyatta University

DEDICATION

To my beloved family - for all the shared memories, love, inspiration and reassuring words, and for allowing me the space and time to pursue my studies

ACKNOWLEDGEMENT

My humble appreciation and gratitude go to my supervisors Dr. Priscilla Kabue and Mrs. Elizabeth Ambani. Your instrumental support and counsel alongside shared knowledge have aided me to develop and complete this research thesis successfully. To the Department of Health Services of Kiambu County Government, I am most grateful for permitting me to undertake the study in Level 3 health facilities in Kiambu County. I also applaud all the study participants for taking their time to respond to the study tool and for availing information upon which this research thesis is based. To my family, I thank you for your affirming words and every prayer offered. To my friends and colleagues, I thank you for being there and for cheering me on particularly when the going got tough. Above all, I thank the Almighty God for without whom all this would not have been possible.

TABLE OF CONTENTS

DECLARATION ii
DEDICATION iii
ACKNOWLEDGEMENT iv
TABLE OF CONTENTS v
LIST OF TABLES ix
LIST OF FIGURES x
ABBREVIATIONS AND ACRONYMS xi
DEFINITION OF OPERATIONAL TERMS xii
ABSTRACT xiii
CHAPTER ONE: INTRODUCTION 1
1.1 Background to the study 1
1.2 Problem statement 4
1.3 Justification of the study 5
1.4 Research questions 6
1.5 Hypothesis 6
1.6 Research objectives 6
1.6.1 Broad objective 6
1.6.2 Specific objectives 7
1.7 Significance of the study 7
1.8 Assumptions of the study 8
1.9 Theoretical Framework 8
1.10 Conceptual framework 10
CHAPTER TWO: LITERATURE REVIEW 11

2.1 A brief on primary health care 11

2.2 Level of implementation of primary health care services 11

2.3 Nurses' attitude towards the implementation of primary health care services 13

2.4 Factors affecting the implementation of primary health care services 14

2.5 Perceived areas of improvement in the implementation of primary health care services 17

2.6 Summary of Gaps Identified 19

CHAPTER THREE: MATERIALS AND METHODS 21

3.1 Introduction 21

3.2 Study design 21

3.3 Study variables 21

3.4 Study area 22

3.5 Study population 22

3.6 Study sample and technique for sampling 23

3.6.1 Computing the study sample 23

3.6.2 Sampling technique 24

3.7 Research instrument 24

3.8 Pretesting of the research instrument 25

3.8.1 Validity 25

3.8.2 Reliability 25

3.9 Data collection procedures 26

3.10 Data analysis 26

3.11 Ethical considerations 27

CHAPTER FOUR: RESULTS 28

4.1 Introduction....28

4.2 Demographic characteristics of the respondents....28

4.3 Level of implementation of PHC services in level 3 health facilities....30

4.4 Respondents' attitude towards the implementation of primary health care services 30

4.5 Factors that influenced implementation of primary health care services 34

4.6 Perceived areas of improvement by nurses in the implementation of primary health care services 37

4.7 Association of respondents' demographic characteristics and implementation of primary health care services....38

4.8 Association of the nurses' working conditions and implementation of primary health care services 40

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS 42

5.1 Introduction....42

5.2 Discussion of findings....42

5.2.1 Demographic characteristics of the respondents....42

5.2.2 Level of implementation of PHC services in level 3 health facilities....43

5.2.3 Respondents' attitude towards the implementation of primary health care services....44

5.2.4 Factors that influenced implementation of primary health care services ...46

5.2.5 Perceived areas of improvement by nurses in the implementation of primary health care services 51

5.3 Study Summary....52

5.4 Conclusions....53

5.5 Recommendations....54

REFERENCES 56

APPENDICES 60
Appendix 1: Informed consent form 60
Appendix 2: Questionnaire 63
Appendix 3: Approval letter from Kenyatta University's ERC 72
Appendix 4: Approval letter from the County Government of Kiambu 74
Appendix 5: Research permit from NACOSTI 75
Appendix 6: Map of study area 77

LIST OF TABLES

Table 3.1: Study variables measurement 26

Table 4.1: Respondents' demographic characteristics 29

Table 4.2: Respondents' perception towards the significance of primary health care services to the country's health system and programs 31

Table 4.3: Respondents' level of agreement with assertions regarding the value of primary health care services 33

Table 4.4: Factors that hindered implementation of primary health care services 34

Table 4.5: Association of identified factors with the nurses' implementation of primary health care services 36

Table 4.6: Perceived areas of improvement in the implementation of primary health care services 38

Table 4.7: Association of respondents' demographic characteristics with their implementation of primary health care services 39

Table 4.8: Association of nurses' working conditions with their implementation of primary health care services 41

LIST OF FIGURES

Figure 1.1 Conceptual framework 10

Figure 4.1: Respondents' rating of the level of implementation of primary health care services.....30

Figure 4.2: Respondents' rating of their working conditions 40

ABBREVIATIONS AND ACRONYMS

HCPs	Health Care Providers
KDHS	Kenya Demographic and Health Survey
KNBS	Kenya National Bureau of Statistics
LMICs	Low- and Middle-Income Countries
MoH	Ministry of Health
NACOSTI	National Commission for Science, Technology and Innovation
NCDs	Non-Communicable Diseases
PHC	Primary Health Care
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
UHC	Universal Health Coverage
UN	United Nations
UNICEF	United Nations Children's Fund
WHO	World Health Organization

DEFINITION OF OPERATIONAL TERMS

Access (to health services) - Is being able, or one's discerned ability, to get to health care facilities with respect to accessibility, location, and in time.

Attitude - Is the opinion or disposition one has towards a thing, person or subject.

Implementation - Is the process that turns decisions, strategies and plans into actions in order to accomplish set objectives and/or goals.

Health - Being in a position of good wellbeing, mentally, physically and socially and not necessarily not having an illness or frailty.

Quality care - Care that is deemed as prompt, efficacious, well-coordinated, unprejudiced, efficient and one that does cause harm to the recipient

Holistic care - Are health services that consider the needs of a person in his/her entirety, including physically, mentally, socially and environmentally, and not focusing on indications of illness.

Primary health care (PHC) - Is the extensive range of basic healthcare services offered by healthcare professionals in community-based health facilities and which are patient focused, readily available, ongoing, thorough and integrated.

Universal health coverage - Making sure every person is able to obtain adequate and necessary healthcare of the right quality without placing the users in a difficult financial situation.

Level of implementation of PHC services - This denotes the nurses' own assessment or view as to whether the PHC services are optimally provided (that is, offered in a timely and efficient manner) or provided sub-optimally (that is, not offered in a timely and efficient manner).

ABSTRACT

Primary health care (PHC) is the foremost interaction instance where necessary medical care is offered to individuals. It dwells on health promotion, curbing illnesses as well as the inherent behavioral and societal factors that contribute to people's poor health in addition to treating illness and caring for the sick among individuals, families and communities. It is an approach to health that promotes people-centred care guided by the tenets of empowering, community collaboration as well as fairness and equality in the society. The study's core aim was to evaluate the implementation of PHC services by nurses working in level 3 health facilities in Kiambu County. The study's precise aims were to ascertain the nurses' rating of the level of implementation of PHC services in these facilities, to determine their attitude towards implementing PHC services, to establish factors affecting the implementation of PHC services in the said health facilities and to identify perceived areas of improvement in execution of PHC services within the said health facilities. This was an analytical cross-sectional study conducted among 148 nurses working in level 3 health facilities in Kiambu County who were chosen utilizing simple random sampling technique. Using a self-reporting questionnaire, data was gathered. SPSS version 25 was used in probing the data descriptively including varied measures like percentages and frequencies. The chi-square test at 95% CI was utilized for assessing association between predictor and outcome research variables. Results are shown in figures and tables. Appropriate ethical principles were adhered to. The study achieved a response rate of 95.3%. From the findings, majority (91.5%, n = 129) of the nurses rated the level of implementation of PHC services in their work stations as sub-optimal. The nurses had positive attitude towards the implementation of PHC services given that all (100%, n=141) concurred that they perceived provision of PHC services as being critical to attainment of quality healthcare services for all in the country while 99.3% (n = 140) agreed that PHC services constituted an essential foundation for a sustainable health system and health programs in the country. Leading factors that hindered the nurses' implementation of PHC services included inadequate number of available healthcare personnel - 99.3%; poor or low remuneration of health care providers - 99.3%; poor supply of essential medicine/drugs - 97.2%; unavailability of essential medical equipment - 98.6%; non-functional status of existing medical equipment - 98.6%; poor planning of the PHC programs - 95.7%; lack of or inadequate support to HCPs from the hospital management - 94.3%; significant underfunding of the primary health services - 98.6% and lack of or poor information systems - 98.6%. Nurses working in level 3 health facilities in Kiambu County had positive attitude towards the implementation of PHC services. Several factors, institutional based in nature, did influence the nurses' implementation of PHC services within the level 3 health facilities in Kiambu County. To further enhance the implementation of PHC services in the county, the leadership of Kiambu County needs to invest on PHC system and programs in the county particularly in the areas of funding of these services, health care personnel staffing and support and ensuring adequate supply of essential medications and adequate availability of essential medical equipment within the health facilities.

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Occurring changes in world's economy, environs, technology, and demographics all do bear on the health and wellbeing of people (Pandey, 2018). There is no doubt that health systems that are tenable, sensitive, effective, and oriented towards meeting people's needs are necessary given the rising disease burden, growing population, and dynamic global population shifts (Sacks et al., 2020). To tackle these pertinent issues, society and health systems need primary health care (PHC) (Barkley et al., 2014). Understanding and addressing the intricacies of the dynamic context depend on having to treat individuals and communities as vital producers of their own health and wellbeing (Bitton et al., 2017). PHC serves as a critical mechanism through which countries can achieve universal health coverage (UHC) through promotion of universal access to basic health services (Van Weel & Kidd, 2018).

Primary health care (PHC) is described by the World Health Organization (WHO) as a health pathway that goes beyond the conventional healthcare system by emphasizing social justice and health equity (WHO, 2024). Through community participation and collaboration, PHC promotes a people-centered approach to healthcare that includes promotional, preventive, curative, and rehabilitative services (WHO, 2019). Emphasis on implementation of PHC in modern days is critical on 3 grounds - the characteristics of PHC enable the healthcare system to respond and adjust to an intricate and constantly shifting world; with its focus on health prevention and promotion, attempting to address wellbeing related factors, and a persons focused perspective, PHC has demonstrated its efficiency and efficacy in resolving core origins and attributable factors leading to illnesses, and addressing rising difficulties likely to jeopardize health in coming years; and that health for all in the form of UHC and the health-based sustainable development goals (SDGs) would be accomplished via greater attention on PHC services (Jamison et al., 2018; Assefa et al., 2020).

Available evidence illustrates that implementation of basic health services leads to reduction of the global burden of wellbeing related morbidity and mortality; right quality, efficient and affordable care for individual persons and the society; greater equitable distribution of health care services; empowerment of persons, households and general community to actively partake in decision making regarding their wellbeing; improvement of health throughout people's lives from birth to old age and better population health outcomes at lower cost (Talbot & Verrinder, 2017; Hone et al., 2018; Assefa et al., 2020). This notwithstanding, levels of implementation of PHC services globally remain underwhelming with notable huge disparities between the developed and developing countries (Behera & Prasad, 2021).). For instance, high levels of implementation of PHC services are noted in a large number of developed nations like Australia and the Netherlands at 91%, Switzerland at 94%, Luxembourg at 96%, United States of America at 84%, Norway at 90%, Austria at 88%, Germany at 85% and Singapore at 82% (WHO, 2024). Looking at the WHO regions, the Western Europe, North America and Australasia regions lead in implementation of PHC services with average scores of above 70%. The North Africa and Middle East regions, East Europe and large parts of East and Central Asia have average PHC implementation scores of 50% - 69% while levels of implementation of PHC services are lowest in low-income countries largely in sub-Saharan Africa (SSA), South Asia and Latin America regions with average scores of below 50% (WHO, 2024).

The significant gap in the levels of PHC services implementation between developed and developing countries is largely attributed to political will and governments' commitment to delivering quality basic healthcare services to their people (Van Weel & Kidd, 2018). In countries where PHC is well implemented, the governments have made deliberate effort in making the right investment towards building a robust PHC system that is well equipped, funded and staffed (Barkley et al., 2020). These countries also closely monitor the implementation of the PHC system and regularly enhance its operation through providing necessary support for its effective function and addressing any noted gaps in its implementation (Sacks et al., 2020). However, in most of the SSA countries where the implementation of PHC services is largely low, there is low

investment in the PHC system evident in the PHC system being poorly funded, ill-equipped and largely under-staffed (Bitton et al., 2017). In most of the SSA countries, the PHC system is largely overwhelmed and works under crippling conditions with health care providers (HCPs) in public health facilities lacking appropriate tools to effectively deliver (Simen-Kapeu et al., 2021).

Studies by Ramani et al. (2019), Lin et al. (2020), Sacks et al. (2020) and Peoples et al. (2021) explored the use of basic healthcare services and reported gaps in implementation of these services evidenced by the offered services' low quality, inefficiencies, inaccessibility, cost ineffectiveness and their ineffectiveness in addressing communities' needs. These studies however were from the view of those who use the primary health services while the current study's perspective is from the providers of these healthcare services. Espinosa-González and Normand (2019) and Simen-Kapeu et al. (2021) did also evaluate implementation of primary health care services with poor planning of PHC programs, inadequacy of health care workers, inadequacy funding and inadequacy of medical supplies cited as leading challenges. However, the cited studies explored the subject qualitatively while this study applies numerical data approaches.

Despite the identification of PHC as being pivotal in provision of quality healthcare services to all by 2030 as envisioned in UN's SDGs, implementation of PHC services in Kenya remains largely sub-optimal and undervalued (Otieno et al., 2020). As Kenya deals with rising health care burden arising from injuries/road traffic accidents as well as contagious and non-contagious illnesses (NCDs), the need for an effective PHC system cannot be overemphasized (MoH, 2023). Consequently, as Kenya rolls out UHC, effective implementation of primary health servicesis now more crucial than ever as a foundation for a sustainable health system and health programs (Otieno et al., 2020). The nation is presently at a point of demonstrating that PHC implementation offers the most appropriate route of realizing the "Health for All" goal thanks to prevailing government dedication seen via fair resource allocation through the devolution of health services (WHO, 2017). In this view, this empirical investigation

examined implementation of primary health care services by nurses who worked in level 3 health facilities in Kiambu County.

1.2 Problem statement

Despite the Kenyan government's dedication and endeavour to raise the health status of Kenyan people, through various initiatives such as, formulation of the Kenya Health Policy, inclusion of health as a key component of Vision 2030 and abolishment of all user fees for PHC, progress in implementation of PHC services in Kenya has been slow. Statistics from the Ministry of Health (MoH) indicate that as of the end of 2021 as many as 50% of all Kenyans still lacked access to basic health care services and approximately 40% of all deaths were attributable to illnesses that could easily be prevented and treated (MoH, 2023). Statistics from the 2022 KDHS also showed that approximately 75% of all public PHC health facilities were ill-equipped and understaffed and lacked an appropriate infrastructure to deliver quality PHC services (KNBS, 2023). Unfortunately, the sub-optimal implementation of PHC services in Kenya is further exacerbated by a rapidly increasing triple burden of rising incidences of non-communicable diseases, persistent communicable diseases and injuries from road accidents (WHO, 2017). Increased emphasis on implementation of PHC services within Kenya is required if Kenya is to achieve its objective of quality 'Health for All' by the year 2030 (Otieno et al., 2020).

Locally, an understanding of health care providers' implementation of PHC services is critical for health resource allocation, planning and ensuring that informed decisions are made on how best to ensure all Kenyans obtain quality PHC services (Otieno et al., 2020). Unfortunately, in multiple resource poor contexts, Kenya included, basic health services planning and policy decisions are often made without any clear understanding of current implementation status of the services particularly in rural areas of the country, where few studies have been undertaken (WHO, 2024). Such is the case with Kiambu County, where no review of HCPs' implementation of PHC services at the county's public health facilities had ever been done since the abolishment of user fees

for PHC services in the country in 2009 and since devolution in 2013. There was thus empirical data deficiency regarding putting into action of PHC services in public healthcare delivery institutions in the county, an area this research has addressed.

1.3 Justification of the study

Rationale for this-empirical investigation was grounded in appreciation that implementation of PHC offers a viable mechanism to address the increasingly complex health needs of Kenyan society caused by the rising triple burden of contagious and non-contagious illnesses and injuries/road traffic accidents. In addition, implementation of PHC is a cost-effective and best-value way for sustainably achieving universal health coverage, health-related SDGs and Kenya's Vision 2030 health-oriented goals. Furthermore, there is strong proof that initial-contact, ongoing, well-integrated, thorough and persons-based primary healthcare systems and services lead to more positive health results/outcomes. Equally, with its focus on prevention and promotion, tackling predictors, and persons-focused perspective, primary health care is an efficacious and coherent mechanism for addressing the primary origins and contributing facets leading to ill-health, and for dealing with rising challenges likely to jeopardize health in days ahead.

Kiambu County was purposively selected for study as there had been no review of HCPs' implementation of PHC services within the county's public healthcare facilities since the abolishment of user fees for PHC services in the country in 2009 and since devolution in 2013. There was thus dearth of empirical data regarding delivery of PHC services in its level 3 healthcare facilities. According to MoH's recent statistics, the county also continues to experience rising burden of preventable chronic illnesses, at rates higher than all other counties in the country, which further adds urgency to its effective implementation of PHC services in its public health facilities to help curb this alarming trend. Nurses were targeted as the study respondents given that they constituted the bulk of the medical care workers (and in many instances, the only HCPs) who served in level 3 health facilities in Kiambu County and hence were the primary

implementors of PHC services in these facilities. Level 3 health facilities were chosen as the focus of the study as they constituted the primary point of PHC delivery within communities in Kiambu County in particular and the country in general.

1.4 Research questions

1. What is the nurses' rating of the level of implementation of primary health care services in level 3 health facilities in Kiambu County?
2. What is the attitude towards the implementation of primary health care services among nurses working in level 3 health facilities in Kiambu County?
3. What are the factors that influence the implementation of primary health care services in level 3 health facilities in Kiambu County?
4. Which are the perceived areas of improvement in the implementation of primary health care services within level 3 health facilities in Kiambu County?

1.5 Hypothesis

This study's null hypothesis was;

Nurses' demographic characteristics and nature of working conditions did not significantly influence implementation of primary health care services in level 3 health facilities in Kiambu County.

1.6 Research objectives

1.6.1 Broad objective

To evaluate the implementation of primary health care services by nurses working in level 3 health facilities in Kiambu County.

1.6.2 Specific objectives

1. To determine the nurses' rating of the level of implementation of primary health care services in level 3 health facilities in Kiambu County.
2. To determine the attitude towards the implementation of primary health care services among nurses working in level 3 health facilities in Kiambu County.
3. To establish factors that influence the implementation of primary health care services in level 3 health facilities in Kiambu County.
4. To identify perceived areas of improvement in the implementation of primary health care services within level 3 health facilities in Kiambu County.

1.7 Significance of the study

Results derived from this empirical investigation could lead to review of existing policies through offering insights regarding factors affecting implementation of primary health care services in local public health facilities. Insights derived can form the basis for enhancing current action plans as well as programs for PHC services to be more effectively delivered in these health centres.

This empirical investigation's outcome may also be used to enrich nursing practice in delivery of primary health services within local communities with increased emphasis-on properly coordinated, thorough and people-centric care.

Findings of this study may also have implications for nursing education, providing ideas for the development of training materials that will assist nurses in providing primary healthcare to patients, their families, and society at large. The results also add to existing knowledge at the national level on the implementation of PHC by healthcare professionals in public health facilities in Kenya's devolved units.

1.8 Assumptions of the study

This empirical investigation presupposed that targeted nurses willingly accepted participating in this empirical probe and that they offered truthful answers/replies to the queries in the research tool.

1.9 Theoretical Framework

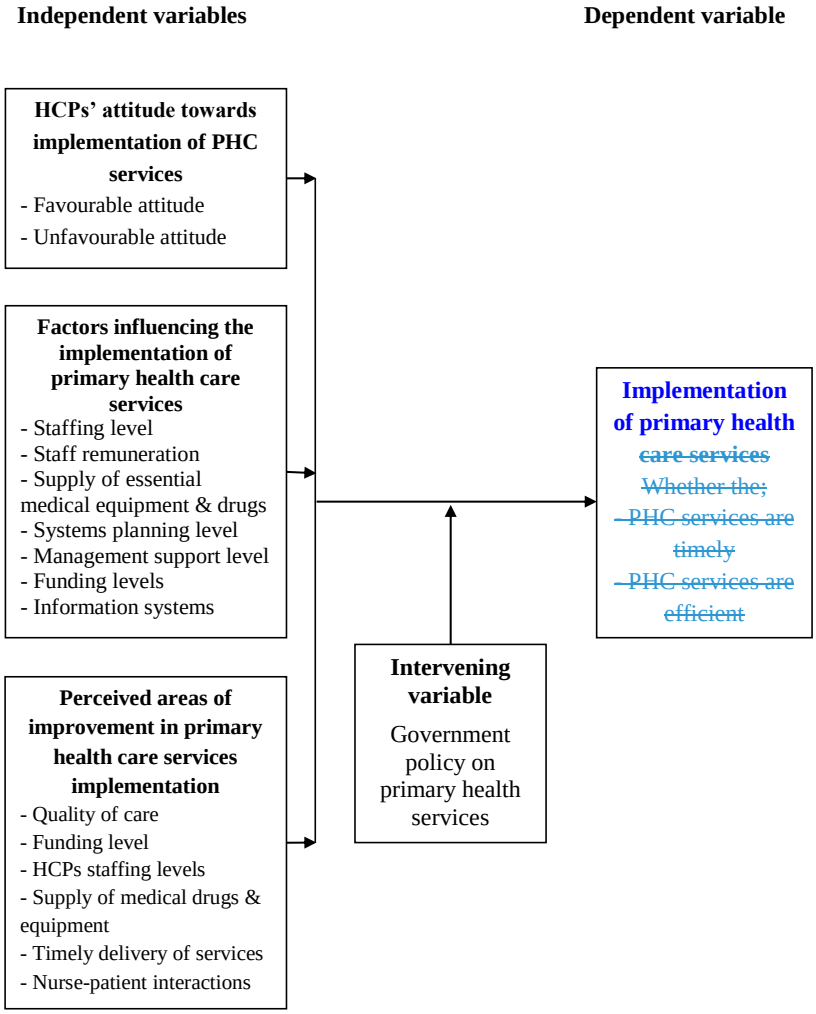
The adopted theoretical model for this study was the self-efficacy theory which was developed by Albert Bandura in 1977. The theory suggests that all individuals are competent and capable of being successful, provided they have the opportunities and self-efficacy necessary to pursue their goals. The theory explicitly focuses on how individuals and communities can be empowered with a sense of agency that will facilitate goal attainment (Bandura, 1994). This is important as self-efficacy theory does not presume that individuals who are currently successful are inherently better than those who are not as successful. Rather, the theory suggests that individuals currently struggling to achieve a certain goal may not have been provided with opportunities and resources to obtain mastery experiences necessary to develop high levels of self-efficacy (Schunk & DiBenedetto, 2021).

Self-efficacy is described as the belief that one has the essential capabilities to perform certain activities to generate a designated level of performance to achieve set goals. Perceived self-efficacy impacts how people think, feel, and motivate themselves towards achieving set goals (Bandura, 1994). The self-efficacy theory suggests that a strong sense of self-confidence improves human performance in various ways. In this case, nurses with a strong sense of self-efficacy are more likely to provide evidence-based care (Smith, 2019). Individuals with a high level of confidence in their skills approach a problematic task as a challenge that needs to be mastered, rather than a personal threat that should be avoided. Such a stance promotes inherent interest in participation in various activities (McEwan & Wills, 2021).

The self-efficacy theory provides the basis for motivation and reduction of the negative outlooks associated with reiterated failures resulting in improved personal achievements (Smith, 2019). The theory maintains that individuals with a strong sense of efficacy sustain strong commitment and heighten their efforts even in the face of poor performance. Such individuals attribute low performance to inadequate knowledge or expertise which is acquirable (Schunk & DiBenedetto, 2021). Though it is not clearly stated, self-efficacy theory suggests that individuals can determinedly develop, change or control their behavior, an assumption that is based proposition that self-efficacy can be improved through education, skill acquisition, and self-influence (McEwan & Wills, 2021).

Based on this theory, it was assumed that nurses working in level 3 health facilities in Kiambu County would enhance their implementation of primary health care services through being empowered with the essential PHC knowledge and acquisition of appropriate practical PHC skills, reflective thought and by being supported with necessary resources for them to be able to effectively discharge the PHC services.

1.10 Conceptual framework



Formatted: Centered

Figure 1.1 Conceptual framework

Source: Author, 2025

CHAPTER TWO: LITERATURE REVIEW

2.1 A brief on primary health care

The concept of PHC, according to WHO and UNICEF, means care for all at all ages, with the fundamental premise of PHC being that all persons should be provided with appropriate care, wherever they are and within their communities. PHC aims at ensuring that all persons, wherever they are, get the highest possible achievable health standards (WHO, 2024). PHC explicitly outlines a strategy capable of responding to the basic health-care needs of individuals, their families and the community at large more competently, fairly and in the right way as well as tackling the leading political, financial and social determinants of sub-optimal health (Van Weel & Kidd, 2018). The fundamental principles of PHC are widespread ease of access, care coverage based on need, thorough care with an increasing focus on health advocacy alongside preventing ailments, individual persons and wider community involvement, autonomy, multi-sectoral response for health, desirable technical assistance, and cost-effectiveness in relation to the resources available (WHO, 2024). Kenya launched primary health care services back in 1988 marked by the formulation of Guidelines for PHC implementation and inclusion of PHC in the National Development Plan of 1989 – 1993. PHC offers the foundation for strengthening essential public health services in the country (Otieno et al., 2020).

2.2 Level of implementation of primary health care services

Across the world, there is evidence that the level of implementation of primary health care services in many healthcare settings and jurisdictions is sub-optimal or not at the desired level (Barkley et al., 2020). For instance, the world health organization in its annual reports on the progress of PHC implementation across the globe notes in its latest review that implementation of primary health care services remained grossly underwhelming in much of Latin America and Sub-Saharan Africa owing to gross underfunding of PHC services, poor primary health care infrastructure, inadequate healthcare personnel and ill-equipping of PHC centres at the community level (WHO,

2024). Adhikari et al. (2022) in a study exploring how primary health care services were being delivered in Nepal attributed the sub-optimal implementation of primary health care services in the country to existing historical and current implementation challenges related to funding of these services and to general poor PHC infrastructure across the country. These bottlenecks required to be addressed, first, if the level of implementation of PHC services in the country was to be improved. In Greece, the promise of realizing universal health coverage was noted to be hindered by poor implementation of primary health care services as reported by Myloneros and Sakellariou (2021).

In China, Lin et al. (2020) in a study exploring Factors that influenced use of primary health care by elderly internal migrants did also assess the level of implementation of primary health care services at community level as being under-par with a poor PHC infrastructure, gross understaffing of centres offering PHC services in rural settings and lack of essential medical equipment and supplies to blame. Low or poor implementation of primary health care services was also reported in Somalia's Mogadishu with Unavailability of essential medical equipment, low number of health care personnel, poor planning of the PHC programs and services and their significant underfunding identified as variables leading to this sub-optimal execution of these services as reported by Ahmed and Husein (2020). Similarly, surveyed nurses in a study carried out in Nigeria by Ahmad et al. (2019) also reported the level of PHC services implementation as being below the desired level and this was largely attributed to a PHC infrastructure that was hugely undefended, ill-equipped and understaffed.

Similar observations were also made in a study by Ramani et al. (2019) in which implementation of primary health care services in surveyed PHC centres in India was found to be sub-optimal and which was attributed to poor primary health care infrastructure, lack of essential medical equipments and supplies and staffing deficiencies. Likewise, a study conducted by Simen-Kapeu et al. (2021) did also establish that the level of implementation of primary health care services in much of Central and West African communities was below the desired level. The study attributed the sub-optimal implementation of the PHC services in the two regions to

significant underfunding and understaffing of local community-based PHC centres. Similar sentiments were shared in studies by Chinawa (2015) and Otieno et al. (2020) which also reported a less than desirable level of implementation of primary health care services in their respective study settings to which considerable under-funding and understaffing of PHC level healthcare institutions coupled with their ill equipment were notable contributors to the reported sub-optimal implementation of the PHC services.

2.3 Nurses' attitude towards the implementation of primary health care services

Evidence from various studies suggest that nurses' attitude towards implementation of primary health services indeed affects the manner in which they offer the PHC services, hence is an important variable (Talbot & Verrinder, 2017). In an empirical review focusing on Nepal's PHC implementation, the attitude of nursing staff towards implementation of the PHC services was singled out as being a leading element instrumental to PHC execution in the country. The study noted that interventions were needed to positively transform the attitude of nurses towards PHC as this had an influence on their execution of the program (Adhikari, Mishra & Schwarz, 2022). Similarly, in a study on strengthening the health systems in LMICs using PHC, Bitton et al. (2017) noted that better implementation scores of PHC were evident in nations where health care workers had a positive perception of PHC as a critical tool for enhancing these countries' overall health systems. Otieno et al. (2020) espoused similar views that nurses being the primary implementors of PHC services in most settings means that their attitude towards PHC is of significant value to the successful delivery of these services.

In a study performed in India evaluating the reasons for poor delivery of PHC services in the country, public HCPs' poor attitude towards initiated PHC programs had an adverse effect on these programs' implementation. The study called for greater attention to health care workers views and concerns regarding PHC systems to reduce any potential conflicts that may adversely impact these programs delivery (Ramani, Sivakami & Gilson, 2019). Similarly, nurses' resentment of PHC programs initiated

without their consultation was also identified as a notable impediment to effective execution of PHC services in Nigeria denoting need for health care providers to be involved in these programs' initialization (Chinawa, 2015). Similar sentiments regarding the need to win HCPs before implementation of primary health care programs as a necessary prerequisite to their successful implementation were also shared by Sambo (2019) and Lin et al. (2020).

Onokerhoraye (2016) explored the part played by PHC in attainment of health access for all in the African continent. An emerging theme was the importance of nurses' attitude towards PHC and its effect on achievement of UHC in African countries. Nurses' positive attitude towards delivery of primary health services was established as a critical element to UHC delivery. Similarly, in a mixed methods study performed in Nepal, a statistically notable and favourable relation was identified between nurses' positive perception of primary health services and the services' effective implementation with lower implementation scores observed in areas where nurses' attitude towards PHC was poor (Peoples et al., 2021). Similar revelations were espoused in Nigeria where the health care providers' outlook was evident as a leading determinant of the manner in which they delivered health services to the people. Poor or negative HCPs' attitude was a constraint to effective delivery of PHC services in Nigeria (Alenoghena et al., 2014).

2.4 Factors affecting the implementation of primary health care services

In all healthcare settings, provision of medical care is affected by the number of health personnel available and delivery of basic healthcare services is no exception. For instance, in a study evaluating factors impeding effective implementation of PHC in Nigeria, Chinawa (2015) reported inadequate number of nursing staff in local health centres as a leading barrier to PHC effective implementation. Ahmad et al. (2019) in a review of factors influencing use of basic healthcare services within public health institutions still in Nigeria cited inadequacy of healthcare personnel as a leading limiting factor impeding effective delivery of PHC services. Existence of the right

number of medical personnel was also highlighted a leading determinant of PHC delivery in empirical studies by Barkley et al. (2020) and Simen-Kapeu et al. (2021).

Another commonly identified factor that impedes health care personnel's delivery of health services and particularly in developing countries is low or poor remuneration. In many settings, low pay acts as a major demotivation to health care workers in turn adversely affecting their productivity. For instance, Ahmed and Husein (2020) cited poor pay among health care workers as a leading factor impeding effective delivery of PHC in Mogadishu-Somalia. Similarly, low remuneration of health care workers was also cited as an impediment of effective implementation of basic health-services in an Ethiopian empirical survey (Assefa et al., 2020). Similar views were expressed by Gabrani, Schindler and Wyss (2020) who also identified low pay among health care workers serving in Albania's public health sector as one of the factors adversely affecting provision of primary care services in that nation. Other studies that also cited health personnel's poor pay as a factor impeding effective implementation of PHC include those by Sambo (2019) and Otieno et al. (2020).

Another determinant of implementation of primary health-based services is availability of necessary medical equipment and drugs supply. In many health care settings particularly in LMICs, lack of or poor state of medical equipment and poor supply of essential drugs remain major barriers to realization of high quality PHC services (WHO, 2018). In their review on enhancing PHC as an essential pathway to realizing UHC, Van Weel and Kidd (2018) emphasized on the need to adequately equip local health centres with essential medical equipment and drugs to facilitate their role in effective implementation of the PHC program. Similarly, in studies by Sumer, Shear and Yener (2019) and Peoples et al. (2021), inadequate facilitation of local public health facilities with essential medical equipment and drugs was also identified as leading hurdle to effective PHC execution in these contexts.

Poor planning of the PHC programs and systems has also been implicated as another factor leading to ineffective execution of PHC services in numerous settings. In their

review of how primary health care programs were implemented in local societies in different African settings, Sacks et al. (2020) identified poor planning of the PHC programs as a leading contributor to the program' poor implementation. As asserted by Behera and Prasad (2021), adequate planning of PHC programs and systems prior to their roll out ensures that all the necessary components for the effective running of these programs are put in place before the programs can be implemented which increases their chances of successful implementation. The significance of proper planning of PHC programs and systems to effective implementation of primary health services was also noted in reviews by Talbot and Verrinder (2017) and Adhikari et al. (2022).

Another factor cited as influencing delivery of PHC services is the level of support accorded to health care workers by the hospital's management. In a review that analysed barriers to effective delivery of PHC within local societal based health facilities in Africa's central and western parts, Simen-Kapeu et al. (2021) reported that lack of management support was a leading factor that adversely affected health care workers' delivery of primary health services in that region. According to Myloneros and Sakellariou (2021), the hospital's management play a key leadership and facilitation role and their support is instrumental in ensuring effective delivery of PHC services. Similarly, better PHC implementation scores were reported in health units where nurses had full support of their superiors according to a review by Alenoghena et al. (2014).

In many jurisdictions, chronic underfunding of health services at local community levels remains a leading barrier to effective implementation of PHC services. As reported in a study evaluating factors influencing implementation of primary health services in local healthcare institutions in Nigeria, severe underfunding of PHC services within community-based health centres was established as a leading barrier to these services' effective delivery (Ahmad et al., 2019). Barkley et al. (2020) while commenting on realizing the PHC vision averred that adequate funding of PHC was essential for successful implementation of PHC programs, a view also espoused by

Jamison et al. (2018). Ramani et al. (2019) also implicated inadequate funding as one of the reasons behind poor implementation of primary health services in India.

Lack of or poor information systems leading to gaps in collection of patient data to inform decision making on kinds of PHC services required and how best to implement them also impedes PHC delivery. Without the right information systems, health facilities and workers are unlikely to have the right information needed to inform decision making around PHC implementation (Kluge et al., 2018). Decisions on implementation of PHC programs should be informed by the health needs of the communities being served and thus it's imperative that health facilities should have sound information systems/data collection mechanisms. This would ensure that they maintain relevant patient data from which they can gain insights of primary health care needs of the populations being served and hence leading to better decisions regarding implementation of PHC programs/systems (Pandey, 2018).

2.5 Perceived areas of improvement in the implementation of primary health care services

Based on existing empirical literature, one of the aspects requiring attention relating to implementation of health services at primary levels is concerned is quality of services offered. As noted by Espinosa-González and Normand (2019) in a study on problems inflicting delivery of PHC-interventions in Turkey, the quality of primary health services offered was identified as an area of concern and which required action. According to Hone et al. (2018), the true value of PHC in enhancing quality of life can only be realized if the PHC services offered are of the right quality that matches the needs of the targeted populations. Assefa et al. (2020) while reviewing PHC's role to realization of UHC in Ethiopia underpinned that greater efforts were required to enhance the worth of the country's PHC services as part of UHC goals.

Increased facilitation in the form of adequate funding of primary health services is another perceived area in need of improvement to safeguard the effective implementation of PHC. As observed in many African settings, severe underfunding of

PHC services in local public health facilities was a leading barrier to these services' effective delivery. Hence, there was need for increased facilitation in the form of improved funding of PHC programs in order to ensure that these programs realize their intended goals of bringing health care services closer to those who need them (Ahmad et al., 2019; Assefa et al., 2020). Behera and Prasad (2021) also espoused the view that primary health-care services required to be adequately funded if they are to be effectively implemented. Ramani et al. (2019) also noted that greater level of facilitation was required for improved PHC programs execution in India.

To further enhance the execution of PHC services in local settings, there is need to ensure adequacy of health care personnel working in facilities offering these services. This is in recognition of the fact that PHC programs cannot be effectively implemented with inadequate health personnel resources (Bitton et al., 2017). In a study evaluating implementation of PHC in Nigeria, Chinawa (2015) noted that further investments were required in the area of increasing the number of nursing staff in local health centres, as their low numbers was a significant barrier to effective PHC implementation in the country, sentiments also echoed by Ahmad et al. (2019) who decried the insufficiency of health personnel in local public health facilities in Nigeria as impeding effective delivery of PHC services. Increasing the number of health care workers serving in local public health facilities was also cited as a critical element of improving the provision of basic health services in communities as cited by Kluge et al. (2018) and Ramani et al. (2019).

Another area that requires greater emphasis in efforts to enhance implementation of PHC services relates to the supply of appropriate medical drugs and equipment. No health care services can be delivered without the necessary medical supplies including equipment and drugs. Starfield et al. (2015) and Sacks et al. (2020) while looking at the PHC's contributions to health systems and universal health coverage shared the view that increased investments in provision of appropriate medical supplies were needed to make the implementation of PHC programs successful. Ahmed and Husein (2020) in a review of PHC services delivery in Mogadishu-Somalia also pointed to the need for

greater facilitation of local health centres with sufficient supply of basic medical equipment and drugs to enhance PHC programs' implementation.

Improvements are also needed in the area of timely delivery of services if PHC programs are to realize their full potential. As espoused in a scoping review evaluating the effectiveness of PHC reforms in Greece, it was observed that little emphasis was placed on timeliness of health services delivery which in turn lowered their quality. The study called for greater focus on timeliness of PHC services as a way of making the services even better (Myloneros & Sakellariou, 2021). According to Sumer et al. (2019), timely delivery of services is a fundamental component of appropriate health services and hence should not be ignored, an argument supported by WHO which also includes timeliness as an essential feature of care that is of the right standard (WHO, 2024).

Another attribute identified as requiring attention in order to make PHC implementation more effective is nurse-patient interactions. Given the high level of interactions between nurses and patients during health services delivery, it is imperative that these interactions remain positive and enriching to both parties (Onokerhoraye, 2016). Patients are likely to register satisfaction with care given if they feel they were respectfully treated, with compassion and consideration by the health care givers and as such how HCPs interact with the patients they care for is important in defining patient experiences with care and therefore should emphasized as a critical component of effective PHC services delivery (Gabrani et al., 2020; Peoples et al., 2021).

2.6 Summary of Gaps Identified

Several gaps were notable in the reviewed empirical studies. First, there were mixed findings relating to the level of implementation of primary health care services within the various study settings with some studies reporting the implementation level of the PHC services as being good/satisfactory while others reported it as being low or sub-optimal. The reasons for the poor implementation of the PHC services also varied across diverse healthcare settings in which the studies were performed. Secondly, the

reviewed studies utilized dissimilar study methodologies including varied study designs, varied study settings, varied techniques alongside procedures for gathering their data along with varied methods of its analysing and hence it was difficult to compare their outcomes. Further, most of the highlighted studies had been done in other countries whose healthcare settings and systems were different from ours hence it would be difficult to infer their findings to the local context. From the literature reviewed, it was apparent that local studies focusing on the phenomenon under investigation were lacking in turn making the current study imperative.

CHAPTER THREE: MATERIALS AND METHODS

3.1 Introduction

The tools and techniques in application herein are described in this chapter. Consequently, it describes the study's research design, variables, population, criteria on how participants were included and excluded, sampling method and size, tools and procedures for collecting data, pretesting, checking on the study tool to see if it was valid and reliable, how the data were analysed, and the study's ethical principles.

3.2 Study design

An analytical cross-sectional study design was utilized. It involves analyzing information about a certain population at a specific time period. As a result, it presents information about the variables under investigation as it stands when the study is underway including notable patterns. The analytical cross-sectional study design was deemed appropriate given that it not only ensures elaboration of a situation accurately and completely, making sure that there's minimal prejudice in gathering of study data but also allows for testing of association between study variables hence is appropriate for hypothesis testing (Kothari, 2010). This study utilized quantitative data approaches.

3.3 Study variables

3.3.1 Independent variables

Predictor components herein included nurses' attitude towards the implementation of free PHC services, elements that altered implementation of free basic health care services and perceived areas of enhancement in delivery of primary health care services.

3.3.2 Dependent variable

This study's outcome component was nurses' implementation of free primary health care services. The level of implementation was defined as being either optimal (if the PHC services were offered in a timely and efficient manner) or sub-optimal (if the PHC

services were not offered in a timely and efficient manner) and this was based on the nurses' own rating/assessment.

3.4 Study area

In Kiambu County, Level 3 health facilities constituted the study setting. In Kenya's central region, Kiambu County is surrounded by the counties of Kajiado and Nairobi to the southern end, to the north-west is Nyandarua County, to the north and north-east is Murang'a County, to the east is Machakos County and to the west is Nakuru County. Ruiru, Gatundu North, Kiambu, Juja, Limuru, Lari, Kikuyu, Kiambaa, Githunguri, Thika Town, Kabete and Gatundu South are its 12 constituencies. Kiambu County, according to the2019 National Census, has a total area of 2,538.6 km^2, an estimated population of 2.42 million people, with agriculture being the county's leading productive activity. The county has 24 level 3 health facilities providing varied PHC services to its residents. Level 3 health facilities in Kiambu County constituted a suitable study setting as these facilities provided largely PHC services.

3.5 Study population

Population for this study encompassed all the nurses working in level 3 health facilities in Kiambu County. Nurses were targeted as respondents given that they constituted the bulk of the health care workers (and in many instances, the only HCPs) who served in level 3 health facilities in Kiambu County and hence were the backbone and primary implementors of PHC in these facilities. Records from the Health Department of Kiambu County indicated that there were 240 nurses working in the county's level 3 health facilities (Kiambu County Health Department Records, 2022). This formed the study population.

3.5.1 Inclusion criteria

This empirical research included nurses who had worked in the level 3 health facilities in Kiambu County and who gave consent for participating.

3.5.2 Exclusion criteria

Those excluded include;

- Nurses who were not on duty during the study period
- Nurses who were sick during the study period

3.6 Study sample and technique for sampling

3.6.1 Computing the study sample

Fishers et al. (1998) formulae were made use of for computing the sample size as follows;

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

In which;

n = appropriate sample for populations > 10,000.

Z = Typical z value at 95% CI, 1.96

p = the entire targeted group's part having desired attributes taken as 0.5 as opined by Fishers et al. for the group's aspects that are unstudied/unprobed.

q = (1-p) = 1 - 0.5 = 0.5

d = set significance level = 0.05.

Hence, $n = (1.96^2 \times 0.5 \times 0.5) / 0.05^2$

n = 384

This was further adjusted as outlined;

$$n_f = n / [1 + n/N]$$

In which n_f = appropriate sample for populations < 10,000

n = appropriate sample for populations > 10,000

N = entire targeted study participants which was 240.

Accordingly, 384 / (1 + [384/240]) = 384/2.6 = 147.7, hence approximately 148.

Hence, the study sample comprised of 148 nurses who worked in level 3 health facilities in Kiambu County.

3.6.2 Sampling technique

The 148 respondents were enrolled with simple random sampling technique. The selection method accorded members of the targeted population same opportunity to be chosen. 'Yes' and 'No' words were inscribed on paper pieces with 148 being Yes and 92 as No. The papers were thoroughly mixed in a box before each potential participant was allowed to pick one paper from the box. All the nurses working in level 3 health facilities in Kiambu County who met the basis for being included, offered their consent and chose 'Yes' participated. Simple random sampling was believed to be suitable as it presents all targeted participants same chance of making the study sample and is efficient effort, cost and time wise. Fair representation from all the 24 level 3 health facilities in the county was ensured through proportionate allocation of the nurses into the study sample based on total number of nurses in each of these facilities.

3.7 Research instrument

The instrument used to gather data was a self-reporting questionnaire (Appendix 2). This research instrument had semi-structured queries in accordance with the aims of this empirical assessment. The questionnaire had four sections. First part contained interrogations touching on participants' demographic-information. Second part contained interrogations on the attitude towards the free primary health-services execution among the respondents. Third part contained questions on the factors

affecting the execution of primary health care services among the respondents while the final section contained queries on areas of enhancement in the implementation of primary health care services as perceived by the respondents.

3.8 Pretesting of the research instrument

The tool for this study was pretested among nurses working at the Embakasi Health Centre in Nairobi County. Ten percent of the sample (fifteen [15] questionnaires) were used. According to Mugenda and Mugenda (2003), 10% of the sample size was sufficient for pre-testing the study tools. After the pretest was done, the study tool was adjusted as necessary and a final version of the validated copy was created. The researcher chose to pretest the tool at Embakasi Health Centre, located in the neighbouring county, so as to safeguard the integrity of the study outcomes.

3.8.1 Validity

Validity, according to Kothari (2010), is whether a tool ascertains what it's intended to ascertain or whether the inferences drawn from the data examination accurately reflect the phenomenon being studied (Denscombe, 2014). The supervising lecturers had access to the study tool and helped determine its content making sure the questions were accurately reflective of the phenomena being studied. Therefore, the basis for ascertaining whether the tool for this study was valid was the expert judgment of the supervising lecturers regarding the soundness or appropriateness of the study tool.

3.8.2 Reliability

Reliability is a study tool's capacity to bear similar outcomes over recurrent attempts (Nsubuga, 2006). Reliability of the data gathering tool was appraised by means of the Cronbach alpha coefficient with a set reliability threshold of equal to or more than 0.7. Based on the pretest data, the questionnaire yielded an aggregate Cronbach alpha coefficient value of 0.891 and hence was considered as being reliable.

3.9 Data collection procedures

The researcher administered the survey questionnaire to the participants as part of the procedure for gathering the research study's information. The informed consent form for the study had to be completed by participants before they could respond to the study instrument and hence, they had to give their permission to participate in the research. Following the distribution of the questionnaire, the respondents were offered a period of two weeks to self-report and answer to the study tool's questions at their convenience. To ensure a sufficient response rate, the lead researcher followed up and reminded the respondents on a frequent basis. The entire process of gathering data took four weeks.

3.10 Data analysis

Data cleanup and recording came before its analyzing. The study used descriptive statistics that included proportions and counts for probing the quantitative data that it was based on. Furthermore, the chi-square test with a 95% confidence interval was applied in hypothesis testing and which entailed evaluating how the study's predictor and outcome components related. The study's findings were displayed in tables and figures. The statistical analysis software used was SPSS version 25.0. The data analysis plan for the study was as summarized in Table 3.1.

Table 3.1: Study variables measurement

Parameter/Objective	**Study variables**	**Type of data**	**Statistical test**
Implementation level of PHC services	- Optimal (timely and efficient) - Sub-optimal (not timely and efficient)	Categorical data	▪ Chi-square test
Respondents' demographic characteristics	- Gender - Age - Education level - Marital status	Categorical data	▪ Chi-square test

	- Religious faith - Duration served as a nurse		
Nature of working conditions	- Poor (unconducive & unsatisfactory) - Good (conducive & satisfactory)	Categorical data	▪ Chi-square test

3.11 Ethical considerations

The Graduate School alongside the Kenyatta University's Ethics Review Committee granted ethical approval for the study (KU/ERC/APPROVAL/VOL.1). A study permit was also issued by NACOSTI (NACOSTI/P/23/26095). The Kiambu County administration also granted permission for collecting data within said health facilities (Ref. No.: KIAMBU/HRDU/23/05/25/RA_GITAHI). The respondents gave their free and voluntary consent before being allowed participating. Hence participants participated on their own volition, and all information gathered was kept confidential. The handling, processing, and reporting of the study's data was all done anonymously. All completed questionnaires were securely stored.

CHAPTER FOUR: RESULTS

4.1 Introduction

The study's findings are presented in this chapter in accordance with the research methodology. The findings discussed here relate to the provision of primary healthcare services by nurses employed by Kiambu County's level 3 hospitals. The response rate is highlighted at the beginning of the chapter, followed by data on the demographics of the respondents and an explanation of the study's findings in light of the goals or aims of the investigation.

4.1.1 Response rate

An aggregate of 148 nurses who worked in level 3 health facilities in Kiambu County were targeted as respondents. From the questionnaires administered, sufficient responses were obtained from 141 of the respondents yielding a feedback rate of 95.3%. The outstanding 7 questionnaires were incompletely filled and hence were excluded from the final analysis. This rate of response was deemed satisfactory and illustrative and was in concurrence with Mugenda and Mugenda (2003) assertion that a response rate of at least 70% was satisfactory for statistical evaluation and reporting.

4.2 Demographic characteristics of the respondents

The demographic profile of the respondents was evaluated. From the findings, over half of the respondents were female (57.4%, n = 81), most were aged 30-39 years (41.8%, n = 59) followed by those aged 40-49 years (27%, n = 38) and majority were Diploma holders (63.1%, n = 89). Further, two-thirds of the respondents were married (67.4%, n = 95) and majority of them were Christians (92.9%, n = 131). In addition, the largest proportion of the respondents had served as a nurse for over 10 years (45.4%, n = 64). The results are presented in Table 4.1.

Table 4.21: Respondents' demographic characteristics

Demographic attributes		Frequency (n)	Percentage (%)
Gender	Male	60	42.6
	Female	81	57.4
	Total	**141**	**100.0**
Age	Below 30 years	31	22.0
	30 - 39 years	59	41.8
	40 - 49 years	38	27.0
	50 years & above	13	9.2
	Total	**141**	**100.0**
Highest education level	Certificate	11	7.8
	Diploma	89	63.1
	Higher Diploma	20	14.2
	Bachelors	18	12.8
	Masters	3	2.1
	Total	**141**	**100.0**
Marital status	Single	43	30.5
	Married	95	67.4
	Separated	1	0.7
	Divorced	1	0.7
	Widowed	1	0.7
	Total	**141**	**100.0**
Religious faith	Christianity	131	92.9
	Islam	9	6.4
	Traditionalists	1	0.7
	Total	**141**	**100.0**
Duration served as a nurse	1 - 5 years	28	19.9
	6 - 10 years	49	34.8
	Over 10 years	64	45.4
	Total	**141**	**100.0**

4.3 Level of implementation of PHC services in level 3 health facilities

The study's first objective evaluated the nurses' rating of the level of implementation of PHC services in the level 3 health facilities they worked in. For this, the nurses were requested to indicate whether sought PHC services were offered in a timely and efficient manner with their responses used to categorize the level of PHC services implementation as optimal or sub-optimal. From the findings, majority (91.5%, n = 129) of the nurses rated the level of implementation of PHC services in their work stations as sub-optimal as depicted in Figure 4.1.

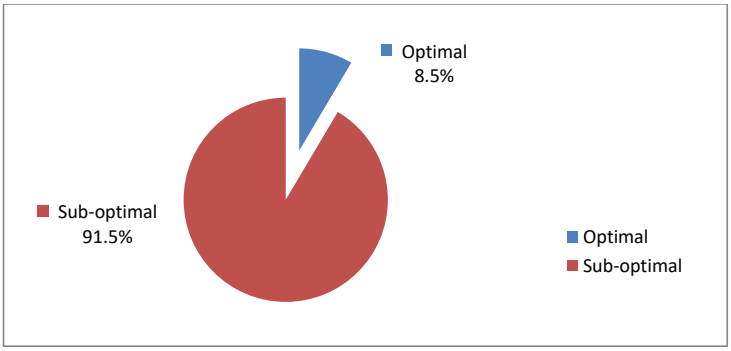


Figure 4.1: Respondents' rating of the level of implementation of primary health care services

4.4 Respondents' attitude towards the implementation of primary health care services

The second objective of the study sought to determine the attitude towards the implementation of primary health care services among nurses working in level 3 health facilities in Kiambu County. From the findings, all (100%, n = 141) of the respondents unanimously agreed that delivery of primary health care services was critical to attainment of quality healthcare services for all in the country. Further, nearly all (99.3%, n = 140) of the respondents also agreed with the assertion that primary health care services constituted an essential foundation for a sustainable health system and

health programs in the country. On the overall, all (100%, n = 141) had a favourable attitude towards the implementation of PHC services. Results are outlined in Table 4.2.

Table 4.32: Respondents' perception towards the significance of primary health care services to the country's health system and programs

		Yes		No	
		Freq. (n)	**%**	**Freq. (n)**	**(%)**
Perceived delivery of primary health care services as being critical to attainment of quality healthcare services for all in the country		141	100.0	0	0.0
Agrees that primary health care services are an essential foundation for a sustainable health system and health programs in the country		140	99.3	1	0.7
Nurses attitude towards PHC services implementation:	Favourable attitude			141	100.0
	Unfavourable attitude			0	0.0

The respondents' attitude towards the implementation of PHC services in level 3 health facilities in Kiambu County was evaluated by assessing whether they agreed or not with a set of assertions regarding the value of PHC services.

From the findings, majority of the respondents agreed with the various assertions regarding the value of PHC services including that implementation of primary healthcare services leads to reduction of the global burden of health-related morbidity and mortality as cited by 100% (n=141) of the respondents; implementation of free basic healthcare services supports greater equitable distribution of healthcare services as cited by 99.3% (n=140) of the respondents and that implementation of primary healthcare services promotes delivery of care that is affordable, efficient and of right standard to people and communities as cited by 99.3% (n=140) of the respondents.

Majority of the respondents also agreed with the assertions that implementation of primary healthcare offers early detection tools to identify and contain outbreaks in illnesses before they turn to epidemics as cited by 92.9% (n=131) of the respondents; implementation of PHC services provides an opportunity for empowerment of

individual persons, households and societies at large to actively partake in decisions regarding their wellbeing as cited by 95.7% (n=135) of the respondents and that implementation of PHC services contributes to enhancement of health through access to more appropriate services as cited by 98.6% (n=139) of the respondents.

The respondents also agreed with the assertions that implementation of PHC services contributes to health enhancement in the entire continuum of life, from birth to old age as cited by 98.6% (n=139) of the respondents; implementation of PHC services leads to reduction of avoidable hospital admissions and readmissions as cited by 96.5% (n=136) of the respondents and that implementation of PHC services promotes better population health outcomes at lower cost as cited by 92.9% (n=131) of the respondents.

Further, majority of the respondents also concurred with the assertions that PHC service implementation gives people, households and societies at large the power to improve their health and serve as proponents of laws that advance and safeguard health and wellness as cited by 98.6% (n=139) of the respondents; to ensure proper care for the aged and to improve mothers, newborns, babies and adolescents' health, PHC services need be implemented as cited by 99.3% (n=140) of the respondents and that implementation of PHC services is essential to contain leading transmittable illnesses such as malaria, TB and HIV and less focused on tropical conditions and treatable conditions of ears, teeth and eyes as cited by 98.6% (n=139) of the respondents.

Lastly, the respondents also concurred with the assertions that implementation of PHC services is essential to address the prevailing health burden of non-contagious illnesses including conditions such as heart, renal, respiratory, diabetic and tumors as cited by 98.6% (n=139) of the respondents; implementation of PHC services is also instrumental in dealing with the growing burden of psychological health conditions as cited by 97.9% (n=138) of the respondents and that PHC implementation offers the best pathway for realizing the 'Health for All' goals as cited by 99.3% (n=140) of the respondents. Results are summarized in Table 4.3.

Table 4.43: Respondents' level of agreement with assertions regarding the value of primary health care services

		Yes		No	
		Freq. (n)	%	Freq. (n)	(%)
a.	Implementation of PHC services leads to reduction of the global burden of health-related morbidity and mortality	141	100.0	0	0.0
b.	Implementation of free basic healthcare services supports greater equitable distribution of healthcare services	140	99.3	1	0.7
c.	Implementation of PHC services promotes delivery of care that is affordable, efficient and of right standard to people and communities	140	99.3	1	0.7
d.	Implementation of PHC offers early detection tools to identify and contain outbreaks in illnesses before they turn to epidemics.	131	92.9	10	7.1
e.	Implementation of PHC services provides an opportunity for empowerment of individual persons, households and societies at large to actively partake in decisions regarding their wellbeing	135	95.7	6	4.3
f.	Implementation of PHC services contributes to enhancement of health through access to more appropriate services	139	98.6	2	1.4
g.	Implementation of PHC services contributes to health enhancement in the entire continuum of life, from birth to old age	139	98.6	2	1.4
h.	Implementation of PHC services leads to reduction of avoidable hospital admissions and readmissions	136	96.5	5	3.5
i.	Implementation of PHC services promotes better population health outcomes at lower cost	131	92.9	10	7.1
j.	PHC service implementation gives people, households and societies at large the power to improve their health and serve as proponents of laws that advance and safeguard health and wellness	139	98.6	2	1.4
k.	To ensure proper care for the aged and to improve mothers, newborns, babies and adolescents' health, primary health care services need be implemented	140	99.3	1	0.7
l.	Implementation of PHC services is essential to contain leading transmittable illnesses such as malaria, TB and HIV and less focused on tropical conditions and treatable conditions of ears, teeth and eyes	139	98.6	2	1.4
m.	Implementation of PHC services is essential to address the prevailing health burden of non-contagious illnesses including conditions such as heart, renal, respiratory, diabetic and tumors	139	98.6	2	1.4
n.	Implementation of PHC services is also instrumental in dealing with the growing burden of psychological health conditions	138	97.9	3	2.1
o.	PHC implementation offers the best pathway for realizing the 'Health for All' goals	140	99.3	1	0.7

4.5 Factors that influenced implementation of primary health care services

The third objective of the study sought to establish the factors that influenced the implementation of PHC services in level 3 health facilities in Kiambu County. From the findings, the factors that hindered the implementation of PHC services within these facilities as reported by the nurses included; inadequate number of available healthcare personnel as cited by 99.3% (n=140) of the respondents; poor or low remuneration of health care providers as cited by 99.3% (n=140) of the respondents; poor supply of essential medicine/drugs as cited by 97.2% (n=137) of the respondents; unavailability of essential medical equipment as cited by 98.6% (n=139) of the respondents; non-functional status of existing medical equipment as cited by 98.6% (n=139) of the respondents; poor planning of the PHC programs as cited by 95.7% (n=135) of the respondents; lack of or inadequate support to HCPs from the hospital management as cited by 94.3% (n=133) of the respondents; significant underfunding of the primary health services as cited by 98.6% (n=139) of the respondents and lack of or poor information systems as cited by 98.6% (n=139) of the respondents (Table 4.4).

Table 4.54: Factors that hindered implementation of primary health care services

		Yes		No	
		Freq. (n)	%	Freq. (n)	(%)
a.	Inadequate number of available healthcare personnel	140	99.3	1	0.7
b.	Poor or low remuneration of health care providers	140	99.3	1	0.7
c.	Poor supply of essential medicine/drugs	137	97.2	4	2.8
d.	Unavailability of essential medical equipment	139	98.6	2	1.4
e.	Non-functional status of existing medical equipment	139	98.6	2	1.4
f.	Poor planning of the PHC programs	135	95.7	6	4.3
g.	Lack of or inadequate support to HCPs from the hospital management	133	94.3	8	5.7
h.	Significant underfunding of the primary health services	139	98.6	2	1.4
i.	Lack of or poor information systems	139	98.6	2	1.4

Further, a statistically significant association was established between the nurses' implementation of primary health care services and the identified factors including inadequate number of available healthcare personnel (chi-square p value of 0.002); poor or low remuneration of health care providers (chi-square p value of < 0.000); poor supply of essential medicine/drugs (chi-square p value of 0.011); unavailability of essential medical equipment (chi-square p value of 0.000); non-functional status of existing medical equipment (chi-square p value of 0.007); poor planning of the PHC programs (chi-square p value of 0.024); lack of or inadequate support to HCPs from the hospital management (chi-square p value of 0.013); significant underfunding of the primary health services (chi-square p value of 0.001) and lack of or poor information systems (chi-square p value of 0.030) indicating that the identified factors had a significant influence on the nurses' implementation of primary health care services among the surveyed nurses. This is as depicted in Table 4.5.

Table 4.65: Association of identified factors with the nurses' implementation of primary health care services

Factors	Categories	PHC services implementation level		Chi-square	
		Optimal (n = 12)	Sub-optimal (n = 129)	Statistic (X^2)	Sig. (p)
Inadequate number of available healthcare personnel	Yes	3	89	9.37	0.002*
	No	9	40		
Poor or low remuneration of health care providers	Yes	1	112	42.50	< 0.000*
	No	11	17		
Poor supply of essential medicine/drugs	Yes	2	71	6.47	0.011*
	No	10	58		
Unavailability of essential medical equipment	Yes	3	97	13.41	0.000*
	No	9	32		
Non-functional status of existing medical equipment	Yes	4	92	7.29	0.007*
	No	8	37		
Poor planning of the PHC programs	Yes	5	94	5.11	0.024*
	No	7	35		
Lack of or inadequate support to HCPs from the hospital management	Yes	3	80	6.21	0.013*
	No	9	49		
Significant underfunding of the primary health care services	Yes	5	106	10.75	0.001*
	No	7	23		
Lack of or poor information systems	Yes	4	84	4.73	0.030*
	No	8	45		

* Statistically significant at 0.05 significance level

4.6 Perceived areas of improvement by nurses in the implementation of primary health care services

The fourth objective of the study sought to identify perceived areas of improvement in the implementation of PHC services within level 3 health facilities in Kiambu County.

From the findings, the perceived areas of improvement in the implementation of primary health care services within level 3 health facilities in Kiambu County as reported by the surveyed nurses included *quality of services offered* in terms of making the primary health services to be more accessible, consistent, equitable, responsive, efficient, timely, safe, personalized and well-coordinated as reported by 98.6% (n=139) of the respondents; *funding of primary health services* that is making the primary health services affordable to community members as reported by 97.9% (n=138) of the respondents; *ensuring adequacy/sufficiency of health care personnel working in PHC settings* that is ensuring that health facilities offering primary health services are adequately staffed as reported by 97.9% (n=138) of the respondents; *ensuring adequate supply of essential medicines/drugs* that is ensuring that primary health care facilities are, at all times, adequately stocked with essential medication as reported by all (100%, n=141) of the respondents; *ensuring adequate supply of essential medical equipment* that is ensuring that primary health care facilities are, at all times, adequately stocked with essential medical equipment or tools of work as reported by 99.3% (n=140) of the respondents; *regular repairs of existing essential medical equipment* that is ensuring that essential medical equipment in primary health care facilities are maintained in good functional status at all times as reported by all (100%, n=141) of the respondents; *timeliness in delivery of health services* that is ensuring that primary health care services are offered to patients when needed without unnecessary delays as reported by 97.2% (n=137) of the respondents; *nurse-patient interactions/relations* that is ensuring that nurse-patient interactions are regular, clear, meaningful, respectful, compassionate and forthright as reported by 97.2% (n=137) of the respondents and *regular audit of PHC services delivery* that is ensuring that delivery of primary health services is monitored on a regular basis to allow timely identification of any challenges for timely action to

remedy or address the challenges as well as to identify opportunities for strengthening the quality of the primary health services as reported by 99.3% (n=140) of the respondents. Results are depicted in Table 4.6.

Table 4.76: Perceived areas of improvement in the implementation of primary health care services

		Yes		No	
		Freq. (n)	%	Freq. (n)	(%)
a.	Quality of services offered	139	98.6	2	1.4
b.	Funding of primary health services	138	97.9	3	2.1
c.	Ensuring adequacy/sufficiency of health care personnel working in PHC settings	138	97.9	3	2.1
d.	Ensuring adequate supply of essential medicines/drugs	141	100.0	0	0.0
e.	Ensuring adequate supply of essential medical equipment	140	99.3	1	0.7
f.	Regular repairs of existing essential medical equipment	141	100.0	0	0.0
g.	Timeliness in delivery of health services	137	97.2	4	2.8
h.	Nurse-patient interactions/relations	137	97.2	4	2.8
i.	Regular audit of PHC services delivery	140	99.3	1	0.7

4.7 Association of respondents' demographic characteristics and implementation of primary health care services

The association between the respondents' demographic characteristics and their implementation of primary health care services was evaluated using chi-square statistic at 95% confidence level with chi-square test p values of < 0.05 denoting a significant association between the study variables.

From the findings, the demographic attributes of the respondents found to have a statistically significant association with the level of implementation of primary health care services were the respondents' education level (chi-square p value = 0.020) and

duration served as a nurse (chi-square p value = 0.031). based on this, the null hypothesis which stated that nurses' implementation of primary health care services was not influenced by their demographic characteristics was rejected and hence the alternate hypothesis that nurses' implementation of primary health care services was influenced by their demographic characteristics was accepted.

However, no statistically significant association was established between the nurses' implementation of primary health care services and their gender, age, marital status and religion as denoted by chi-square p values > 0.05. The results are shown in Table 4.7.

Table 4.87: Association of respondents' demographic characteristics with their implementation of primary health care services

		PHC services implementation level			Chi-square	
		Optimal (n = 12)	Sub-optimal (n = 129)	Total	Statistic (X^2)	Sig. (p)
Gender	Male	3	57	60		
	Female	9	72	81	1.653	.199
Age	< 30 years	2	29	31		
	≥ 30 years	10	100	110	0.216	0.642
Highest education level	Diploma or lower	5	95	100		
	Higher Diploma & above	7	34	41	**5.444**	**0.020***
Marital status	Married	7	88	95		
	Not married	5	41	46	0.488	0.485
Religious faith	Christians	10	121	131		
	Other	2	8	10	1.825	0.177
Duration served as a nurse	1 - 10 years	3	74	77		
	Over 10 years	9	55	64	**4.639**	**0.031***

* Statistically significant at 0.05 significance level

4.8 Association of the nurses' working conditions and implementation of primary health care services

The study sought to establish whether the respondents' implementation of primary health care services was influenced by their working conditions.

For this, the respondents were requested to rate the nature of working conditions at their workplace. From the findings, most (82.3%, n = 116) of the respondents rated the nature of working conditions in their work place as poor, as is shown in Figure 4.2.

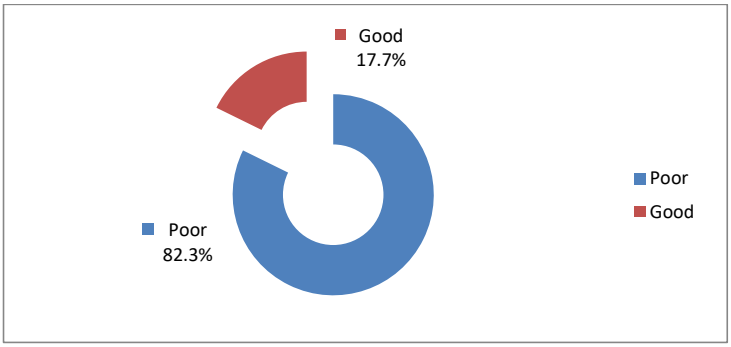


Figure 4.2: Respondents' rating of their working conditions

Further, a statistically significant association was established between the nurses' working conditions and their implementation of primary health care services as denoted by a chi-square p value of 0.000 as depicted in Table 4.8. As such, we failed to accept the null hypothesis that nurses' implementation of primary health care services was not influenced by their working conditions and accepted the alternate hypothesis that nurses' implementation of primary health care services was influenced by their working conditions.

Table 4.~~9~~8: Association of nurses' working conditions with their implementation of primary health care services

		PHC services implementation level			Chi-square	
		Optimal (n = 12)	**Sub-optimal (n = 129)**	**Total**	**Statistic (X^2)**	**Sig. (p)**
Nature of working conditions	Poor	5	111	116		
	Good	7	18	25	**14.824**	**0.000***

* Statistically significant at 0.05 significance level

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Outlined herein are the study findings discussion, conclusions and recommendations of the study in line with the study objectives. The study evaluated the implementation of PHC services among nurses working in Kiambu County's level 3 health facilities.

5.2 Discussion of findings

5.2.1 Demographic characteristics of the respondents

In this study, the respondents were male and female nurses who worked in level 3 health facilities in Kiambu County. Most were aged 30 years and above and had a Diploma or higher as their highest education level. In addition, they were mostly married, were Christians and had served as a nurse for over 10 years. Similarly, in Chinawa (2015) and Sacks et al. (2020) studies conducted in Nigeria and Chile respectively, participants were male and female nurses with a sound education background. They were also largely married, Christians and had served as nurses for a considerable duration. Similarly, in a Kenyan study performed by Otieno et al. (2020), the respondents were nurses who were largely married, aged 30 years and above, with Diploma or higher education level and had worked as nurses for a considerable period. Similar demographics for study participants as reported in the current study were also evident in studies by Kluge et al. (2018) and Ngxongo and Sibiya (2013) in South Africa. In contrast, though, majority of the nurses who participated in studies by Ahmed and Husein (2020) in Somalia's Mogadishu and Gabrani et al. (2020) in Albania were Muslims.

In this study, a statistically significant association was established between the nurses' implementation of PHC services and their education level as well as with the duration they served as nurses. This implied that the nurses' education level and work experience as denoted by duration served as a nurse were major influencers of the nurses'

implementation of PHC services. This study's findings suggest that implementation of PHC services in local health facilities could be enhanced through nurses' longer work experience and nurses' improved education status. Similar views were shared by Onokerhoraye (2016) who in a study carried out in Nigeria averred that implementation of PHC services could be enhanced through enhancing the health care workers' education level. Bitton et al. (2017) also identified work experience and competence level as instrumental factors that could strengthen the roll out of PHC services in emerging economies. Low education levels and inadequate work experience were also highlighted as being major barriers to effectual implementation of PHC services in Turkey.

5.2.2 Level of implementation of PHC services in level 3 health facilities

From the findings, majority of the nurses rated the level of implementation of PHC services in the level 3 health facilities in Kiambu County as being sub-optimal. This signified the nurses' view that the primary health care services were not being implemented optimally which in this study was characterized by PHC services not being offered in a timely and efficient manner. This is pretty concerning given that PHC services encompass basic essential health care services that are integral to reducing disease burden at the community level. The findings implied that a significant proportion of patients in Kiambu County were not benefitting from the primary health care services as much as they should. This possibly also means that part of the community disease burden which could be alleviated through effective implementation of the PHC services was not being addressed putting patients' health, their lives and the wellbeing of their families in jeopardy. Similar observations were made in a study by Ramani et al. (2019) in which implementation of primary health care services in surveyed PHC centres in India was found to be sub-optimal and which was attributed to poor primary health care infrastructure, lack of essential medical equipments and supplies and staffing deficiencies. Likewise, a study conducted by Simen-Kapeu et al. (2021) did also establish that the level of implementation of primary health care services in much of Central and West African communities was below the desired level. The

study attributed the sub-optimal implementation of the PHC services in the two regions to significant underfunding and understaffing of local community-based PHC centres. Similar sentiments were shared in studies by Chinawa (2015) in Nigeria and Otieno et al. (2020) in Kenya's urban slums which also reported a less than desirable level of implementation of primary health care services in their respective study settings to which considerable under-funding and understaffing of PHC level healthcare institutions coupled with their ill equipment were notable contributors to the reported sub-optimal implementation of the PHC services.

5.2.3 Respondents' attitude towards the implementation of primary health care services

This study established that all of the nurses unanimously agreed that delivery of PHC services was critical to attainment of quality healthcare services for all in the country. Further, a significant proportion of the nurses did also concur with the view that PHC services constituted an essential foundation for a sustainable health system and health programs in the country. This showed that nurses working in level 3 health facilities in Kiambu County did acknowledge the significance and centrality of primary health services in delivery of quality health care services to community members as well as in creating viable health systems and programs in the country. This agreed with Bitton et al. (2017) who espoused that PHC services constituted a critical tool for enhancing countries' overall health systems. Similarly, Adhikari et al. (2022) in a review performed in Nepal also asserted that implementation of PHC services was a necessary prerequisite if countries are to build sustainable health systems and programs while Lin et al. (2020) in a study conducted in China agreed by noting that lack of operational primary health services significantly weakens a country's overall health systems. Hone et al. (2018), in a global study, added that PHC services are integral in achieving the SDGs and universal health coverage and therefore constitute an important pillar to any country's health systems.

From the findings, nurses working in level 3 health facilities in Kiambu County had a positive attitude towards the implementation of PHC services. This is given that majority of the nurses did agree that implementation of primary healthcare services leads to reduction of the global burden of health-related morbidity and mortality; implementation of free basic healthcare services supports greater equitable distribution of healthcare services and that implementation of primary healthcare services promotes delivery of care that is affordable, efficient and of right standard to people and communities. The nurses also agreed with the views that implementation of primary healthcare offers early detection tools to identify and contain outbreaks in illnesses before they turn to epidemics; implementation of PHC services provides an opportunity for empowerment of individual persons, households and societies at large to actively partake in decisions regarding their wellbeing; implementation of PHC services contributes to enhancement of health through access to more appropriate services and that implementation of PHC services promotes better population health outcomes at lower cost. Similarly, in a study done in United States by Starfield et al. (2015), participating health care practitioners did agree that PHC services positively enhanced local health systems by making health services more accessible, responsive and affordable to local communities. In studies by Otieno et al. (2020) and Sacks et al. (2020) done in Kenya and multiple global contexts respectively, surveyed nurses were also in support of delivery of primary health services noting that the services helped alleviate unnecessary and preventable maternal and neonatal mortalities while also making basic health services readily available to local communities at relatively low costs. Likewise, in a global study carried out by Kluge et al. (2018) alongside that by Assefa et al. (2020) in Ethiopia and Onokerhoraye (2016) in Nigeria, nurses expressed support for the implementation of free PHC services noting that primary health services offered a viable mechanism for the realization of universal health care.

In addition, majority of the nurses also agreed with the views that implementation of PHC services contributes to health enhancement in the entire continuum of life, from birth to old age; implementation of PHC services leads to reduction of avoidable hospital admissions and readmissions and that PHC service implementation gives

people, households and societies at large the power to improve their health and serve as proponents of laws that advance and safeguard health and wellness. The nurses also concurred with the views that to ensure proper care for the aged and to improve mothers, newborns, babies and adolescents' health, PHC services need be implemented and that implementation of PHC services is essential to contain leading transmittable illnesses such as malaria, TB and HIV and less focused on tropical conditions and treatable conditions of ears, teeth and eyes. Lastly, the nurses were also in agreement with the views that implementation of PHC services is essential to address the prevailing health burden of non-contagious illnesses including conditions such as heart, renal, respiratory, diabetic and tumors; implementation of PHC services is also instrumental in dealing with the growing burden of psychological health conditions and that PHC implementation offers the best pathway for realizing the 'Health for All' goals. Similar observations on nurses' positive perception of primary health services were also reported by Adhikari et al. (2022) in Nepal and Otieno et al. (2020) in Kenya who noted that nurses' favourable attitude towards implementation of PHC was of significant value to the successful delivery of these services given that in most settings they were the primary implementors of PHC services. In Nepal, Peoples et al. (2021) also concluded that nurses' attitude towards implementation of primary health services was a significant predictor for successful delivery of these services within local healthcare facilities. On their part, Alenoghena et al. (2014) in Nigeria, Sambo (2019) in select African countries and Lin et al. (2020) in China all agreed that health care providers' attitude towards implementation of primary health services was an important prerequisite to achieving effectual optimal delivery of these crucial health services within communities.

5.2.4 Factors that influenced implementation of primary health care services

From the findings, the nurses identified inadequate number of available healthcare personnel as one of the leading factors that influenced their implementation of PHC services within level 3 health facilities in Kiambu County. It was also established that there existed a statistically significant association between the nurses' implementation

of PHC services and the inadequate number of available healthcare personnel as denoted by a chi-square p value of 0.002 signifying that inadequate number of available healthcare personnel was an impediment to the effective implementation of PHC services among nurses working in level 3 health facilities in Kiambu County. Similarly, Chinawa (2015) and Ahmad et al. (2019) did also identify nursing staff shortages as being a leading factor that impeded effective delivery of primary health services in Nigeria. Insufficient number of health care providers was also found to a leading barrier to effective implementation of PHC services in studies by Barkley et al. (2020) and Simen-Kapeu et al. (2021).

Another major factor identified by the nurses as influencing their implementation of PHC services within level 3 health facilities in Kiambu County was poor or low remuneration of health care providers. Further, a statistically significant association was established between the nurses' implementation of PHC services and poor or low remuneration of health care providers as denoted by a chi-square p value of < 0.000. This implied that effective implementation of PHC services by nurses working in level 3 health facilities in Kiambu County was being impeded by their low pay. Similar observations were made by Ahmed and Husein (2020) who attributed the poor delivery of primary health services in Somalia to lack of motivation among health care workers due to low remuneration. Likewise, low pay to health care providers was found to impede effective implementation of primary health-services in Ethiopia as reported by Assefa et al. (2020). Studies by Sambo (2019) and Otieno et al. (2020) also cited health care personnel's poor pay as a leading factor that hindered effective implementation of PHC.

From the findings, majority of the nurses were in agreement that their implementation of PHC services within level 3 health facilities in Kiambu County was influenced by poor supply of essential medicine/drugs. Indeed, the association between the nurses' implementation of PHC services and poor supply of essential medicine/drugs was found to be statistically significant as denoted by a chi-square p value of 0.011. This signified that poor supply of essential medicine/drugs was an important impediment to the

effective implementation of PHC services among nurses working in level 3 health facilities in Kiambu County. The findings agreed with those of Van Weel and Kidd (2018) who argued that inadequate supplies of essential medication/drugs had adverse effects on effective delivery of PHC programs. Likewise, Sumer et al. (2019) also pointed out that inadequate facilitation of local public health facilities with essential drugs was a leading hurdle to effective PHC execution in these contexts.

From the findings, there was consensus among majority of the nurses that unavailability of essential medical equipment and non-functional status of existing medical equipment were leading variables that influenced their implementation of primary health care services within level 3 health facilities in Kiambu County. Further, the association between the nurses' implementation of primary health care services and unavailability of essential medical equipment as well as non-functional status of existing medical equipment was found to be consequential as denoted by chi-square p values of 0.000 and 0.007, respectively. This signified that the nurses' effective implementation of primary health care services within level 3 health facilities in Kiambu County was impaired by both the unavailability of essential medical equipment and non-functional status of existing medical equipment. Similar views were expressed by WHO (2018) which noted that lack of or non-operational state of essential medical equipment remained a major barrier to realization of high quality PHC services particularly in low resource countries. Peoples et al. (2021) were of similar views that inadequate facilitation of local public health facilities with essential medical equipment did indeed hamper effective delivery of primary health services, sentiments also echoed by Sumer et al. (2019).

From the findings, the nurses also identified poor planning of the PHC programs as another leading factor that influenced their implementation of primary health care services within level 3 health facilities in Kiambu County. It was also established that there existed a statistically significant association between the nurses' implementation of primary health care services and poor planning of the PHC programs as denoted by a chi-square p value of 0.024. This implied that the nurses' implementation of primary

health care services within level 3 health facilities in Kiambu County was unfavourably influenced by poor planning of the PHC programs. Similarly, Sacks et al. (2020) identified poor planning of the PHC programs as a leading contributor to the program' poor implementation in numerous African settings. Behera and Prasad (2021) also asserted that the likelihood of success in implementation of primary health care services by healthcare workers is enhanced by adequate planning of the PHC programs prior to their roll out. Adhikari et al. (2022) also underscored the significance of proper planning of PHC programs to effective implementation of primary health services.

According to the findings, majority of the nurses unanimously agreed that their implementation of primary health care services within level 3 health facilities in Kiambu County was also influenced by Lack of or inadequate support to HCPs from the hospital management. Indeed, the association between the nurses' implementation of primary health care services and lack of or inadequate support to HCPs from the hospital management was established to be statistically consequential as denoted by a chi-square p value of 0.013. This denoted that implementation of primary health care services among nurses working in level 3 health facilities in Kiambu County was unfavourably influenced by lack of or inadequate support to HCPs from the hospital management. The findings were in agreement with those of Simen-Kapeu et al. (2021) who identified lack of management support for nurses work as being a leading factor that adversely affected health care workers' delivery of primary health services in central and western areas of Africa. Myloneros and Sakellariou (2021) added that hospital's management plays a key leadership and facilitation role and their support is instrumental in ensuring effective delivery of PHC services by the healthcare workers. In their review, Alenoghena et al. (2014) also observed that better PHC implementation scores were seen in health units where nurses had full support of their superiors.

From the findings, there was unanimity among the surveyed nurses that their implementation of primary health care services within level 3 health facilities in Kiambu County was influenced by significant underfunding of the primary health services. Further, the association between the nurses' implementation of primary health

care services and significant underfunding of the primary health services was fund to be statistically significant as denoted by a chi-square p value of 0.001. This signified that Significant underfunding of the primary health services was a major impediment to the effective implementation of primary health care services among nurses working in level 3 health facilities in Kiambu County. Ahmad et al. (2019) did also report that the effective implementation of primary health services in Nigeria was adversely impacted by severe underfunding of PHC services within community-based health centres. Barkley et al. (2020) also averred that adequate funding of PHC was essential for successful implementation of PHC programs and services. Ramani et al. (2019) and Adhikari et al. (2022) also implicated inadequate funding as one of the main reasons behind poor implementation of primary health services in India and Nepal, respectively.

Lastly, the nurses also identified lack of or poor information systems as another leading factor that influenced their implementation of primary health care services within level 3 health facilities in Kiambu County. Lack of or poor information systems were likely to compromise communications, coordination and proper documentation of PHC delivery activities. Indeed, the association between the nurses' implementation of primary health care services and lack of or poor information systems was found to be statistically significant as denoted by a chi-square p value of 0.030. This signified that lack of or poor information systems was an impediment to the effective implementation of primary health care services among nurses working in level 3 health facilities in Kiambu County. The findings agreed with those of Kluge et al. (2018) who identified a robust information system as being a critical component for effective delivery of PHC programs and activities. Likewise, Pandey (2018) argued that decisions on implementation of PHC programs should be informed by the health needs of the communities being served and thus it is imperative that health facilities should have a sound information system in place.

5.2.5 Perceived areas of improvement by nurses in the implementation of primary health care services

From the findings, the perceived areas of improvement in the implementation of primary health care services within level 3 health facilities in Kiambu County as reported by the surveyed nurses included *quality of services offered* in terms of making the primary health services to be more accessible, consistent, equitable, responsive, efficient, timely, safe, personalized and well-coordinated; *funding of primary health services* that is making the primary health services affordable to community members; *ensuring adequacy/sufficiency of health care personnel working in PHC settings* that is ensuring that health facilities offering primary health services are adequately staffed; *ensuring adequate supply of essential medicines/drugs* that is ensuring that primary health care facilities are, at all times, adequately stocked with essential medication; *ensuring adequate supply of essential medical equipment* that is ensuring that primary health care facilities are, at all times, adequately stocked with essential medical equipment or tools of work; *regular repairs of existing essential medical equipment* that is ensuring that essential medical equipment in primary health care facilities are maintained in good functional status at all times; *timeliness in delivery of health services* that is ensuring that primary health care services are offered to patients when needed without unnecessary delays; *nurse-patient interactions/relations* that is ensuring that nurse-patient interactions are regular, clear, meaningful, respectful, compassionate and forthright and *regular audit of PHC services delivery* that is ensuring that delivery of primary health services is monitored on a regular basis to allow timely identification of any challenges for timely action to remedy or address the challenges as well as to identify opportunities for strengthening the quality of the primary health services. This showed that the perceived areas of improvement in the implementation of primary health care services within level 3 health facilities in Kiambu County were diverse and touched on key domains of primary health care delivery including quality and funding of PHC, ensuring sufficient supply of essential medical equipment and drugs, regular monitoring of PHC delivery and on nurse-patient interactions.

This concurred with Espinosa-González and Normand (2019) in Turkey and Assefa et al. (2020) in Ethiopia who in a review of delivery of PHC services identified the quality of primary health services offered as an area of concern which required urgent action. On their part, Behera and Prasad (2021) espoused that primary health care services required to be adequately funded if they are to be effectively implemented; a view also shared by Ramani et al. (2019) who argued that effective delivery of primary health services in India was being hampered by inadequate funding of the PHC programs. According to Ahmad et al. (2019), to ensure that primary health care programs and interventions realize their intended goals of bringing health care services closer to those who need them, the challenge of underfunding of PHC services in local public health facilities required to be addressed. Studies by Bitton et al. (2017), Chinawa (2015) and Sacks et al. (2020) also highlighted the need for greater focus on ensuring adequate supply of essential medical equipment and drugs as well as recruitment of adequate number of health care personnel as major prerequisites for improving the implementation of primary health services. On their part, Sumer et al. (2019) and (WHO, 2024) identified timely delivery of primary health services and adequate planning of all PHC programs as areas in need of greater focus and action while Gabrani et al. (2020), Peoples et al. (2021) and (Onokerhoraye, 2016) all highlighted the domain of nurse-patient relations with a view of making them more robust, positive and enriching to both parties as an area requiring greater emphasis.

5.3 Study Summary

This study was performed among nurses working in level 3 health facilities in Kiambu County and sought to assess their views regarding implementation of primary health care services within the said facilities in Kiambu County. The study adopted an analytical cross-sectional approach with participants selected using simple random sampling method and study data analyzed using various descriptive and inferential statistics. The level of implementation of primary health care services within the level 3 health facilities in Kiambu County was rated to be sub-optimal by majority of the nurses. In addition, the nurses were found to have positive attitude towards

implementation of free primary health service acknowledging that primary health services were an essential foundation for sustainable health system and programs and for realization of quality healthcare services for all in the country. Implementation of primary health care services in level 3 health facilities in Kiambu County was however negatively impacted by a wide range of factors including inadequate number of available healthcare personnel; poor or low remuneration of health care providers; poor supply of essential medicine/drugs; unavailability of essential medical equipment; non-functional status of existing medical equipment; poor planning of the PHC programs; lack of or inadequate support to HCPS from the hospital management; significant underfunding of the primary health services and lack of or poor information systems, all of which required to be addressed.

5.4 Conclusions

The conclusions drawn were as follows:

1. Nurses working in level 3 health facilities in Kiambu County had positive attitude towards the implementation of PHC services. The nurses did also acknowledge the significance and centrality of PHC services in delivery of quality health care services to community members and in creating viable health systems and programs in the country.
2. The leading factors that hindered implementation of PHC services among nurses working in level 3 health facilities in Kiambu County included inadequate number of available healthcare personnel; poor or low remuneration of HCPs; poor supply of essential medicine/drugs; unavailability of essential medical equipment; non-functional status of existing medical equipment; poor planning of the PHC programs; lack of or inadequate support to HCPs from the hospital management; significant underfunding of these services and lack of or poor information systems.
3. The perceived areas of improvement in the implementation of PHC services within level 3 health facilities in Kiambu County as identified by the nurses

included quality of services offered; enhancing funding of PHC services; ensuring adequacy/sufficiency of health care personnel working in PHC settings; ensuring adequate supply of essential medicines/drugs; ensuring adequate supply of essential medical equipment; regular repairs of existing essential medical equipment; timeliness in delivery of health services; enhancing nurse-patient interactions/relations and regular audit of PHC services delivery.

5.5 Recommendations

5.5.1 Recommendations from the study

To keep nurses fully motivated for effective implementation of PHC services in Kiambu County, efforts are required to ensure that the nurses working in the county's level 3 health facilities are adequately supported in their work.

To achieve effective implementation of PHC services in Kiambu County deliberate efforts are needed to ensure that its level 3 health facilities are equipped with adequate supplies of necessary medical equipment, drugs and sufficient numbers of HCPs.

Efforts are also required on the part of the administrators of health services in Kiambu County to address the various areas of PHC services delivery noted as requiring improvement.

5.5.2 Recommendations for further research

Other suggested research areas that could be looked into include;

1. Patients' assessment of the quality of PHC services within level 3 health facilities in Kiambu County.
2. The role of PHC services in addressing the burden of lifestyle related diseases in the county.

3. The role of different stakeholders (such as policy makers, health system managers, health care workers, learning institutions and the community at large) in supporting the successful implementation of PHC services.

REFERENCES

Adhikari, B., Mishra, S. R., & Schwarz, R. (2022). Transforming Nepal's primary health care delivery system in global health era: addressing historical and current implementation challenges. *Globalization and Health*, *18*(1), 1-12.

Ahmad, A. H., Koya, M. M., Said, A. S., & Adam, R. A. (2019). Factors influencing the utilization of public primary health care facilities in Kumbotso Local Government Area of Kano State, Nigeria. *International Journal of Development and Management Review*, *14*(1), 54-65.

Ahmed, A. Y., & Husein, A. M. (2020). Utilization of Primary Health Care and Its Associated Factors among Women of Childbearing Age Living in Mogadishu-Somalia. *Health*, *12*(12), 1640-1647.

Alenoghena, I., Aigbiremolen, A. O., Abejegah, C., & Eboreime, E. (2014). Primary Health Care in Nigeria: Strategies and constraints in implementation. *International Journal of Community Research*, *3*(3), 74-79.

Assefa, Y., Hill, P. S., Gilks, C. F., Admassu, M., Tesfaye, D., & Van Damme, W. (2020). Primary health care contributions to universal health coverage, Ethiopia. *Bulletin of the World Health Organization*, *98*(12), 894.

Bandura, A. (1994). *Self-efficacy*. John Wiley & Sons, Inc.

Barkley, S., Marten, R., Reynolds, T., Kelley, E., Dalil, S., Swaminathan, S., & Ghaffar, A. (2020). Primary health care: realizing the vision. *Bulletin of the World Health Organization*, *98*(11), 727.

Behera, B., & Prasad, R. (2021). Primary health-care goal and principles. *Healthcare Strategies and Planning for Social Inclusion and Development*, 221-239.

Bitton, A., Ratcliffe, H. L., Veillard, J. H., Kress, D. H., Barkley, S., Kimball, M., ... & Hirschhorn, L. R. (2017). Primary health care as a foundation for strengthening health systems in low-and middle-income countries. *Journal of general internal medicine*, *32*(5), 566-571.

Chinawa, J. M. (2015). Factors militating against effective implementation of primary health care (PHC) system in Nigeria. *Annals of Tropical Medicine & Public Health*, *8*(1), 5-9.

Espinosa-González, A. B., & Normand, C. (2019). Challenges in the implementation of primary health care reforms: a qualitative analysis of stakeholders' views in Turkey. *BMJ open*, *9*(7), e027492.

Gabrani, J., Schindler, C., & Wyss, K. (2020). Factors associated with the utilisation of primary care services: a cross-sectional study in public and private facilities in Albania. *BMJ open*, *10*(12), e040398.

Hone, T., Macinko, J., & Millett, C. (2018). Revisiting Alma-Ata: what is the role of primary health care in achieving the Sustainable Development Goals?. *The Lancet*, *392*(10156), 1461-1472.

Jamison, D. T., Alwan, A., Mock, C. N., Nugent, R., Watkins, D., Adeyi, O., ... & Zhao, K. (2018). Universal health coverage and intersectoral action for health: key messages from Disease Control Priorities. *The Lancet*, *391*(10125), 1108-1120.

Kluge, H., Kelley, E., Barkley, S., Theodorakis, P. N., Yamamoto, N., Tsoy, A., ... & Mossialos, E. (2018). How primary health care can make universal health coverage a reality, ensure healthy lives, and promote wellbeing for all. *The Lancet*, *392*(10156), 1372-1374.

Kenya National Bureau of Statistics (2023). *2022 Kenya Demographic and Health Survey*. Government Press.

Lin, Y., Chu, C., Chen, Q., Xiao, J., & Wan, C. (2020). Factors influencing utilization of primary health care by elderly internal migrants in China: the role of social contacts. *BMC Public Health*, *20*(1), 1-10.

McEwan, M., & Wills, E. M. (2021). *Theoretical basis for nursing*. Lippincott Williams & Wilkins.

Ministry of Health (2023). *Health care services utilization in Kenya - The primary health care*. Government Press.

Myloneros, T., & Sakellariou, D. (2021). The effectiveness of primary health care reforms in Greece towards achieving universal health coverage: a scoping review. *BMC health services research*, *21*(1), 1-12.

Ngxongo, T. S., & Sibiya, M. N. (2013). Factors influencing successful implementation of the basic antenatal care approach in primary health care facilities in eThekwini district, KwaZulu-Natal. *Curationis*, *36*(1), 1-7.

Onokerhoraye, A. G. (2016). Achieving universal access to health care in Africa: The role of primary health care. *African Journal of Reproductive Health*, *20*(3), 29-31.

Otieno, P. O., Wambiya, E. O., Mohamed, S. M., Mutua, M. K., Kibe, P. M., Mwangi, B., & Donfouet, H. P. P. (2020). Access to primary healthcare services and associated factors in urban slums in Nairobi-Kenya. *BMC Public Health*, *20*(1), 1-9.

Pandey, K. R. (2018). From health for all to universal health coverage: Alma Ata is still relevant. *Globalization and health*, *14*(1), 1-5.

Peoples, N., Gong, E., Gautam, K., Khanal, S. N., Kohrt, B. A., Koirala, S., ... & Yan, L. L. (2021). Perception and Use of Primary Healthcare Services Among People With Cardiometabolic Diseases in Two Resource-Limited Areas in Nepal: A Mixed Methods Study. *Frontiers in public health*, *9*.

Ramani, S., Sivakami, M., & Gilson, L. (2019). How context affects implementation of the Primary Health Care approach: an analysis of what happened to primary health centres in India. *BMJ global health*, *3*(Suppl 3), e001381.

Sacks, E., Schleiff, M., Were, M., Chowdhury, A. M., & Perry, H. B. (2020). Communities, universal health coverage and primary health care. *Bulletin of the World Health Organization*, *98*(11), 773.

Sambo, L. G. (2019). Health systems and primary health care in the African region. *African Health Monitor*, *14*(2), 2-3.

Schunk, D. H., & DiBenedetto, M. K. (2021). Self-efficacy and human motivation. In *Advances in motivation science* (Vol. 8, pp. 153-179). Elsevier.

Simen-Kapeu, A., Reserva, M. E., & Ekpini, R. E. (2021). Galvanizing action on primary health care: analyzing bottlenecks and strategies to strengthen community health systems in West and Central Africa. *Global Health: Science and Practice*, *9*(Supplement 1), S47-S64.

Simou, E., Karamagioli, E., & Roumeliotou, A. (2015). Reinventing primary health care in the Greece of austerity: the role of health-care workers. *Primary Health Care Research & Development*, *16*(1), 5-13.

Smith, M. C. (2019). *Nursing theories and nursing practice*. FA Davis.

Sumer, S., Shear, J., & Yener, A. L. (2019). *Building an improved primary health care system in Turkey through care integration*. Washington DC: World Bank Reports

Starfield, B., Shi, L., & Macinko, J. (2015). Contribution of primary care to health systems and health. *The milbank quarterly*, *83*(3), 457-502.

Talbot, L., & Verrinder, G. (2017). *Promoting health: the primary health care approach*. Elsevier Health Sciences.

Van Weel, C., & Kidd, M. R. (2018). Why strengthening primary health care is essential to achieving universal health coverage. *CMAJ*, *190*(15), E463-E466.

Walraven, G. (2019). The 2018 Astana declaration on primary health care, is it useful?. *Journal of global health*, *9*(1), 010313.

WHO (2017). *Primary health care systems (PRIMASYS): case study from Kenya, abridged version*. Geneva: World Health Organization

WHO (2018). *Primary Health Care Programme in the WHO African Region from Alma-Ata to Ouagadougou and beyond*. WHO/AFRO Report

World Health Organization. (2019). *Report of the Global conference on primary health care: from Alma-Ata towards universal health coverage and the Sustainable Development Goals* (No. WHO/UHC/IHS/2019.62). World Health Organization.

World Health Organization (2024). *Primary health care*. Geneva: WHO Reports.

APPENDICES

Appendix 1: Informed consent form

Introduction

I'm Eunice Gitahi, a Masters student from the School of Nursing Sciences at Kenyatta University. I'm performing a research investigation entitled "Implementation of primary health care services among nurses working in level 3 health facilities in Kiambu County, Kenya".

Purpose of the study

This empirical investigation explores nurses' attitude towards the implementation of primary health care services, to establish factors affecting the implementation of primary health care services among nurses working in the health facilities and to identify perceived areas of improvement by nurses in implementing the free basic health-services within the health facilities.

Procedures to be followed

Participating in this research will need you to offer responses to queries contained in the study's questionnaire. Therefore, you will be provided with the study tool and will be required to respond to the questions as contained in the study questionnaire. However, your informed consent is needed before you can participate in this-study.

Voluntarism

You are at liberty declining taking part in the research. Kindly note that your taking part in this study is on your own free will. You're always free and welcome to make any enquiries regarding this research. Kindly note that you may decline answering any queries and can stop this data gathering process any time. You can leave the survey at any moment without it having any impact on the services you currently provide or will provide in the future for this healthcare facility.

Discomforts and Risks

There is no any intended health risk or any other harm to you for being part of the study. However, in the event that you suffer emotional or psychological distress for participating in this study, a counselor is at hand to offer you appropriate help.

Benefits

You will provide crucial information that may be used to improve on the current policies, strategies and interventions for better implementation of primary health care services in level 3 health facilities in Kiambu County. This may in turn lead to better health outcomes among individuals, their families and the community at large via comprehensive, integrated and people-centred care.

Reward

You will not be offered any pay or financial incentive for participating in the survey.

Confidentiality

The evaluations and interviews will be undertaken at a quiet place within hospital. The questionnaire won't include any personal details that may directly be linked to you. The questionnaires will be assigned codes. To ensure their security, the questionnaires shall be securely stored in a lockable cabinet. Only the study team can obtain the information, which will be held in private.

Contact Information

In case of any inquires relating to this empirical investigation, feel free to talk to the Principal Investigator Eunice Gitahi on 0727 775 895 or the supervisors Dr. Priscilla Kabue on 0722 466 297 or Mrs. Elizabeth Ambani on 0729 496 970.

However, any concerns and/or queries touching on respondents' rights within this research should be directed to Ethics Review Committee Secretariat of Kenyatta University on chairman.kuerc@ku.ac.ke,

Participant's statement

I fully comprehend all details mentioned pertaining to my taking part in-this empirical investigation. An elaboration on the study has been offered to me and the opportunity to seek any clarifications, which were adequately addressed. Taking part in this empirical investigation is my own decision. I'm aware that the information I will offer will-be held in private and that I've the right to withdraw if I so wish. I am aware that regardless of whether I choose to withdraw from the study, I will continue to receive the same level of care and medical attention, and that my choice will have no bearing on the level of care offered to me in this clinic now or from any other clinic in the future.

Participant's name: _____

_____ _____

Sign or put a thumb print Date

Investigator's statement

I, herein signed, declare that I've clarified to the respondent all the courses of action that will be adhered to in the research and the benefits and risks pertained in a language they can understand.

_____Eunice Gitahi__ _____

Interviewer's name

_____ _____

Signature Date

Appendix 2: Questionnaire

Study title: Implementation of primary health care services among nurses working in level 3 health facilities in Kiambu County, Kenya

Code ……. **Date** ……..

Instructions;

- Don't include personal information such as your name in the tool.
- Respond to every question via appending a tick (√) in-the preferred box.
- Information obtained will be handled and processed in strict secrecy.

Section A: Respondents' demographic characteristics

1. What's your gender? Male ( ) Female ( )

2. What's your age (in completed years)? ….give range……

Below 30 years	( )	30-39 years	( )
40-49 years	( )	50 years and above	( )

3. What's your highest education level?

Certificate	( )	Diploma	( )
Higher Diploma	( )	Bachelors	( )
Masters	( )		

4. What's your marital status?

Single	( )	Married	( )	Separated	( )
Divorced	( )	Widowed	( )		

5. To which religious faith do you belong?

Christianity ( ) Islam ( ) Traditionalist ( ) Others (specify) ……..……

6. For how long have you served as a nurse? …….

Section B: Attitude towards the implementation of primary health care services

7. In your view, do you perceive delivery of primary health care services as being critical to attainment of quality healthcare services for all in the country?

Yes ( ) No ( )

8. Would you agree that primary health care services are an essential foundation for a sustainable health system and health programs in the country?

Yes ( ) No ( )

9. Indicate whether you agree with the following assertions regarding the value of primary health care services?

Assertions regarding primary health care services	**Do you agree?**	
	Yes	**No**
Implementation of PHC services leads to reduction of the global burden of health-related morbidity and mortality		
Implementation of free basic healthcare services supports greater equitable distribution of healthcare services		
Implementation of PHC services promotes delivery of care that is affordable, efficient and of right standard to people and communities		
Implementation of PHC offers early detection tools to identify and contain outbreaks in illnesses before they turn to epidemics.		
Implementation of PHC services provides an opportunity for empowerment of individual persons, households and societies		

at large to actively partake in decisions regarding their wellbeing		
Implementation of PHC services contributes to enhancement of health through access to more appropriate services		
Implementation of PHC services contributes to health enhancement in the entire continuum of life, from birth to old age		
Implementation of PHC services leads to reduction of avoidable hospital admissions and readmissions		
Implementation of PHC services promotes better population health outcomes at lower cost		
PHC service implementation gives people, households and societies at large the power to improve their health and serve as proponents of laws that advance and safeguard health and wellness		
To ensure proper care for the aged and to improve mothers, newborns, babies and adolescents' health, primary health care services need be implemented		
Implementation of PHC services is essential to contain leading transmittable illnesses such as malaria, TB and HIV and less focused on tropical conditions and treatable conditions of ears, teeth and eyes		
Implementation of PHC services is essential to address the prevailing health burden of non-contagious illnesses including conditions such as heart, renal, respiratory, diabetic and tumors		
Implementation of PHC services is also instrumental in dealing with the growing burden of psychological health conditions		
PHC implementation offers the best pathway for realizing the 'Health for All' goals		

Section C: Factors affecting the implementation of primary health care services

10. In your own view, is implementing of basic health-services affected by the following noted factors in the hospital in which you work?

a) Few number of healthcare personnel available

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……...……

b) Poor or low remuneration of health care providers

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……...……

c) Poor supply of essential medicine/drugs

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……...……

d) Unavailability of essential medical equipment

Yes ( ) No ( )

Kindly elaborate your answer?

……..…….
……..……

e) Non-functional status of existing medical equipment

Yes ( ) No ( )

Kindly elaborate your answer?

……..…….
……..……

f) Poor planning of the PHC programs

Yes ( ) No ( )

Kindly elaborate your answer?

……..…….
……..……

g) Lack of or inadequate support to HCPs from the hospital management

Yes ( ) No ( )

Kindly elaborate your answer?

……..…….
……..……

h) Significant underfunding of the primary health services

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

i) Lack of or poor information systems

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

11. Describe other factors that impede effective delivery of primary health care services within the hospital that you work in?

……
……
……

Section D: Perceived areas of improvement in the implementation of primary health care services

12. Kindly indicate whether the following constitute perceived areas where improvements are required in the implementation of primary health care services within the health facility you work in.

a) Quality of services offered

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

b) Funding of primary health services

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

c) Ensuring adequacy/sufficiency of health care personnel working in PHC settings

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

d) Ensuring adequate supply of essential medicines/drugs

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

e) Ensuring adequate supply of essential medical equipment

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

f) Regular repairs of existing essential medical equipment

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

g) Timeliness in delivery of health services

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

h) Nurse-patient interactions/relations

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

h) Regular audit of PHC services delivery

Yes ( ) No ( )

Kindly elaborate your answer?

……..……
……..……

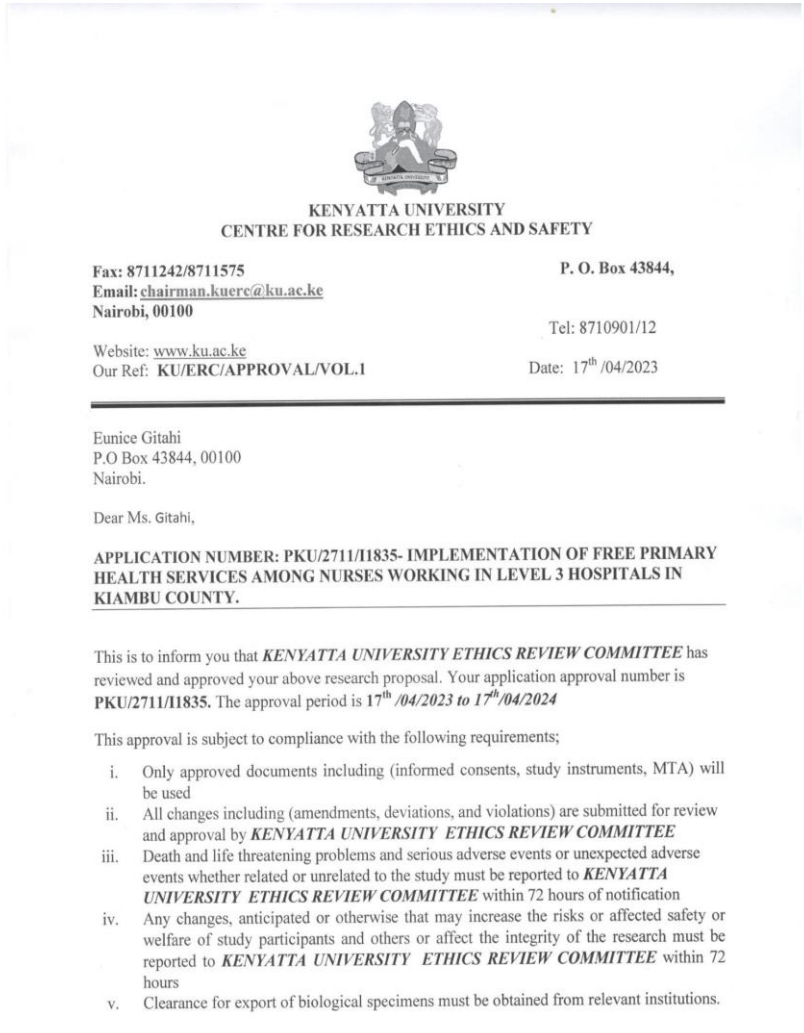
13. What other areas can be improved on in the implementation of primary health care services within the hospital you work in do you perceive?

……
……
……

End

Thank you

Appendix 3: Approval letter from Kenyatta University's ERC



KENYATTA UNIVERSITY
CENTRE FOR RESEARCH ETHICS AND SAFETY

Fax: 8711242/8711575
Email: chairman.kuerc@ku.ac.ke
Nairobi, 00100

P. O. Box 43844,

Tel: 8710901/12

Website: www.ku.ac.ke
Our Ref: **KU/ERC/APPROVAL/VOL.1**

Date: 17th /04/2023

Eunice Gitahi
P.O Box 43844, 00100
Nairobi.

Dear Ms. Gitahi,

APPLICATION NUMBER: PKU/2711/I1835- IMPLEMENTATION OF FREE PRIMARY HEALTH SERVICES AMONG NURSES WORKING IN LEVEL 3 HOSPITALS IN KIAMBU COUNTY.

This is to inform you that ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** has reviewed and approved your above research proposal. Your application approval number is **PKU/2711/I1835.** The approval period is **17th *04/2023 to 17th/04/2024***

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 ***KENYATTA UNIVERSITY ETHICS 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 ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** 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 ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** 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 ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE***

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

To serve you better, researchers are kindly requested to access and complete a customer feedback form and sent it back online as you continue with research and upon completion of data collection found on the following website link; ;(https://docs.google.com/forms/d/1ytWefDwvyz5h1oz_VIn0xbxg3uGdlDzMXFWNDsMrRPQ/edit?usp=sharing

Yours sincerely

Prof. Judith Kimiywe

Director: Centre for Research Ethics and Safety

Appendix 4: Approval letter from the County Government of Kiambu

COUNTY GOVERNMENT OF KIAMBU
DEPARTMENT OF HEALTH SERVICES

All correspondence should be addressed to HEAD
HRDU – HEALTH DEPARTMENT
Email address: mndiritu@gmail.com
mkwasa@live.com
Tel. Nos: 0721641516
0721974633

HEALTH RESEARCH AND DEVELOPMENT
UNIT
P. O. BOX 2344 – 00900
KIAMBU

Ref. No.: KIAMBU/HRDU/23/05/25/RA_GITAHI Date: 25th May 2023

TO WHOM IT MAY CONCERN

RE: CLEARANCE TO CONDUCT RESEARCH IN KIAMBU COUNTY

Kindly note that we have received a request by Ms. Eunice Gitahi of Kenyatta University to carry out research in Kiambu County, the research topic being on "**Implementation Of Free Primary Health Services Among Nurses Working In Level 3 Hospitals In Kiambu County**"

We have duly inspected her documents and found that she has been cleared by the KU ERC to carry out the research for a period ending **17th April 2024**. As she has received approval from a NACOSTI licenced ERC, we hereby give her a provisional clearance to begin collecting her data immediately to avoid any delays in the research process. However, she is required to submit the NACOSTI license within 2 months of receiving this letter.

It is incumbent upon the institution where she is carrying out research to ensure that she receives adequate supervision during the process of conducting the research. This note also accords her the duty to provide a feedback on her research to the county at the conclusion of her research.

.

DR. MWANCHA KWASA
COUNTY CLINICAL RESEARCH OFFICER
KIAMBU COUNTY

Appendix 5: Research permit from NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **339714**

Date of Issue: **31/May/2023**

RESEARCH LICENSE

This is to Certify that Ms.. EUNICE WANGUI GITAHI of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kiambu on the topic: IMPLEMENTATION OF FREE PRIMARY HEALTH SERVICES AMONG NURSES WORKING IN LEVEL 3 HOSPITALS IN KIAMBU COUNTY, KENYA for the period ending : 31/May/2024.

License No: **NACOSTI/P/23/26095**

339714

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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

See overleaf for conditions

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was the established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
    i. Endanger national security
    ii. Adversely affect the lives of Kenyans
    iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
    iv. Result in exploitation of intellectual property rights of communities in Kenya
    v. Adversely affect the environment
    vi. Adversely affect the rights of communities
    vii. Endanger public safety and national cohesion
    viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

National Commission for Science, Technology and
Innovation(NACOSTI),
Off Waiyaki Way, Upper Kabete,
P. O. Box 30623 - 00100 Nairobi, KENYA
Telephone: 020 4007000, 0713788787, 0735404245
E-mail: dg@nacosti.go.ke
Website: www.nacosti.go.ke

Appendix 6: Map of study area

Kiambu County