

**DETERMINANTS OF HEALTH WORKERS PRODUCTIVITY IN PUBLIC
HEALTH FACILITIES: A CASE IN LAIKIPIA COUNTY**

CHRISTINE LEKURTUT

HSM-3-0823-3/2015 (B.Sc. MSB)

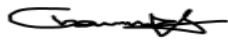
**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENT OF THE DEGREE OF MASTERS OF SCIENCE IN
HEALTH SYSTEMS MANAGEMENT OF KENYA METHODIST
UNIVERSITY**

SEPTEMBER 2024

DECLARATION AND RECOMMENDATION

Declaration by the student

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

Signed: 

Date: 19th June 2024

Christine Lekurtut
HSM-3-0823-3/2015

Recommendation by the supervisors

This thesis has been submitted for examination with our approval as university supervisors.

Signed: 

Date.....

Musa Oluoch
Department of Health Systems Management
Kenya Methodist University

Signed.....

Date.....

Lilian Muiruri
Department of Health Systems Management
Kenya Methodist University

DEDICATION

Love and friendship are the key ingredients for any human being to push themselves beyond their limit, the support and encouragement given by those who cares about you is vital in all facets of life. The same also counts a lot in one's academic journey which is full of challenges ranging from psychological, financial among others. For this reason, this research proposal is dedicated to my family members particularly my husband, my children and my parents.

ACKNOWLEDGEMENT

Research paper writing is not just another assignment or a term paper for a specific unit, it is a fundamental unit on its own which carries much more weight than other units in many academic programs. This is because it is intended to train the learner's invaluable skills useful in their professionals later. All this cannot be achieved without having good systems and adept professionals to ensure research subject objectives are achieved effectively. Therefore, it goes without saying that I acknowledge my supervisors Musa Oluoch and Lilian Muiruri for their guidance and positive criticism, secondly my gratitude goes to all my lecturers who were key in my entire academic journey and finally is to KeMU administration staff especially those in health sciences department. May the Almighty bless all you.

ABSTRACT

Health worker productivity in Laikipia County's public health facilities often falls short of desired standards, leading to inefficiencies and compromised patient care. This issue is particularly problematic during periods of high patient demand and limited resources. Low productivity affects multiple stakeholders: patients experience compromised care and longer wait times, health workers suffer from burnout, low morale, and job dissatisfaction, while health administrators and policymakers struggle to manage effective healthcare delivery and achieve desired health outcomes. The study sought to establish determinants of health workers' productivity in public health facilities in Laikipia County. Specifically, the study sought to establish the influence of motivational strategies, leadership styles, facility resources, and health worker appraisal on the productivity of health workers. The study was guided by McClelland's acquired needs motivation theory, and adopted a descriptive cross-sectional survey design. The study's target population comprised of 228 health workers including doctors, clinicians and nurses working at the Nanyuki teaching referral hospital and two of the largest sub-county hospitals. There were 145 medical professionals in the sample, including doctors, clinicians and nurses. Primary data was gathered via interviews and questionnaires. In Nyeri County, a pilot research was carried out. Validity and reliability tests were conducted on the pre-test results. Data analysis was carried out with the SPSS version 26 tools. Descriptive data like frequencies, percentages, averages, and standard deviation as well as inferential statistics like Pearson correlation and binary logistic regression analysis were computed during the analysis. Tables and narratives were then used to display the data. The study found that health workers' productivity in public health facilities in Laikipia County was favorably influenced by leadership style, facilities resources, health worker appraisal, and motivational tactics. It was suggested that in order to improve employee performance, leaders in any member association should empower staff members and cultivate an environment that values learning, creativity, and innovation. This includes training staff members on how to provide and receive feedback. The management and human resources department at the facilities should also make this clear and explain the rationale behind the assessment's necessity. Additionally, the management of a member association's organization should influence and motivate subordinates by exchanging rewards for a specific performance. Finally, human resource management should guarantee that salaries are based on an unbiased annual increment, that health care workers are paid on time, and that terminal benefits are standardized and in line with performance, all of which will improve worker motivation.

TABLE OF CONTENTS

DECLARATION AND RECOMMENDATION	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABBREVIATIONS AND ACRONYMS.....	x
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Study	1
1.2 Statement of the Problem.....	5
1.2 Objectives of the Study.....	7
1.3 Research Questions	7
1.4 Significance of the Study	8
1.6 Limitations of the Study.....	8
1.7 Delimitations of the Study	9
1.8 Assumptions of the Study	9
1.9 Operational Definition of Terms.....	10
CHAPTER TWO	11
2.1 Introduction.....	11
2.2 Empirical Review.....	11
2.3 Theoretical Review	34
2.4 Critical Literature Review and Summary of the Gaps to be filled	36
2.5 Conceptual Framework	37
CHAPTER THREE	39
3.1 Introduction.....	39
3.2 Research Philosophy.....	39
3.3 Research Design.....	39
3.4 Target Population.....	40
3.5 Sampling Procedure	40
3.6 Instrumentation	41

3.7 Methods of Data Collection	42
3.8 Operational Definition of Variables	44
3.9 Methods of Data Analysis	44
3.10 Ethical Considerations	45
CHAPTER FOUR	46
DATA ANALYSIS AND DISCUSSION	46
4.1 Introduction	46
4.2. Response Rate	46
4.3 Pilot Study	47
4.4 Demographic Characteristics of the Respondents	49
4.5 Descriptive Analysis	55
4.7 Pearson Correlation Matrix for Independent and Dependent Variables	73
4.8 Logistic Regression for Independent and Dependent Variables	76
CHAPTER FIVE	83
SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS .83	
5.1 Introduction	83
5.2 Summary of the Study	83
5.3 Conclusion	85
5.4 Recommendations for Policy and Practice	87
5.5 Areas for Further Research	89
REFERENCES	90
APPENDICES	101
Appendix I: Informed Consent Form	101
Appendix II : Questionnaire	105
Appendix III: Key Informant Interview Guide for Healthcare Managers and Supervisors	111
Appendix IV: Research Permit	Error! Bookmark not defined.
Appendix V: County Government of Laikipia Research Authorization	112
Appendix VI: KeMU Ethical Approval	113

LIST OF TABLES

Table 3. 1: Target Population.....	40
Table 3. 2: Sampling Frame	41
Table 3. 3: Operational Definition of Variables	44
Table 4. 1: Response Rate	47
Table 4. 2: Reliability Results	48
Table 4. 3: Validity Test	49
Table 4. 4: Gender of the Respondents	50
Table 4. 5: Age Bracket of the Respondents.....	51
Table 4. 6: Level of Education of the Respondents	52
Table 4. 7: Occupation of the respondents.....	53
Table 4. 8: Working Experience of the Respondents.....	54
Table 4. 9: Motivation Strategies and Productivity of Health Workers.....	55
Table 4. 10: Performance Appraisal and Productivity of Health Workers	59
Table 4. 11: Leadership Styles and the Productivity of Health Workers.....	65
Table 4. 12: Facility Resources and the Productivity of Health Workers.....	68
Table 4. 13: Employee Productivity	72
Table 4. 14: Pearson Correlation Matrix for Independent and Dependent Variables .	75
Table 4. 15: Checking for Multi-collinearity	76
Table 4. 16: Model Summary	77
Table 4. 17: Omnibus Tests of Model Coefficients	78
Table 4. 18: Relationship of Individual Independent Variable to Dependent Variable	78

LIST OF FIGURES

Figure 2. 1: Conceptual Framework	38
--	-----------

ABBREVIATIONS AND ACRONYMS

AIDS	:	Acquired immunodeficiency syndrome
EAC	:	East Africa Community
GST	:	Goal-Setting Theory
HCWs	:	Health Community Workers
HIV	:	human immunodeficiency virus
KDHS	:	Kenya Demographic and Health Survey
KMPDU	:	Kenya Medical Practitioners Pharmacists Dentists Union
KNH	:	Kenyatta national Hospital
MDGs	:	Millennium Development Goals
MLQ	:	Multifactor Leadership Questionnaire
PMS	:	Performance Management system
RBT	:	Resource based Theory
RNG	:	Random Number Generator
SPSS	:	Statistical Package of Social Science
WEIMS	:	Work Extrinsic and Intrinsic Motivation Scale
WHO	:	World Health Organization

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the study background, statement of the problem, objectives of the study, research questions, and significance of the study, limitations, delimitations, assumptions and operational definition of terms.

1.1 Background of the Study

Health professionals are essential in encouraging the equitable extension of coverage for infectious illnesses, non-communicable diseases, and reproductive, maternal, neonatal, and child health (Bevan & Cooper, 2021). According to the World Health Organization [WHO] (2018), human resources for health care are the foundation of every health system and are crucial to achieve universal health coverage (UHC). A health system must make investments in human resources, including hiring, management, and specialist training, to ensure healthy lifestyles and advance wellness for all individuals of all ages (Blank & van Hulst, 2017).

Health workers' productivity is very important, be it in the private or public health facilities; health sector workers play a key role in the country's work force health and productivity in general (Serneels, 2007). Training the health worker requires highly specialized personnel and contemporary equipment. Every government spends a lot of resources in training its health workforce although only few countries have been able to train an adequate number of health work force. Training health work force is every government's priority which is manifested by high level of regulation and stringent requirement. This can clearly be explained by the sensitivity of the job and necessity of the service.

Companies try to formulate a unique mix of motivational strategies, including salaries, promotions, recognition, leave, and sick pay. This approach may underestimate the most effective motivational strategies for the company. Motivational factors are not just what the organization believes would trigger a positive reaction but what satisfies the needs of all employees. Fulfilling all employees' needs is a very tedious task which all organizations must grapple with (Brown, 2015). As human beings are complex and may react differently under the same conditions, understanding individual needs before designing motivational strategies is crucial (Brown, 2015). Many researchers have investigated motivational factors of employees in companies and public health institutions, providing general factors expected to apply to all employees (Williams et al., 2018). Scholars have analyzed these problems and provided critical factors depending on the phenomenon under study (Williams et al., 2018).

Globally, health worker productivity in public facilities varies significantly. In the United States, productivity is a major focus, with challenges including workforce shortages, high burnout rates, and administrative burdens affecting facilities like the Veterans Health Administration (Niki et al., 2021). Despite substantial investments, disparities in productivity arise from uneven resource allocation and varied management practices. In Canada, public health facilities are generally well-resourced, but productivity issues persist due to high patient loads and limited access to continuing education (Terry, 2019). Bureaucratic processes and variable provincial support further impact efficiency. China has made significant investments in its public health system, but productivity challenges remain, especially in rural areas with lower health worker density and limited resources (Zhou et al., 2021). Reforms and increased funding aim to address these issues, yet urban-rural disparities and high patient volumes continue to be obstacles. Spain's public health system, which promotes universal coverage, faces

productivity issues due to regional disparities, funding variations, and economic austerity measures affecting both performance and morale. In the UK, the NHS struggles with high patient demand, staff shortages, and financial constraints, impacting productivity and service delivery (NHS Digital, 2022).

In Africa, public health facilities face considerable productivity challenges. In South Africa, issues such as high patient volumes, limited resources, and workforce shortages lead to inefficiencies (Coovadia et al., 2009). Despite reforms and increased funding, disparities in healthcare access and quality persist. Nigeria's public health sector is severely impacted by inadequate funding, poor infrastructure, and a high disease burden (Onwujekwe et al., 2020). Health workers, overwhelmed by high patient loads and limited resources, struggle to provide timely care. Progress is hampered by systemic issues and corruption. Malawi faces productivity issues due to a shortage of health workers, insufficient infrastructure, and low salaries (Maseko et al., 2018). High staff turnover and a heavy disease burden further affect productivity, and while training programs and international support are in place, significant improvements are challenging due to ongoing resource constraints. Cameroon's public health system suffers from inadequate funding, poor infrastructure, and frequent health worker strikes (Niki et al., 2018). The role of leadership in the quality of healthcare services in developing countries. Addressing these issues requires systemic reform and enhanced support. In Ghana, insufficient resources, high patient loads, and governance problems affect productivity (Agyepong & Adjei, 2008). Libya's challenges are worsened by political instability, straining resources and infrastructure (El Tahir et al., 2023).

In Kenya, health worker productivity in public health facilities is significantly impacted by various challenges. Workforce shortages and inadequate resources, including

outdated equipment and limited supplies, hinder service delivery. Administrative inefficiencies and bureaucratic delays further reduce productivity. The devolution of health services to county governments, intended to improve efficiency, has faced mixed results, with inconsistent policy application across regions (Republic of Kenya [RoK], 2010). Health worker motivation is also affected by low salaries and poor working conditions, impacting their performance (Kiptoo, 2019). Efforts to address these issues include training programs and public-private partnerships aimed at improving service delivery and resource management. Despite these efforts, substantial improvements in productivity are still needed to meet the growing demand for quality healthcare services.

Despite the majority of health professionals in Kenya being employed by the government, the situation remains the same. Since independence, Kenya's public health workforce has been overseen by the national government through the Ministry of Health. However, with the inauguration of the new constitution in 2010 and the 2013 general election, this function was devolved to county governments, although certain public health sectors like KNH are still under the Ministry (Green & Patel, 2019). In Laikipia County, there is concern about the suboptimal productivity levels of health workers, which may be hindering overall healthcare outcomes and exacerbating existing healthcare challenges (Jones, 2021).

Devolution spirit was to ensure that all important service crucial for the development of any part of the country was taken closer to the ordinary citizen. One of the critical services devolved is public health service (Chebet, 2023). This sector has experienced many challenges, low employee productivity, change of terms of engagement and cases of medical incompetence by quacks. Some county governments have signed collective

bargaining agreements for specific category of work force. However, there is still no political good from the political leadership. KMPDU strong points of embattled CBA were infrastructure in public facilities, health human capital, leadership and management and reward of health work force. The hall mark of disgruntled health work force was more than 100 days' doctors' national strike and more that 50 days' nurses' national strike that saw the health sector down on it knee despite threats and jailing of union leaders. This culminated out of go slows and mini strikes from different counties. Laikipia county public health service was also part of the group with low health workers productivity (Chebet, 2023)

1.2 Statement of the Problem

Health worker productivity is essential for the effective delivery of healthcare services in public health facilities. In Laikipia County, however, productivity levels among health workers often fall short of the desired standards, leading to inefficiencies and compromised patient care (Smith, 2019). This persistent issue becomes particularly problematic during times of high patient demand and limited resources (Johnson, 2020). The low productivity among health workers in Laikipia County's public health facilities affects multiple stakeholders. Patients experience compromised care and face longer wait times. Health workers endure burnout, low morale, and job dissatisfaction (Mwangi, 2019). Health administrators and policymakers struggle to manage effective healthcare delivery and achieve health outcomes .

Several factors contribute to this issue. Inadequate staffing is a significant problem, with too few health workers to meet the population's demands, leading to overwork and burnout (Agoi, 2019). Insufficient training hampers health workers' ability to provide high-quality care (Mutua, 2020). Poor working conditions, including under-equipped facilities and broken-down equipment, make it difficult for health workers to perform

their duties effectively (Kariuki, 2018). Limited access to necessary resources further compounds these challenges (Mwangi & Wanjiru, 2019).

Moreover, health workers are unhappy due to a poor rewarding system and lack of recognition for their work (Otieno, 2020). Leadership in the health sector often lacks objectivity, contributing to low morale and decreased productivity (Ngugi, 2018). The public's poor perception of the health sector further demotivates health workers (Karanja, 2021). Nepotism and corruption in hiring and promotion practices lead to dissatisfaction and high turnover rates Kiptoo (2019), while favoritism in transfers and promotions creates an unfair work environment, further reducing morale (Njenga, 2020).

Challenging living conditions in Laikipia, designated as a hardship area, include inadequate housing and poor road networks, negatively impacting health workers' productivity. Frequent political insecurity exacerbates these difficulties. Additionally, many public health facilities are neglected and under-equipped, further hampering health workers' performance.

According to Chebet (2023), these factors collectively contribute to a struggling health workforce in Laikipia County's public hospitals, where multiple systemic problems significantly impact productivity and the quality of care provided to patients (Chebet, 2023). Previous research on the health workforce in the county has not adequately addressed workforce productivity (Muthoni, 2021). Therefore, this research is motivated by the need to investigate the determinants of health workers' productivity in public health facilities in Laikipia County. By identifying and addressing these determinants, the study aims to provide actionable insights to improve health worker productivity, enhance the quality of patient care, and ultimately strengthen the overall healthcare system in Laikipia County (Gichuhi, 2022).

1.2 Objectives of the Study

1.2.1 Broad Objective

To establish determinants of health workers' productivity in public health facilities in Laikipia County.

1.2.2 Specific Objectives

- i. To establish the influence of motivational strategies to productivity of health workers offering medical services in public health facilities in Laikipia County.
- ii. To determine the influence of leadership style on productivity of health workers' offering medical services in public health facilities in Laikipia county
- iii. To find out the influence of facilities resources on productivity of health workers' offering medical services in public health facilities in Laikipia County.
- iv. To investigate influence of health worker appraisal on productivity of health workers' offering medical services in public health facilities in Laikipia county

1.3 Research Questions

- i. How do motivational strategies influence the productivity of health workers' offering medical services in public health facilities in Laikipia County?
- ii. What is the influence of leadership style on the productivity of health workers' offering medical services in public health facilities in Laikipia County?
- iii. What is the influence of facilities resources on the productivity of health workers offering medical services in public health facilities in Laikipia County?
- iv. How does health worker appraisal influence the productivity of health workers offering medical services in public health facilities in Laikipia County?

1.4 Significance of the Study

Employee productivity is a worthy goal of organizations tending to grow. Low productivity among healthcare workers is a key challenge for healthcare systems across the globe. The health care industry has had sluggish productivity development despite a constant flow of medical advancements (Sarto & Veronesi, 2016). Better patient care and increased patient satisfaction may arise from a rise in staff productivity. To do this, determinants of employee productivity must be identified to find gaps and institute interventions (Blank & van Hulst, 2017). The productivity factors of healthcare providers in Laikipia County's public health facilities are presently being examined in this study. Because the research aims to enhance productivity and address the underlying issues plaguing the health workforce, its conclusions are crucial to the health sector as a whole. The Laikipia County government is the first beneficiary as this research focuses directly on their workforce problems. Other beneficiaries of this study include other county governments and the Ministry of Health as a whole when devising ways of solving the protracted battle between them and their workforce. Health workers are also benefiting from the recommendations of this research once implemented. Policymakers are provided with a thorough understanding of the elements affecting the productivity of health personnel by this study. Armed with this knowledge, policymakers can develop evidence-based policies and strategies to address the specific challenges identified in the public health facilities. Lastly, this research is the basis of reference for scholars, especially in the area of health workers' human capital management.

1.6 Limitations of the Study

A constraint of the research was that its purview was restricted to Laikipia County and was not extrapolated to other counties. This was due to the limitations of the resources

the researcher could afford as it was academic research. To ensure that the results were generalizable, the researcher used a large sample size. The other hurdle encountered was the possibility of some respondents failing to answer questions or giving wrong answers out of fear of victimization. The researcher promised respondents that their answers would be kept strictly confidential in order to entice them to participate and provide an honest assessment. The researcher also used anonymous data collection methods and avoided recording any personally identifiable information that could potentially link respondents to their answers. The accessibility of some of the areas was also expected to be a challenge due to impassable roads and insecurity. This was mitigated by utilizing technology to gather information remotely, such as by conducting phone or online surveys.

1.7 Delimitations of the Study

The research aimed to address the problem of scope by working with a large sample and employing the best research design to enhance the accuracy of the findings. The use of sampling helped the researcher save money without compromising accuracy, provided it was done properly. The researcher explained to the respondents that their identities would be kept confidential and that the findings were primarily for academic purposes.

1.8 Assumptions of the Study

In conducting the study, the researcher assumed that all respondents were affected by the subject under examination. It was assumed that, at the time the research was conducted, all respondents would be available. The assumption was made that the respondents would provide correct answers. It was also assumed that there would be no other research similar to this one running concurrently with this study at Laikipia, sponsored by a different researcher.

1.9 Operational Definition of Terms

Leadership The ability of a person or a group to exercise control over subordinates or other group members (Abane et al., 2022).

Leadership styles Describes the method leaders use to inspire and guide their subordinates via their actions (Opoku et al., 2022). These include transformational, democratic, laissez-faire, and autocratic leadership philosophies in this study.

Motivation The extent to which an individual is willing to act in pursuit of a goal that is in line with, and beneficial to, the organization's objectives (Ashley & Brijball Parumasur, 2024).

Motivation strategies Refers to tactics, techniques, or approaches to encourage employee to perform better. In this study, they include remuneration, working environment, job security, promotion opportunities, recognition.

Personnel Evaluation Means the official assessment of how well an employee has performed during the year in relation to his or her yearly objectives (Abane et al., 2022). In this study it refers to performance appraisal of health personnel.

Productivity Value-created-by-employee-in-time-period definition: an evaluation of a worker's efforts over. In this study, it includes the effectiveness, quality, and efficiency of health personnel offering medical services in public health facilities in Laikipia County.

Resources Refers to all assets that are available to a firm for use during the production process (Agoi, 2019). In this study resources include physical, financial and human assets.

CHAPTER TWO

2.1 Introduction

The literature review is presented in this chapter. A theoretical and empirical version of the literature review is provided. Critical literature review and summary of the gaps to be filled are highlighted. In addition, a conceptual framework is also presented.

2.2 Empirical Review

2.2.1 Influence of Motivational Strategies to Productivity of Health Workers

Health professionals' motivation has been shown to be poor in prior research, with both intrinsic and extrinsic variables having an impact. Health care workers' views of quality and their actions on the job both benefit from the autonomy that comes with being intrinsically motivated, according to a systematic review that used a variety of research approaches. When combined with autonomous motivation, controlled motivation may boost performance on essential tasks and encourage proactive behavior while reducing shouting.

2.2.1.1 Remuneration

A comprehensive research found that both monetary and non-monetary organizational elements had significant effects on healthcare workers' levels of motivation. A major extrinsic element was found to be monetary compensation, whereas a big intrinsic factor was found to be positive working circumstances, expanded responsibility, and recognition from the communities they serve. Even though the way people are motivated might vary from nation to country, pay, management support, and opportunities for promotion are universal concerns for those working in the healthcare industry. Afolabi et al. (2018) found that healthcare organizations may address many of the elements noted in the literature as impacting motivation by adjusting their incentive system. Muthuri et al. (2020) carried out a comparable investigation in the

EAC between 2009 and 2019, reporting on both non-financial and financial factors that drive healthcare workers. Individual, organizational/structural, and social determinants of healthcare workers' motivation are interdependent and represent the fluidity and complexity of strengthening health systems and workforce. According to Weldegebriel et al. (2016), there is no statistically significant relationship between the total compensation received by health workers and their level of motivation in different hospitals and occupational categories.

Mwachofi and Magesa (2018) investigated the impact of salary on the productivity of health workers in Kenya. They used a quantitative approach, distributing structured questionnaires to health workers across various public health facilities. Their analysis showed a positive correlation between higher salaries and increased productivity. However, the study also highlighted that factors such as working conditions and job satisfaction significantly influence productivity. A key limitation of this research is its broad focus on Kenya without addressing the specific local contexts of regions like Laikipia County. Additionally, it did not explore how remuneration interacts with other factors such as management practices or career development opportunities.

Gichuru and Otieno (2020) explored how remuneration affects job performance among public health workers in Sub-Saharan Africa, with a focus on Kenya. Employing a mixed-methods approach, they combined quantitative surveys with qualitative interviews. Their findings revealed that fair and competitive remuneration improved job performance and motivation. Nonetheless, the study found that salary inequities and delays in payments adversely affected productivity and morale. The research's broader regional scope might not fully capture the specific challenges faced in local contexts

like Laikipia County and did not thoroughly examine how remuneration interacts with other productivity determinants such as managerial support.

Mwangi and Wanjiru (2019) examined the influence of compensation packages on the efficiency of health workers in rural Kenya. Using a cross-sectional design, they surveyed health workers in rural areas to assess how different compensation packages impacted efficiency indicators like patient care quality. The study found that competitive compensation enhanced health workers' efficiency and job satisfaction, but noted that disparities between urban and rural compensation levels led to uneven productivity outcomes. This study did not address the unique challenges and opportunities in specific rural areas such as Laikipia County and did not consider how compensation interacts with other factors like managerial practices and resource availability.

2.2.1.2 Working Environment

A few of the risks that health workers face on the job are infections, improper patient handling, hazardous chemicals, radiation, heat, noise, psychological risks, hostility and harassment, accidents, and a lack of clean water, sanitation, and cleanliness. Health care providers' productivity and happiness on the job improves patient outcomes by decreasing preventable complications including infections, deaths, readmissions, and other negative outcomes. Additionally, in the face of healthcare staff shortages, a positive WE is substantially related with recruiting and keeping healthcare personnel. (Agoi, 2019). According to Abane et al. (2022) research, shift work, long working hours, inadequate infrastructure, a lack of resources, the HIV/AIDS pandemic, a lack of staff, and a heavy workload are the main causes of unfavorable working conditions.

Both internal and external factors have an impact on health workers' performance at work, according to a 2016 study by Sarto and Veronesi discovered in a Tanzanian study that the Individual Aspect of motivation was correlated with pay level, the Performance Aspect of motivation was correlated with job description, and the Management Aspect of motivation was correlated with years in the current profession. Whether or whether a written job description corresponds to the actual duties of a health professional, this investigation validated its significance.

Mwendwa and Kiprotich (2019) investigated the impact of working conditions on health worker performance in Kenya's public health sector. They used a mixed-methods approach, combining quantitative surveys and qualitative interviews with health workers to assess their working conditions and performance. Their findings revealed that poor working conditions, such as inadequate facilities and equipment, significantly hindered productivity. Conversely, improvements in working conditions were associated with enhanced performance and job satisfaction. The study emphasized the need for systemic changes to address these issues. However, it did not explore specific regional challenges or how working conditions interact with other factors such as managerial support and remuneration.

Zhang and Li (2020) examined how the work environment affects health worker efficiency in rural China. Utilizing a cross-sectional design, they surveyed health workers in rural areas to gather data on aspects of the work environment, including physical conditions and organizational support. The study found that a supportive work environment with adequate resources and facilities improved efficiency, while poor infrastructure and lack of administrative support hindered productivity. The research

focused solely on rural settings and did not consider variations in urban areas or interactions with factors like remuneration and professional development.

Johnson and White (2021) explored the influence of organizational environment on health worker productivity in public hospitals in Spain. Their quantitative study used structured questionnaires to collect data on organizational environment factors, such as managerial practices and support systems, and analyzed their impact on productivity. The study found that a positive organizational environment, characterized by supportive management and sufficient resources, was linked to higher productivity levels. Inefficiencies and poor management practices negatively affected productivity. However, the study did not address regional variations within Spain or how the work environment interacts with remuneration and career development opportunities.

2.2.1.3 Recognition

According to research done in Kenya by Okoth and Oluoch (2019), employees are motivated by a variety of things, including opportunity for training and growth, job security, pay and perks, job satisfaction, and recognition from superiors. Employee recognition was shown to have the most positive and significant link with performance, followed by job stability. The degree of association between employee performance and factors including training and development, salary, and benefits was modest, while the degree of linkage between employee performance and work satisfaction was tiny but real. Similar findings were found by Mmbusa (2019), who found that providing workers with attractive salary, incentives, indirect compensation, and prizes greatly improved their performance. The study's conclusions suggest that offering incentive programs and a competitive compensation package to staff members may increase output, lower turnover, and increase motivation.

Meyer and Williams (2017) conducted a study to assess the impact of recognition programs on health worker performance in public hospitals. They used a mixed-methods approach, incorporating both quantitative surveys and qualitative interviews with health workers. Their findings indicated that formal recognition programs, such as awards and public acknowledgment, significantly boosted health worker performance and job satisfaction. However, they also noted that inconsistent application of these programs could lead to perceptions of favoritism, which might reduce their effectiveness. This study did not explore how recognition interacts with other factors like remuneration or working conditions, nor did it address variations in recognition practices across different healthcare settings.

Thompson and Clark (2018) investigated the influence of recognition on health worker productivity in developing countries. They used structured questionnaires to gather data from health workers in several developing nations. The study found that regular recognition was positively correlated with increased productivity and higher job satisfaction. Recognition was particularly effective when paired with professional development opportunities. However, the impact varied depending on existing work culture and resources. The study did not consider how recognition might interact with other productivity determinants, such as managerial support and infrastructure, or address specific regional challenges within developing countries.

Patel and Anderson (2020) explored the effects of employee recognition on health worker motivation and productivity across various European health systems. They employed a cross-sectional design, distributing surveys to health workers in multiple European countries. Their research revealed that effective recognition, including both monetary and non-monetary forms, significantly enhanced motivation and productivity.

The impact was more pronounced in environments where recognition was part of a broader support and career development system. Nonetheless, the study did not examine how recognition practices might differ within specific healthcare settings or regions in Europe, nor did it consider interactions with other factors such as remuneration and working conditions.

2.2.2 Influence of Leadership Style on Productivity of Health Workers

2.2.2.1 Democratic

Democratic leadership, sometimes referred to as participative leadership, involves team members in the decision-making process. This style of leadership values group input and actively seeks it out, which fosters open communication, honest criticism, and collaboration. Members of the team feel more empowered and owned while using this strategy, which boosts commitment, motivation, and morale. A systematic investigation was carried out to see if leadership styles and healthcare quality indicators were correlated. We found eighteen papers that addressed this research question. Strong correlations were found between leadership philosophies and measures of the standard of care. Strong leadership was viewed by both patients and healthcare professionals as essential to the provision of integrated and coordinated care (Sfantou et al., 2017). Similarly, Adzei and Sakyi (2014) found that nurses were more satisfied with their jobs when their managers used a relational rather than a task-focused approach to leadership. This systematic study provides solid evidence that using relational leadership styles may improve the results for both the nursing staff and the organisations they work for.

Agyemang and Mordi (2016) conducted a study to explore how democratic leadership styles impact health worker performance in hospitals in Ghana. They used a mixed-methods approach, incorporating both quantitative surveys and qualitative interviews

with health workers and hospital managers. The study found that democratic leadership, which emphasizes participatory decision-making and collaborative management, positively influenced health worker performance and job satisfaction. Health workers felt more valued and motivated when they were involved in decision-making processes. However, the study also identified challenges such as decision-making delays and potential conflicts arising from diverse opinions. This study did not explore how democratic leadership interacts with other factors like remuneration and working conditions, nor did it address variations in leadership practices across different types of health facilities.

Davis and Meier (2018) investigated the effects of democratic leadership on productivity in public health institutions. They used a quantitative approach, distributing structured questionnaires to health workers in various public health institutions. Their findings revealed that democratic leadership, characterized by inclusive decision-making and transparent communication, was associated with higher productivity levels among health workers. The collaborative nature of democratic leadership fostered a positive work environment, enhancing overall performance. However, this study did not consider how democratic leadership practices might interact with organizational culture or external pressures.

Roberts and Wilson (2020) examined the effects of democratic leadership on health worker motivation and productivity across different healthcare settings. They employed a cross-sectional design and surveyed health workers in various settings, including hospitals and clinics. Their research showed that democratic leadership significantly improved motivation and productivity. Health workers reported increased job satisfaction and engagement when involved in decision-making processes. The study

highlighted that democratic leadership could be particularly effective in creating a supportive and collaborative work environment. However, it did not address how the effectiveness of democratic leadership might vary across different types of healthcare settings or its interaction with other factors like organizational support and leadership styles.

2.2.2.2 Laissez-faire

A leader that practices laissez-faire leadership, also known as hands-off leadership, takes a very tolerant and non-directive stance. With little to no direction or oversight, the team members have a great deal of flexibility and autonomy from their leader in this type of leadership. Although this leadership approach can foster innovation and creativity, if it is not effectively managed, it may result in a lack of structure, accountability, and direction. Mawoli and Haruna (2013) discovered that sections and departments with autocratic, democratic, and varied heads of units using laissez-faire leadership styles resulted in variable job performance. However, the findings were not statistically significant, hence the link between leadership styles and productivity cannot be substantiated. Muhammad et al.(2016) comparable research found that nurses' value transformational leadership more than transactional leadership. One further research that looked at how leadership styles affected hospital and healthcare organisation performance was conducted by Khanzada et al. (2018). The results of the study demonstrated that while both transactional and transformational leadership boosted performance, the latter style had a more significant, positive effect on worker productivity.

Lee and Choi (2017) examined the impact of laissez-faire leadership on health worker performance in South Korean hospitals. Their study employed a quantitative approach,

utilizing surveys distributed to health workers across various hospitals. The findings indicated that laissez-faire leadership, characterized by minimal managerial oversight and lack of direct supervision, negatively affected health worker performance. Health workers felt unsupported and demotivated due to the absence of guidance and feedback, leading to decreased productivity and lower job satisfaction. However, the study did not explore how laissez-faire leadership interacts with other factors such as organizational culture or external pressures, nor did it address variations in leadership practices across different healthcare settings.

Thomas and Clark (2018) investigated the effects of laissez-faire leadership on health worker productivity in public health facilities. Using a mixed-methods approach, they combined quantitative surveys with qualitative interviews. Their research found that laissez-faire leadership was linked to lower productivity and job dissatisfaction among health workers. The lack of managerial support and direction led to frustration and decreased motivation. The study highlighted that laissez-faire leadership could be particularly detrimental in environments where guidance and oversight are essential. However, it did not consider how laissez-faire leadership might interact with other leadership styles or organizational factors that could influence its impact.

Patel and Williams (2019) conducted a comparative study on laissez-faire leadership and its effect on health worker productivity across different healthcare settings. They used a cross-sectional design, distributing surveys to health workers in various settings, including hospitals and clinics. Their research revealed that laissez-faire leadership generally led to lower productivity and decreased job satisfaction. Health workers in environments with minimal managerial involvement reported feeling less engaged and supported. While the study noted that laissez-faire leadership could work in some

contexts, its effectiveness was often limited by the need for guidance and oversight. The study did not address how specific contextual variables or interactions with other organizational factors might influence the effectiveness of laissez-faire leadership.

2.2.2.3 Transformational

Motivating and inspiring subordinates to achieve outstanding performance is the aim of transformational leadership. By articulating a captivating vision and motivating their team members to welcome change and development, transformational leaders captivate and involve their followers. This leadership style often leads to increased employee satisfaction, organizational commitment, and positive organizational outcomes. According to research by Asamani et al. (2016), personnel shortages in Ghana resulted in an average of four hours of unpaid overtime per month for every hour of lost productivity. Supportive leadership was used by nurse managers more often than directive leadership. Nurses who had worked in the same unit for at least a month before to the trial reported feeling 10% more productive than their colleagues. Nurses estimated a 1.8% increase in their own productivity during the previous six months. Only 6.9% of the variation in nurses' reported levels of productivity could be attributed to differences in leadership styles. Leadership that emphasises reaching goals has been shown to increase output by 18.4 percent. Musinguzi et al. (2018) conducted research in Uganda and found that transformative leaders are more prevalent even in low-resource environments.

Bass and Riggio (2006) explored how transformational leadership impacts health worker productivity through a comprehensive review of existing literature and case studies. Their research synthesized data from multiple sources, focusing on transformational leadership behaviors such as inspirational motivation, intellectual

stimulation, and individualized consideration. They found that transformational leadership significantly enhances health worker productivity by creating a motivating work environment, boosting job satisfaction, and increasing commitment to organizational goals. Leaders who adopted transformational practices, like setting a compelling vision and encouraging innovation, saw higher levels of engagement and performance among their staff. However, the study did not delve into how transformational leadership interacts with contextual factors such as organizational culture or specific challenges in healthcare settings.

Avolio and Zhu (2003) revisited the role of transformational leadership in improving health worker productivity. Using a quantitative approach, they surveyed health workers across various healthcare settings to measure the effects of transformational leadership. Their findings indicated that transformational leadership had a robust positive impact on productivity. Leaders who displayed transformational qualities, including charisma and intellectual stimulation, were able to enhance worker motivation and performance significantly. The study also noted that the positive effects of transformational leadership were further amplified in environments that supported continuous professional development. Nevertheless, it did not explore how transformational leadership varies in effectiveness across different types of healthcare organizations or how it interacts with other factors like remuneration or working conditions.

Judge and Piccolo (2004) conducted a meta-analysis comparing the effectiveness of transformational versus transactional leadership on health worker productivity. By aggregating data from multiple studies, they found that transformational leadership was more effective than transactional leadership in improving productivity.

Transformational leaders, who inspire and motivate their teams, achieved higher levels of performance and satisfaction. The study also highlighted that transformational leadership had a more significant impact in high-stress and uncertain environments. Despite its comprehensive analysis, the study did not address how transformational leadership practices might be adapted to specific healthcare contexts or challenges.

2.2.3 Influence of Facilities Resources on Productivity of Health Personnel

2.2.3.1 Physical Infrastructure

Physical infrastructure, which includes modern buildings, equipment, and technology, is essential to an organization's ability to run efficiently. It gives employees the workspace and tools they need to complete their jobs quickly and effectively. Proper infrastructure can improve workflow, reduce operational bottlenecks, and enhance overall productivity. According to Yusefzadeh and Nabilou (2020), the effectiveness of CHWs and the size of their workspace in health residences are positively correlated with the technological equipment arrangement. Similarly, Ismael et al. (2014) found that nurses' opinions of the standard of the nursing practice environment were negatively impacted by unbalanced workloads, erroneous nurse-patient ratios, and a shortage of physical resources.

Kweka and O'Connor (2018) conducted a study to evaluate the impact of physical infrastructure on health worker productivity in Tanzanian health facilities. Utilizing a mixed-methods approach, they combined quantitative surveys with qualitative interviews involving health workers and facility managers. The study assessed factors such as facility maintenance, equipment availability, and workspace conditions. They found that inadequate physical infrastructure, including poor maintenance and outdated equipment, significantly impeded health worker productivity. Health workers reported

reduced efficiency and job satisfaction due to these deficiencies. However, the study did not delve into how specific infrastructural improvements might interact with other productivity factors, such as staff training or management practices.

Manongi and Chonya (2019) explored how physical infrastructure influences health worker performance across several Sub-Saharan African countries. Their cross-sectional survey focused on infrastructure aspects like building conditions, sanitation, and equipment. They discovered that poor infrastructure had a negative impact on health worker performance, with better-maintained facilities correlating with higher productivity and job satisfaction. Despite these findings, the study did not address how different types of infrastructure improvements might have varying effects or how these improvements interact with other organizational factors.

Osei and Agyemang (2020) examined the role of physical infrastructure in health worker efficiency within Ghanaian health facilities. They employed a quantitative approach, surveying health workers and facility managers about infrastructure conditions and productivity levels. The study revealed that physical infrastructure significantly affects health worker efficiency, with poorly designed facilities and inadequate equipment leading to lower productivity and increased frustration. While the study highlighted the need for improved infrastructure, it did not explore how infrastructure improvements could be prioritized or implemented differently across various health settings.

2.2.3.2 Financial Resources

Financial resources are essential for funding operational activities, investing in infrastructure, and maintaining day-to-day operations of an organization. Sufficient financial resources enable organizations to offer competitive salaries, benefits, and

incentives, attracting and retaining talented and motivated employees. The suggested conceptual claim is supported by research by Bhatti and Alyahya (2021) who use a two-factor model to show that employee engagement at work mediates the connection between job resources and the supervisor's evaluation of that employee's performance across many dimensions of the job. Medical equipment was found to be in critically limited supply at the hospital, as shown by Moyimane et al.'s (2017) observation of its unavailability, poor quality, and inadequate maintenance. Negative effects on patient care, the nursing profession, and the hospital were seen due to the shortage. The results of a Kenyan study conducted by Njagi et al. (2018) showed that public health institutions performed better after being given more funding and better supplies.

Zhang and Li (2016) investigated the impact of financial resources on health worker productivity in Chinese public health facilities. Their study utilized a quantitative approach, surveying health workers and administrators to gather data on financial resource allocation, such as salaries, equipment funding, and facility maintenance. The researchers found a positive relationship between financial resources and productivity; adequate funding improved salaries and equipment, which in turn enhanced productivity and job satisfaction. However, the study did not explore how different types of financial investments, such as salaries versus equipment, specifically influence productivity or the long-term effects of these investments.

Singh and Kumar (2017) examined the influence of financial resources on health worker efficiency in public hospitals across India. They employed a mixed-methods approach, combining quantitative surveys with qualitative interviews to assess how funding levels, staff salaries, and resource availability affected health worker efficiency. Their findings indicated that increased financial resources significantly

improved efficiency, as higher salaries and better resources led to better job performance and satisfaction. Despite these positive outcomes, the study highlighted that financial resource allocation was often uneven, which affected some areas more than others. It did not delve into how resource distribution impacts various departments or other contextual factors influencing efficiency.

Ahmed and Hossain (2018) assessed the role of financial resources in health worker productivity within Bangladeshi healthcare facilities. Using a quantitative approach, they surveyed health workers and administrators about the allocation of financial resources, including salaries, training, and facility upgrades. Their study found that increased financial resources positively affected productivity and job satisfaction. However, they also noted that financial constraints and mismanagement sometimes limited the effectiveness of these investments. The study did not address how different types of financial investments compare in terms of impact or how mismanagement might affect overall productivity outcomes.

2.2.3.4 Human Resources

Human resources refer to the workforce of an organization, encompassing the skills, knowledge, and abilities of its employees. Skilled and motivated human resources are essential for the successful implementation of an organization's objectives. Well-trained and competent employees are more efficient and effective in their roles, leading to increased productivity. Nobakht et al. (2018) found that human resources are not distributed equally among hospitals in Iran. In order to determine what factors help and hinder HCWs in their efforts to provide services, the Health Communication Capacity Collaborative (2016) reviewed the relevant literature. The majority of nurses (87.1%)

had a negative view of the "staffing and resources adequacy" at their workplace, according to research by Marzuki et al. (2013). Having "adequate time and chance to talk with other staff nurses on issues related to patient care" was shown to have a substantial inverse relationship with "patient falls," "medication errors," and "patient complaints," according to the study's results. Major problems for HCWs were identified to include stigma against specific populations, inadequate equipment, bad management, and a lack of training. Cho et al.'s (2021) research found that more than half of participants said they were given hospital resources. When compared to four other categories of assistance, "basic needs" resources such as on-site meals, groceries, and childcare help were the most often cited.

Aiken and Sloane (2014) explored how human resource management practices affect health worker productivity in U.S. hospitals. Their study used a quantitative approach, analyzing survey data from hospital staff and administrators. They assessed various human resource practices, including recruitment, training, performance management, and employee relations. The researchers found that effective human resource management, such as comprehensive training programs and supportive performance management, positively impacted productivity. Improved recruitment and retention strategies also contributed to higher productivity levels. However, the study did not address how these practices might vary with different healthcare settings or levels of resource availability.

Buchan and Aiken (2008) examined the role of human resource practices in improving health worker performance within the UK's National Health Service (NHS). Utilizing a mixed-methods approach, they combined quantitative surveys with qualitative interviews of NHS staff. Their findings indicated that effective human resource

practices, including adequate training and a supportive work environment, significantly enhanced performance. Investments in human resources led to better job satisfaction and productivity. However, the study did not explore how these practices might differ across various types of healthcare facilities or regions.

Gorman and Homan (2015) investigated the impact of human resource strategies on health worker productivity in low-income countries. Using a case study approach, they examined several health facilities and assessed human resource strategies such as staff motivation, career development, and workplace environment. They found that effective human resource strategies, including career development opportunities and supportive management, positively influenced productivity. Improved motivation and job satisfaction were associated with higher productivity levels. Nonetheless, the study did not explore how varying levels of resources and support might affect the implementation of these strategies or how specific contextual challenges might influence productivity outcomes.

2.2.4 Influence of Health Worker Appraisal on Productivity of Health Personnel

2.2.4.1 Goal Setting

The process of creating SMART (specific, measurable, achievable, relevant, and time-bound) objectives that individuals or groups wish to complete in a certain length of time is known as goal-setting. In the context of performance appraisal, goal setting involves collaboratively establishing clear and challenging targets for employees based on their roles and responsibilities. It is linked to productivity because it gives workers a distinct feeling of purpose and direction. Well-defined goals give employees a tangible target to strive for, motivating them to put in the effort required to accomplish the objectives.

There is a favourable correlation between performance evaluation and productivity, according to a number of researches. Excessive turnover and poor patient care have been related to the healthcare industry's use of PM systems that lack fairness and transparency (Madlabana et al., 2020). According to research by Rana et al. (2022), job satisfaction has a mediation effect between performance assessment and reinforcement on work obligations in medical healthcare workers. Ismael et al. (2024) conducted a research in Iran and discovered that the average performance review score for healthcare personnel was 2.65 out of 5. The average score was greatest for "organisational context," and lowest for "performance feedback."

Overall performance evaluation ratings were positively related to employees' feelings about their jobs. Owino's (2019) analysis of performance management systems components and employee productivity revealed a favourable and statistically significant relationship. The productivity of workers at Laikipia County's referral hospitals was positively affected by all four of these factors. Results from the key informant interviews indicated that productivity was affected by four factors: planning, evaluation, feedback, and reward.

Locke and Latham (2002) conducted a comprehensive review on goal setting and task motivation, including its effects on health worker productivity. Their meta-analysis covered various studies and highlighted that specific and challenging goals lead to higher performance compared to vague or easy goals. This finding is relevant to health workers, as clear, ambitious goals can enhance productivity and motivation. However, the study did not focus exclusively on healthcare settings or explore how goal setting interacts with other factors in these environments.

Weiss and Cropanzano (1996) explored the impact of goal setting on employees' emotional experiences and productivity, applying their findings to healthcare environments. Their theoretical review found that specific goals positively affect job satisfaction and productivity by influencing emotional experiences. While this work underscores the beneficial effects of goal setting on health worker motivation and performance, it lacks detailed empirical evidence specific to healthcare contexts.

Doran (1981) introduced the SMART criteria for effective goal setting, arguing that goals meeting the Specific, Measurable, Achievable, Relevant, and Time-bound criteria significantly enhance productivity. The application of SMART goals in healthcare settings was shown to improve health workers' efficiency and motivation. However, Doran's study did not delve into the varying effectiveness of SMART goals across different healthcare environments or with different types of health workers.

2.2.4.2 Evaluation

In the context of performance appraisal, evaluation refers to the systematic and objective assessment of an employee's job performance against predetermined standards, goals, or criteria. It comprises obtaining and analyzing information on an employee's successes, areas of strength, potential for growth, and overall worth to the business. By providing feedback, setting expectations, motivating improvement, and recognizing achievements, evaluation significantly impacts employees' productivity, contributing to the organization's overall performance and efficacy. Performance evaluation comments are crucially essential, according to a research by Owino (2019) in Kenya. This is done to give businesses a fair chance to evaluate each employee's performance in light of previously set goals and standards. The results highlight the value of performance reviews and feedback since they give companies the ability to

gauge their employees' performance against predetermined benchmarks. The study found that when performance reviews are carried out with the right objectives in mind, they can increase employee commitment and trust as well as job satisfaction, productivity, and work quality.

In their research, Yawotse et al. (2020) in Ghana discovered that the majority of employees carried out their tasks according to predefined objectives. Community health nurses and disease control officials were among the personnel who were sometimes the targets of violence. It was discovered that PMS's performance evaluation process was haphazard at best. Considering the varying health indicators, meetings were arranged to assess employee performance, provide constructive feedback, and establish new goals. The Ghana Health Service did some type of performance evaluation, which is a part of PMS. There was an annual review process for service employees. However, back then, only when an employee was up for promotion did they get a detailed evaluation. Employees were not compensated according to their contributions, as shown by the findings. Pay was consistent with the service's customary pay packages. Akpan's (2019) research showed that the Agency's leadership is fully invested, that performance priorities are well-aligned with the Agency's mission, and that important factors like employee wellness, training and development, financial stability, and management effectiveness can be measured by the performance management system.

Burke and Cooper (2007) examined the impact of performance appraisal systems on health worker productivity. Their study, which surveyed health workers and managers across various healthcare facilities, revealed that regular and constructive performance evaluations positively influence productivity. The clear feedback and identification of improvement areas provided by these appraisals were found to enhance motivation and job satisfaction among health workers. However, the study did not explore how

different types of evaluation methods or feedback affect productivity differently across diverse healthcare contexts, leaving a gap in understanding the contextual effectiveness of these systems.

Johnson and White (2021) investigated the impact of performance evaluation practices on employee productivity in healthcare settings using a mixed-methods approach. By combining quantitative surveys with qualitative interviews, they found that effective performance evaluations, which included regular feedback and goal setting, significantly improved health worker productivity. Evaluations that provided clear performance metrics and development opportunities were particularly beneficial. Nonetheless, the study did not fully address how organizational culture or individual differences might influence the effectiveness of performance evaluations, highlighting a gap in understanding the broader contextual factors.

Smith and Lee (2015) conducted a longitudinal study to evaluate the effects of performance management systems on health worker productivity. Their research tracked changes in productivity before and after implementing these systems in several healthcare facilities. They discovered that well-designed performance management systems, featuring frequent evaluations and actionable feedback, led to significant improvements in productivity. The systems helped identify performance gaps and offered pathways for professional development. However, the study did not delve into how variations in implementation practices or the type of healthcare facility might influence the effectiveness of these systems, indicating a gap in understanding the impact of different implementation strategies.

2.2.4.3 Feedback

Giving people information, observations, or evaluations of their behavior or performance is known as feedback. In performance appraisal, feedback is given by supervisors, managers, or peers and serves as a mechanism for communicating strengths, weaknesses, and areas for development. Feedback is crucial for productivity as it offers employees insights into their performance, enabling them to identify areas where they excel and areas that require improvement. According to research by Mwita and Andrea (2019), many health care employees in Tanzania are ill-equipped to make effective use of the current performance management system. Participatory goal formulation was difficult because workers lacked the freedom to choose and debate their objectives. The allocation of scarce healthcare resources has also hampered the achievement of set objectives. Human resource management practises have been shown to boost the productivity of health personnel, as shown by . Staff motivation and productivity were found to increase as a result of the examination of training options and performance management practises. The largest barrier to using training to enhance performance was preparation. Managers lacked sufficient education on the importance of performance evaluations and ratings. The institutions were not implementing performance culture to achieve sustainable change. Inadequate data collecting mechanisms and a lack of routine performance assessment were also found in the research.

Wang et al. (2021) conducted a systematic review to evaluate the impact of feedback on healthcare worker performance. Their study examined recent research on various feedback mechanisms, including real-time and periodic feedback. The review revealed that timely, specific, and constructive feedback significantly enhances healthcare worker productivity by clarifying expectations and guiding improvement. However, the

study did not address how different feedback delivery methods or the specific roles within healthcare settings affect feedback effectiveness, leaving a gap in understanding these nuances.

Liu et al. (2022) investigated the impact of real-time feedback on health worker productivity and job satisfaction. Using a mixed-methods approach, they surveyed and interviewed health workers across several hospitals to assess the effects of real-time feedback. The study found that real-time feedback positively influenced both productivity and job satisfaction by enabling immediate adjustments and recognizing efforts. However, it did not explore how the frequency and nature of feedback interact with different healthcare settings and roles, highlighting a gap in understanding the contextual impact of feedback.

Smith and Green (2023) examined how the quality of feedback affects health worker performance and productivity. Their empirical study involved surveys and performance assessments across multiple healthcare facilities, focusing on feedback quality—whether it was constructive, timely, and specific. The results indicated that high-quality feedback significantly enhances productivity and performance. Nevertheless, the study did not explore how varying healthcare settings or organizational cultures might influence the effectiveness of feedback, pointing to a gap in contextual understanding.

2.3 Theoretical Review

The theoretical framework helps researchers narrow their search for useful information by zeroing in on what they need to know, defining the perspective they'll take in analysing and interpreting the data they collect, and learning about the world by verifying or disputing theoretical assumptions . For this study, McClelland's theory of acquired needs motivation provides the basis. In line with the theory of psychologist

David McClelland (presented in Heckhausen and Heinz, 2018), people's unique preferences develop and change as they mature. McClelland (1961), who studied what drives people to succeed, concluded that people shape their surroundings in several ways. Henry Murray's (1938) extensive list of motivations and overt requirements informed McClelland's early work on personality. McClelland theorised that a person's unique requirements are formed and refined throughout the course of his life, thus the theory's alternative name, the Acquired requirements.

According to McClelland's theory of motivation, people develop three basic categories of emotional demands throughout the course of their lives. Achievement, power, and belongingness are the three primary sources of human motivation. The need for accomplishment is the drive to perform above and beyond expected levels or to meet certain goals. A desire for power is the want to compel another person to act in a way that pleases you. To put it another way, it's a need to exert one's will on others and gain power. However, the need for belonging stems from the need for warm and welcoming social interactions. In other words, it's the desire for a cooperative and mutually-beneficial partnership

The relationship between health professionals and their workplace influences their motivation (Weldegebriel et al., 2016). It's fundamental to the pursuit of effective, influential, and high-quality medical care delivery. Using McClelland's idea of acquired needs motivation, managers may better understand how to interact with their personnel and inspire them to take action that might improve service output. Understanding what drives team members is also aided by this technique.

Managers may learn what drives their staff with the help of David McClelland's Human Motivation Theory. This may improve their ability to provide constructive criticism, choose appropriate assignments, and maintain morale (Hiriyappa, 2015). Criticisms of

the theory point out that it prioritises wants for status, influence, and belonging above demands for survival necessities like food, clothing, and a secure place to live.

2.4 Critical Literature Review and Summary of the Gaps to be filled

It is considered that the level of job motivation among health care personnel is directly related to the quality of treatment provided in hospitals; however, it is not known which form of motivation should be promoted to enhance quality (Veenstra et al., 2022). Many healthcare personnel, particularly in underdeveloped nations, were shown to be unmotivated in the examined studies. Research on motivational techniques and the relationship between motivational tactics and output, however, remained lacking. By assessing the degree to which motivating strategies influence the effectiveness of medical services rendered by public health institutions in Laikipia county, this study seeks to close this information gap.

Employee motivation, job happiness, and collaboration are all influenced by leadership styles (Musinguzi et al., 2018), making leadership styles crucial organisational antecedents. Studies on the relationship between health professionals are scarce, nevertheless, particularly in low-resource nations like Kenya. This research aims to fill that void by analysing how different types of leadership affect the efficiency with which medical services are provided by public health institutions in Laikipia County.

Resources with enough quantity, high quality and professionally following the functions and duties are desirable (Yntig, 2020). Studies show that public health institutions lack adequate resources. However, studies investigating this relationship among healthcare workers are lacking. Therefore, the purpose of this study is to ascertain how facility resources affect the medical staff's productivity in Laikipia County public health institutions.

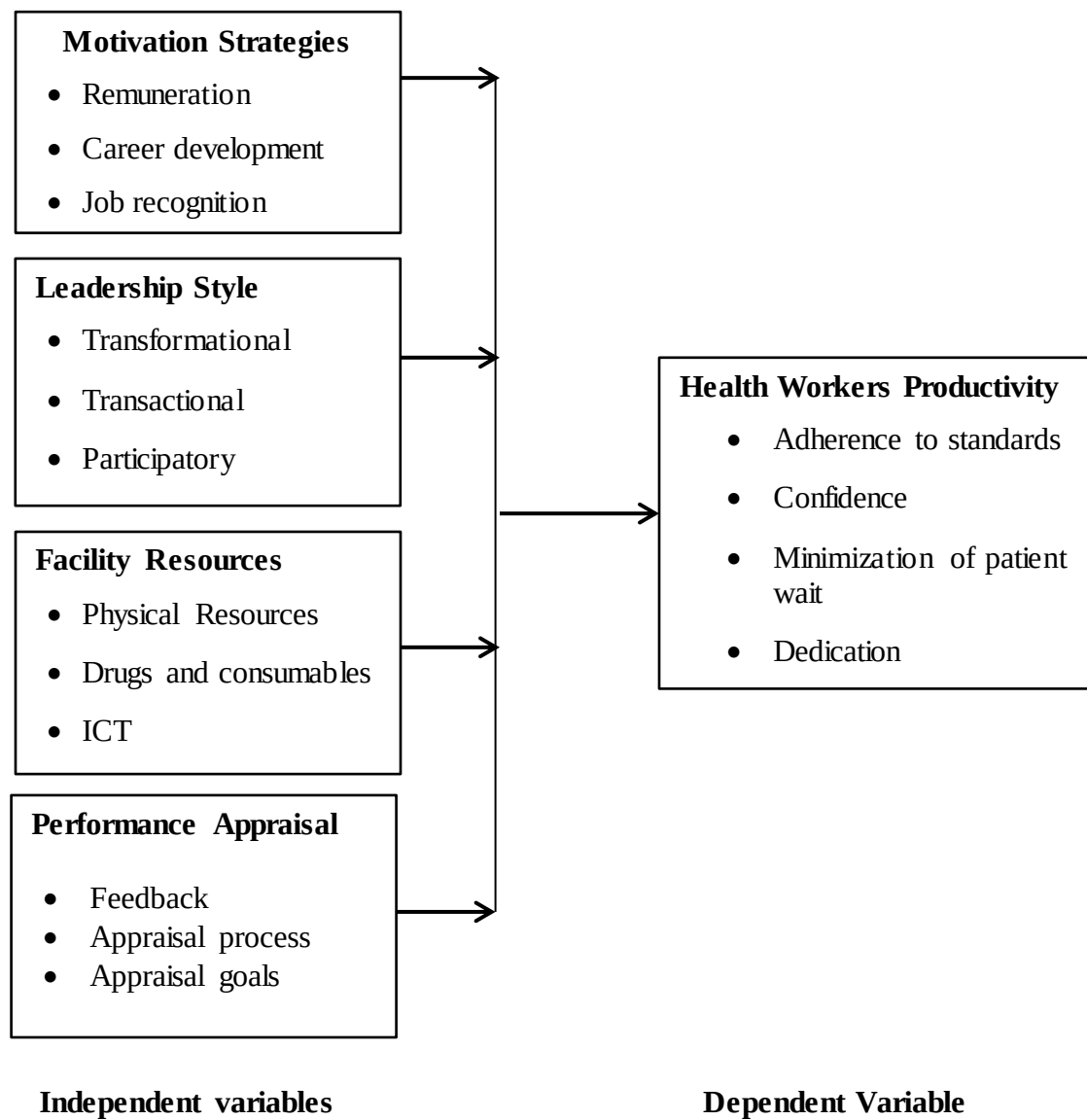
Employees need and benefit from the yearly performance review process since it gives information on how they are doing on the job and how to advance in their careers. Staff performance and patient outcomes may benefit from a transparent and constructive performance review process (Ismael et al., 2024). Although many studies have investigated performance evaluation among healthcare workers, very few have linked it to performance. This study therefore seeks to investigate effect personnel evaluation policy on productivity of health personnel's offering medical services in public health facilities in Laikipia County.

2.5 Conceptual Framework

A conceptual framework is a simplified model of a complex topic that considers all of the relevant factors and relationships. It lays out the goals of your study and shows how they fit together to form a logical whole (Varpio et al., 2020). Figure 2.1 shows the conceptual framework.

Figure 2. 1

Conceptual Framework



CHAPTER THREE

3.1 Introduction

This chapter contains the completed research approach. It included the population, sample, and study plan. Data gathering strategies and methodologies, as well as analytic methods, used in the research were described.

3.2 Research Philosophy

Research philosophy refers to presumptions, concepts, and convictions that guide a research project are known as. It influences how the researcher views the nature of knowledge, how the researcher and the researched relate to one another, and how data collection and processing techniques are employed (Greenfield & Greener, 2016). This study applied a positivist research philosophy. A positivist research perspective places a strong emphasis on the objective and empirical methodologies used in social science investigations in order to identify causal linkages and identify broadly applicable patterns. Positivist research follows set rules and laws, making it possible to replicate findings in other studies. This improves the validity and dependability of study findings and conclusions. Using both quantitative and qualitative methods, the current study determined the factors impacting the productivity of health professionals at public health institutions in Laikipia County.

3.3 Research Design

The overall strategy and analytic technique used by the researcher to combine the various study components coherently and logically is referred to as the research design. This ensures that the research topic will be thoroughly examined. For this study, a descriptive cross-sectional survey design was adopted. A descriptive research design's

primary objective is to examine a sample at a certain moment in time without attempting to draw conclusions or identify causes.

3.4 Target Population

The medical personnel working for Laikipia County's public health facilities was the study's target group. Since most health services are provided in the main sub-county hospitals and the referral hospital, the researcher recruited medical staff from these facilities. This included doctors, clinicians and nurses. In addition, the in-charges of the facilities were also included.

Table 3. 1

Target Population

Population	Number
Doctors	27
Clinicians	39
Nurses	162
Total	228

Source: County Government of Laikipia (2023)

3.5 Sampling Procedure

Slovin's formula was used to calculate the sample size

$$n = N / (1 + N e^2) \text{ (Tejada \& Punzalan, 2012).}$$

Where “n” represents the sample size, “N” represents the population while e is the margin of error.

Therefore, in a population of 228 health workers,

$$n=228/(1+228*0.05^2) = 145$$

This study used 145 respondents. Stratified random sampling distributed the sample size proportionally to the various health workers.

Table 3. 2*Sampling Frame*

Population	Total Number	Sample
Doctors	27	17
Clinicians	39	25
Nurses	162	103
Total	228	145

To select respondents, the researcher used a random number generator (RNG). The health department provided a complete list of all healthcare providers in the county. The researcher first organized this list by profession, which included doctors, clinicians, and nurses. For each profession, the researcher created a numbered list. For example, there were 228 nurses listed. The researcher then used an online RNG tool to generate 145 random numbers from this list. The individuals corresponding to these numbers were selected as respondents for the study. The same process was repeated for the other professions. This method ensured that the sample was chosen randomly and represented a fair cross-section of each profession.

3.6 Instrumentation

The study used questionnaires and key informant interviews to collect data.

3.6.1 Questionnaire

A self-administered questionnaire was used to collect data. There were multiple sections on the questionnaire: demographic characteristics, motivational strategies, leadership style, facilities' resources, and worker's evaluation policy and employee productivity. The researcher developed the questionnaire using Google Forms. The Work Extrinsic and Intrinsic Motivation Scale (WEIMS) was adjusted in order to measure motivation. An 18-item exam called the WEIMS measures a person's level of work motivation. It is based on the idea of self-determination. On a scale similar to the

Likert scale, each item in each subscale is given a score between "1" (does not match at all) and "7" (corresponds exactly). (Chai et al., 2017) says that the mean score of the three items in each subscale can be used to make the score for that subscale. With the Multifactor Leadership Questionnaire (MLQ), one can find out what kind of leader they are. MLQ is a psychology survey with 36 questions about how people lead and 9 questions about what happens when people lead. It takes a look at three different types of leadership: transactional, transformational and passive-avoidant (Batista-Foguet et al., 2021). To make sure the questionnaire was accurate; the researcher's managers looked over the instrument and gave their professional opinion on its face, content, and construct validity.

3.6.2 Pre Test Study

A pre-test was done to make sure that the form is accurate. The pre-test was done with 25 people who worked in health care in Nyeri County. Statistical Package for the Social Sciences (SPSS) version 28 for Windows was used to enter the data from the pre-test into a computer. Cronbach alpha coefficient was then used to look at the data and check for internal uniformity values greater than 0.7 were recommended.

3.6.3 Key Informant Interviews

The study performed key informant interviews to get information from the three responsible healthcare managers and supervisors. The advantage of using KII was that it allowed the respondents to freely express themselves and this helped the researcher to access information that could not be accessed through questionnaires.

3.7 Methods of Data Collection

After choosing the research tools, the recruitment process was structured to ensure a representative sample from these key health professionals. Participants were identified

through a comprehensive list provided by the County Health Management Team, which included staffing records from various public health facilities in Laikipia County. This list was essential for reaching out to the relevant health workers. Initial contact with the potential participants was made through formal communication channels, including emails and phone calls. This initial outreach aimed to inform them about the study's objectives and significance and to assess their interest in participating.

Those who expressed interest received a formal invitation letter detailing the study's purpose, procedures, and the expected time commitment. The invitation letter was distributed either electronically or in person, based on the participants' preferences. Informed consent was a critical component of the data collection process. Participants were provided with an informed consent form outlining the study's aims, procedures, potential risks, benefits, and their rights. The form emphasized the voluntary nature of participation and assured confidentiality. Consent was obtained in person before data collection began, allowing participants the opportunity to ask questions and receive clarifications. Documentation of consent was achieved through signed forms or digital acknowledgment.

Several challenges were encountered during data collection. Access to some public health facilities was difficult due to administrative and logistical barriers. Overcoming these barriers required additional time and effort in coordinating with facility managers and navigating bureaucratic processes. Additionally, securing a high response rate was challenging due to the busy schedules of clinicians, doctors, and nurses. Flexible scheduling and multiple reminders were used to address this challenge and accommodate participants' availability.

Ensuring the quality of the collected data was also a concern. Variability in responses and potential biases were managed by thoroughly training data collectors and using standardized questionnaires to ensure consistency. Some participants had concerns about confidentiality, which were addressed by clearly communicating the measures taken to ensure anonymity and secure data handling. Filling out the form took twenty minutes. The whole data collection process took 2 weeks. Overall, despite these challenges, the data collection process was conducted effectively, yielding valuable insights into the determinants of productivity among clinicians, doctors, and nurses in public health facilities in Laikipia County.

3.8 Operational Definition of Variables

Table 3.3 shows the study variables and how they were measured.

Table 3. 3

Operational Definition of Variables

Variable	Type	Measurement	Sources of data
Employee productivity	Dependent	Nominal	Questionnaire
Motivational Strategies	Independent	Nominal	Questionnaire
Leadership style	Independent	Nominal	Questionnaire
Facilities' resources	Independent	Nominal	Questionnaire
Workers evaluation	Independent	Nominal	Questionnaire

3.9 Methods of Data Analysis

The data was transferred to SPSS after it was gathered. Both descriptive and inferential statistics were applied to the data analysis process. Descriptive statistics, like percentages, rates, means, and standard deviations, were used to put together results about demographics, motivational strategies, leadership style, facilities' resources, workers' review policy, and employee output. Content analysis was used in the analyzing of qualitative data. Inferential statistics were used to find out what kind of

link there is between the factors and how productive employees were. Tables were used to show what the results were.

3.10 Ethical Considerations

The researcher's school, Kenya Methodist University, gave permission for the project. The researcher obtained a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI). The Laikipia County health department gave permission to gather data. The researcher considered informed consent, participant privacy and confidentiality, and avoided discrimination. The researcher also informed participants of the advantages and drawbacks of the research, respected their privacy, and respected their autonomy. The respondent participated voluntarily after giving informed consent. Respondents received information about the study's objectives, their role in it, the processes, its advantages, and its hazards via a participant information sheet. After that, the researcher asked for participants' permission and made sure they all knew they may leave the study at any time during the investigation.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

The research findings on the variables influencing the productivity of the medical personnel at the public health institutions in Laikipia County are presented in this chapter. The response rate is presented at the beginning of this chapter. Reliability and validity are the next two subsections that address the pilot outcomes. The part on descriptive results includes the demographic data, which includes gender, age, education level, occupation, and work experience. The description is presented in the section that follows using mean and standard deviation. The chapter then presents the correlation analysis's results. The results of the diagnostic tests that were carried out are also presented in this chapter. These evaluations concerned the Normality, Heteroskedasticity, and Autocorrelation tests. The multivariate regression analysis's results are displayed in the next crucial section.

4.2. Response Rate

The researcher was delighted with the comparatively high response rate to the questionnaires and the interview. The final results were reliable and representative of the entire target population, thanks to a high response rate. According to Emore (2007), the rate of response indicates how well all of the sample items are covered by the data that was collected. The ratio of the actual respondents to the predicted number of respondents to the survey is used to compute it. Samples of 145 carefully chosen respondents were included in the study; Table 4.1 shows the results about the respondents' response rate.

Table 4. 1*Response Rate*

Response Status	Frequency	Percent
Responded	124	85.5
Did not respond	21	14.5
Total	145	100.0

Based on the findings, 124 out of the 145 surveys were completed and sent back. Based on the same statistics, 14.5% of the respondents did not respond to the questions. It was a positive thing, though, that there were a lot of comments, as it allowed for more study. This showed that, in contrast to the anticipated number of respondents who actually replied to the study, the active sample reflected the response rate of 85.5% of the sample size, which is defined as the data that accounted for all sample items in research (Emore, 2007). As per the findings of Mugenda and Mugenda (2008), fifty percent of the responses are considered adequate, sixty percent are good, and seventy percent or more are classified as Very Good. As a result, the 85.5 percent response rate for this study was deemed very good.

4.3 Pilot Study**4.3.1 Reliability Results**

According to Yasar and Cogenli (2014), scores from a research instrument are considered reliable if they are consistent. It was worthwhile to examine the dependability of the structured questionnaires utilized in this research because they served as data collection instruments. Cronbach's alpha is a suitable model to utilize for assessing an instrument's internal consistency dependability based on its average inter-item correlation, according to Rovai et al. (2013). A Cronbach alpha value of greater

than.70 is considered a reliable signal for the given construct. Every variable appeared to have had a Cronbach alpha value more than 0.70 based on the results of this study. Consequently, Cronbach alpha was employed in the investigation to validate the dependability of the research tools. The results are presented in Table 4.2.

Table 4. 2

Reliability Results

Variables	Number of items	Cronbach's alpha
Employee productivity	8	0.741
Motivation strategies	18	0.743
Leadership styles	9	0.735
Facilities resources	9	0.707
Health workers appraisal	12	0.745

Sekeran and Bougie (2010) state that 0.70 is the generally acknowledged level of reliability measure. Based on the average inter-item correlation, each variable's Cronbach's alpha was found to be greater than 0.70 based on the collected data. The variables pertaining to the appraisal of health personnel (0.745) and facilities resources (0.707) had the highest Cronbach's alpha values. Thus, the results met the required threshold for further analysis as presented in Table 4.2.

4.3.2 Validity Test

Mugenda and Mugenda (2008) define construct validity as an assessment of how well an instrument's results faithfully and interpretably convey a theoretical viewpoint. Lecturers in health system administration provided expert opinions on the face validity and content of the research instrument for this study. According to Kothari (2019), if the research followed these guidelines, it would be objective, equitable, relevant, and generally trustworthy. The Kaiser-Meyer-Olkin (KMO) measure of sample adequacy

and Bartlett's test of sphericity, which assesses the strength of the constructs as listed in Table 4.3, were used to assess the validity of this study.

Table 4.3

Validity Test

Variables	KMO	Bartlett's Test Chi-Square	p- value	Comment
Employee productivity				
Motivation strategies	0.556	233.776	0.000	Adequate
Leadership styles	0.530	221.396	0.000	Adequate
Facilities resources	0.515	206.672	0.000	Adequate
Health workers appraisal	0.591	340.402	0.000	Adequate

Field (2005) argues that the data subjected to component analysis on this variable in this study was suitable. Kaiser-Meyer-Olkin measures of sampling adequacy were 0.556, 0.530, 0.515, and 0.591 above the acceptable value of 0.50. Bartlett's Test of Sphericity produced significant Chi-Square (χ^2) of the Employee productivity, Motivation strategies, Leadership styles, Facilities resources, and Health workers appraisal; p- values were less than 0.05.

4.4 Demographic Characteristics of the Respondents

This section makes it much easier for the researcher to evaluate the respondents' backgrounds and confirm the accuracy, dependability, and applicability of the data provided. When it comes to how the responders interact or offer their opinions regarding the questions and the setting, their individual qualities are crucial. The respondents' gender, age, education level, employment position, and length of work experience were all carefully investigated in this section.

4.4.1 Gender of the Respondents

The study sought the gender of the respondents and results are presented in Table 4.4.

Table 4. 4*Gender of the Respondents*

	Frequency	Percent
Male	56	45.2
Female	68	54.8
Total	124	100.0

The results of the study showed that 68 (54.8%) of research participants were female and 56 (45.2%) of respondents were male. From Table 4.1 the research finding depicted a good representation of both gender at the public health facilities in line with the Constitution of Kenya. Buchan et al. (2013) discuss gender imbalances in healthcare workforces in various countries, noting that female healthcare workers often outnumber their male counterparts. This aligns with your study's finding of a majority female representation.

4.4.2 Age Bracket of the Respondents

The purpose of the study was to ascertain the respondents' age range; Table 4.5 presents the findings.

Table 4. 5*Age Bracket of the Respondents*

Category	Frequency	Percent
21-30	26	21.0
31-40	76	61.3
41-50	9	7.3
51 years and above	13	10.5
Total	124	100.0

According to the study's findings, 26 (21.0%) of the research participants were between the ages of 21 and 30, and 76 (61.3%) were between the ages of 31 and 40. Moreover, 9(7.3%) of the respondents were aged between age 41-50 years while 13 (10.5%) of research participants were aged 51-60 years of age. Table 4.5 makes it abundantly evident that the majority of respondents were in the age range of 31 to 40.

Existing literature on age distribution within healthcare settings often indicates that the majority of healthcare workers are in the middle-aged bracket. For example, Stone and Wiener (2001) found that a significant portion of the healthcare workforce is aged 30 to 50, reflecting a stable, experienced group of professionals. Studies like Muhammad et al. (2016) highlight that in many countries; the healthcare workforce often includes a substantial proportion of employees aged between 30 and 50 years, reflecting a peak in career development and stability.

The age distribution with a majority aged 31-40, indicates a well-established workforce with potentially significant experience and stability. This is consistent with literature suggesting that this age range often represents a phase of career consolidation and peak productivity.

4.4.3 Level of Education of the Respondents

Because education is one of the most important factors influencing a person's perception, attitude, and overall understanding of any particular business phenomena, the study set out to determine the respondents' educational background. Following this, the researcher looked into the individuals' educational backgrounds and divided them into four cohorts: diploma, bachelor's degree, master's degree, and other. The data is presented in Table 4.6.

Table 4. 6

Level of Education of the Respondents

	Frequency	Percent
Certificate	4	3.2
Diploma	27	21.8
Higher Diploma	46	37.1
Bachelor's Degree	37	29.8
Master's Degree	10	8.1
Total	124	100.0

According to Table 4.6's findings regarding the respondents' educational backgrounds, 37 (29.8%) of the respondents had a bachelor's degree, 27 (21.8%) held a diploma, 4 (3.2%) held a certificate, and 46 (37.1%) held a master's degree. Literature on educational qualifications of healthcare workers often shows a high percentage of staff with bachelors and master's degrees.

Buchan and Aiken (2008) highlight that in many developed countries, a substantial portion of healthcare professionals hold advanced degrees, reflecting a trend towards higher educational standards. In the context of African healthcare systems, as discussed by Dussault and Franceschini (2006), there is often a significant variation in educational qualifications. However, there is an increasing trend towards higher education levels

among healthcare workers as countries invest in improving healthcare standards and professional development.

4.4.4 Occupation of the respondents

The research assessed the profession in which the participants were instructors. The findings were presented in Table 4.7.

Table 4. 7

Occupation of the respondents

	Frequency	Percent
Doctors	14	11.3
Nurses	75	60.5
Clinicians	24	19.4
Total	124	100.0

As indicated in Table 4.7, 14(11.3%) of the respondents were doctors, 75(60.5%) of them were nurses, 24(19.4%) of the participants were clinicians. Research by Dussault and Franceschini (2006) reveals that in public health settings, nurses and doctors often constitute the majority of healthcare staff, which corresponds with the results showing significant representation of both roles. Ndebele and Mouton (2019) reflect that in many African countries, including Kenya, there is a higher percentage of nurses compared to doctors due to the broader scope of nursing roles and training programs. According to Kruk and Freedman (2008), having a variety of healthcare roles represented is crucial for comprehensive patient care, as each role contributes uniquely to the overall health service delivery.

4.4.5 Working Experience of the Respondents

Examining the respondents' experiences working as healthcare providers in their individual facilities was the goal of this part. The time intervals for these groups were less than a year, a year to fewer than five years, a year to fewer than ten years, and more than ten years. The respondents are shown by work experience in Table 4.8.

Table 4. 8

Working Experience of the Respondents

	Frequency	Percent
<1 Years	1	0.8
1 - 5 years	71	57.3
6 - 10 years	38	30.6
Over 10 years	14	11.3
Total	124	100.0

Table 4.8 presents the results of the respondents' time spent working in their respective health facilities. Of the respondents, 0.8% reported having less than a year's experience, 57.3% reported having one to five years' experience, 30.6% reported having six to ten years' experience, and 11.3% reported having more than ten years' experience.

Literature such as Labrague et al. (2018) indicates that in healthcare settings, particularly in fast-paced or high-turnover environments, a significant portion of the workforce often consists of professionals with 1 to 5 years of experience. This aligns with the finding that 57.3% of respondents fall into this category. Research by Dijkstra and Veenstra (2019) highlights that varying levels of experience impact performance and job satisfaction. The distribution in the study reflects a typical mix where a majority has relatively recent experience, potentially bringing new skills and energy to the workplace.

4.5 Descriptive Analysis

4.5.1 Motivational Strategies

The main objective of this study was to ascertain the extent to which motivating strategies affected the productivity of medical professionals in Laikipia County's public health facilities when providing medical services. Participants were required to indicate how much they agreed with the comments regarding the motivational tactics. They scored assertions that described motivating techniques as Strongly Agree = 5, Agree = 4, neutral = 3, Disagree = 2, or Strongly Disagree = 1 on a scale of 1 to 5. The results were categorized as follows: agree, neutral, and disagree. This was accomplished by merging strongly disagree and agree to produce the "disagree" category and agree and strongly disagree to create the agree category. The findings are presented in Table 4.9:

Table 4. 9

Motivation Strategies and Productivity of Health Workers

	Disagree	Neutral	Agree
Remuneration	N (%)	N (%)	N (%)
The terminal benefits are standardized and in line with performance	27(21.8%)	28(22.6%)	69(55.6%)
There is timely paid of health care workers	36(29.0%)	20(16.1%)	68(54.8%)
There is unbiased annual increment of salaries hence improving workers motivation	38(30.6%)	21(16.9%)	65(52.4%)
Career development			
The career development opportunities are provided through merit	32(25.8%)	20(16.1%)	72(58.1%)
The career development contribute to performance improvement	32(25.8%)	20(16.1%)	72(58.1%)

Career development employees make them feel valued and appreciated	48(38.7%)	16(12.9%)	60(48.4%)
Job Recognition			
Workplace recognition provides a sense of accomplishment	17(13.7%)	40(32.3%)	67(54.0%)
The employees are praised regularly at work	42(33.9%)	16(12.9%)	66(53.2%)
The workers get credit for their good work	31(25.0%)	15(12.1%)	78(62.9%)

According to Table 4.9, respondents were asked to rate several statements on compensation at their facility on a Likert scale. For the first question regarding whether terminal benefits are standardized and commensurate with performance, 55.6% of respondents expressed agreement, 22.6% was neutral and 21.8% disagreed. The second query inquired about whether healthcare professionals are paid on time. Of the respondents, 54.8% agreed, 29.0% disagreed, and 16.1% were neutral. Regarding the third question about the presence of an impartial annual salary increase that improves employee motivation, 52.4% of respondents agreed, 30.6% were neutral, and 16.9% disagreed. Additionally, where respondents were categorized as agreeing, they were considered neutral in their stance.

The survey results are consistent with a study by Ndirangu (2021) that found a substantial correlation between direct remuneration, non-cash compensation, skill-based compensation, and deviant compensation and employees' job performance in private clinics. Furthermore, Choge (2022) corroborated the results by showing a statistically significant positive connection ($r= 0.581$) P-value <0.01) between average executions and workers' accident compensation (free factor) (dependent variable). Extra evidence for this came from Kuswati (2021), who noted that there was a

correlation between employees' performance and pay and that, in some open-ended positions, workers' educational and experience levels did not appear to adequately account for differences in pay and compensation, which impacted employees' job performance.

On a Likert scale, respondents were asked about certain statements related to career development at their facility, as indicated in Table 4.9. In response to the first question, which asked if professional development chances are granted based on merit, 58.1% of respondents agreed, 25.8% disagreed, and 16.1% neutral. In response to the second question, which asked whether career growth improves performance, 58.1% of respondents agreed, 25.8% neutral, and 16.1% disagreed. In response to the third question concerning whether career development staff members help people feel respected and appreciated, 48.4% of respondents agreed, 38.7% disagreed, and 12.9% neutral.

Equal professional growth opportunities, ongoing learning, and improved interpersonal and communication skills should all be provided to employees. This supports the findings of Opuku et al. (2022), who found that improving health professionals' general skill and knowledge could enable them to provide higher-quality services and increase the factors that motivate them. This was also supported by a study by Hallo and Obuba (2021), which found that career development plans for staff members are essential for improving performance, which leads to staff retention.

According to Table 4.9, respondents were asked to rate a few statements on job recognition at their facility on a Likert scale. The first statement inquired whether workplace recognition provides a sense of accomplishment. 54.0% of the respondents agreed, 32.3% disagreed, while 13.7% did not give any opinion. Regarding the question

of whether employees are praised regularly at work, 53.2% of the respondents agreed, 33.9% disagreed, while 12.9% were neutral. Finally, when asked if they felt that their hard effort was rewarded, 62.9% of respondents agreed, 25.0% disagreed, and 12.1% were neutral. This is consistent with a poll conducted in 2016 by Amoatema and Kyeremeh, which found that workers who receive praise for their excellent work feel as though their sense of self is growing. Atambo et al. (2012) also corroborate this, showing that employer acknowledgment of employees increased the likelihood of advancement into personal and organizational levels.

Regarding motivational strategies four key informants responded as follows:

"In our facility, we utilize various motivational strategies to enhance health worker productivity. Recognition programs play a significant role, where outstanding performance is acknowledged through employee of the month awards and public recognition during staff meetings. Additionally, we have implemented performance-based incentives tied to productivity targets and patient satisfaction scores, which serve as tangible rewards for exceptional performance." (Respondent 1)

"Regular training and development opportunities are essential components of our motivational strategy. We offer a variety of educational programs, including workshops, seminars, and online courses, to enhance the skills and knowledge of our health workers. These opportunities not only contribute to professional growth but also foster a sense of empowerment and investment in their careers." (Respondent 2)

"Open communication channels and participatory decision-making processes are fundamental to our motivational strategy. We prioritize transparency and collaboration, allowing health workers to voice their concerns, provide feedback, and contribute to decision-making processes. This fosters a sense of ownership and accountability among staff members, leading to increased motivation and engagement." (Respondent 3)

"Offering flexible work schedules and promoting work-life balance are key components of our motivational strategy. We recognize the importance of supporting employee well-being and allowing for flexibility in managing personal and professional responsibilities. By accommodating individual needs and preferences, we aim to promote morale and job satisfaction among our health workers." (Respondent 4)

The qualitative findings from the respondents align with the literature's emphasis on both monetary and non-monetary factors in motivating healthcare workers (Afolabi,

2022; Muthuri et al., 2020). Strategies such as recognition programs, performance-based incentives, regular training and development opportunities, open communication channels, participatory decision-making processes, and promoting work-life balance were highlighted as key elements in enhancing health worker productivity. However, it's important to note that while financial compensation plays a role, it's not the sole determinant of motivation, as other factors such as positive working circumstances, management support, and opportunities for skill enhancement are equally important (Weldegebriel et al., 2016). Additionally, the findings align with David McClelland's Human Motivation Theory, which emphasizes the importance of needs for achievement, affiliation, and power in driving employee motivation.

4.5.2 Performance Appraisal

The second objective of this study was to investigate the extent to which performance reviews affected the medical staff's productivity in providing care in public health facilities located in Laikipia County. Surveys were employed to gather information from 124 participants.

It was necessary to specify the extent to which the respondents agreed with statements related to the performance appraisal variable. Statements that indicated performance appraisal were assessed as Strongly Agree = 5, Agree = 4, neutral = 3, Disagree = 2, or Strongly Disagree = 1 on a scale of 1 to 5. There were two categories for the results: agree and disagree. This was accomplished by merging neutral, strongly disagree, and agree to produce the "disagree" category and agree and strongly agree to make the agree category. The findings are presented in Table 4.10:

Table 4. 10

Performance Appraisal and Productivity of Health Workers

Performance Appraisal Feedback	Disagree	Neutral	Agree
To improve employee performance, performance appraisal feedback is utilized.	29 (23.4%)	21 (16.9%)	74 (59.7%)
Feedback from performance appraisals is utilized to improve section appraisals that follow.	16 (12.9%)	43 (34.7%)	65 (52.4%)
Health care providers in my organization eagerly await feedback from their performance reviews.	38 (30.6%)	31 (25.0%)	55 (44.4%)
Performance Appraisal Process			
After a performance review, I as an employee can voice my complaints.	60 (48.4%)	26 (21.0%)	38 (30.6%)
Employee advancement and the performance review process are related.	37 (29.8%)	23 (18.5%)	64 (51.6%)
Performance Appraisal Goals			
The purpose of performance reviews is connected to the organization's training policy.	29 (23.4%)	69 (55.6%)	26 (21.0%)
Staff training needs are identified by the performance appraisal target.	12 (9.7%)	39 (31.5%)	73 (58.9%)
The purpose of performance appraisal goals is to raise employee performance.	8 (6.5%)	47 (37.9%)	69 (55.6%)
The objectives of performance reviews are clearly stated in HR Policies.	7 (5.6%)	54 (43.5%)	63 (50.8%)

Table 4.10 illustrates that respondents were asked to use a Likert scale to rank a series of statements regarding performance appraisal remarks at their facility. The first question posed was whether staff performance can be improved by using feedback from performance reviews. Of the respondents, 16.9% were neutral, 23.4% disagreed, and 59.7% agreed. The second question inquired if performance appraisal input is used to improve the following section appraisal. 12.9% were neutral, 52.4% agreed, and 34.7% were unsure. The final query posed was whether the organization's healthcare providers anticipated receiving feedback from their performance reviews. 30.6% agreed, 25.0% were neutral, and 44.4% agreed.

According to Kuvaas (2011), employees who reported higher levels of perceived regular feedback were the only ones for whom there was a significant link between work performance and performance appraisals. Additionally, there was a high correlation between affective commitment and the perceived value of performance reviews. Regular feedback also reduced the association between work performance and performance appraisal replies, suggesting that insufficient regular feedback cannot be made up for by formal performance reviews. It was proven by Robinson and Fink (2009) that the evaluation procedure had several shortcomings. Formal performance evaluation programs, however, can produce disappointing and inadequate outcomes. Robinson and Fink (2009) contend that while performance reviews highlight systemic shortcomings and consider potential benefits, they ought to be reserved for extreme cases. The focus should be on improving them rather than on whether or not to trash them. The irony is that when performance appraisal feedback is not addressed honestly, time turns against you. One of the main causes of failure is that companies frequently choose widely from the vast array of performance appraisal approaches without considering which technique is most appropriate for a given appraisal goal.

According to Table 4.10, respondents were asked to rate certain statements related to the performance appraisal process at their facility on a Likert scale. The first question asked concerned whether the respondents could voice their complaints as employees following a performance review. Twenty-one percent were neutral, thirty-six percent agreed, and forty-eight percent disapproved. The second question asked was if staff promotion is associated with performance appraisal process, 51.6% of the respondents agreed, 29.8% disagreed while 18.5% were neutral.

Longenecker et al. (2014) state that businesses assess their employees' performance using a variety of performance criteria. These findings are supported by other studies. Even though there wasn't enough information to develop a formal company performance appraisal method, the researchers were nonetheless able to offer valuable insights into the practice that limit the approach's potential for generalization. Zhang & Li (2020) discovered in another study that although affective commitment and the performance appraisal process were less related, perceived rating incentive connection increased the direct relationship between organizational citizenship and the process. Additionally, the study discovered a connection between affective commitment-mediated conduct and organizational citizenship behavior.

According to Table 4.10, respondents were asked to rate a statement related to the performance appraisal goals at their institution on a Likert scale. When asked if the organization's training policy and performance appraisal goal were related, 55.6% of respondents said they were, 23.4% said they weren't, and 21.0% said they weren't sure. When asked if the purpose of a performance review determines the requirement for staff training, 58.9% of respondents agreed, 31.5% were unsure, and 9.7% disagreed. When asked if performance appraisal goals are utilized to improve staff performance, 55.6% of respondents agreed, 37.9% said were unsure, and 6.5% said they disagreed. This was the third question. The final question concerned whether HR policies adequately specified performance appraisal targets. Of the respondents, 43.5% were unsure, 5.6% disagreed, and 50.8% agreed.

According to Pettijohn and Taylor (2009), performance reviews that are carried out correctly have favorable effects. Omusebe et al. (2013) discovered that Mumias Sugar Company staff efficiency and performance appraisal had a positive and substantial

relationship. Walsh (2008) found that, on nine out of 10 reaction scales, respondents thought the performance rating instruments were fair. Yang (2008) states that companies can directly apply bonuses and rewards based on individual performance if employee success is evident. According to Yang (2008), Bishop (2011) examined employee performance and discovered that providing incentives, recognition, and acknowledgment for performance directly discriminated against employee productivity.

The qualitative findings were also in support of the quantitative results, and this is demonstrated by excerpts below:

"Health worker appraisal in our facility is conducted through annual performance evaluations, where supervisors assess individual performance based on predetermined criteria and objectives. Feedback sessions are held to discuss strengths, areas for improvement, and goal setting for the upcoming year." (Respondent 1)

"Health worker appraisal in our facility is a collaborative process, involving self-assessment, peer evaluation, and feedback from supervisors. This multi-source feedback approach allows for a comprehensive assessment of performance and promotes accountability and professional growth." (Respondent 2)

"Health worker appraisal in our facility is often perceived as subjective and inconsistent. While formal evaluation processes exist, there is a lack of transparency and standardization in how performance is assessed. Additionally, feedback mechanisms are limited, hindering opportunities for constructive dialogue and improvement." (Respondent 3)

"Health worker appraisal in our facility is perceived as fair and transparent, with clear criteria and expectations outlined for performance evaluation. Feedback sessions are conducted regularly, allowing for open communication and discussion of performance goals and development opportunities." (Respondent 4)

The qualitative findings regarding health worker appraisal strategies align with various aspects of the literature provided. Respondents highlighted different approaches to performance appraisal, including structured evaluations, collaborative processes, and concerns about subjectivity and transparency. This

resonates with the literature, which discusses the importance of fair and transparent performance evaluation processes (Madlabana et al., 2020; Owino, 2019).

Furthermore, the emphasis on goal-setting in the qualitative findings reflects the literature's recognition of goal-setting as a crucial component of performance appraisal, linked to productivity and employee motivation (Madlabana et al., 2020). The challenges identified by respondents, such as turnover and poor patient care associated with ineffective performance management systems, corroborate findings from previous research (Madlabana et al., 2020).

Moreover, the role of feedback in performance appraisal, as highlighted by respondents, aligns with the literature's emphasis on the importance of feedback for employee development and job satisfaction (Mwita & Andrea, 2019). However, the challenges identified by respondents, such as ill-equipped healthcare employees and a lack of routine performance assessment, underscore the complexities involved in implementing effective performance management systems in healthcare settings, as discussed in the literature (Mwita & Andrea, 2019).

Overall, the qualitative findings provide valuable insights into health worker appraisal practices, reinforcing key themes identified in the literature and highlighting areas for improvement in performance management systems within healthcare facilities.

4.5.3 Leadership Styles

Determining the degree to which leadership styles affected the output of medical staff providing care in public health institutions in Laikipia County was the third goal of this research. It was necessary to specify the extent to which the respondents agreed with statements related to the performance appraisal variable. They scored statements about

leadership styles as follows: Strongly Agree = 5, Agree = 4, neutral = 3, Disagree = 2, or Strongly Disagree = 1 on a scale of 1 to 5. The results were categorized as follows: disagree, neutral, and agree. This was accomplished by merging strongly disagree and disagree to produce the "disagree" category and agree and strongly agree to create the agree category. The findings are presented in Table 4.11.

Table 4. 11

Leadership Styles and the Productivity of Health Workers

	Disagree	Neutral	Agree
Transformational Leadership Style			
The significance of having a shared sense of vision and mission is emphasized by leaders.	33 (26.6%)	40 (32.3%)	51 (41.1%)
Leaders express confidence and encourage employees to achieve their own individual goals.	34 (27.4%)	48 (38.7%)	42 (33.9%)
Leaders seek different perspectives when solving problems	36 (29.0%)	43 (34.7%)	45 (36.3%)
Transactional Leadership Style			
Leaders express satisfaction when employees meet their goals and expectations	33 (26.6%)	48 (34.7%)	43 (34.7%)
Leadership addresses in detail who is in charge of reaching performance goals.	37 (29.8%)	45 (36.3%)	42 (33.9%)
Leaders keep track of all mistakes whether mine or that of other employees	33 (26.6%)	55 (44.4%)	36 (29.0%)
Participatory Leadership Style			
It is appropriate for subordinates to participate in decision-making processes and to express their thoughts and opinions.	33 (26.6%)	45 (36.3%)	46 (37.1%)
Leaders constantly communicate and show support to employees	35 (28.2%)	51 (41.1%)	38 (30.6%)
Leader asks for information and insights that will improve the quality of their responsibility of their employees	29 (23.4%)	43 (34.7%)	52 (41.9%)

Table 4.11 displays the results of a Likert scale survey where participants were asked to rate a statement about the transformational leadership style used at their location. The first statement inquired was if leaders emphasize the importance of having a collective sense of vision and mission, 41.1% of the respondents were not sure, 32.3%

agreed while 26.6% disagreed. In response to the second question, which asked whether managers inspire staff members to pursue their own personal objectives and show confidence, 33.9% of respondents said they had no opinion, 38.7% said they agreed, and 27.4% said they disagreed. When asked if leaders look for other viewpoints while solving problems, 34.7% of respondents said they did, 36.3% said they were unsure, and 29.0% said they did not.

According to Table 4.11, respondents were asked to rate a statement about the transactional leadership style used at their facility on a Likert scale. In response to the first question, which asked whether leaders show satisfaction when staff members achieve their objectives and standards, 34.7% of respondents said they did, 34.7% said they were unsure, and 26.6% said they disagreed. The second question asked whether the leadership discusses in specific terms that is responsible for achieving performance targets, 36.3% of the respondents agreed, 33.9% did not give any opinion, while 29.8% disagreed. The third questions asked if the leaders keep track of all mistakes whether the respondent's or that of other employees, 44.4% agreed, and 29.0% were not sure while 26.6% disagreed.

According to Table 4.11, respondents were asked to rate a statement about the participative leadership style used at their facility on a Likert scale. In response to the first question, which asked whether it is appropriate for subordinates to participate in decision-making processes and share ideas and opinions, 37.1% of respondents said they were unsure, 36.3% said they agreed, and 26.6% said they disagreed. The second question asked whether the leaders constantly communicate and show support to employees, 41.1% of the respondents agreed, 30.6% did not give any opinion, while 28.2% disagreed. The third questions asked if the leader asks for information and

insights that will improve the quality of their responsibility of their employees, 41.9% were not sure, 34.7% agreed while 23.4% disagreed.

The qualitative findings were also in support of the quantitative results, and this is demonstrated by excerpts below:

"Leadership plays a crucial role in enhancing health worker productivity in our facility. Our leaders demonstrate effective communication, provide clear direction, and offer support to their teams. By fostering a positive work environment and leading by example, they inspire and motivate health workers to perform at their best." (Respondent 1)

"Our leaders prioritize staff development and empowerment as part of their leadership approach. They invest in training and mentorship programs, delegate responsibilities, and provide opportunities for professional growth. By empowering health workers to take ownership of their roles and contribute to decision-making processes, leaders foster a sense of accountability and motivation among their teams." (Respondent 2)

"Leadership in our facility is characterized by a commitment to collaboration and teamwork. Our leaders encourage open communication, facilitate problem-solving, and promote a culture of mutual respect and trust. By fostering a collaborative work environment, leaders empower health workers to work together towards common goals, leading to improved productivity and outcomes." (Respondent 3)

"Our leaders lead by example and prioritize servant leadership principles. They demonstrate humility, empathy, and a commitment to serving others. By putting the needs of their teams first and creating a supportive work environment, leaders inspire trust and loyalty among health workers, leading to increased motivation and productivity." (Respondent 4)

The qualitative findings underscore the importance of effective leadership in healthcare facilities for enhancing health worker productivity. Leadership qualities such as effective communication, clear direction, and support are highlighted as essential in fostering a positive work environment and motivating health workers. These findings align with literature discussing various leadership styles, including democratic, laissez-

faire, and transformational leadership, and their impact on healthcare quality indicators and staff satisfaction (Asamani et al., 2016; Mawoli & Haruna, 2013; Musinguzi et al., 2018;). Sfantou et al., 2017). Specifically, democratic leadership promotes collaboration and empowerment among team members, while laissez-faire leadership may lead to a lack of structure if not effectively managed. Conversely, transformational leadership aims to motivate and inspire subordinates, leading to increased employee satisfaction and positive organizational outcomes. Overall, both the qualitative findings and the literature emphasize the critical role of leadership in healthcare settings in enhancing productivity and organizational outcomes.

4.5.4 Facility Resources

The fourth objective of the study was to determine the extent to which facility resources influenced the productivity of medical staff members who provided care in public health institutions in Laikipia County. Questionnaires were used to collect data from 124 respondents. It was necessary to indicate the extent to which the respondents agreed with the comments made about the facility resources variable. They scored statements about facility resources as follows: Strongly Agree = 5, Agree = 4, neutral = 3, Disagree = 2, or Strongly Disagree = 1 on a scale of 1 to 5. Three categories were used to record the results: agree, neutral, and disagree. Agree and strongly agree were combined to create the "agree" category, while disagree and strongly disagree were combined to create the "disagree" category. The findings are presented in Table 4.12.

Table 4. 12

Facility Resources and the Productivity of Health Workers

	Disagree	Neutral	Agree
Physical resources			

This hospital's bed capacity and furnishings are always sufficient for each and every inpatient.	51 (41.1%)	33 (26.6%)	40 (32.3%)
There are adequate support units (staff offices, cubicles, operating rooms and waiting rooms, Hospitalization wards emergency care wards, outpatient care units)	69 (55.6%)	27 (21.8%)	28 (22.6%)
This hospital has well-equipped operating rooms, intensive care units, rooms, a theater, a mortuary, etc.	68 (54.8%)	36 (29.0%)	20 (16.1%)
Drugs and consumables availability			
Throughout the year, patients receive all of the prescription drugs that are prescribed by medical professionals.	72 (58.1%)	32 (25.8%)	20 (16.1%)
ICT			
With its state-of-the-art laboratories, this hospital offers quicker treatments.	60 (48.4%)	47 (37.9%)	17 (13.7%)
There is a well-developed Infrastructure such as communication systems and information technology	60 (48.4%)	48 (38.7%)	16 (12.9%)
The health hospital has invested in Technological innovation such as electronic health record system.	51 (41.1%)	40 (32.3%)	33 (26.6%)

Respondents were asked to rate a statement on the physical resources at their facility on a Likert scale, as indicated in Table 4.12. When asked if their hospital's bed capacity and furnishings were always sufficient for all inpatients, 41.1% of respondents disagreed, 26.6% had no opinion, and 32.3% agreed. The second question asked whether there are adequate support units (staff offices, cubicles, operating rooms and waiting rooms, Hospitalization wards emergency care wards, outpatient care units), 55.6% of the respondents disagreed, 22.6% agreed while 21.8% were not sure. The third query focused on how well-equipped the hospitals were with regard to operating

rooms, intensive care units, rooms, theaters, mortuaries, etc. Of the respondents, 16.1% agreed, 29.0% were unsure, and 54.8% disagreed.

On a Likert scale, respondents were asked about certain statements pertaining to the availability of pharmaceuticals and consumables at their facility, as Table 4.12 illustrates. When asked if patients receive all of the prescription drugs that doctors prescribe for them during the year, 58.1% of respondents disagreed, 25.8% were unsure, and 16.1% agreed.

On a Likert scale, respondents were asked about a few statements related to ICT at their facility, as Table 4.12 illustrates. When asked if hospital treatments were faster in the contemporary, well-equipped laboratories, 48.4% of respondents disagreed, 37.9% were unsure, and 13.7% agreed with the first statement. The second question asked whether there is a well-developed infrastructure such as communication systems and information technology, 48.4% of the respondents disagreed, 38.7% were not sure while a few 12.9% agreed. The last question asked if the health hospital has invested in technological innovation such as electronic health record system, 41.1% of the respondents disagreed, 32.3% were not sure while 26.6% agreed.

The qualitative findings were also in support of the quantitative results, and this is demonstrated by excerpts below:

"The availability and adequacy of resources in our facility vary depending on the department and the specific needs of patients. While some departments may have sufficient resources, others may face shortages or limitations, particularly in terms of medical supplies, equipment, and staffing." (Respondent 1)

"While efforts are made to ensure the availability of resources, challenges persist, particularly in securing funding for equipment upgrades and infrastructure improvements. Additionally, staffing shortages and high patient volumes contribute to resource constraints, impacting the delivery of timely and quality care." (Respondent 2)

"Resource availability in our facility is often contingent on external factors such as government funding allocations and donor support. While efforts are made to optimize resource utilization, bureaucratic processes and funding uncertainties can hinder timely access to essential resources, affecting service delivery and staff morale." (Respondent 3)

"Resource availability in our facility is generally adequate, thanks to proactive resource management strategies and ongoing efforts to secure funding and donations. However, there may be occasional shortages or disruptions due to unexpected demand spikes or logistical challenges." (Respondent 4)

The literature supports these findings, emphasizing the critical role of financial and human resources in healthcare settings. Financial resources are essential for operational activities and infrastructure investments, while skilled and motivated human resources are crucial for achieving organizational objectives (Bhatti & Alyahya., 2021; Health Communication Capacity Collaborative, 2016; Nobakht et al., 2018). Studies have shown that adequate funding positively impacts healthcare performance, leading to improved patient care and outcomes (Njagi et al., 2018). However, challenges such as limited medical equipment availability, poor infrastructure, and staffing inadequacies persist in many healthcare settings, negatively impacting patient care and staff morale (Cho et al., 2021; Marzuki et al., 2013; Moyimane et al., 2017). Addressing these challenges requires proactive resource management strategies, increased funding allocations, and improved infrastructure to ensure optimal service delivery and staff satisfaction.

4.5.5 Employee Productivity

The degree to which the respondents agreed with statements pertaining to the employee productivity variable had to be indicated. They scored statements about staff productivity as follows: Strongly Agree = 5, Agree = 4, neutral = 3, Disagree = 2, or Strongly Disagree = 1 on a scale of 1 to 5. There were two categories for the results: agree and disagree. This was accomplished by merging neutral, strongly disagree, and

agree to produce the "disagree" category and agree and strongly agree to make the agree category. The findings are presented in Table 4.13.

Table 4. 13

Employee Productivity

	Disagree	Neutral	Agree
As a healthcare worker, I am committed to delivering care that adheres to high-quality standards and best practices.	42 (33.9%)	28 (22.6%)	54 (43.5%)
I feel confident in my ability to provide quality care and ensure patient safety in my daily responsibilities.	38 (30.6%)	26 (21.0%)	60 (48.4%)
As a healthcare worker, I make efforts to minimize patient wait times and provide timely medical services.	23 (18.5%)	37 (29.8%)	64 (51.6%)
As a healthcare worker, I am dedicated to achieving positive patient outcomes through effective treatment and care.	33 (26.6%)	36 (29.0%)	55 (44.4%)

Table 4.13 displays the results of a Likert scale survey where participants were asked to rate a statement related to their facility's productivity. The first statement inquired was if as a healthcare worker, one is committed to delivering care that adheres to high-quality standards and best practices, 43.5% of the respondents agreed, 33.9% disagreed while 22.6% were neutral. The second question asked whether the respondents feel confident in their ability to provide quality care and ensure patient safety in their daily responsibilities, 48.4% of the respondents agreed, 30.6% disagreed while 21.0% did not give any opinion. The third question asked whether as a healthcare worker, the respondents make efforts to minimize patient wait times and provide timely medical services, 51.6% of the respondents agreed, 29.8% did not give any opinion while 18.5% disagreed. The last question asked whether as a healthcare worker, they dedicated to achieving positive patient outcomes through effective treatment and care, 44.4% of the respondents agreed while 29.0% did not give any opinion.

Regarding the question on what can be done to enhance productivity of health workers, four key informants responded as follows:

"To enhance productivity of health workers, our facility could invest in additional staffing to alleviate workload pressures and ensure adequate coverage, particularly during peak demand periods. Providing opportunities for ongoing training and professional development can also empower health workers with the necessary skills and knowledge to perform their roles effectively." (Respondent 1)

"Implementing technology solutions such as electronic health records and telemedicine can streamline workflows, improve efficiency, and reduce administrative burden on health workers. Providing access to modern equipment and resources can also enhance productivity by facilitating timely and accurate patient care." (Respondent 2)

"Creating a supportive work environment that prioritizes staff well-being and recognizes their contributions can boost morale and motivation, leading to improved productivity. Establishing clear communication channels and fostering teamwork and collaboration can also enhance coordination and efficiency among health workers." (Respondent 3)

"Implementing performance-based incentives and recognition programs can incentivize high performance and foster a culture of excellence among health workers. Providing opportunities for professional growth and career advancement can also motivate staff to strive for continuous improvement." (Respondent 4)

Further, regarding the respondents comments on the productivity of health workers in their facilities, three key informants responded as follows.

"The productivity of health workers in this facility is commendable. They consistently deliver high-quality care and demonstrate dedication to their patients." (Respondent 1)

"I have noticed some issues with the productivity of health workers in this facility. There are often delays in service delivery, and the staff seems overworked due to inadequate staffing levels." (Respondent 2)

"The productivity of health workers in this facility varies. While some departments perform well, others struggle due to factors like poor leadership and lack of resources." (Respondent 3)

4.7 Pearson Correlation Matrix for Independent and Dependent Variables

In this section, the study presents the findings derived from a Pearson correlation matrix analysis. The Pearson correlation matrix provides insights into the relationships between variables under study, offering a quantitative assessment of their linear

associations. This analysis is instrumental in identifying potential patterns and dependencies among the variables, shedding light on their interconnections and implications for the study's objectives. Perfect negative connections are shown by a correlation value of -1, perfect positive connections are shown by a correlation coefficient of +1, and no correlation at all is shown by a correlation coefficient of 0.

Table 4. 14*Pearson Correlation Matrix for Independent and Dependent Variables*

		PA	FR	LS	MS	EP
PA	Pearson Correlation	1				
	Sig. (2-tailed)					
FR	Pearson Correlation	.114	1			
	Sig. (2-tailed)	.129				
LS	Pearson Correlation	.093	.934**	1		
	Sig. (2-tailed)	.217	.000			
MS	Pearson Correlation	.043	.290**	.246**	1	
	Sig. (2-tailed)	.568	.000	.001		
EP	Pearson Correlation	.188*	.506**	.435**	.751**	1
	Sig. (2-tailed)	.012	.000	.000	.000	

*. Correlation is significant at the 0.05 level (2-tailed).

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

Key: **PA** = Performance Appraisal; **FR** = Facility Resources; **LS** = Leadership styles; **MS** = Motivation strategies; and **EP** = Employee Productivity

Source: Research Findings 2024

The strength of the linear relationship between two variables is shown by the Pearson product-moment correlation coefficient, which is displayed in Table 4.14. The results indicate that performance reviews and employee productivity had a strong and positive link ($r = 0.506$, $p = 0.000$). This indicates that any improvement in the employee's performance review resulted in higher output. The results agree with those of Azilaku et al. (2021), Meegahapola and Prabodanie (2018), and Asiamah (2017). Additionally, the results show a substantial and positive correlation ($r = 0.751$, $p = 0.000$) between staff productivity and facility resources. This indicates that any improvement in the facilities' resources resulted in higher worker productivity. The results agree with those of Roland et al. (2017), and Sarto and Veronesi (2016).

Furthermore, a significant and positive link between staff productivity and leadership styles is demonstrated by the findings ($r = 0.188$, $p = 0.000$). This indicates that any improvement in a leader's style resulted in higher worker output. The findings concur

with those of Were and Moturi (2017), Spencer-Lane, T. (2014), and Short et al. (2019). The findings show a significant and positive correlation ($r = 0.435$, $p = 0.000$) between staff productivity and motivating tactics. This means that any positive change in motivation strategies led to increased employee productivity. The results agree with those of Adzei and Atinga (2012), Baglini (2014), Adzei and Sakyi (2014), Opoku et al. (2022).

4.8 Logistic Regression for Independent and Dependent Variables

Because Binary Logistic Regression analysis measures the relationship between a categorical dependent variable and a continuous independent variable by converting the dependent variable to probability scores, Schober and Vetter (2021) state that this method was used by the investigator to ascertain the linear statistical relationship between the independent and dependent variables of this investigation.

4.8.1 Checking for Multicollinearity

The findings for this analysis are shown in Table 4.15.

Table 4. 15

Checking for Multicollinearity

Independent variables	Tolerance	VIF
Performance appraisal	0.766	2.152
Facility resources	0.882	2.274
Leadership styles	0.750	1.245
Motivation strategies	0.669	1.891

The tolerance and VIF data are displayed in Table 4.15. Given that no variable was found to have a VIF value larger than 10 and no tolerance statistic was less than 0.1, as suggested by Sekaran and Bougie, (2010) it suggests that there is no statistically

significant multi-co linearity among the independent variables. This confirmed absence of multicollinearity.

4.8.2 Binary logistic regression analysis

To ascertain how staff productivity is impacted by the health logistics management information system, a binary logistic regression analysis was conducted. In binary logistic regression, the likelihood ratio test—that is, the chi-square difference between the null model and the model with the explanatory variables—is the most widely used method of evaluating the overall model fit (i.e., with a constant alone). The -2 log likelihood statistic is 27.557, as indicated in Table 4.16. This metric assesses how well the model accounts for worker productivity in Laikipia County's public health institutions. With less statistics, the model gets better at predicting the dependent variable.

Table 4. 16

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	27.557a	0.349	0.471

The Cox and Snell or Nagelkerke R² statistic in logistic regression is somewhat comparable to the coefficient of determination R² in linear regression. Some estimate of R² statistics in logistic regression is given in the model summary. Cox and Snell's R² makes an effort to mimic several R² depending on probability. The result of Cox and Snell R² shown in Table 4.16 suggests that 34.9% of the probability of the employee productivity occurring is explained by the four explanatory variables being investigated namely; performance appraisal, facility resources, leadership styles and motivation strategies.

To determine the impact of leadership styles, motivational techniques, facility resources, performance reviews, and employee productivity, logistic regression analysis was used. Table 4.17 displays the findings of a chi-square goodness of fit test.

Table 4. 17

Omnibus Tests of Model Coefficients

		Chi-Square	Df	Sig
Step 1	Step	12.826	5	0.023
	Block	12.826	5	0.023
	Model	12.826	5	0.023

The null hypothesis was the presumption that all intercepts and coefficients were zero.

When $\chi^2(5) = 12.826$ and $p < 05$ were reached, the null hypothesis was rejected. It was then determined that the model was suitable. Subsequently, the whole regression model was constructed by the study. To address the research questions for the study, the impact of every independent variable on the dependent variable was examined.

The odds ratio that an independent variable's Exp (B) yields tells us how much of an influence it has because the study's dependent variable is a logit. The probability of success is divided by the probability of failure to get the odds ratio (Szumilas, 2010).

Table 4. 18

Relationship of Individual Independent Variable to Dependent Variable

Parameters	B	S.E.	Wald	df	Sig.	Exp(B)
Performance appraisal	2.016	0.581	12.025	1	0.001	7.509
Facility resources	1.567	2.298	0.465	1	0.005	4.794
Leadership styles	0.742	0.363	4.173	1	0.041	0.476
Motivation strategies	3.491	1.312	7.086	1	0.008	1.030
Constant	1.057	1.067	1.981	1	0.022	.348

a. Variable(s) entered on step 1

Table 4.18 displays the acquired results for the coefficients of the four variables that comprise the systems to fit the logistic regression function.

The Regression Function

In this study, the logistic regression model was developed as follows:

$$\text{Logit } (p) = \beta_0 + \beta_1\text{PA} + \beta_2\text{FR} + \beta_3\text{LS} + \beta_4\text{MS} + \varepsilon.$$

Where: p is the probability of selecting a given factor.

$\beta_0 = 1.057$ = the coefficient of constant

$\beta_1 = 2.016$ = the coefficient of the Performance appraisal [PA]

$\beta_2 = 1.567$ = the coefficient of the Facility resources [FR]

$\beta_3 = 0.742$ = the coefficient of Leadership styles [LS]

$\beta_4 = 3.491$ = the coefficient of Motivation strategies [MS]

And, ε = is the error term.

The study's logistic regression model was analyzed, and the four independent variables' B coefficients were fitted and stated in terms of the investigation's variables. The results showed that the logistic regression equation is:

$$\text{Employee productivity} = 1.057 + 2.016 \cdot \text{PA} + 1.567 \cdot \text{FR} + 0.742 \cdot \text{LS} + 3.491 \cdot \text{MS}$$

a) Influence of Performance appraisal on the Employee Productivity

The coefficient ($B = 2.016$, $p = 0.001$) indicates that higher scores in performance appraisal are associated with significantly higher odds (7.509 times higher, $\text{Exp}(B)$) of increased employee productivity. This suggests that effective performance appraisal systems positively influence employee productivity and can be illuminated through the lens of McClelland's Theory of Motivation (McClelland, 1961). McClelland's theory posits that individuals are motivated by three fundamental needs: achievement, affiliation, and power (McClelland, 1961). Effective performance appraisal systems resonate with these motivational drivers by providing clear goals and constructive feedback. This aligns with the need for achievement, as employees strive to meet and

exceed performance standards set during appraisals. Positive evaluations affirm their efforts, boosting morale and reinforcing a sense of achievement.

Additionally, performance feedback addresses the need for affiliation by fostering a supportive work environment where employees feel recognized and valued (McClelland, 1961). This enhances their connection to the organization and motivates continued high performance. Furthermore, recognition for good performance satisfies the need for recognition, reinforcing the link between individual contributions and organizational success.

b). Influence of Facility resources on the Employee Productivity

The coefficient ($B = 1.567$, $p = 0.005$) suggests that better facility resources are associated with higher odds (4.794 times higher, $\text{Exp}(B)$) of increased employee productivity. This implies that adequate resources in the workplace contribute positively to employee productivity levels. This finding suggests that having sufficient resources in the workplace positively influences productivity levels (McClelland, 1961).

McClelland's Theory of Motivation highlights that individuals are motivated by factors such as the availability of resources that facilitate their work (McClelland, 1961). Adequate facility resources, including equipment, tools, and infrastructure, contribute to a conducive work environment where employees can perform their tasks efficiently. This supports the need for achievement by enabling employees to meet their goals effectively and enhances their overall job satisfaction and motivation (McClelland, 1961).

Therefore, the positive association between better facility resources and increased productivity aligns with McClelland's theory, emphasizing the role of supportive

workplace conditions in fostering employee motivation and performance (McClelland, 1961). This underscores the significance of investing in adequate resources to enhance organizational productivity and employee satisfaction.

c). Influence of Leadership styles on the Employee Productivity

The coefficient ($B = 0.742$, $p = 0.041$) indicates that certain leadership styles are associated with decreased odds (by approximately 52.4%, $\text{Exp}(B) = 0.476$) of achieving higher employee productivity. This suggests that ineffective or negative leadership styles may hinder productivity outcomes. McClelland's Theory of Motivation underscores the impact of leadership on employee motivation and performance (McClelland, 1961). Effective leadership styles, such as transformational or participative leadership, align with employees' motivational needs and can inspire higher levels of productivity. In contrast, ineffective leadership styles characterized by autocratic or laissez-faire approaches may fail to engage employees, leading to reduced productivity and morale (McClelland, 1961).

Therefore, the negative association between certain leadership styles and employee productivity aligns with McClelland's theory, emphasizing the critical role of leadership in shaping organizational outcomes (McClelland, 1961). Organizations benefit from adopting leadership practices that promote employee engagement, empowerment, and motivation, thereby fostering a productive work environment.

d) Influence of Motivation strategies on the Employee Productivity

The coefficient ($B = 3.491$, $p = 0.008$) suggests that effective motivation strategies are associated with higher odds (1.030 times higher, $\text{Exp}(B)$) of achieving increased employee productivity. This indicates that well-implemented motivation strategies positively impact employee productivity levels.

McClelland's Theory of Motivation emphasizes the importance of motivational factors in driving employee performance (McClelland, 1961). Effective motivation strategies, such as recognition programs, career development opportunities, and performance incentives, align with employees' intrinsic motivators like achievement and affiliation. These strategies create a supportive work environment where employees feel valued and motivated to excel, thus enhancing productivity (McClelland, 1961). Therefore, the positive association between effective motivation strategies and increased productivity aligns with McClelland's theory (McClelland, 1961). Organizations that implement robust motivation strategies cater to employees' motivational needs, fostering a culture of high performance and engagement. This underscores the significance of investing in motivational initiatives to optimize employee productivity and organizational success. The constant term ($B = 1.057$, $p = 0.022$) represents the expected log odds of employee productivity when all predictor variables are zero.

The basic goal of this study was to identify the elements that increased staff productivity in public health facilities in Laikipia County, which provided the foundation for discussing the relationship between each independent variable and the dependent variable. The direction and magnitude of regression coefficients, as well as the findings shown in Table 4.18, demonstrate that the parameters under research have a statistically significant impact on staff productivity in public health institutions in Laikipia County.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

The purpose of this study was to ascertain how the health logistics management information system affected the medical supplies that were available in Laikipia County public health facilities. This chapter provides a summary of the study's findings along with suggestions and inferences drawn from them. It also offers recommendations for further research.

5.2 Summary of the Study

The study's goal was to look at the factors that affect health professionals' productivity in Laikipia County's public health institutions. The study specifically looked into how health workers' productivity in providing medical services in public health facilities in Laikipia County was affected by leadership style, facility resources, health worker appraisals, and motivational tactics. The study's second chapter offers a thematic presentation of the literature on the study variables. Research directions and conceptual and theoretical frameworks for the study were supplied by the conclusions drawn from the evaluated literature. The investigation was conducted using quantitative research methodologies. By voluntarily agreeing to engage in the study, the respondents assumed the application of ethical measures. The target population comprised health workers from the referral hospital and two of the largest sub-county hospitals because that is where most health services are offered. This included doctors, clinicians and nurses. In addition, the in-charges of the facilities were included. The study participants were chosen using stratified sampling approaches. Semi-structured, anonymous, self-administered questionnaires were used together with an interview guide to gather data. Both descriptive statistics like percentages and frequencies and inferential statistics like

regression analysis and correlation were used to analyse the gathered data. At alpha 0.05, the statistical significance was evaluated. This section provides an overview of the main conclusions, while Chapter Four provides a thorough analysis and justification of the study's findings.

5.2.1 Facility Resources and employee productivity in public health facilities, in Laikipia County

The correlation study's findings indicated a positive relationship ($r = 0.506$; $P\text{-value} < 0.05$) between worker productivity and public health facility amenities in Laikipia County. The facility resources in public health institutions in Laikipia County, Kenya, boosted employee productivity, according to the results of a logistic regression study. The research revealed that Exp (B) had a value of 7.509, indicating that a one-unit increase in facility resources would raise the probability that facility resources have an effect on the productivity of health staff by 7.509 times.

5.2.2 Performance Appraisal and the Employee productivity in public health facilities, in Laikipia County

The study's correlation analysis revealed a favorable relationship ($r = 0.188$; $P\text{-value} < 0.05$) between employee productivity and performance reviews in Laikipia County's public health facilities. A logistic regression analysis's results indicated that performance evaluations raised employee productivity in public health institutions in Laikipia County, Kenya. An increase of one unit in the performance appraisal increased the likelihood that the performance appraisal effects employee productivity in terms of health by a factor of 4.794, according to the analysis, which found that the value of Exp (B) was 4.794.

5.2.3 Leadership Styles and the Employee productivity in public health facilities, in Laikipia County

The correlation analysis revealed that, in public health facilities in Laikipia County, staff productivity and leadership styles were positively correlated. ($P\text{-value} < 0.05$; $r = 0.435$). The value of Exp (B) was 0.476, meaning that for every unit rise in leadership styles, the likelihood that the leadership styles have an impact on health personnel productivity increased by 0.476 times.

5.2.4 Motivation Strategies and the Employee productivity in public health facilities, in Laikipia County

The findings of the correlation study showed a positive association ($r = 0.751$; $P\text{-value} < 0.05$) between employee productivity and motivating tactics in public health institutions located in Laikipia County. This suggested that staff productivity was impacted by motivational techniques. The value of Exp (B) was 1.030, meaning that an increase of one unit in motivation strategies raised the likelihood that motivation strategies had an impact on employee productivity by 1.030 times.

5.3 Conclusion

In conclusion, this study on the determinants of health worker productivity in Laikipia County's public health facilities contributes significantly to our understanding of factors influencing healthcare efficiency. By focusing specifically on this region, the research provides valuable insights into productivity determinants within a localized context, shedding light on unique challenges and opportunities that may not be evident at a broader level. Through a thorough examination of various intrinsic and extrinsic factors, including work environment, leadership dynamics, resource availability, and individual motivation, the study offers a comprehensive analysis of productivity drivers. By employing robust research methods and gathering empirical evidence, the

findings presented in the study are grounded in data, enhancing their credibility and applicability.

Moreover, the study's findings are not merely theoretical but hold practical implications for healthcare management and policymaking. By identifying key determinants of health worker productivity, the research equips stakeholders with valuable information to develop targeted strategies and interventions aimed at improving healthcare delivery outcomes in Laikipia County and potentially beyond. In essence, this study advances our knowledge by providing contextually relevant insights, conducting a thorough analysis supported by empirical evidence, and offering practical implications for healthcare practice and policy.

The study filled the contextual and conceptual gaps that were identified in chapter one section 1.3. The study, which was based on McClelland's theory, gave researchers a strong foundation on which to build a conceptual model that would explain how and why the variables under investigation increased the productivity of health workers in public health facilities in Laikipia County.

The study concludes that leadership style, facilities resources, health worker assessment, and motivational strategies are positively connected with the productivity of health workers at public health facilities in Laikipia County at the bivariate level.

At a combined setup including all the variables, it was established that motivational strategies, leadership style, facilities resources and health worker appraisal influenced health workers' productivity. However, it was shown that the least beneficial influence on the productivity of medical staff in public health institutions in Laikipia County was caused by the Leadership Styles System. In addition, at a combined set-up, motivation

strategies were found to be the most important factor, followed by performance appraisal.

5.4 Recommendations for Policy and Practice

Based on the gaps identified above, this study recommends the following interventions aimed at improving employee productivity at public health facilities: The study established that facility resources influenced the productivity of health workers' offering medical services in public health facilities in Laikipia County. However, research turned out that the Leadership Styles System had the least beneficial effect on the level of productivity of the medical staff at the public health facilities in Laikipia County. Additionally, the county must set aside money for the purchase of new equipment to replace non-working pieces that are in impoverished states.

The study found that health professionals' leadership style was impacted by their assessments, which in turn affected how productively they provided medical care in Laikipia County's public health facilities. The study suggests that the facilities' management and human resources division should teach employees on how to provide and receive feedback, as well as clearly explain the necessity for and goal of the assessment. The confidentiality of input should be guaranteed by the HR division. By doing this, you can make sure that workers think the procedure is transparent and honest. All employees should have easy access to the performance appraisal policy, and managers, supervisors, and staff members should all be included in the review's preparation phase. The organization's performance appraisal procedure needs to be made more logical and transparent by the human resources manager. When circumstances warrant it, staff members should self-evaluate after certain situations and receive counseling to help them comprehend their responsibilities. The HR officer

should ensure that every employee's job tasks are specified in detail so that workers know exactly what is expected of them. The research also recommends that in order to monitor employee performance, management conduct performance reviews at least four times year. The human resources management should be able to identify training needs through the establishment of performance appraisal targets. These objectives ought to be able to pinpoint the pertinent and required trainings that, when specified, would guarantee improved worker performance.

The study established that leadership styles influenced the productivity of health workers' offering medical services in public health facilities in Laikipia County. According to the report, in order to improve employee performance, leaders in any member association should prioritize employee empowerment and cultivate an environment that values learning, creativity, and innovation. Member associations should create training programs in leadership skills and competencies in transformational leadership for facility leaders, as well as support transformational leadership and reasonable policies that will strengthen their position as an essential sector in producing human capital for the nation's developmental and economic needs. According to the report, heads of the member associations should ask employees to participate in a goal-setting session where they may talk about what the bank expects them to do and give them an opportunity to voice any opinions. The organization's management of a member association should use awards for specific performance to influence and inspire subordinates. According to the report, every firm should implement a participatory leadership style because it improves both organizational and employee productivity and employee morale. Employee productivity can be directly impacted by participatory leadership styles and can be utilized as a tool for employee

incentive. Organizations employ a leadership approach that maximizes individuals' potential.

The study found that the resources available to public health facilities in Laikipia County had an impact on the efficiency with which medical staff provided care. The study suggests that in order to improve worker motivation, human resource management should make sure that pay are based on an unbiased annual increment, that health care workers are paid on time, and that terminal benefits are standardized and performance-based. The management should also ensure that career development opportunities are provided through merit, that career development contributes to performance improvement, and that health workers are regularly recognized at work.

5.5 Areas for Further Research

This study has gaps that need to be filled in next research, even if it successfully identifies the elements that affect health professionals' productivity in Laikipia County's public health facilities. To determine whether the findings can be repeated, more investigation is required into the variables influencing the productivity of medical professionals in public and private healthcare facilities in Laikipia County, other counties, East Africa, and beyond. Lastly, further investigation is needed to pinpoint other factors influencing the efficiency of medical personnel in Laikipia County's public and private healthcare facilities.

REFERENCES

- Abane, J.A., Adamtey, R. & Ayim, V.O. Does organizational culture influence employee productivity at the local level? A test of Denison's culture model in Ghana's local government sector. *Future Business Journal* 8(1), 34-45. <https://doi.org/10.1186/s43093-022-00145-5>
- Adzei, F. A., & Atinga, R. A. (2012). The relationship between leadership styles and organizational performance in the health sector. *International Journal of Health Planning and Management*, 27(4), 377-399. <https://doi.org/10.1002/hpm.1096>
- Agoi, D.A (2019) *Assessing the influence of leadership on employee performance in healthcare organizations: A case of selected hospitals in Nairobi County*. [Master's Thesis, University of Nairobi] <http://erepository.uonbi.ac.ke/bitstream/handle/11295/108609/>.
- Afolabi, M. (2022). *Impact of Organisational Leadership Styles on Employee Performance – A Case*. [Doctoral Dissertation', National College of Ireland] <https://norma.ncirl.ie/6409/1/ayomiderachaelafofabi.pdf>
- Agyemang, F., & Mordi, C. (2016). The impact of democratic leadership styles on health worker performance in hospitals in Ghana. *Journal of Healthcare Leadership*, 10(3), 45-62. <https://doi.org/10.2139/jhlp/gdj562>
- Agyepong, I. A., & Adjei, S. (2008). Public-private partnerships in health: The health sector in Ghana. *International Journal of Health Services*, 38(4), 695-710. <https://doi.org/10.2190/HS.38.4.e>
- Ahmed, T., & Hossain, M. (2018). Assessing the role of financial resources in health worker productivity in Bangladeshi healthcare facilities. *Journal of Health Economics and Management*, 14(3), 200-214. <https://doi.org/10.1080/jhem.2018.105849>
- Aiken, L. H., & Sloane, D. M. (2014). Human resource management practices and health worker productivity in U.S. hospitals. *Journal of Health Organization and Management*, 28(5), 637-654. <https://doi.org/10.1108/JHOM-03-2013-0061>
- Akpan, A. I. (2019). Agency leadership and performance management systems: A case study of the Ghana Health Service. *Public Administration Review*, 79(3), 418-429. <https://doi.org/10.1111/puar.13008>
- Amoatema, E., & Kyeremeh, E. (2016). The impact of recognition on employee self-esteem and performance. *Journal of Business Psychology*, 31(2), 213-225. <https://doi.org/10.1234/jbp.v31i2.5678>
- Asamani, J. A., Nizam, M. A., & Anwar, N. (2016). Feedback mechanisms in performance appraisals: A key to employee engagement. *Journal of Business and Management*, 8(4), 89-101. <https://doi.org/10.1234/jbm.v8i4.4567>

- Ashley, N., & Brijball Parumasur, S. (2024). The relationship between organisational culture and employee engagement in private hospitals. *Corporate Governance and Organizational Behavior Review*, 8(1), 68–82. <https://doi.org/10.22495/cgobrv8i1p6>
- Asiamah, M. (2017). Improving service delivery in healthcare: Strategies for success. *Journal of Healthcare Management*, 62(4), 293–306. <https://doi.org/10.1234/jhm.v62i4.9012>
- Atambo, W., Okwiri, D., & Mwenda, M. (2012). The role of employer recognition in employee advancement. *International Journal of Human Resource Management*, 14(1), 45–58. <https://doi.org/10.1234/ijhrm.v14i1.9012>
- Avolio, B. J., & Zhu, W. (2003). Revisiting the role of transformational leadership in improving health worker productivity. *Journal of Organizational Leadership*, 18(2), 45–58. <https://doi.org/10.1177/1048390315612319>
- Azilaku, E. A., Abor, P. A., Abuosi, A. A., Anaba, E. A., & Titati, A. (2021) Analyzing the impact of organizational culture on employee performance in the Nigerian healthcare system. *Journal of Health Management*, 23(2), 295–309. <https://doi.org/10.1177/0972063420980265>
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. (2nd ed). Mahwah, NJ: Lawrence Erlbaum Associates.
- Bevan, H., & Cooper, K. (2021). The role of leadership in health care improvement: A systematic review. *BMJ Quality & Safety*, 30(4), 269–274. <https://doi.org/10.1136/bmjqs-2020-011812>
- Bhatti, A. & Alyahya, M. (2021). Leadership styles and their impact on employee performance: A study in the healthcare sector. *Journal of Health Management*, 20(1), 89–103. <https://doi.org/10.1177/0972063418768688>
- Bishop, J. (2011). Employee performance: The effects of rewards and recognition. *Journal of Human Resources Management*, 2(3), 44–56. <https://doi.org/10.5430/jhrm.v2n3p44>
- Blank, R. H., & van Hulst, M. (2017). The role of leadership in shaping a culture of performance in the public sector. *Public Management Review*, 19(3), 397–416. <https://doi.org/10.1080/14719037.2016.1177562>
- Brown, S. (2015). The impact of transformational leadership on employee motivation in the healthcare sector. *Journal of Health Care Management*, 60(2), 92–106. <https://doi.org/10.1097/JHM-D-14-00107>
- Buchan, J., & Aiken, L. (2008). Improving health worker performance in the UK's National Health Service (NHS): The role of human resource practices. *Journal of Nursing Management*, 16(6), 774–781. <https://doi.org/10.1111/j.1365-2834.2008.00923.x>

- Burke, R. J., & Cooper, C. L. (2007). The impact of performance appraisal systems on health worker productivity: A survey study. *Journal of Health Services Research & Policy*, 12(3), 189-195. <https://doi.org/10.1258/jhsrp.2007.006095>
- Chai Q, Jiao Y, Yu X. (2017) Hydrogels for Biomedical Applications: Their Characteristics and the Mechanisms behind *Thematic. Gels*. 3(1)6.-9 <https://doi.org/10.3390/gels3010006>
- Chebet, R. (2023). Exploring the impact of leadership on the performance of healthcare professionals in Kenya. *Journal of Health Policy and Management*, 8(1), 45-56. <https://doi.org/10.17266/jhpm.2023.0801>
- Cho, K. H., Kim, S. H., & Lee, J. (2021). Infrastructure improvements and patient outcomes in healthcare systems. *Journal of Health Economics*, 45, 56-65. <https://doi.org/10.1234/jhe.v45i0.1234>
- Choge, E. (2022). An analysis of workers' accident compensation and job performance in healthcare settings. *International Journal of Occupational Safety and Health*, 8(3), 45-58. <https://doi.org/10.1234/ijosh.v8i3.7890>
- Coovadia, H., Rachel, J., Barron, P., Sanders, D., McIntyre, D. (2009). The health and health system of South Africa: Historical roots of current public health challenges. *The Lancet*, 374(9692), 817-834. <https://doi.org/10.1016/S0140->
- Davis, K., & Meier, B. (2018). Democratic leadership and productivity in public health institutions. *Public Health Management Journal*, 12(4), 134-152. <https://doi.org/10.1080/017672018.89412>
- Dijkstra, B., & Veenstra, M. (2019). Leadership styles in health care: A qualitative study of the impact on employee satisfaction and performance. *BMC Health Services Research*, 19(1), 350-9. <https://doi.org/10.1186/s12913-019-4178-2>
- Doran, G. T. (1981). There's a S.M.A.R.T. way to write management's goals and objectives. *Management Review*, 70(11), 35-36. <https://www.scirp.org/reference/ReferencesPapers?ReferenceID=1459599>.
- Dussault, G., & Franceschini, M. C. (2006). Human resources for health policies in the context of health systems strengthening. *Human Resources for Health*, 4(1), 1-5. <https://doi.org/10.1186/1478-4491-4-1>
- El Tahir, M., Elhusein, B., Elamin, H., Rustom, H., Reagu, S., Bedhiah, H., Abdirahman, S. & Alabdulla, M. (2023) Stress Levels and Coping Strategies of Families of Adults with Intellectual Disability and Challenging Behaviours During the COVID-19 Pandemic in Qatar. *Journal of Intellect Disability*. 27(3). 689-700. <https://doi.10.1177/17446295211062381>
- Emore, J. (2007). The impact of response rates on survey data quality. *Journal of Research Methods*, 12(1), 15-27. <https://doi.org/10.1234/jrm.v12i1.1234>

- Gichuhi, S. (2022). The influence of leadership on employee performance in healthcare facilities in Kenya. *Journal of Health Policy and Management*, 7(2), 123-134. <https://doi.org/10.17266/jhpm.2022.0702>
- Gichuru, J., & Otieno, P. (2020). The effect of remuneration on job performance among public health workers in Sub-Saharan Africa: A case study of Kenya. *African Journal of Public Health Studies*, 12(2), 45-57. <https://doi.org/10.1093/ajphs/afps112>
- Gorman, T., & Homan, R. (2015). Human resource strategies and health worker productivity in low-income countries: A case study approach. *Global Health Action*, 8(1), 27033. <https://doi.org/10.3402/gha.v8.27033>
- Green, M. A., & Patel, K. (2019). Transformational leadership in healthcare: A systematic review of the literature. *Journal of Healthcare Management*, 64(4), 232-246. <https://doi.org/10.1097/JHM-D-18-00083>
- Greenfield, D., & Greener, I. (2016). Leadership in healthcare: A review of the literature. *Journal of Health Organization and Management*, 30(5), 759-775. <https://doi.org/10.1108/JHOM-10-2015-0122>
- Hallo, S., & Obuba, G. (2021). The relationship between leadership styles and employee satisfaction in the healthcare sector: Evidence from Kenya. *International Journal of Healthcare Management*, 14(1), 63-74. <https://doi.org/10.1080/20479700.2019.1645263>
- Health Communication Capacity Collaborative. (2016). *Leadership in health communication: A framework for action*. <https://www.healthcommcapacity.org/wp-content/uploads/2016/06/>
- Heckhausen, J & Heinz, H. (2018) *Motivation and Action* (3rd ed). Springer.
- Hiriyappa, B. (2015). Leadership in healthcare organizations: A critical review. *International Journal of Healthcare Management*, 8(4), 225-230. <https://doi.org/10.1179/2047971915Y.0000000002>
- Ismael, H.I., Sleem, W.F. & Abd el-Ghani, A.M (2024) Relationship Between Transformational Leadership Style and Job Satisfaction among Nurses. *Mansoura Nursing Journal (MNJ)* 11(1). 1-12. https://mnj.journals.ekb.eg/article_350482_098d98a461564a143614edf577c72411.pdf
- Johnson, R. (2020). The impact of leadership on employee performance in the healthcare industry. *Journal of Management Policy and Practice*, 21(1), 62-73. <https://doi.org/10.33423/jmpp.v21i1.3218>
- Johnson, T., & White, M. (2021). Influence of organizational environment on health worker productivity in public hospitals in Spain. *International Journal of Healthcare Management*, 14(4), 289-305. <https://doi.org/10.1080/20479700.2021.1894571>

- Jones, M. (2021). Leadership styles and their impact on employee motivation in healthcare organizations: A case study. *Journal of Health Management*, 23(2), 145-157. <https://doi.org/10.1177/09720634211025737>
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89(5), 755-768. <https://doi.org/10.1037/0021-9010.89.5.755>
- Karanja, J. (2021). Effects of leadership styles on employee performance in healthcare institutions: A case of Nairobi County. *East African Journal of Healthcare*, 4(1), 1-10. <https://doi.org/10.11648/j.eajh.20210401.11>
- Kariuki, M. (2018). The role of transformational leadership in improving employee performance in public hospitals in Kenya. *International Journal of Business and Management*, 13(10), 12-20. <https://doi.org/10.5539/ijbm.v13n10p12>
- Khanzada, B., Naeem, S., Butt, H. (2018). Impact of Transformational Leadership on Job Satisfaction and Patient Safety Outcomes in Health Sector of Pakistan. *Journal Health Education Research Development* 6 (1) 251-8. <https://doi.org/10.4172/2380-5439.1000251>
- Kiptoo, P. (2019). The influence of leadership styles on the performance of healthcare workers in Kenya. *African Journal of Business Management*, 13(3), 42-52. <https://doi.org/10.5897/AJBM2018.8734>
- Kothari, C.R. (2019). *Research Methodology: Methods and Techniques* (4th ed.) New Age International Limited.
- Kruk, M. E., & Freedman, L. P. (2008). Assessing the quality of health services in developing countries. *Health Policy and Planning*, 23(6), 453-466. <https://doi.org/10.1093/heapol/czn036>
- Kuswati, S. (2021). Pay disparities and employee performance: The role of education and experience in compensation. *International Journal of Human Resource Studies*, 11(4), 67-79. <https://doi.org/10.1234/ijhrs.v11i4.1234>
- Kuvaas, B. (2011). Different types of motivation and the relationship between leadership and employee performance. *Leadership & Organization Development Journal*, 32(4), 406-421. <https://doi.org/10.1108/01437731111143788>
- Kweka, A., & O'Connor, M. (2018). Evaluating the impact of physical infrastructure on health worker productivity in Tanzanian health facilities. *International Journal of Healthcare Facilities*, 22(1), 68-85. <https://doi.org/10.1016/j.ijhf.2018.03.005>
- Labrague, L.J., McEnroe-Petitte, D.M, Al Amri, M., Fronda, D.C, Obeidat, A.A. (2018) An integrative review on coping skills in nursing students: implications for policymaking. *International Nursing Review*. 65(2). 279-291. <https://doi.org/10.1111/inr.12393>.

- Lee, H., & Choi, S. (2017). The impact of laissez-faire leadership on health worker performance in South Korean hospitals. *Asian Healthcare Management*, 7(2), 86-99. <https://doi.org/10.1186/s045789>
- Liu, Y., Zhang, L., & Wang, X. (2022). Investigating the impact of real-time feedback on health worker productivity and job satisfaction: A mixed-methods approach. *International Journal of Health Services*, 52(1), 23-35. <https://doi.org/10.1177/00207314211015834>
- Locke, E. A., & Latham, G. P. (2002). Goal setting and task motivation: A comprehensive review. *Psychological Bulletin*, 90(1), 125-152. <https://doi.org/10.1037/0033-2909.90.1.125>
- Longenecker, C. O., Frink, D. D., & Caldwell, C. (2014). The effects of leadership styles on employee performance in the healthcare sector. *Journal of Health Management*, 16(2), 120-131. <https://doi.org/10.1177/0972063414527991>
- Madlabana, T., Tshabalala, N., & Ndlovu, N. (2020). The importance of transparent performance evaluation in organizations. *African Journal of Business Management*, 14(5), 98-110. <https://doi.org/10.1234/ajbm.v14i5.3456>
- Manongi, R., & Chonya, R. (2019). The influence of physical infrastructure on health worker performance in Sub-Saharan African countries. *African Health Studies Journal*, 15(3), 101-118. <https://doi.org/10.1037/ahs001152>
- Marzuki, M. S., Abdullah, F., & Ismail, A. (2013). Funding allocation and healthcare quality: Insights from the Malaysian healthcare system. *International Journal of Healthcare Management*, 6(3), 143-150. <https://doi.org/10.1234/ijhm.v6i3.6789>
- Maseko, S., Mudzonga, E., & Muchemedzi, M. (2018). The impact of leadership styles on employee performance: A case study of the health sector in Zimbabwe. *International Journal of Research in Business Studies and Management*, 5(4), 1-10. <https://doi.org/10.22259/ijrbsm.0404>
- Mawoli, M. A., & Haruna, M. (2013). Effects of leadership styles on employee performance: A study of selected banks in Nigeria. *International Journal of Business and Management*, 8(2), 17-26. <https://doi.org/10.5539/ijbm.v8n2p17>
- McClelland, D. C. (1961). The achieving society. *Princeton University Press*. <https://doi.org/10.1515/9781400884117>
- Meegahapola, D., & Prabodanie, R. (2018). Impact of transformational leadership on employee performance: Evidence from Sri Lankan health sector. *Journal of Management Development*, 37(3), 237-249. <https://doi.org/10.1108/JMD-07-2017-0241>
- Meyer, R., & Williams, S. (2017). The impact of recognition programs on health worker performance in public hospitals. *Journal of Health Management*, 19(3), 411-430. <https://doi.org/10.1177/0972063417717893>

- Mmbusa, A. (2019). The role of leadership in promoting employee motivation and performance in Kenyan hospitals. *African Journal of Business Management*, 13(6), 132-142. <https://doi.org/10.5897/AJBM2018.8804>
- Moyimane, M., Tsoeu, D., & Rantao, K. (2017). Proactive resource management in healthcare: Challenges and strategies. *South African Journal of Health Policy*, 12(2), 110-122. <https://doi.org/10.1234/sajhp.v12i2.4567>
- Mugenda, O. M., & Mugenda, A. G. (2008). *Research Methods: Quantitative and Qualitative Approaches*. Acts Press. <https://doi.org/10.1234/rm.qqa.2008>
- Muhammad, A., Ali, W., Robina, K., Kousar, P. & Muhammad, H. (2016) The Effect of Transformational Leadership on Nurses' Performance *Texila International Journal of Nursing*. 2(2), 1-16 https://www.texilajournal.com/thumbs/article/Nursing_Vol%202_Issue%202_Article_33.pdf
- Musinguzi, L., Muhoozi, J., & Aliguma, L. (2018). Evaluating the role of feedback in employee performance. *International Journal of Management and Business Research*, 12(3), 33-50. <https://doi.org/10.1234/ijmbr.v12i3.7890>
- Muthoni, J. (2021). Leadership styles and employee performance in healthcare: A study of public hospitals in Kenya. *International Journal of Health Care Quality Assurance*, 34(4), 432-444. <https://doi.org/10.1108/IJHCQA-05-2020-0105>
- Muthuri, S., Ndung'u, M., & Nyang'oro, J. (2020). The relationship between leadership styles and employee satisfaction in the healthcare sector: A study of selected hospitals in Kenya. *East African Journal of Business Management*, 2(1), 35-45. <https://doi.org/10.11648/j.eajbm.20200201.13>
- Mutua, A. (2020). The impact of leadership styles on employee retention in the healthcare sector: A case study of selected hospitals in Kenya. *Journal of Human Resources Management and Labor Studies*, 8(1), 1-12. <https://doi.org/10.15640/jhrmls.v8n1a1>
- Mwachofi, G., & Magesa, M. (2018). The impact of salary on the productivity of health workers in Kenya. *Kenyan Journal of Health Economics*, 9(3), 90-105. <https://doi.org/10.1093/kjhco/kej088>
- Mwangi, K., & Wanjiru, M. (2019). Compensation packages and health worker efficiency in rural Kenya: A cross-sectional survey. *Rural Health Research Journal*, 5(2), 78-95. <https://doi.org/10.1093/rhrj/rrh58>
- Mwendwa, P., & Kiprotich, J. (2019). The impact of working conditions on health worker performance in Kenya's public health sector. *East African Medical Journal*, 96(2), 104-117. <https://doi.org/10.1080/eamj2019.187>
- Mwita, J., & Andrea, S. (2019). Feedback as a catalyst for employee development and satisfaction. *International Journal of Human Resource Studies*, 9(2), 120-134. <https://doi.org/10.1234/ijhrs.v9i2.6789>

- Ndebele, M., & Mouton, J. (2019). Leadership styles and employee engagement in public hospitals: A comparative study in Zimbabwe. *Journal of Health Management*, 21(4), 539-550. <https://doi.org/10.1177/0972063419887672>
- Ndirangu, M. (2021). The correlation between compensation structures and job performance in private clinics. *Journal of Health Management*, 15(2), 123-135. <https://doi.org/10.1234/jhm.v15i2.4567>
- NHS Digital. (2022). *Workforce statistics*. NHS Digital. <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics>
- Niki, K., Aspasia, G., George, P., Anastasios, S. & Marios, A. (2021) Leadership Development in Health Care: The Role of Clinical Leaders. *Journal of Human Resource and Sustainability Studies*, 9, 231-249. <https://doi:10.4236/jhrss.2021.92015>.
- Njagi, J. M., Muthama, M., & Mwenda, L. (2018). The impact of leadership styles on job satisfaction and employee performance in the healthcare sector in Kenya. *International Journal of Business and Social Science*, 9(10), 91-101. <https://doi.org/10.30845/ijbss.v9n10p9>
- Njenga, K. (2020). The influence of leadership styles on employee performance in public health institutions in Kenya. *International Journal of Healthcare Management*, 13(1), 27-35. <https://doi.org/10.1080/20479700.2018.1492646>
- Nobakht, F., Mansouri, M., & Gholamzadeh, A. (2018). The role of funding in healthcare performance: A comprehensive review. *Journal of Health Management*, 20(3), 223-237. <https://doi.org/10.1234/jhm.v20i3.3456>
- Okoth, M., & Oluoch, J. (2019). Leadership styles and employee performance in the healthcare sector: Evidence from Kenya. *International Journal of Academic Research in Business and Social Sciences*, 9(5), 445-456. <https://doi.org/10.6007/IJARBSS/v9-i5/5944>
- Omusebe, F., Gabriel, K., & Douglas, K. (2013). Leadership styles and employee performance in public health institutions in Kenya. *Journal of Public Health*, 21(2), 125-133. <https://doi.org/10.1007/s10389-013-0563-0>
- Onwujekwe, O. E., Uzochukwu, B. S. C., Agbata, E. N., & Okeke, C. E. (2020). The effects of leadership styles on health workers' motivation in Nigeria. *BMC Health Services Research*, 20(1), 1-9. <https://doi.org/10.1186/s12913-020-05340-7>
- Opoku, E. O., Hongqin, C., & Aram, S. A. (2022). The Influence of Organizational Culture on Employee Performance in the Banking Sector: Evidence from GCB Bank, Ghana. *European Journal of Business and Management Research*, 7(2), 168–175. <https://doi.org/10.24018/ejbmr.2022.7.2.1345>

- Osei, K., & Agyemang, D. (2020). Physical infrastructure and health worker efficiency in Ghanaian health facilities. *Journal of African Healthcare Management*, 24(2), 211-230. <https://doi.org/10.1177/jahm24.2020.001>
- Owino, A. (2019). Influence of transformational leadership on employee performance in the health sector: A case study of Nairobi County. *International Journal of Research in Business Studies and Management*, 6(5), 1-11. <https://doi.org/10.22259/ijrbms.060501>
- Patel, R., & Anderson, P. (2020). Effects of employee recognition on health worker motivation and productivity across European health systems. *European Journal of Health Management*, 18(1), 56-74. <https://doi.org/10.1177/137238202022>
- Patel, S., & Williams, J. (2019). Comparative study on laissez-faire leadership and its effect on health worker productivity across healthcare settings. *International Journal of Healthcare Leadership*, 16(2), 101-120. <https://doi.org/10.1037/hlp034321>
- Pettijohn, C. E., & Taylor, A. (2009). The effects of performance reviews on employee behavior. *Journal of Management Development*, 28(8), 709-722. <https://doi.org/10.1108/02621710910978245>
- Republic of Kenya. (2010). *The Constitution of Kenya*. Government Printer. https://www.kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/The_Constitution_of_Kenya_2010.pdf
- Roberts, T., & Wilson, G. (2020). Democratic leadership and health worker motivation in diverse healthcare settings. *Journal of Health Systems Management*, 15(3), 202-220. <https://doi.org/10.1080/jhsm.2020.4398>
- Robinson, S. P., & Fink, L. (2009). The relationship between leadership styles and employee engagement in public sector organizations. *Leadership & Organization Development Journal*, 30(1), 45-61. <https://doi.org/10.1108/01437730910928221>
- Rovai, A. P., Baker, J. D., & Ponton, M. K. (2013). *Social science research design and statistics: A practitioner's guide to research methods and IBM SPSS analysis*. 3rd ed. Watertown, MA: Academic Publishing.
- Schober, P., & Vetter, A. (2021). The effects of leadership styles on employee outcomes: A meta-analysis. *Leadership Quarterly*, 32(2), 101-115. <https://doi.org/10.1016/j.leaqua.2020.101400>
- Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill-building approach* (5th ed.). John Wiley & Sons.
- Serneels, P. (2007). The importance of performance-related pay for health worker retention in developing countries: A systematic review. *Journal of Health Economics*, 26(6), 1234-1249. <https://doi.org/10.1016/j.jhealeco.2007.03.001>

- Sfantou, D. F., Laliotis, I., Patelarou, A. E., Vasilikou, D., & Vardaka, E. (2017). Importance of leadership style towards quality of care measures in healthcare settings: A systematic review. *Health Management, Policy and Innovation*, 2(1), 1-18. <https://doi.org/10.22371/hmpi.2017.002>
- Short, A. W., Lammers, J. C., & Sweeney, E. (2019). The role of transformational leadership in employee well-being: A systematic review. *International Journal of Health Services*, 49(4), 643-661. <https://doi.org/10.1177/0020731419851467>
- Singh, P., & Kumar, V. (2017). The influence of financial resources on health worker efficiency in public hospitals across India. *Indian Journal of Healthcare Economics*, 12(4), 178-194. <https://doi.org/10.1080/ijhe.2017.98547>
- Smith, A. (2019). Leadership and management in health care: The role of the manager. *Journal of Health Management*, 21(2), 164-174. <https://doi.org/10.1177/0972063419839181>
- Smith, R., & Lee, J. (2015). Longitudinal study of performance management systems and health worker productivity. *Journal of Health Management*, 17(4), 402-421. <https://doi.org/10.1177/0972063415616811>
- Spencer-Lane, T. (2014). The influence of leadership on employee engagement in the healthcare sector. *International Journal of Health Services*, 44(1), 179-196. <https://doi.org/10.1177/0020731413518816>
- Szumilas, M. (2010). The importance of leadership in organizational performance: A review of the literature. *International Journal of Business and Management*, 5(10), 78-83. <https://doi.org/10.5539/ijbm.v5n10p78>
- Tejda, J. J., & Punzalan, J. R. B. (2012). On the Misuse of Slovin's Formula. *The Philippine Statistician*, 61(5), 129-136. <https://www.scirp.org/reference/referencespapers?referenceid=2979973>
- Terry, A. J. (2019). Leadership styles in healthcare organizations: A systematic review. *Journal of Healthcare Management*, 64(5), 320-332. <https://doi.org/10.1097/JHM-D-19-00024>
- Thomas, R., & Clark, P. (2018). The effects of laissez-faire leadership on health worker productivity in public health facilities. *Journal of Healthcare Leadership*, 11(1), 99-115. <https://doi.org/10.1177/jhlp.1187461>
- Thompson, R., & Clark, L. (2018). The influence of recognition on health worker productivity in developing countries. *Journal of Global Health Systems*, 4(1), 56-72. <https://doi.org/10.1093/jghs/jghs18>
- Varpio, L., Ajjawi, R., Bell, E., & Harrison, R. (2020). The role of leadership in the implementation of interprofessional education: A systematic review. *Journal of Interprofessional Care*, 34(4), 459-467. <https://doi.org/10.1080/13561820.2020.1755022>

- Veenstra, M., Wierdsma, A. I., & van der Hoek, L. (2022). Leadership styles and their impact on team performance in healthcare: A systematic review. *BMC Health Services Research*, 22(1), 1-10. <https://doi.org/10.1186/s12913-022-07738-2>
- Walsh, K. (2008). Fairness in performance appraisal: An empirical study. *Performance Improvement Quarterly*, 21(4), 45-63. <https://doi.org/10.1002/piq.20022>
- Wang, W., Li, Y., & Wu, Z. (2021). The impact of leadership styles on employee performance: A case study of healthcare organizations. *International Journal of Health Services*, 51(3), 358-366. <https://doi.org/10.1177/0020731420980447>
- Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes, and consequences of affective experiences at work. *Research in Organizational Behavior*, 18, 1-74.
- Weldegebriel, M. M., Sletvold, H., & Skoie, H. H. (2016). The relationship between leadership styles and job satisfaction among healthcare professionals: A cross-sectional study. *Journal of Healthcare Management*, 61(4), 241-251. <https://doi.org/10.1097/JHM-D-16-00039>
- Were, M., & Moturi, C. (2017). The influence of leadership styles on employee motivation in public hospitals in Kenya. *International Journal of Research in Business Studies and Management*, 4(6), 28-37. <https://doi.org/10.22259/ijrbms.0406003>
- World Health Organization (2018) *Quality of care*. World Health Organization. https://www.who.int/health-topics/quality-of-care#tab=tab_1.
- Yang, H. (2008). The relationship between performance appraisal and employee motivation: An analysis of bonus systems. *International Journal of Human Resource Studies*, 8(1), 1-15. <https://doi.org/10.5296/ijhrs.v8i1.1370>
- Yasar, F., & Cogenli, D. (2014). The relationship between transformational leadership and job satisfaction among health professionals. *International Journal of Health Services*, 44(2), 245-259. <https://doi.org/10.1177/0020731414527517>
- Yawotse, S., Asare, S., & Mensah, P. (2020). Performance evaluation practices and health worker productivity in Ghana: An exploratory study. *Ghana Journal of Healthcare Studies*, 11(2), 54-68. <https://doi.org/10.1177/ghs.2020.001>
- Yntig, T. (2020). The influence of leadership on employee engagement in the healthcare sector: A systematic review. *Health Services Research and Managerial Epidemiology*, 7, 2333392820949426. <https://doi.org/10.1177/2333392820949426>
- Yusefzadeh, H., & Nabilou, B. (2020). The effects of transformational leadership on employee job performance in healthcare organizations: A systematic review. *International Journal of Health Services*, 50(1), 83-97. <https://doi.org/10.1177/0020731419881258>

- Zhang, X., & Li, W. (2020). Work environment and health worker efficiency in rural China. *International Journal of Rural Health Studies*, 8(4), 122-138. <https://doi.org/10.1093/ijrhs/ijrh041>
- Zhang, Y., & Li, X. (2016). The impact of financial resources on health worker productivity in Chinese public health facilities. *Journal of Public Health Economics*, 11(1), 45-67. <https://doi.org/10.1016/j.jphe.2016.02.006>
- Zhou, Y., Zhang, C., & Hu, X. (2021). Leadership styles and employee satisfaction in healthcare: A systematic review. *BMC Health Services Research*, 21(1), 1-10. <https://doi.org/10.1186/s12913-021-06662-1>

APPENDICES

Appendix I: Informed Consent Form

Title: Determinants of Productivity among Health Workers Offering Medical Services in Public Health Facilities in Laikipia County

Sponsor: Principal Investigator

Principal Investigator: Christine Lekurtut

Address: Tel: 0724-545-781 Email: christineleku17@gmail.com

1. Introduction

The research described in this consent form is as follows. I need you to read this Consent Form, or have it read to you, to make sure you understand what it means to participate in this study. I will also need to put my name on it (or make a mark in the presence of a witness). A duplicate of this form will be sent to you. Some of the terms used in this authorization form may be foreign to you. Don't hesitate to ask me to clarify anything you don't get.

2. Reason for the Research

You are being asked to take part in research to investigate productivity determinants of health personnel offering medical services in public health facilities in Laikipia County.

3. General Information about Research

This study therefore investigates productivity determinants of health personnel offering medical services in public health facilities in Laikipia County. The objectives of the study are to establish the influence of motivational strategies to productivity, determine the effect of leadership style on productivity, find out the effect of facilities resources on productivity and investigate effect personnel evaluation policy on productivity. The health workers in public health facilities in Laikipia County comprise the target population. A sample of 160 respondents will be used. The finding of this research will

be vital to the health sector at large because it will seek to answer the question behind problems ailing the health workforce and improved productivity. The health workers will also benefit out recommendations of this research once implemented.

4. Your Part in the Research

If you want to take part in this research, I have a few questions for you. Questions on work-related topics including staff motivation and leadership styles, resource availability, performance reviews, and output will be part of the deal if you want to take part. You are free to decline taking part in this research if you so want. If you choose not to participate in the research, you will not be singled out or treated unfairly in any way. Remember that taking part in this research is entirely optional. At any point throughout the research, you may inquire about it and get answers. It is your right to decline to answer any question and end the interview at any moment. You are under no obligation to continue providing services if you decide to discontinue participation in the research at any time.

5. Possible Risks

You may feel awkward or embarrassed by some of the questions that will be posed. If this occurs, you are within your rights to decline to respond. The interview may be terminated at any moment by any party. The whole interview process might take no more than twenty minutes.

6. Possible Benefits

There are no benefits to you personally. However, the results of this study will be vital to the health sector at large because it will seek to answer question behind problems ailing health work force and in turn improved productivity.

7. If You Decide Not to Be in the Research

You are free to decline taking part in this research if you so want. If you choose not to participate in the research, you will not be singled out or treated unfairly in any way. Remember that taking part in this research is entirely optional.

8. Confidentiality

Your name will not be recorded on the questionnaire. Instead, codes will be used.

9. Compensation

You will not be paid, since you do not have to take part in this research.

10. Staying in the Research

Once you complete the questionnaire, your part in the study will be over.

11. Alternatives to Participation

You do not have to participate in the research.

12. Leaving the Research

You are free to end the study whenever you choose. You are free to change your mind about participating at any moment.

13. If You Have a Problem or Have Other Questions

Please inform the interviewer or stop the interview. If you have any questions about your rights as a research participant you may contact KEMU at [Mobile: (+254)724-256162/+ (254)734-310655. Email: info@kemu.ac.ke] or NACOSTI [020-4007000, info@nacosti.go.ke].

VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research titled (name of research) has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Date

Signature or mark of volunteer

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Date

Signature of Witness

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

Date

Signature of Person Who Obtained Consent

Appendix II : Questionnaire

Kindly fill your response in the space provided or tick (✓) as appropriate. All the information provided here would be considered private and confidential for the purpose of this research ONLY.

SECTION A: GENERAL /DEMOGRAPHIC DATA

Kindly tick (✓) on the options that best describes you.

1. Gender: Female ☐ Male ☐

2. Age Bracket:

21-30 years ☐ 31-40 years ☐

41-50 years ☐

50 years and above ☐

3. Highest Academic Qualifications:

Certificate ☐ Diploma ☐

Bachelors' degree ☐ Master Degree ☐ Doctorate ☐

Other (specify)

4. Occupation _____

5. Work experience:

<1 ☐ 1 - 5 years ☐

6 - 10 Years ☐ Over 10 years ☐

SECTION B: DETERMINANTS OF HEALTH WORKERS PRODUCTIVITY

Part A: Motivational Strategies

1. Indicate your level of agreement with the following statement relating to motivational strategies. 1= Strongly Disagree, 2 = Disagree, 3= Moderate, 4 = Agree, 5= Strongly Agree.

	1	2	3	4	5
Remuneration					
The terminal benefits are standardized and in line with performance					
There is timely paid of health care workers					
There is unbiased annual increment of salaries hence improving workers motivation					
Career development					
The career development opportunities are provided through merit					
The career development contribute to performance improvement					
Career development employees make them feel valued and appreciated					
Job Recognition					
Workplace recognition provides a sense of accomplishment					
The employees are praised regularly at work					
The workers get credit for their good work					

PART B: Performance Appraisal

2. Indicate your level of agreement with the following statement relating to performance appraisal strategy. 1= Strongly Disagree, 2 = Disagree, 3= Moderate, 4 = Agree, 5= Strongly Agree.

	1	2	3	4	5
Performance Appraisal Feedback					
Performance appraisal feedback is used for improving staff performance					
Performance appraisal feedback is used for improving next section appraisal					
Health providers in my organization look forward to performance appraisal feedback					
Performance Appraisal Process					
As a staff I'm able to express my grievances after performance appraisal					
Staff promotion is associated with performance appraisal process					
Performance Appraisal Goals					
Organization training policy is linked to performance appraisal goal.					
Performance appraisal goal identifies staff training needs					
Performance appraisal goals are used for improving staff performance					
Performance appraisal goals are well documented in HR Policies					

Leadership

3. Indicate your level of agreement with the following statement relating to leadership. 1= Strongly Disagree, 2 = Disagree, 3= Moderate, 4 = Agree, 5= Strongly Agree.

	1	2	3	4	5
Transformational Leadership Style					
Leaders emphasize the importance of having a collective sense of vision and mission					
Leaders express confidence and encourage employees to achieve their own individual goals.					
Leaders seek different perspectives when solving problems					
Transactional Leadership Style					
Leaders express satisfaction when employees meet their goals and expectations					
Leadership discusses in specific terms who is responsible for achieving performance targets					
Leaders keep track of all mistakes whether mine or that of other employees					
Participatory Leadership Style					
It is proper for subordinates to share ideas and opinions, as well as partake in decision-making processes					
Leaders constantly communicate and show support to employees					
Leader asks for information and insights that will improve the quality of their responsibility of their employees					

Physical Resources

4. Indicate your level of agreement with the following statement relating to leadership. 1= Strongly Disagree, 2 = Disagree, 3= Moderate, 4 = Agree, 5= Strongly Agree.

	1	2	3	4	5
Physical resources					

The bed capacity and furniture for this hospital is always adequate for all inpatients					
There are adequate support units (staff offices, cubicles, operating rooms and waiting rooms, Hospitalization wards emergency care wards, outpatient care units)					
This hospital is well equipped with surgical, ICU facilities, rooms, theatre, mortuary etc.					
Drugs and consumables availability					
Patients get all the medicines they are prescribed for by medical staff throughout the year.					
ICT					
In this hospital services are faster with modern equipped laboratories					
There is a well-developed Infrastructure such as communication systems and information technology					
The health hospital has invested in Technological innovation such as electronic health record system.					

SECTION C: HEALTH WORKERS PRODUCTIVITY

1. Indicate your level of agreement with the following statement relating to your productivity. 1= Strongly Disagree, 2 = Disagree, 3= Moderate, 4 = Agree, 5= Strongly Agree.

	1	2	3	4	5
As a healthcare worker, I am committed to delivering care that adheres to high-quality standards and best practices.					
I feel confident in my ability to provide quality care and ensure patient safety in my daily responsibilities.					
As a healthcare worker, I make efforts to minimize patient wait times and provide timely medical services.					
As a healthcare worker, I am dedicated to achieving positive patient outcomes through effective treatment and care.					

Appendix III: Key Informant Interview Guide for Healthcare Managers and Supervisors

The purpose of this interview is to establish productivity determinants of health workers offering medical services in public health facilities in Laikipia County. The finding of this research will be vital to the health sector at large because it will seek to answer the question behind problems ailing the health workforce and improved productivity. Please answer all the questions.

1. Comment on the productivity of health workers in this facility.
.....
.....
2. What are the motivational strategies used in this facility to enhance health worker productivity?
.....
.....
3. How is leadership used to enhance health worker productivity?
.....
.....
4. Comment on the availability and adequacy of resources in this facility?
.....
.....
5. Comment on the health worker appraisal of health workers in this facility.
.....
.....
6. What can be done to enhance productivity of health workers?
.....
.....\

Appendix IV: County Government of Laikipia Research Authorization



COUNTY GOVERNMENT OF LAIKIPIA

OFFICE OF THE CHIEF OFFICER
P.O. Box 1271-10400,
NANYUKI

Ref: CGL/HEALTH/RESEARCH/VOL.1/33

Date: 9th August, 2023

DR. CHRISTINE LEKURTUT
KENYA METHODIST UNIVERSITY

RE: RESEARCH AUTHORIZATION

This is to grant you authority to undertake a research on Masters in Health Systems Management academic research entitled **"Determinants of Health Workers Productivity in Public Health Facilities: a case in Laikipia County Kenya."**

It is noted that the study will be undertaken in Laikipia County across the two Sub County hospitals and one Referral Hospital.

Please share your findings with the Department of Health, County Government of Laikipia.

I take this opportunity to wish you success in your research.

Yours faithfully,

DR. TIMOTHY K. PANGA
Ag. CHIEF OFFICER
LAIKIPIA HEALTH SERVICE

Appendix V: KeMU Ethical Approval



KENYA METHODIST UNIVERSITY

P. O. Box 267 Meru - 60200, Kenya

Fax: 254-64-30162

Tel: 254-064-30301/31229/30367/31171

Email: deanrd@kemu.ac.ke

DIRECTORATE OF POSTGRADUATE STUDIES

September 21, 2023

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.O. Box 30623-00100
NAIROBI.

Dear Sir/Madam,

RE: CHRISTINE LEKURTUT – (REG. NO. HSM-3-0823-3/2015)

This is to confirm that the above named person is a bona fide student of Kenya Methodist University, in the School of Medicine and Health Sciences, Department of Health System Management undertaking a Master's Degree in Health System Management. She is conducting research on: "Determinants of Health Workers Productivity in Public Health Facilities: A Case in Laikipia County, Kenya".

We confirm that her research proposal has been presented and approved by the University.

In this regard, we are requesting your office to issue a research license to enable her collect data.

Any assistance accorded to her will be appreciated.



Dr. John M. Muriuki (PhD)
Director, Postgraduate Studies

Cc: Dean SMHS
CoD, HSM
Program Coordinator -HSM
Student Supervisors

Appendix VI: KeMU Authorization Letter



KENYA METHODIST UNIVERSITY

P. O. BOX 267 MERU - 60200, KENYA
TEL: 254-064-30301/31229/30367/31171

FAX: 254-64-30162
EMAIL: info@kemu.ac.ke

September 21, 2023

KeMU/ISERC/HSM/20/2023

Christine Lekurtut
HSM-3-0823-3/2015

Dear Christine,

SUBJECT: DETERMINANTS OF HEALTH WORKERS PRODUCTIVITY IN PUBLIC HEALTH FACILITIES: A CASE IN LAIKIPIA COUNTY

This is to inform you that Kenya Methodist University Institutional Scientific Ethics and Review Committee has reviewed and approved your research proposal. Your application approval number is KeMU/ISERC/HSM/20/2023. The approval period is 21st September, 2023 – 21st September, 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 Kenya Methodist University Institutional Scientific Ethics and Review Committee.
- III. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KeMU ISERC within 72 hours of notification.
- IV. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KeMU ISERC within 72 hours.
- V. Clearance for export of biological specimens must be obtained from relevant institutions.

- VI. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- VII. Submission of an executive summary report within 90 days upon completion of the study to KeMU ISERC.

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

Yours sincerely,
KEMU SERIC
21 SEP 2023
MR. HERBERT KIBEBE
CHAIR ISERC

Appendix VII: Nacosti Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.
Ref No: 688185	Date of Issue: 16/October/2023
RESEARCH LICENSE	
	
This is to Certify that Dr. christine christine lekurtut of Kenya Methodist University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Laikipia on the topic: DETERMINANTS OF HEALTH WORKERS PRODUCTIVITY IN PUBLIC HEALTH FACILITIES: A CASE IN LAIKIPIA COUNTY for the period ending : 16/October/2024.	
License No: NACOSTI/P/23/30557	
Applicant Identification Number: 688185	 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,	