CONTRACT MANAGEMENT PRACTICES AND SUPPLY CHAIN PERFORMANCE OF COUNTY REFERRAL HOSPITALS IN KENYA

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ABSTRACT

The study seeks to establish the relationship between contract management practices and supply chain performance of county referral hospitals in Kenya. The objectives included to determine the influence of contract management practices, documentation, compliance, monitoring, and cost management on supply chain performance. The study is anchored on contract compliance theory, agency theory and transactional cost economies theory. The study employed a descriptive research design and mainly concentrated on the 47 county referral hospitals in Kenya. The respondents were chosen based on the sample frame. The heads of department in each of these departments: procurement, finance, and stores were employed as a unit of observation across the referral hospitals. The primary data were collected through a questionnaire. Statistical Package for the Social Sciences (SPSS version 28) was used to analyze the data. The Cronbach's Alpha value was greater than 0.7 which indicated that the questionnaire met the minimum acceptable threshold. The study findings showed that contract management practices namely contract documentation, contract compliance, contract monitoring and contract cost management significantly influence the supply chain performance of county referral hospitals in Kenya. The study concluded that performance was predicted to improve for every unit increase in these practices. The study further recommends that county referral hospitals should implement electronic document management systems for contract documentation, streamlining processes, and improving overall efficiency. Some recommendations included choosing the right software, systems configuration, document importation, user training, and need identification. This will ensure less contractual errors and improve contract management practices.

Keyword: *Contract management, Contract documentation, contract compliance, contract monitoring, contract cost management and performance*

1. INTRODUCTION

The supply chain is becoming increasingly more complex due to global megatrends like the interconnected global economy, changing consumer behaviour, and disruptions (Ahmed et al., 2022). This complexity has made supply chains vulnerable to disruptions and risks, in addition to experiencing challenges in operational visibility, which is their ability to monitor how operations are running (Sharma et al., 2022). One disruption that has exposed the vulnerability of the global supply chains is the COVID-19 pandemic (Garnet et al., 2020; Mangano et al., 2022). The pandemic has particularly highlighted the importance of supply chain functions in health systems (Thomas et al., 2021) and has put a strain on the healthcare supply chain.

In the recent past, the global healthcare supply chains have been severely tested by the Covid-19 pandemic, which has required the production and distribution of medical products by hundreds of millions and at speeds never experienced before. For instance, the World Health Organization (WHO), as of 2020, placed global monthly medical equipment consumption estimates at 89 million masks, 76 million gloves, and 1.6 million goggles required to be

produced and distributed expeditiously (World Health Organization, 2020). With expectations of an increase in medical requirements due to the rising spikes of Covid-19, the healthcare supply chains remain under tremendous pressure, particularly in developing nations. Supply of critical medical equipment as a priority for citizens was first seen as a necessity after World War II (Bhaskar et al., 2020). This necessity heralded the evolution of the global healthcare supply chain with the motivation that it would ensure the availability of medical products in real-time, minimize wastage in inventory, maximize patient care, and minimize human medication errors (Arora & Gigras, 2018). Over time, the trade-off between broad access, affordability, and quality improvement has been experienced due to advancing technology, large expenses required and limited patient resources. This trade-off has introduced the concept of a lean supply chain which is associated with effectiveness and efficiency in the logistic flow and improved customer satisfaction (Coorey, 2020). This shift in paradigm to leanness in managing global healthcare supply chains has led to the implementation of alternative models across countries.

A large body of literature underscores the impact of contract management on supply chain performance from diverse contexts. From the German context, Lackes (et al., 2016) demonstrate that contract parameters significantly impact the supply chain, especially in valuing forecast data, allowing customers to file realistic forecasts. Supply chain contract has also been reported to have a positive and significant effect on the performance of the agricultural supply chain in China (Zhang et al., 2021). Similar significant effects of contract management have been reported in the Royal Malaysian Navy Supply Chain (Azizi et al., 2019) and the firm's supply chains in Indonesia (Rashid, 2010). Kenya has also had a fair share of research justifying the role of contract management in the performance of, among other supply chains, the manufacturing supply chain (Lesere, 2018; Myra & Makori, 2021); county governments (Mwangi, 2020); and in commercial state corporations (Kingoto & Ismail, 2021). These studies further identify relationship management, post-contract appraisal, contract administration, and contract closure as critical facets of the contract management process. However, they fail to highlight the critical roles that contract management practices, including efficiency, effectiveness, value, and risk, play in supply chain performance. Therefore, given that low supply from suppliers is a global challenge to the healthcare supply chain despite the binding contractual obligations, it becomes prudent to probe contract management practices employed in the healthcare supply chain in Kenya and their consequences on its performance.

1.1 Statement of the problem
The Kenya Health Sector is central in providing healthcare services consistent with the health standards envisaged in the Kenya Health Policy, 2014-2030. With support from partners like the United States Agency for International Development (USAID), the World Bank, the United Nations Children's Fund (UNICEF), and the Danish International Development Agency (DANIDA), the healthcare sector has carried out several reforms to address challenges in the healthcare supply chain (Gichuki, 2021). Through these reforms, the healthcare supply chain is expected to boost the honoring of contractual obligations such as handling unpredictable financing and paying for commodities to correct adequacy. In this case, the chain can ascertain the availability of medical commodities throughout the healthcare supply chain stakeholders (Snyder, Maslow & Dadush, 2021).

Many institutions, including medical facilities, have difficulties during pre-qualification, competitive bidding, warehousing, quality assurance, customs clearance, over-invoicing and under-invoicing of imports, and local procurement and use of appropriate funds commensurate with resources to implement the Act. According to Mkhize (2023) found that supply chain management in the public sector faces problems such as a lack of competent workforce, corruption, delivery of poor-quality goods and services, unfinished projects, and non-compliance with supply chain principles that significantly affect the supply chain performance of these institutions. In addition, research by Mwangi (2020) stated that contract management is a proactive way of dealing with all parties and meeting their needs. It is also about risk management to improve contract lifecycle performance (Mwangi, 2020).

Despite supply chain reforms and systems in place in Kenya, there are still problems with the process, leading to heavy losses, hence the need to do more and adopt working systems (Kamau, 2012). According to a report by Transparency International (2009), the Kenyan government has lost hundreds of millions of taxpayers' money due to canceled contracts, incomplete projects, poor delivery of services or products, corruption, and extended contract periods without substantial improvement. As a result of these economic situations, the World Bank, and the International Monetary Fund (IMF) had to intervene by imposing strict conditions on lending funds to the government, which slowed economic development by 2.1 percent (Kalogiannidis, 2021). The same problems were noted in healthcare supply chains by Chesang et al. (2017), who studied supply chain issues in healthcare facilities. The researcher found that supply chain officials do not follow the regulations and procedures of the Public

Procurement Act and its management; suppliers offered poor quality management of goods and services; relationships between institutions and suppliers were short-term, most lasting less than three years, inadequate monitoring of payment systems led to delays in processing payment vouchers.

Contract management and supply chain performance have attracted scholarly interest in the Kenyan context. However, studies have either probed manufacturing supply chains (Lesere et al., 2018; Myra & Makori, 2021; Sikuku et al., 2018), State Corporation supply chains (Kingoto & Ismail, 2021; Mwendwa & Onchiri, 2019), and or County governments (Mwangi, 2020). There has been a dearth of studies on the health supply chain. Besides, studies have focused more on the contract management stages, including relationship management, contract administration, post-contract appraisal, and contract closure (Lesere, 2018; Myra & Makori, 2021). None of the studies has explored the impact of the contract management practices such as efficiency, effectiveness, value, and risk. Methodologically, studies have preferred cross-sectional designs without considering time and entity differences that may come into play for the healthcare supply chain. Moreover, most reviewed studies employed the descriptive research design, which is not necessarily causal. Therefore, for a better understanding of contract management and healthcare supply chain performance, proper measurable practices of contract management should be used.

1.2 Objectives of the Study

To establish the impact of contract management practices on the supply chain performance of county referral hospitals in Kenya.
Specific Objectives includes.
  i. To establish the influence of contract documentation on the supply chain performance of county referral hospitals in Kenya.
  ii. To determine the effect of contract compliance on the supply chain performance of county referral hospitals in Kenya.
  iii. To explore the effect of the contract monitoring on the supply chain performance of county referral hospitals in Kenya.
  iv. To examine the effect of contract cost management on the supply chain performance of county referral hospitals in Kenya.

2. LITERATURE REVIEW
The theories informing the current study are evaluation theory, Agency theory, Contract Compliance Theory, Transactional Cost Economics Theory, and Institutional Theory. Three theories will anchor this study to underpin the nexus between contract management and supply chain performance.

2.1 Agency theory
Agency theory offers a valuable framework for understanding the importance of contractual documentation. This theory focuses on the natural conflict of interest that can arise between the principal (hospital) and its agent (supplier) within the supply chain relationship (Parker et al., 2018). Hospitals, as a major, rely on external suppliers to provide basic medical equipment, drugs and other resources. However, suppliers who act as an agent have their own goals and motivations. While the hospital requires timely delivery of high-quality goods at competitive prices, the supplier may prioritize profit maximization or cost reduction, even if it compromises these goals. This potential for conflict of interest can disrupt the smooth functioning of the supply chain. This is where well-drafted contract documentation is key (Parker et al., 2018). By explicitly outlining expectations and responsibilities in a legally binding agreement, contracts bridge this potential gap between the hospital and its suppliers.

This theory will underpin the efficient and effective facets of contract management. It is argued that a clearly defined contract requires the principal's close monitoring of the agent, creating reward structures in the process, resulting in complementary benefits to both parties and timely execution of the contract (Yegon, 2018). The healthcare supply chain being very sensitive, the moral hazard could be execrated through hidden information or information disparity. The Agency theory will offer opportunities to avoid such disparity in information. Indeed, it has been demonstrated that the Agency theory envisions writing complete contracts that cover the two parties (Bosse & Phillips, 2016). Avoidance of agent-principal dissonance will ultimately enable the crafting of contracts whose efficiency and effectiveness are measurable.

2.2 Contract compliance theory

Contract compliance theory is a fundamental concept in the context of contract management practices and supply chain performance of county referral hospitals in Kenya. This theory focuses on the extent to which the parties involved in the contract adhere to the terms stated in the agreement (Kamanda, 2023). In healthcare, especially in district hospitals, contract compliance plays a key role in ensuring effective service delivery, proper resource allocation and overall performance improvement.

In the field of county referral hospitals in Kenya, the theory of contract compliance is essential for evaluating the effectiveness of procurement arrangements, service delivery and stakeholder engagement (Kemunto, 2023). By examining how well hospitals adhere to the terms of contracts with suppliers, service providers, and other stakeholders, this theory provides insight into the level of accountability, transparency, and performance within the healthcare supply chain. In addition, contract compliance theory helps in evaluating the impact of contract compliance on the overall performance of district hospitals. It enables researchers and stakeholders to analyze the relationship between contract performance and key performance indicators such as service delivery efficiency, budget utilization, stakeholder satisfaction and project completion rates (Otieno, 2023). Understanding and measuring contract compliance in this context can lead to improved governance, resource management, and service quality within the health care system.

2.3 The transaction cost theory

The transaction cost theory was proposed by Williamson in 1979 and reviewed in 1986. The theory postulates that the minimization of exchange costs is a function of economic efficiency facilitated by an optimum organizational structure. The theory argues that coordination costs of monitoring, controlling, and managing transactions depend on the type of transaction (Cuypers et al., 2021). The TCE focuses on the contract's total cost as opposed to the cost of one element. It subsumes the cost of finding suppliers (search and information costs), negotiating with suppliers (bargaining costs), and managing the contract (policing and enforcement costs). Consequently, factoring these activities into the business contract will make a sounder decision.

Evidence has shown the employment of the principals TCE to align contracts through e-tenders, templates, and standard contracts. However, these have sometimes occasioned cumbersome bidding processes and one-sided, opaque template contracts. Consequently, the agents' TCE has often eroded cost savings (Sayed et al., 2021). Given the hidden nature of transaction costs between providers and buyers, TCE seeks to reduce such costs if they lack a return on investment. Therefore, TCE is a theory that pursues exchange relationships defined in contracts and efficient governance of transactions (Ketokivi & Mahoney, 2020).

Transaction cost economics (TCE) will underpin contract management's contract value and contract risk components. TCE is chosen for this purpose because TCE is well placed to answer questions regarding components to make in-house, co-produce, and what to outsource. Research has shown that leveraging TCE enables optimization in the governance of a complex contractual relationship to create transaction value and avoid waste (Ketoviki & Mahoney, 2017). By opting for TCE, the researcher recognizes the heterogeneity involved in transactions and the diversity of organizations. Therefore, the TCE is likely to lead to the understanding of discriminating alignment in the case of the healthcare supply chain.
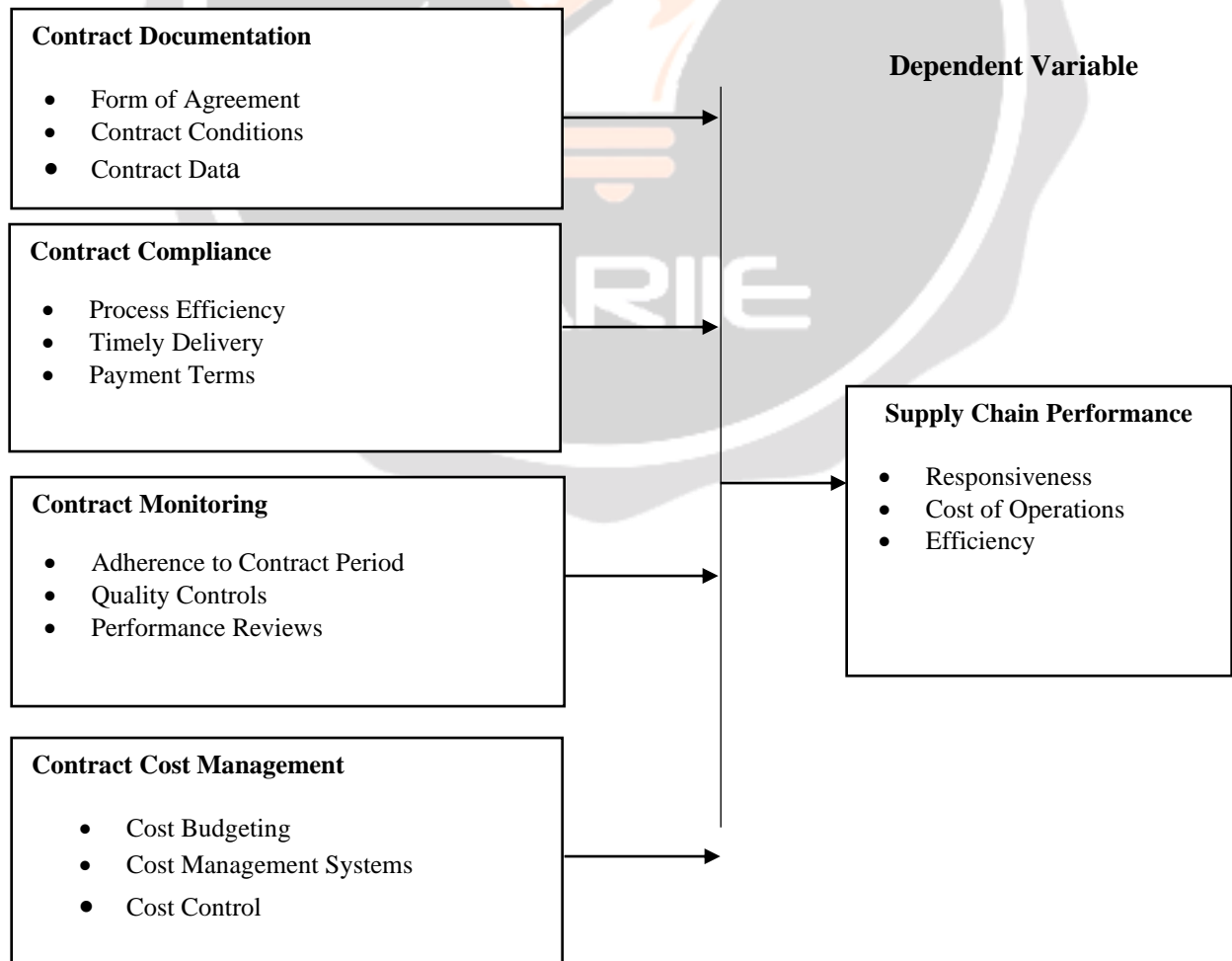
2.4 Institutional theory

Institutional theory offers a valuable lens for examining the relevance of contract monitoring in the context of supply chain performance for district referral hospitals in Kenya. This theory emphasizes the role of social norms, regulations, and established practices in shaping organizational behavior (Owich, 2023). Institutional theory can help explain how the broader institutional environment, including government regulations, industry norms, and societal expectations, can influence the adoption and implementation of effective contract monitoring practices. For example, the 2005 PPDA regulations governing procurement and contract management in state-owned corporations in Kenya can be seen as an institutional pressure shaping contract management practices in these hospitals (Owich, 2023). Institutional theory further posits that organizations often adopt certain practices or structures not only based on their effectiveness or efficiency, but also to gain legitimacy and acceptance within their institutional environment.

In the case of regional referring hospitals, the implementation of robust contract monitoring procedures may be driven not only by the need to improve supply chain performance, but also by a desire to align with the expectations and standards of the wider healthcare sector and government.

Institutional theory also emphasizes the role of isomorphism, the process by which organizations become similar to each other within a given institutional field (Manya, 2019). This may help explain why district referring hospitals may adopt similar contract monitoring practices as they strive to meet the expectations and standards of their peers and the broader institutional environment. By applying institutional theory to the study of contract management practices and supply chain performance in district referring hospitals, researchers can gain a deeper understanding of the contextual factors that shape the adoption and implementation of effective contract monitoring practices. This, in turn, can inform the development of policies and interventions that better match the institutional realities facing these healthcare organizations. Hospitals operate in a complex institutional environment influenced by government regulations, professional standards, and stakeholder expectations (Muthoni, 2018). Effective supply chains are essential to the delivery of quality healthcare. Institutional theory suggests that hospitals experience pressures to conform to practices that are perceived as legitimate within their institutional domain. Contract monitoring is consistent with these pressures by demonstrating responsible resource management and compliance with procurement best practices. This can increase the hospital's legitimacy in the eyes of regulators, auditors and the public (Hwang, 2015).

Effective contract monitoring helps ensure that suppliers adhere to the performance standards specified in the agreement. This reduces the risk of supply chain disruptions, such as stockpiles of critical medical supplies, which could negatively impact patient care and the hospital's reputation. By proactively identifying and addressing potential issues, contract monitoring allows hospitals to maintain legitimacy in the field of healthcare institutions. (Suchman, 2017). Regular monitoring of contracts promotes open communication and collaboration between hospitals and suppliers. Hospitals gain insight into supplier performance, enabling early intervention and course correction. In turn, suppliers receive clear feedback and understand expectations. This iterative process builds trust and strengthens long-term partnerships, ultimately contributing to a more efficient and reliable supply chain (Battiston et al., 2020).

2.5 Conceptual Framework

Dependent Variable

Contract Documentation
- Form of Agreement
- Contract Conditions
- Contract Data

Contract Compliance
- Process Efficiency
- Timely Delivery
- Payment Terms

Contract Monitoring
- Adherence to Contract Period
- Quality Controls
- Performance Reviews

Contract Cost Management
- Cost Budgeting
- Cost Management Systems
- Cost Control

Supply Chain Performance
- Responsiveness
- Cost of Operations
- Efficiency

3. RESEARCH METHODOLOGY

3.1 Research Design

study adopted descriptive survey research design. According to Kothari (2017), the descriptive research design will help in collection of quantitative to test research hypotheses on whether there exists a significant relationship between contract management practices and performance of healthcare supply chain.

3.2 Target population

The study was carried out in Kenya's 47 County Referral Hospitals. The study targeted procurement officers, finance officers and storekeepers in the referral hospitals, resulting to 141 respondents.

3.3 Sampling frame

The sampling frame for this study consisted of procurement officer, finance officers and storekeepers. The heads of departments were used as analysis units throughout the firms and county referral hospitals were the units of observation.

3.4 Sample and Sampling Technique Sampling frame

The research adopted a stratified sampling technique. The study used the Yamane Formula of the year 1967.

$$n = \frac{N}{1 + N(e)^2}$$

Where,

n= collected sample size

N= population size

e = margin of error (MOE), e = 0.05, Therefore,

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{141}{1 + 141\,(0.05)^2}$$

$$n = \frac{141}{1 + 141(0.0025)}$$

$$n = \frac{141}{1.353}$$

n = 105

n = 105

The Sample Size will be 105 respondents.

Table 3.1: Sample Size

No.	Category	Number of Respondents	Sample Size
1.	Procurement Officers	1	33
2.	Finance Officers	1	33
3.	Storekeepers	1	35
TOTAL			**105**

3.5 Research Instrument

A questionnaire was the data collection instrument used in this. This data collection method is usually appropriate when the population is literate, time is restricted, and respondents can express their opinions.

3.6 Data Collection Procedure

This is the step-by-step process followed to collect data from the selected respondents. Before data collection, the researcher obtained an introductory letter from the Jomo Kenyatta University of Agriculture and Technology's procurement and logistics department explaining the need for a study and formally requesting permission from the management of the various county referral hospitals. Finally, utilizing the drop-and-pick procedure, the researcher administered the questionnaires to the respondents.

3.9 Data Analysis and Presentation

Data analysis procedure includes editing, data checking, and coding and data entry in SPSS software (Cronk, 2019). Quantitative research method was used to analyze the data collected. George (2019) points out that quantitative research permits specification of dependent and independent variables and allows for longitudinal measures of subsequent performance of the research subject. The data was analyzed using descriptive and inferential statistics. Descriptive analysis was presented in the form of frequencies, percentages, means and standard deviation.

Further inferential data analysis techniques correlation and regression statistics was used to draw inferences on the relationship between contract management practices and healthcare supply chain performance. The study adopted the Pearson Moment Correlation analysis to examine the association between the variables. The study adopted multiple regression analysis to examine the relationship between the study variables, ANOVA was used to test hypothesis. The F-ratios that F- calculated and F-Critical was generated in the ANOVA to measure goodness of fit of the model.

The multiple regressions equation.

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

Where

Y is the supply chain performance

X_1, represents contract documentation, β_1 is the coefficient for contract documentation.

X_2, represents contract Compliance, β_2 is the coefficient for contract Compliance.

X_3, represents contract Monitoring, β_3 is the coefficient for contract Monitoring.

X_4, represents contract cost management, β_4 is the coefficient for contract cost management.

ϵ is the error term

In the model, β_0 = the constant value while the coefficient $\beta_i = 1....4$ is the slope of the coefficients showing effect of independent variables X_1, X_2, X_3, X_4 on the dependent variable (Y). The error (ϵ) term shows the unexplained factors in the model.

4. RESEARCH FINDINGS AND DISCUSSION

4.1 Response Rate

The study targeted procurement officers, finance officers and storekeepers in the county referral hospitals in Kenya.. The number of respondents whose questionnaires were completed and returned is divided by the number of respondents in the entire sample, including those who did not respond. According to the sample size, there were 105 research questionnaires distributed to the county referral hospitals.

100 out of 105 mailed and self-administered questionnaires were filled out adequately, yielding an 95.2 percent response rate. This is depicted in Table 4.1. The response rate was representative and adequate for analysis to make conclusions and generalize the research's findings. Fincham (2014) recommends a response rate of 60% or above for the analysis. Similarly, according to Kothari (2012), a response rate of 50% should be considered average, 60% to 70% adequate, and 70% or higher should be considered remarkable.

Table 4.1: Instrument Response Rate

Item	Frequency	Percentage
Distributed Questionnaires	105	100.0
Completed and Returned Questionnaires	100	95.2
Unreturned Questionnaires	5	4.8

4.2 Pilot Test Results

The objective of conducting a pilot study was to ensure reliability and validity and ensure that the questions being asked were relevant and straightforward to understand (Mugenda & Mugenda, 2013). For this study, 10 respondents were randomly chosen from Kenyatta National Hospital and Mbathi Hospital.

4.2.1 Findings on Reliability of the Research Instrument

The Cronbach Alpha statistic is used to assess internal consistency. Viladrich et al. (2017) recommends that the dependability figures be based on the average inter-relationships between the individual test items for the test to be internally consistent. When Cronbach's Alpha coefficient is employed as a measure of reliability, the value should be greater than 0.7 (Viladrich et al., 2017).

Table 4.2 revealed that Cronbach's Alpha value for contract documentation, which included 6 items, was 0.875. Furthermore, the results revealed that Cronbach's alpha value for contract compliance, which also included 6

elements, was 0.905. Additionally, the studies revealed that Cronbach's Alpha value for contract monitoring with 6 items was 0.824. Table 4.2 also showed that the Cronbach's Alpha value for contract cost management which comprised 6 elements, was 0.838. Finally, the results showed that Cronbach's alpha value for supply chain performance, which had 6 elements, was 0.719. This demonstrated that all the variables in the study had Cronbach's Alpha values more than.7, indicating satisfactory internal consistency.

Table 4.2: Reliability Findings

S/No	Variable	Cronbach's Alpha	Number of Items	Decision
1	Contract Documentation	.875	6	Accepted
2	Contract Compliance	.905	6	Accepted
3	Contract Monitoring	.824	6	Accepted
4	Contract Cost Management	.838	6	Accepted
5	Supply Chain Performance	.719	6	Accepted

N=10

4.2.2 Findings on Validity of the Research Instrument

This study employed both content and construct validity. According to Bryman and Bell (2015), content validity is a qualitative type of validity in which the scope of the definition is clear, and the analysts or judges decide whether the test is totally within the scope. In essence, there are two approaches to determining content validity: asking questions regarding the instrument or test and seeking the opinion of expert judges in the field (Drost, 2011). Construct validity was obtained by limiting the questions to variable conceptualizations and ensuring that only predictors of a single variable came under the same construct.

Content validity was attained by constructing the questionnaires following the research variables and each variable's associated measurement indicators. This was done by limiting the questions to the variables' conceptualizations and ensuring each variable's indicators fell within the same measure. Experts evaluated the validity of the tool. Their recommendations helped improve the questionnaire that came before the actual data collection.

4.3 Descriptive Analysis of the study variable

According to Loeb et al. (2017), descriptive analysis is essential for a study since it clarifies the findings in their current state and lays the groundwork for the researcher to comprehend the phenomena on which the study is based. The mean and the standard deviation were the two primary descriptive statistics employed in the study. The mean represents the data values' average score. The interpretation of the mean is that higher data values correspond to higher means. A high mean would imply that more respondents gave the Likert scale's highest values, whereas a low mean would indicate that more respondents gave the scale's lowest values. According to Mogaka, Odari, and Arani (2022), the Likert scale of the mean ($\overline{x}$ =4.2 to 5 strongly agree; 3.4 to 4.2 agree; 2.6 to 3.4 undecided; 1.8 to 2.6 disagree, and 1 to 1.8 strongly disagree) was used. The spread of data values around the mean is measured by the standard deviation (Std. Dev.).

4.3.1 Contract Documentation

According to Beilmann and Clever (2019), a well-structured documentation plan promotes consistency, reduces ambiguity, and ensures all relevant information is included, contributing to clearer communication and reduced risk of disagreements. The respondents further agreed that understanding contract document ensured all involved parties understood their roles and rights, as evidenced by a mean of 4.02 and a standard deviation of 0.887. Most respondents agreed that the organizations regularly updated contract data to adapt to changing market conditions, as evidenced by a mean of 3.89 and a standard deviation of 0.898. according to these findings, most county referral hospitals in Kenya have been relatively observing contract documentation as an aspect of contract management metrics.

A study by Mabaso (2022), identified incomplete or inaccurate contract documentation as a significant contributor to contractual risks like scope creep, delays, and cost overruns. The study emphasized the need for clear, concise, and complete documentation to mitigate these risks and ensure successful contract execution. Therefore, the findings of this study compare with those by Kamanda (2023), who established that well-defined contractual terms, including clear deliverables, timelines, and performance expectations, lead to better communication, collaboration, and ultimately, improved supply chain outcomes. According to Mullen and Davison (2019), a well-documented contract clearly outlines the rights, responsibilities, and obligations of each party involved. This eliminates ambiguity and ensures everyone is on the same page, minimizing the potential for misunderstandings and disputes later.

Table 4.3 Contract Documentation Practices

Statements on Contract Documentation	Mean	Std. Deviation
There are standardized contract templates that incorporate essential elements for various types of agreements	3.31	1.032
We have implemented electronic document management systems	2.89	1.421
The institution ensures contracts use clear and unambiguous language to avoid misunderstandings	3.84	.838
Our contract documentation plan includes details about how the entire contract deliverables will be executed from the start to the end of the contract	4.12	.832
Understanding contract document ensures all involved parties understand their roles and rights	4.02	.887
We regularly update contract data to adapt to changing market conditions	3.89	.898

4.3.2 Contract Compliance

On contract approval processes, the respondents agreed that there were specific contract approval processes to ensure compliance to all terms. This is evidenced by a mean of 4.03 and a standard deviation of 1.087. Companies with a defined contract approval process experience fewer contract breaches and achieve higher compliance rates. The findings compared to those of Napier and Stadler (2020) who found that organizations with standardized contract approval workflows report a significant reduction in contract negotiation cycles and improved compliance with internal policies. The respondents further agreed that the organization kept a close eye on the regulatory landscapes and the changes in it, as evidenced by a mean of 4.07 and a standard deviation of 1.037. On the statement that there was continuous review and improvement of processes based on feedback and lessons learnt, the findings revealed that the respondents agreed with the statement ($\bar{x} = 4.11$, $\sigma = 1.024$). The findings implied that most county referral hospitals in Kenya adopted continuous review and improvement of processes based on feedback and lessons learnt to improve their contract compliance performance. The findings compare with those by Gunduz et al. (2020), who established that proper contract administration, which includes ensuring compliance, leads to shorter delivery times and enhanced customer satisfaction in construction projects. This suggests a positive correlation between contract compliance and timely, high-quality deliveries within the supply chain. According to Chauhan and Shiaeles (2023), by regularly analyzing past performance and identifying areas for improvement, organizations can proactively address potential compliance gaps and weaknesses before they lead to costly issues. This proactive approach minimizes the risk of non-compliance and associated penalties, legal disputes, and reputational damage.

Table 4.4: Contract Compliance Practices

Statements on Contract Compliance	Mean	Std. Deviation
The organization complies with contract terms by awarding contracts to most suitable parties	3.98	.974
All contracts comply with relevant legal requirements and regulations	3.74	1.194
There are regular audits to assess compliance with contractual obligations	4.01	1.124
There are contract approval processes to ensure compliance to terms	4.03	1.087
The organization keeps a close eye on the regulatory landscapes and the changes in it	4.07	1.037
There is continuous review and improvement of processes based on feedback and lessons learnt	4.11	1.024

4.3.3 Contract Monitoring

The study observed that the organizations assigned monitoring responsibilities to specific people ($\bar{x} = 4.34$, $\sigma = .966$). Given the five-point scale Likert mean of more than ($\bar{x} = 4.2$) and an average standard deviation, a major

section of the respondents strongly agreed with the statement. According to Johnson et al. (2023), assigning specific tasks and deliverables to individuals fosters a sense of ownership and responsibility, leading to improved performance and adherence to deadlines. Further, the findings illustrated that there was a harmonized and robust monitoring and performance measurement mechanisms ($\overline{x}$ = 4.06, σ = 1.052). Given the five-point scale Likert mean of more than ($\overline{x}$ = 3.4) and an average standard deviation, a major section of the respondents agreed with this statement. According to Nyamori and Boyce (2023), when organizations need to adopt roust monitoring and performance measurement mechanisms to promote transparency and accountability in public financial management. Robust monitoring mechanisms provide stakeholders with insights into contract execution, fostering trust and reducing the risk of corruption.

On supplier performance review, findings show that most county referral hospitals regularly reviewed supplier performance and their evolution of needs ($\overline{x}$ = 4.02, σ = 1.015). Given the five-point scale Likert mean of more than ($\overline{x}$ = 3.4) and an average standard deviation, a major section of the respondents agreed with this statement. Further, the study established that constant monitoring of contracts affected the corporates responsiveness to customer needs ($\overline{x}$ = 3.95, σ = 1.095). Given the five-point scale Likert mean of more than ($\overline{x}$ = 3.4) and an average standard deviation, a major section of the respondents agreed with the statement. These findings compared to those by Grover et al. (2018) who found that constant monitoring, when used strategically to gather customer feedback and identify potential issues, can enhance responsiveness, and improve relationships.

Also, the findings illustrated that the county referral hospitals conducted annual reviews of contracts to ensure their relevance and value ($\overline{x}$ = 4.44, σ = .770). Given the five-point scale Likert mean of more than ($\overline{x}$ = 4.2) and an average standard deviation, a major section of the respondents strongly agreed with the statement. The findings implied that most county referral hospitals in Kenya understood the importance of improving their contract monitoring processes, hence establishing timely expenditure in contract execution. According to Saralaya, Saralaya and D'Souza (2019), proactive contract monitoring helps identify potential breaches, non-compliance issues, and unforeseen challenges early on. This allows for timely intervention and corrective action, minimizing financial losses, legal disputes, and reputational damage. These findings compared to Egelund-Müller et al. (2017), who posited that regular monitoring enables assessment of whether both parties are fulfilling their obligations as outlined in the contract.

Table 4.5: Contract Monitoring Practices

Statements on Contract Monitoring	Mean	Std. Deviation
Contract monitoring guarantee timely expenditure in contract execution	4.53	.784
We assign monitoring responsibilities to specific people	4.34	.966
There is a harmonized and robust monitoring and performance measurement mechanisms	4.06	1.052
There is a regular review of supplier performance and the evolution of needs	4.02	1.015
The constant monitoring of contracts affects the corporates responsiveness to customer needs	3.95	1.095
We conduct annual reviews of contracts to ensure their relevance and value	4.44	.770

4.3.4 Contract Cost Management

The means and standard deviations are depicted in the descriptive findings of contract cost management in Table 4.9. On measures to control costs: the study found out that respondents were not sure whether cost management helped in controlling contract specific cost ($\overline{x}$ = 3.14, σ = 1.295). Given the five-point scale Likert mean of more than ($\overline{x}$ = 2.6) and an average standard deviation, a major section of the respondents was undecided about this statement. According to Ahmed et al. (2023), organizations need to ensure effective cost management practices, including clear cost estimates, regular monitoring, and proactive risk mitigation, for significant contribution to project success and improved supply chain performance. Moreover, the study established that cost control predicted the future expenses and costs accordingly to work towards the expected revenues ($\overline{x}$ = 3.80, σ = .921). Given the five-point scale Likert mean of more than ($\overline{x}$ = 3.4) and an average standard deviation, a major section of

the respondents agreed with the statement. Nevertheless, by implementing robust cost control measures and utilizing historical data analysis, businesses can gain valuable insights to make informed predictions, develop realistic budgets, and ultimately work towards achieving their expected revenue goals. According to Rubin (2017), effective cost control can contribute to higher profit margins by ensuring expenses align with revenue expectations.

Further, the study established that cost management systems ensure adherence to budgeted costs during contract implementation ($\bar{x}$ = 2.52, σ = 1.642). Given the five-point scale, Likert mean of less than ($\bar{x}$ = 2.6), and an average standard deviation, a major section of the respondents disagreed with the statement. These findings did not mirror those of Yismalet and Alemu (2018), who established that implementing cost management systems led to improved cost performance, reduced cost overruns, and better adherence to budgets in construction projects.

On predefined cost maintenance, the findings showed that cost budgeting ensures predefined costs are maintained as recorded in the contract agreement ($\bar{x}$ = 3.80, σ = .974). Given the five-point scale Likert mean of more than ($\bar{x}$ = 3.4) and an average standard deviation, a major section of the respondents agreed with the statement. Moreover, the study established that continuous cost checking enhances progressive contract implementation ($\bar{x}$ = 4.26, σ = .981). Given the five-point scale Likert mean of more than ($\bar{x}$ = 4.2) and an average standard deviation, a major section of the respondents strongly agreed with the statement. By continuously checking costs, deviations from the budget can be identified early, allowing for timely corrective actions to prevent significant cost overruns at later stages of the project. This aligns with the core principle of progressive contracts, where payments are made based on completed milestones, enabling early course correction (Ahmed et al., 2023).

The findings illustrated that the participants were unsure whether their firms used performance-based contracts that link payments and penalties to supplier performance ($\bar{x}$ = 2.96, σ = 1.556). Given the five-point scale Likert mean of between ($\bar{x}$ = 2.6 and 3.4) and an average standard deviation, a major section of the respondents was undecided about the statement. Performance-based contracts (PBCs) are gaining traction in various industries to incentivize and improve supplier performance. These contracts link payments and penalties directly to pre-defined performance metrics, fostering a results-oriented approach in the buyer-supplier relationship (Akkermans et al., 2019). The findings also implied that most county referral hospitals in Kenya adopted continuous cost checking to enhance progressive contract implementation. These practices improved contract cost management. According to Kerzner (2017), effective cost management practices facilitate the controlled management of change orders. This involves clearly defining the cost implications of any proposed changes and ensuring proper approval processes before implementation, minimizing financial risks, and maintaining project/supply chain continuity.

Table 4.6: Contract Cost Management Practices

Statements on Contract Cost Management	Mean	Std. Deviation
Cost management helps in controlling contract specific cost	3.14	1.295
Cost control predicts the future expenses and costs accordingly to work towards the expected revenues	3.80	.921
Cost management system ensure adherence to budgeted costs during contract implementation	2.52	1.642
Cost budgeting ensures predefined costs are maintained as recorded in the contract agreement	3.80	.974
Continuous cost checking enhances progressive contract implementation	4.26	.981
We use performance-based contracts that link payments and penalties to supplier performance	2.96	1.556

4.3.5 Supply Chain Performance of County Referral Hospitals

On stock records, the findings illustrated that the organizations kept accurate stock records ($\bar{x}$ = 3.15, σ = 1.654). Given the five-point scale Likert mean of more than ($\bar{x}$ = 2.6) and an average standard deviation, a significant section of the respondents was undecided about this statement. However, organizations should adopt accurate stock records to ensure order fulfillment accuracy and timely deliveries, leading to higher customer satisfaction (Hrouga and Sbihi, 2023). Moreover, the findings illustrated that contract efficiency improves our responsiveness ($\bar{x}$ = 4.22,

σ = 1.106). Given the five-point scale Likert mean of above (x̄ = 4.2) and an average standard deviation, a significant section of the respondents strongly agreed with this statement. Also, the findings illustrated that contracts effectiveness leads to higher order fill rates (x̄ = 3.72, σ = 1.055). Given the five-point scale Likert mean of above (x̄ = 3.4) and an average standard deviation, a significant section of the respondents agreed with this statement. Lastly, the findings illustrated that contract value leads to improved customer service (x̄ = 4.18, σ = 1.132). Given the five-point scale Likert mean of above (x̄ = 3.4) and an average standard deviation, a significant section of the respondents agreed with this statement. These findings implied that most county referral hospitals in Kenya adopted contract efficiency to improve their responsiveness. According to Teece (2018), a business's success depends on improver operationalization. Therefore, these findings compared to those of Darcy, Hill, McCabe, and McGovern (2014), who posited that profitability analysis gave firm managers a clear picture of their company, enabling them to strategize better and plan for their long-term growth and improve supply chain performance.

Table 4.7: Performance Practices

Statements on Supply Chain Performance	Mean	Std. Deviation
Our supply chain is responsive to clients' needs	3.72	1.055
We experience high order fill rates	4.18	1.132
We keep accurate stock records	3.15	1.654
Contract efficiency improves our responsiveness	4.22	1.106
Contracts effectives leads to higher order fill rates	3.72	1.055
Contract value leads to improved customer service	4.18	1.132

4.4 Correlation

This section presents the summary of the correlation analysis. The correlation significance was determined at $p \leq 0.05$, as summarized in Table 4.11. The first correlation was done to determine whether contract documentation significantly influenced the supply chain performance of county referral hospitals in Kenya. The results in Table 4.11 show a significant relationship (r=0. 431, p<0.05) between the variables. Therefore, the Pearson product correlation of contract documentation and the supply chain performance of county referral hospitals was found to be low positive and statistically significant. This shows that an increase in contract documentation practices would lead to a high supply chain performance. The study also sought to determine the influence of contract compliance on the supply chain performance of county referral hospitals in Kenya. The correlation results in Table 4.11 indicate a significant relationship (r= 0. 367, p ≤ 0.05) between the variables. The Pearson product correlation of contract compliance and the supply chain performance was also found to be low positive and statistically significant. This shows that an increase in contract compliance practices would lead to a high supply chain performance of county referral hospitals in Kenya.

It was also essential to determine whether there was a relationship between contract monitoring and supply chain performance. The correlation analysis in Table 4.11 indicates that there was indeed a significant relationship (r = 0. 498, p ≤ 0.05) between the variables. The Pearson product correlation of contract monitoring and supply chain performance of county referral hospitals were also found to be low positive and statistically significant. Therefore, this also shows that an increase in contract monitoring practice would lead to a high performance of. Lastly, a correlation was done to determine the influence of contract cost management on supply chain performance of county referral hospitals in Kenya. The results in Table 4.11 show a significant relationship (r=0. 310, p<0.05) between the variables. Therefore, the Pearson product correlation of contract cost management and supply chain performance of county referral hospitals were found to be very low positive and statistically significant. This shows that increased contract cost management practices would lead to a high supply chain performance of county referral hospitals in Kenya.

Table 4.8: Correlation Analysis

		Contract Documentation	Contract Compliance	Contract Monitoring	Contract Cost Management	Supply Chain Performance
Contract Documentation	Pearson Correlation	1				
	Sig. (2-tailed)					

	N	100			
Contract Compliance	Pearson Correlation	.388**	1		
	Sig. (2-tailed)	.000			
	N	100	100		
Contract Monitoring	Pearson Correlation	.177	.226*	1	
	Sig. (2-tailed)	.078	.024		
	N	100	100	100	
Contract Cost Management	Pearson Correlation	.137	.178	.185	1
	Sig. (2-tailed)	.176	.076	.066	
	N	100	100	100	100
Supply Chain Performance	Pearson Correlation	.431**	.367**	.498**	.310**	1
	Sig. (2-tailed)	.000	.000	.000	.002	
	N	100	100	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4.5 Regression Analysis

The results in Table 4.9 suggested that the value obtained for Pearson's Model Correlation Coefficient (R) is r = 0. 848^a was high. This indicated that the model improved when variables were added to determine the determinants of the supply chain performance of county referral hospitals in Kenya. The adjusted r-square value of r = 0.595 also suggests that the regression model could explain approximately 60% of the changes in the dependent variable. The ANOVA test results on the dependent and independent variables are summarized in Table 4.10.

Table 4.9: Multiple Linear Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.848^a	.619	.595	.822

a. Predictors: (Constant), Contract Cost Management, Contract Documentation, Contract Monitoring, Contract Compliance

The results of Table 4.10 indicated a significant relationship between the independent variables and the dependent variable (F= 17.598; df = 4, 95, 99; p = 0.000). These findings validated the one suggested in Table 4.11, thus, implying that contract documentation, contract compliance, contract monitoring, and contract cost management practices of contract management were significant in determining the supply chain performance of county referral hospitals. The beta value was used to determine the importance of the independent variables used in the model, and the results are summarized in Table 4.11.

Table 4.10: Summary of ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.392	4	11.598	17.163	.000^b
	Residual	64.198	95	.676		
	Total	110.590	99			

a. Dependent Variable: Supply Chain Performance
b. Predictors: (Constant), Contract Cost Management, Contract Documentation, Contract Monitoring, Contract Compliance

The results in Table 4.14 indicated that contract monitoring was the most important variable in the model (β = 0.384). This was followed by contract documentation (β = 0.285), then contract cost management (β = 0.176) and contract compliance (β = 0.138) respectively. These beta values indicated that the dependent variable, that is, the supply chain performance of county referral hospitals in Kenya, would change by a corresponding number of standard deviations because of changes in the standard deviations of the respective variables. Thus, the resulting linear regression model was Y (Firm Performance) =0.611 (Constant) + (0.367)

(Contract Documentation) + 0.150 (Contract Compliance) + 0.517 (Contract Monitoring) + 0.143 (Contract Cost Management).

Table 4.14: Overall Significance of Test Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.611	.595		1.027	.307
	Contract Documentation	.367	.110	.285	3.342	.001
	Contract Compliance	.150	.094	.138	1.597	.114
	Contract Monitoring	.517	.110	.384	4.710	.000
	Contract Cost Management	.143	.066	.176	2.184	.031
a. Dependent Variable: Supply Chain Performance						

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS
5.1 CONCLUSIONS

The study concluded that supply chain performance was expected to grow for every unit increase in contract documentation. This showed that when there was improved contract documentation, county referral hospitals gained an improved supply chain performance. Further, the study concluded that county referral hospitals needed to adopt electronic document management systems since they offer a multitude of benefits when it comes to managing contract documentation, streamlining processes, and improving overall efficiency. Moreover, the study concluded that the contract documentation plan adopted by the firms' included details about how the entire contract deliverables will be executed from the start to the end of the contract.

The study concluded that there was a need to have standardized contract templates that incorporate essential elements for various types of agreements. These always incorporate essential legal clauses and industry regulations, minimizing the risk of non-compliance and potential legal issues. The investigation came to the additional conclusion that the institutions ensured contracts use clear and unambiguous language to avoid misunderstandings.

The study concluded that supply chain performance was predicted to improve for every unit increase in contract compliance. This implied that as contract compliance improved, county referral hospitals gained an increase in supply chain performance. Further, the study concluded that all contracts in the institutions complied with relevant legal requirements and regulations to avoid legal ramifications, reputational damage, and financial losses. Additionally, the study concluded that organizations complied with contract terms by awarding contracts to most suitable parties. It is clear from the results that the county referral hospitals carried out regular audits to assess compliance with contractual obligations. This significantly reduced the likelihood of contractual disputes and associated financial losses. The findings also implied that there were specific contract approval processes to ensure compliance to all terms.

The study concluded that an increase in supply chain performance for every unit increase in contract cost management was predicted. This research revealed that when contract cost management improved, county referral hospitals gained an increased supply chain performance. Further, the study concluded that cost management systems ensure adherence to budgeted costs during contract implementation. As derived from other studies, this study also concluded that implementing cost management systems led to improved cost performance, reduced cost overruns, and better adherence to budgets in construction projects. Furthermore, the study concluded that the firms did not use performance-based contracts that link payments and penalties to supplier performance.

According to the results, the study concluded that the county referral hospitals used continuous cost checking enhances progressive contract implementation. This ensured deviations from the budget can be identified early, allowing for timely corrective actions to prevent significant cost overruns at later stages of the project. Nevertheless, cost control predicted the future expenses and costs accordingly to work towards the expected revenues. Moreover, according to the study, it can be concluded that cost budgeting ensures predefined costs are maintained as recorded in the contract agreement.

5.2 Recommendations

Some recommendations include through choosing right software, systems configuration, document importation, user training, and need identification. The study suggests that to ensure improved contract documentation, county referral hospitals needed to ensure they have standardized contract templates that incorporated essential elements for various types of agreements. These would incorporate essential legal clauses and industry regulations, minimizing the risk of non-compliance and potential legal issues.

Consequently, county referral hospitals should enhance contract compliance to boost their supply chain performance. According to the research, county referral hospitals should ensure compliance with contract terms by awarding contracts to most suitable parties. This will serve as the basis for evaluating the potential impacts contract compliance to suppliers, both beneficial and adverse. The study further advised that regular audits to assess compliance with contractual obligations would significantly reduce the likelihood of contractual disputes and associated financial losses.

This report recommends that county referral hospitals should ensure a well-integrated contract monitoring processes to enable them to maintain an efficient contract management and improve their efficiency, responsiveness, and reduce operation costs. The study also recommends that businesses should struggle to integrate and maintain a harmonized and robust monitoring and performance measurement mechanisms.
Additionally, the study recommended using performance-based contracts that link payments and penalties to supplier performance. Additionally, county referral hospitals were encouraged to implement additional strategies that would ensure cost management helped in controlling contract specific cost. These measures would include renegotiating contracts, getting competitive bids, reducing inventory and increasing efficiency with automation software. Finally, even though most county referral hospitals employ contract cost management systems, there are still gaps in contract cost control and contract budgeting practices. Therefore, there is a need to hold contract cost management awareness seminars periodically in the organizations.

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List of County Referral Hospitals in Kenya

1. Kitui County Referral Hospital in Kitui
2. Jaramogi Oginga Odinga Teaching and Referral Hospital in Kisumu
3. Thika level 5 county Referral Hospital in Kiambu
4. Marsabit County Referral Hospital in Marsabit
5. Mandera Referral Hospital in Mandera
6. Mbagathi County Referral Hospital in Nairobi
7. Iten County Referral Hospital in Elgeiyo Marakwet
8. Chuka County Referral Hospital in Tharaka Nithi
9. Kerugoya County Referral Hospital in Kirinyaga
10. Moi County Referral Hospital in Voi- Taita Taveta
11. Kiambu County Referral Hospital in Kiambu
12. Makueni County Referral Hospital in Makueni
13. Lodwar County Referral Hospita in Turkana
14. Kakamega County General Teaching & Referral Hospital in Kakamega
15. Bungoma County Referral Hospital in Bungoma
16. Gatundu Level 5 Hospital in Kiambu
17. J.M Kariuki Memorial Hospital in Nyandarua
18. Migori County Referral Hospital in Migori
19. King Fahd Lamu County Referral Hospital in Lamu
20. Baringo County Referral Hospital in Baringo
21. Samburu County Referral Hospital in Samburu
22. Nyamira County Referral Hospital in Nyamira
23. Naivasha County Referral Hospital in Nakuru
24. Hola County Referral Hospital in Tana River
25. Kisumu County Referral Hospital in Kisumu
26. Murang'a County Referral Hospital in Murang'a
27. Kericho County Referral Hospital in Kericho
28. Mama Lucy Kibaki Hospital in Nairobi
29. Homa Bay County Teaching and Referral Hospital in Homa Bay
30. Msambweni County Referral Hospital in Kwale
31. Vihiga County Referral Hospital in Vihiga

32.   Kitale County Referral Hospital in Trans Nzoia
33.   Narok County Referral Hospital in Narok
34.   Coast General Teaching and Referral Hospital in Mombasa
35.   Garissa County Referral Hospital in Garissa
36.   Longisa County Referral Hospital in Bomet
37.   Kajiado County Referral Hospital in Kajiado
38.   Meru Teaching and Referral Hospital in Meru
39.   Siaya County Referral Hospital in Siaya
40.   Machakos Level 5 Hospital in Machakos
41.   Bondo County Referral Hospital in Siaya
42.   Isiolo County Referral Hospital in Isiolo
43.   Kilifi County Referral Hospital in Kilifi
44.   Embu level 5 Hospital in Embu
45.   Nyeri County Referral Hospital in Nyeri
46.   Kapsabet County Referral Hospital in Nandi
47.   Nanyuki Teaching and Referral Hospital in Laikipia