

An Examination on the Effectiveness of Public sector Procurement Processes in Enhancing Service Delivery: A Case Study of Ministry of Health in Lusaka, Matero Hospital Level 1

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Abstract— The Zambian government is currently grappling with challenges in delivering quality healthcare services to its population. In response to these issues, Zambia has embarked on an ambitious health sector decentralization program, implementing various policies over the years to improve healthcare accessibility and effectiveness. Notably, the National Health Policy enacted in August 2012 underscores a commitment to achieving equity in access to cost-effective, quality health services as close to families as possible. This policy framework aims to address disparities in healthcare delivery and ensure that essential services reach every concerned citizen, particularly in underserved areas. The overall objective of the study was to examine the effectiveness of public sector procurement processes in enhancing service delivery, focusing specifically on the Ministry of Health at the Matero first Level Hospital in Lusaka. This study aimed to assess several key areas: first, the effectiveness of the procurement process for medical supplies at Matero First Level Hospital; second, how policy can enhance efficiency in the supply chain of medical supplies; and third, to evaluate various methods for improving the procurement of medicines and medical supplies in public health facilities across Lusaka district. The research employed a comprehensive survey method, gathering data from a total sample of 50 respondents, which included 34 males and 16 females, comprising households and healthcare professionals affiliated with Matero First Level Hospital. To enrich the data collection process, two focused group discussions were conducted, involving six and four members, respectively, alongside interviews with six key informants. These key informants included the District Medical Officer, the In-Charge of Matero First Level Hospital, and the Medical Superintendent of the Matero Reference Health Centre. The study utilized both quantitative and qualitative research methods for data collection, employing questionnaires to gather quantitative data from households. The quantitative data were analyzed using the Statistical Package for Social Sciences (SPSS), while qualitative data were subjected to thematic analysis. The findings revealed several critical factors impacting the provision of quality healthcare services at the Hospital. Key issues identified included the adequacy and quality of staffing, where job satisfaction was closely linked to pay and overall working conditions. Insufficient and irregular funding emerged as a significant barrier to effective planning and service delivery. Additional challenges included inadequate infrastructure, a high patient population, and fluctuating availability of medical supplies, which collectively compromised the quality of healthcare services. Overcrowding resulted in long queues and prolonged waiting times, further exacerbated by a lack of information and the physical distances many patients had to travel to access services. To address these challenges, the study recommends that the Zambian government take decisive action to increase the number of healthcare staff at Matero First Level Hospital, accompanied by improvements in their working conditions and remunerations. Furthermore, it is essential to strengthen the financial capacity of the hospital to ensure a consistent and adequate supply of medical resources, ultimately enhancing the quality of healthcare services provided to the community.

Keywords— Quality, services, healthcare, procurement, Lusaka, Zambia, accessibility, funding, infrastructure, patient satisfaction, medical supplies, decentralization.

INTRODUCTION AND BACKGROUND

Zambia's public hospitals, operating under the Ministry of Health, allocate significant financial resources toward the procurement of goods and services essential for effective operations and quality service delivery. This procurement process is multifaceted, encompassing not

only the straightforward purchase of goods and services but also a comprehensive approach that includes planning, strategic sourcing, purchasing, order management, and ongoing management of costs and supplier performance. Effective procurement in the

healthcare sector is crucial, as it directly impacts the availability and quality of medical supplies, equipment, and services that hospitals can offer to patients. To ensure that procurement is conducted with integrity and transparency, it is imperative that hospitals achieve value-for-money in their transactions. This means not only acquiring the necessary goods and services at competitive prices but also ensuring that these purchases meet the required standards of quality and reliability. These centralized contracts account for approximately 23% of the total procurement needs of hospitals. For the remaining 77 percent, hospitals have the flexibility to procure locally, provided they adhere to the guidelines and conditions set forth by the central procurement contracts and policies. The significance of this procurement structure lies in its potential to streamline processes, reduce costs, and enhance service delivery across the healthcare system.

This research aimed at conducting an examination of the effectiveness of public sector procurement processes in enhancing service delivery, focusing specifically on a case study of the Ministry of Health at Matero Level 1 Hospital in Lusaka. Through investigating the intricacies of procurement practices within this specific context, the study identified both strengths and weaknesses in the current system, providing insights that may inform future improvements.

Following this exploration, the chapter will conclude with a summary of the main points discussed, highlighting the importance of effective procurement processes in the overall mission to enhance quality healthcare services in Zambia. Through this examination, the research aspires to contribute valuable knowledge that can lead to more efficient procurement practices and ultimately better health outcomes for the population.

On average, public procurement accounts for 29% of public expenditures and 12% of the gross domestic product (GDP) in organization for economic co-operation and development (OECD) countries (OECD, 2019). The governments of (OECD) countries are responsible on average for 70% of final consumption expenditure on health goods and services, as well as 84% of final consumption expenditure on education, as recorded in national accounts (OECD, 2019). The governments of OECD countries are responsible on average for 70% of final consumption expenditure on health goods and services, as recorded in national accounts (OECD, 2019). Procurement is relatively

similar, but its organization differs from country to country (Ahlström, 2000; Bonnacorsi et al., 1996; 1996:386–405; Coase, 1937: 386–405).

In Zambia, public procurement accounts for about 15% percent of the Gross Domestic Product (GDP). Due to high tendencies of corruption in public procurement, there have been calls for both legal and policy reforms, specifically to review and amend the current Public Procurement Act to curtail corruption as well as ensuring value for money in public procurement and promote prudent public finance management. These are often provided internally by civil servants but in many cases need to be obtained from the private sector through public procurement processes. The primary objective of public procurement is to deliver goods and services necessary to accomplish government missions in a timely, economical and efficient manner. For instance, when used strategically, procurement can improve significantly the life of citizens through agile and high-quality public services, such as health care and education services. As a core and transversal activity of government, public procurement affects directly on all dimensions of citizens' lives at the macro and micro level. Medicines availability is important in provision of health care.

The concept of supply chain management is inevitable for efficient resource utilization in the modern organization and is key to efficient resource utilization and customer satisfaction in service sectors including government health institutions (Auma, 2015). Healthcare supply has been a subject of interest for many years. The pressure of changes in environment lead to changes in guiding principles which produce solid problems viewed as problems with no feasible solutions.

Statement of the problem

Efficient and effective public procurement in the health sector contributes to higher quality health care and better medical equipment, which in turn must lead to higher life expectancy (and higher levels of citizens living longer in good health. Zambia's health service delivery system is characterized by a range of inefficiencies that are a significant drain on public resources. A proportion of the allocations to the center and provinces is used to purchase supplies for lower level health providers. But the allocation for district health services remains low (averaging 27.5% between 2014 and 2015) given government's policy of delivering PHC as close to the family as possible. Between 2011 and 2014, the health

sector continued to be characterized by delays in disbursements and underfunding, with operational budget execution rates of 66% to 93%. Challenges related to supply and logistics for medicines and medical supplies at PHC facilities affect the quality of services (MTR, MOH, 2015). That is why the population tend to bypass PHC services in favor of hospital services, leading to congestion at higher levels of care affecting service delivery.

General objective

The aim of the study is to examine the effectiveness of public sector procurement processes in enhancing service delivery, using Matero Level 1 Hospital under the Ministry of Health in Lusaka as a case study.

Specific objectives

- To assess the effectiveness of the procurement process for medical supplies at Matero Level 1 Hospital in the Matero constituency of Lusaka District.
- To determine how policy can enhance the efficiency of the supply chain for medical supplies at Matero Level 1 Hospital in the Matero constituency of Lusaka District.
- To evaluate methods for improving the efficiency of procurement processes for medicines and medical supplies in public health facilities.

Theoretical Framework: Supply chain operations reference

The Supply Chain Operations Reference (SCOR) model serves as a comprehensive framework for analyzing and optimizing supply chain processes, making it particularly relevant for the examination of procurement and service delivery at Matero Level 1 Hospital. By breaking down the supply chain into its five key processes Plan, Source, Make, Deliver, and Return the SCOR model facilitates a structured assessment of the hospital's procurement system.

The "Plan" phase is critical for forecasting demand for medical supplies. Effective planning ensures that the hospital can anticipate the necessary resources to meet patient needs, thereby preventing shortages or excess inventory.

In the "Source" process, the focus shifts to supplier selection, contract negotiation, and the ongoing management of supplier relationships. This aspect is vital for establishing reliable sources of quality medical

supplies, which can ultimately affect the hospital's ability to deliver timely and effective care services.

While the "Make" process traditionally pertains to manufacturing, within the healthcare context, it encompasses the management and preparation of medical supplies. This includes essential activities such as sterilizing equipment and compounding medications, which are crucial for maintaining safety and quality in patient care.

The "Deliver" phase addresses the internal distribution of medical supplies to various departments within the hospital. Effective delivery processes are essential for ensuring that healthcare providers have timely access to the supplies they need to care for patients.

Finally, the "Return" process involves managing expired or unused supplies, handling returns to suppliers, and disposing of medical waste responsibly. This data-driven approach helps identify areas for improvement and supports informed decision-making.

By integrating NPM principles into the analysis of procurement at Matero Level 1 Hospital, the study can provide a nuanced understanding of how policy and management practices influence procurement outcomes and, consequently, the overall quality of service delivery. This theoretical framework not only enhances the analysis of procurement processes but also contributes to the development of actionable recommendations for improving healthcare delivery in the Zambian context.

LITERATURE REVIEW

2.1. Overview

The procurement process encompasses a series of progressive stages within the procurement cycle, which are critical for ensuring that public entities effectively acquire goods and services to meet their operational needs. According to the Public Procurement Act (PPA, 2004), these stages include planning, where organizations identify their needs and strategically outline the requirements for procurement; the choice of procedures, which involves selecting the most appropriate method for soliciting bids, whether through open tendering, selective tendering, or direct procurement; and measures to solicit offers from potential tenderers, which may include publishing advertisements and issuing requests for proposals. Following this, the examination and evaluation of offers take place, where submitted bids are assessed against

predetermined criteria to ensure they meet technical, financial, and compliance requirements. This rigorous evaluation process is essential for maintaining transparency and fairness in awarding contracts. Once a suitable offer is identified, the award of the contract is executed, formalizing the agreement between the procuring entity and the selected supplier. This is followed by contract management, which involves overseeing the implementation of the contract to ensure that the supplier meets their obligations, including quality standards and delivery timelines. Effective contract management is crucial for mitigating risks and addressing any issues that may arise during the execution of the contract. The procurement process extends beyond the award phase to include post-contract activities such as performance monitoring, supplier relationship management, and, ultimately, the disposal of goods or services that are no longer needed or have reached the end of their useful life (Sarfo, 2011). This lifecycle approach to procurement not only emphasizes the importance of each stage but also highlights the need for continuous improvement and adaptability within the procurement process to respond to changing circumstances and needs. Through thoroughly understanding and optimizing each phase of the procurement cycle, public institutions can enhance their operational efficiency, ensure accountability, and ultimately improve service delivery to the communities they serve.

The public procurement system is underpinned by fundamental principles aimed at maximizing economy and efficiency, promoting competition, ensuring fair treatment of all suppliers, and maintaining integrity, transparency, and accountability throughout the procurement process. According to the World Bank (2000) and the Public Procurement Act (PPA, 2004), these principles are essential for fostering a reliable and effective procurement environment within public institutions. Maximizing economy and efficiency involves procuring goods and services that meet the required quality for their intended purpose while being delivered at the right time and price (Arrowsmith, 2010). This principle emphasizes the need to minimize resource costs without compromising quality, where economy focuses on cost-effectiveness and efficiency on maximizing output from a given input. Effectiveness, in this context, is defined as the actual outcomes achieved compared to the intended objectives (Bucharest, 2003). Through fostering a competitive environment, public procurement can minimize opportunities for corruption and collusion, ensuring that a diverse range of suppliers

can participate in the bidding process (EPC, 2007). This principle guides the selection of procurement methods and the establishment of requirements for specific tenders, as the chosen methods directly influence the effectiveness and efficiency of the procurement process. The PPA (2004) mandates that similar situations must be treated consistently, and any differences in treatment must be justifiable, thereby promoting transparency and accountability within procurement proceedings (Weller et al., 2011).

Timely payments to suppliers, contractors, and service providers are essential for maintaining the credibility and creditworthiness of public authorities. The principles of integrity, accountability, and transparency are foundational to the public procurement process, ensuring that it operates within a framework of legality and openness. Transparency involves making procurement procedures accessible to the public, including timely notifications of procurement activities and clear criteria for decision-making (Mlinga, 2008). Such transparency allows potential suppliers to fully understand procurement requirements and fosters confidence in the fairness of the process. For a procurement system to function effectively, it must ensure competition, equal access, and accountability through public disclosure of relevant information (Jones, 2007). The principle of integrity insists that procurement operations are conducted honestly and in accordance with applicable laws and regulations, promoting fair competition and resulting in quality outcomes at fair prices. This principle necessitates the elimination of corruption in all forms, whether through bribery, personal interests, or political motivations, which can severely undermine the procurement process (Arrowsmith et al., 2010).

Professionalism in procurement is vital for achieving the goals and objectives of public procurement systems. The principles of efficiency, economy, transparency, accountability, and fairness are thus of paramount importance in this study, as they significantly influence the effectiveness of the public procurement system. The operational aspects of the procurement process in the public sector must be characterized by consistency and transparency, ensuring that decisions are well-documented and clearly communicated (Mlinga, 2008). The procurement process, as outlined in the PPA (2004), begins with identifying the need for procurement, followed by careful planning, selecting appropriate procurement methods, and implementing the tendering process. This includes the award of contracts and

effective contract management to oversee the execution of procurement activities. Each stage of the procurement process plays a crucial role in determining the overall success of public procurement initiatives and their ability to deliver quality goods and services to the community. The legal framework governing procurement, including policies, regulations, and institutional arrangements, is vital for supporting these processes and promoting accountability among procurement entities and their officials. Properly documenting and archiving decisions ensures that all actions taken during procurement are justified and can be scrutinized, reinforcing the system's integrity and effectiveness (Wiehen and Olaya, 2006).

Public procurement is progressively recognized as critical in delivering service in developing countries (Basheka and Bisangabasaiji) and it also represents proportionately a high total expenditure and accounts for 18.2% of GDP worldwide as noted by Mahmood in his research.

The preparation of a procurement plan and budget, along with the effective packaging of procurement activities, is a critical area that often faces numerous challenges, as noted by Shirima (2009). Procurement planning is a multifaceted process that involves several steps and is fundamentally concerned not only with future decisions but also with the future impact of today's decisions on procurement outcomes (Thai, 2004). This planning process requires a thorough understanding of the business needs that can be best met by procuring goods, works, or services from external sources. It encompasses decisions regarding where to procure, how to procure, what to procure, how much to procure, and when to procure (Garret and Rendon, 2005). This perspective aligns with Boma's (2007) findings that a well-structured procurement plan outlines the specific products to be acquired, the chosen suppliers, and the timing and methods for acquisition. For effective procurement planning, collaboration with user departments is essential; these departments must support the Procurement Management Unit (PMU) by providing timely and accurate submissions of their procurement requirements. Additionally, procurement bodies are tasked with conducting regular market surveys to monitor prices for various procurement needs, which is crucial for establishing realistic budget estimates. According to Section 45 of the PPA (2004), the preparation of a procurement plan is a mandatory requirement for procuring entities, aimed at avoiding emergency procurements and preventing the splitting of

procurement activities to circumvent established procedures. A well-structured procurement plan facilitates the aggregation of requirements both within procurement bodies and between them, enabling the realization of value for money, reducing costs, and making effective use of framework contracts whenever appropriate. This approach provides an efficient, cost-effective, and flexible means to procure goods and services that are required on a continuous or repeated basis over a specified period.

The annual procurement plan serves to address all the needs of user departments within the procuring entities, indicating the appropriate procurement methods for each requirement. It strives to minimize procurement costs without compromising the quality of materials and meeting delivery timelines (Mlinga, 2008). Frequent changes to the procurement methods outlined in an approved procurement plan can signal deficiencies in the planning process, ultimately leading to an ineffective procurement process. The initiation of procurement planning begins with identifying procurement needs that arise from the government budget, which delineates the total funds allocated for procuring entities to fulfil their objectives and set targets within a financial year.

In developing these plans, procurement bodies must establish the appropriate procurement methods for each requirement, as specified in the regulations, while also calculating a comprehensive timescale for each procurement activity based on standard processing times. This calculation allows for necessary margins to accommodate potential delays in document transmission or tender clarifications. Consequently, the procurement plan will outline start dates and critical milestones within the procurement process, ensuring that all activities are planned systematically and that resources are allocated efficiently. Through adhering to these structured planning processes, public institutions can enhance the effectiveness and efficiency of their procurement operations, ultimately leading to improved service delivery and better outcomes for the communities they serve.

The extent to which contracting services yield benefits for public entities and the communities they serve significantly hinges on the efficiency and effectiveness of the competitive tendering process. This tendering stage is crucial for achieving value for money within the procurement cycle, as it directly impacts the quality and cost-effectiveness of the services procured. The tendering process comprises several key sub-activities

that are essential for its successful execution. Firstly, the preparation of bidding documents is a fundamental requirement of procurement law. This preparation reflects the genuine intention of the accounting officer to move forward with the procurement process, which should be outlined in the procurement plan. The responsibility for creating these tender documents falls to the procurement officers, who must collaborate closely with the user department to ensure that all necessary details are accurately captured. The law mandates that the completed tender document be submitted to the Tender Board (TB) for approval prior to being issued to prospective bidders. The efficiency and effectiveness of the entire procurement process are, therefore, contingent upon the availability of TB members to adjudicate and grant approvals in a timely manner. The tender document itself contains critical information for inviting bids, including advertisements, evaluation criteria, and the terms and conditions of the anticipated contract. It serves as a foundational framework for the management of the contract, outlining procedures for handling contract variations, change control, cost monitoring, ordering processes, payment procedures, and reporting requirements. As noted by Garrett and Rendon (2005), this stage is crucial for preparing the documents necessary to support the solicitation process, which includes not only documenting program requirements but also identifying potential sources for fulfilling these requirements.

The careful preparation of bidding documents ensures that all prospective bidders have access to the same information, fostering a competitive environment that can lead to better pricing and quality of services. It also establishes a transparent framework for evaluating bids, which is essential for maintaining fairness and integrity in the procurement process. Through ensuring that the tendering process is conducted efficiently and effectively, public entities can maximize the benefits of contracting services, ultimately leading to improved service delivery and enhanced outcomes for the communities they serve. Through diligent adherence to the procedural requirements and a commitment to transparency and fairness, the procurement process can not only achieve value for money but also bolster public trust in how resources are allocated and utilized.

Poorly prepared solicitation documents can have significant negative repercussions on the procurement process, often leading to delays in the delivery of goods, works, or services. One of the primary issues arising from inadequate documentation is the selection of

unqualified contractors, suppliers, or service providers. When the bidding documents lack clarity and detail, it can result in poor performance, with selected parties failing to deliver on time, at the right cost, or to the prescribed quality standards. Additionally, ambiguities in specifications, terms of reference, and the contractual terms outlined in the bidding documents can lead to delays and cost overruns during the procurement process. Queries or addenda prompted by these ambiguities can further complicate the timeline, making it difficult to adhere to project schedules. The Public Procurement Act (PPA, 2004) emphasizes the importance of appropriate specifications, schedules of requirements, and drawings provided by users to mitigate these risks. Well-prepared bidding documents not only facilitate clear communication of expectations but also reduce the likelihood of tender cancellations and the lodging of complaints, thereby contributing to a more effective procurement process.

The subsequent stage in the procurement cycle is the evaluation of bids. Once the procuring entities have issued approved tender advertisements through the media prescribed by governing procurement guidelines, the process moves forward. The PPA (2004) mandates that tender opportunities be advertised in widely circulated newspapers, as well as on the websites of the Public Procurement Regulatory Authority (PPRA) and the procuring entities (Pes). The Procurement Management Unit (PMU) is responsible for distributing the prepared bidding documents, registering all submitted bids, and organizing a public opening ceremony for these bids. Maintaining transparent records, the PMU archives the minutes from the opening of submitted bids in the respective procurement files. A crucial aspect of the evaluation process is the composition of the tender evaluation committee. The PMU recommends members based on their experience, expertise, and skills relevant to the specific procurement at hand, which must be approved by the Accounting Officer. The lack of skills and knowledge among the appointed evaluation committee members can have detrimental effects on the evaluation tasks, leading to inadequate tender evaluation reports submitted to the PMU (Jones, 2007). When committee members are not well-versed in the specific requirements or complexities of the procurement, it can compromise the integrity and effectiveness of the evaluation process. This underscores the necessity for well-trained personnel who can critically assess bids and ensure that the procurement objectives are met. Through addressing these critical areas—preparation of solicitation

documents and the composition of evaluation teams—public entities can enhance the efficiency and effectiveness of their procurement processes, ultimately leading to better outcomes in service delivery and resource management.

RESEARCH METHODOLOGY

3.1 Overview

This chapter outlines the research framework established to achieve the objectives set forth in Chapter One. It offers a comprehensive overview of the research process, including the methodologies employed for data collection and analysis, as well as the rationale behind the selection of specific methods. The chapter details the research strategies and design, defining the target population and the geographical area of the study. It also elaborates on the sampling procedures used to ensure the representativeness of the data, alongside the key variables and measurement techniques that will guide the analysis. Furthermore, the chapter describes the various methods of data collection, such as surveys and interviews, highlighting how these methods will be utilized to gather relevant information. Finally, it addresses the processes for data processing and analysis, ensuring that the research findings will be systematically evaluated to draw meaningful conclusions. This structured approach aims to provide a clear pathway for investigating the factors affecting healthcare delivery at Matero First Level Hospital, facilitating a thorough understanding of the challenges and opportunities within the public health procurement system.

3.2 Research Strategies and Design

This research employed both exploratory and descriptive non-experimental cross-sectional designs, conducted in a controlled setting at Matero First Level Hospital in Lusaka District. The descriptive study design was chosen to explore the various factors influencing public procurement and their direct effects on the delivery of quality healthcare services. Additionally, the exploratory design was appropriate for this small-scale study, which was carried out over a short duration, particularly since similar research had not previously been undertaken at Matero First Level Hospital. The cross-sectional nature of the study allowed for a snapshot of the situation at a specific point in time, providing valuable insights into the current state of healthcare procurement and service delivery. To gather comprehensive data, both qualitative and quantitative methods were utilized. The quantitative design was employed to collect statistical information, which could then be represented visually through tables,

bar graphs, and pie charts. Quantitative data was obtained via closed-ended questions directed at both users and service providers. These questions offered a list of predefined responses, compelling respondents to select the option that best reflected their experiences or opinions. The advantages of using quantitative data include its ability to generate statistical insights that can be measured and analyzed systematically. However, a limitation of this approach is that it may overlook the contextual nuances of the study, as it often fails to capture the deeper meanings and personal interpretations that qualitative data can provide. Conversely, qualitative methods were employed to gain richer, more in-depth information and personal experiences from respondents. Given that this type of research had not been previously conducted at Matero First Level Hospital, qualitative methods afforded the researcher greater flexibility to allow the study to evolve more naturally. This approach facilitated the collection of detailed and nuanced data through participants' descriptions of their experiences and perceptions. Such richness is particularly essential in social sciences, where understanding the complexities of human behavior and societal issues goes beyond mere statistics. However, qualitative research is not without its challenges; it can be time-consuming and may lead to a high level of researcher involvement, which risks introducing bias into the findings. The researcher's subjective viewpoint might inadvertently influence the presentation of results, potentially skewing the interpretation of data. Through employing a mixed-methods approach, this study sought to mitigate the weaknesses associated with each method, ensuring that the depth of qualitative insights was complemented by the statistical rigor of quantitative analysis. This comprehensive approach aims to provide a well-rounded understanding of the factors affecting healthcare delivery at Matero First Level Hospital, contributing valuable knowledge to the field of public procurement and health services.

3.3 Research site target Population

The research was conducted at Matero First Level Hospital, located in the Lusaka District, approximately 5 kilometers northwest of the Lusaka City Centre, behind the National Heroes Stadium. This hospital serves as a vital healthcare facility for the local population, catering to tens of thousands of individuals from various surrounding compounds. As one of the key health centers in the area, Matero First Level Hospital plays a crucial role in providing essential health services to a diverse community, including families from low-

income neighborhoods who rely on its services for their healthcare needs. The hospital's strategic position makes it easily accessible to residents, thus highlighting its importance in the public health landscape of Lusaka. Through serving such a large and varied population, the hospital not only addresses immediate health concerns but also contributes to the overall well-being of the community, making it a significant focus for research aimed at understanding the challenges and opportunities within the public healthcare system in Zambia.

3.4 Sample size and sampling method

The size of a sample plays a crucial role in the accuracy and representativeness of research findings. Larger samples tend to provide more representative results, while smaller samples can lead to less accurate outcomes due to their limited ability to reflect the broader population (LoBiondo-Wood and Haber, 1998:263-264). In this study, a convenience sample of 50 respondents was randomly selected to represent the entire Matero First Level Hospital on behalf of the Ministry of Health. This sample included management staff, healthcare workers, and patients, allowing for a comprehensive understanding of their service experiences at the hospital. As noted by Taherdoost (2016), the appropriate sample size often depends on the time and resources available for the research. The study ultimately included a total of over 50 respondents, with two focus group discussions held, consisting of six and four members, respectively. Participants for these discussions were selected using purposive sampling to ensure that individuals with relevant insights were included.

Additionally, six key informants were interviewed using a purposive sampling method, as these individuals were believed to possess valuable information pertinent to the study. An interview guide was utilized during these sessions to systematically record responses. According to Polit and Hungler (1999:225), sampling is an economical approach, allowing researchers to gather essential data without needing to engage the entire population of the Ministry of Health in the Matero constituency. Given the constraints of time and resources, it was deemed more efficient to secure information from a sample rather than attempting to reach every individual. De Vos (1998) also highlighted that convenience sampling is a rational choice when it is impractical to identify all members of a population. This is particularly relevant in a healthcare setting, where many participants may not be traceable after leaving the hospital, as they could relocate or become unavailable

for interviews. Thus, the research design strategically addressed these challenges to obtain meaningful insights while recognizing the limitations inherent in the sampling process.

3.5 Data Collection Instruments and Procedure

To gather the necessary information for this study, a combination of semi-structured questionnaires and interview guides was employed as the primary data collection methods. The questionnaires included both closed-ended and open-ended questions, as closed-ended questions facilitate easier answering and analysis, allowing for the collection of quantitative data. These questionnaires were self-administered; when respondents were proficient in English, they were given the questionnaires to complete independently. Additionally, Focus Group Discussions (FGDs) were conducted to capture the actual feelings and sentiments of the participants, aligning with Marshall's (2003) assertion that qualitative methods focus on the subjective realities and emotions of respondents. Prior to conducting the research, the researcher obtained a letter of permission from the Institutional Review Board, which was presented to the local government authority for approval to carry out the study at Matero First Level Hospital in the Matero constituency of Lusaka District. Furthermore, interviews were conducted with key informants using a semi-structured interview guide, which contained a predetermined list of questions while allowing for flexibility to explore additional topics of interest. This approach enabled the researcher to record detailed and nuanced responses as the interviewees shared their insights. The advantages of interviews included the ability to obtain in-depth information and detailed descriptions of the issues at hand, as well as the opportunity for the researcher to probe further if certain responses were unsatisfactory. Interviews also allowed the researcher to rephrase questions for clarity and better understanding. However, this method also had its limitations. Respondents occasionally struggled to provide accurate information, and the process proved to be time-consuming and resource-intensive. Despite these challenges, the mixed-methods approach enabled a comprehensive exploration of the factors affecting healthcare delivery at Matero First Level Hospital, enriching the study's findings and conclusions.

3.6 The data collection tools

Baxter and Jack (2008) emphasized that data collection is a multifaceted process that involves various activities, including identifying the right individuals and locations

to gather credible information. In line with this perspective, the aim of this study is to collect high-quality data that effectively addresses the research questions posed by the investigator. To achieve this, the survey consists of two sets of questionnaires: one designed for patients and the other for staff members of the hospital management, irrespective of their specific roles within the system. To ensure the collection of credible information, the questions in the questionnaires have been crafted to be simple, concise, and clear. This approach is intended to facilitate easy comprehension and prompt responses, thereby encouraging higher participation rates among both patients and staff. Through prioritizing clarity and brevity in the questionnaire design, the study seeks to create an inclusive environment that allows respondents to feel comfortable sharing their experiences and insights. Ultimately, this thoughtful approach to data collection aims to yield valuable information that can inform the understanding of healthcare delivery and procurement practices at Matero First Level Hospital.

3.7 Data analysis

Data analysis is fundamentally the process of transforming collected data into meaningful information that can inform decision-making. Various techniques are employed during this process, including modelling, which helps identify trends and relationships within the data, ultimately leading to conclusions that address specific research questions (Start, 2006). However, prior to analysis, it is essential to prepare the data adequately. Data preparation involves converting raw data into a numerical format that is machine-readable, facilitating its use in specialized analytical software such as SAS or SPSS. This preparation stage may include cleaning the data to remove any inaccuracies or inconsistencies, coding responses for easy quantification, and organizing the data into a structured format suitable for analysis. Through ensuring that the data is correctly formatted and ready for analysis, researchers can enhance the reliability of their findings and ensure that the conclusions drawn are based on accurate and well-prepared datasets. This meticulous approach to data preparation is crucial for generating credible insights that can ultimately inform effective decision-making in the context of healthcare delivery and procurement practices.

3.7.1 Data entry

In this process, the coded data is typically entered into text files or spreadsheets, facilitating easy organization and accessibility. Alternatively, it can be directly input

into a statistical program for analysis. To streamline this workflow, the researcher will first enter the data into Excel, aligning it with the specific format in which it will be collected. This preliminary step is crucial, as it allows for efficient data management and ensures that the dataset is structured appropriately for subsequent analysis. Through utilizing Excel, the researcher can systematically arrange the data, making it easier to identify any potential errors or inconsistencies before analysis begins. This organization aids in preparing the data for statistical software, ensuring that it meets the requirements of the chosen analytical tools. Ultimately, this careful approach to data entry and organization enhances the accuracy and reliability of the analysis, allowing the researcher to draw meaningful conclusions from the dataset and contribute valuable insights to the study of healthcare delivery and procurement practices.

3.7.2 Triangulation

Triangulation in this study on the effectiveness of public sector procurement processes in enhancing service delivery at Matero Hospital Level 1 will be employed to enhance the validity and reliability of the findings. This approach will involve the use of multiple methods, data sources, and theoretical perspectives to provide a comprehensive understanding of the research problem. Methodological triangulation will be achieved by utilizing both qualitative and quantitative research methods. Quantitative data will be collected through structured questionnaires administered to healthcare staff and procurement officers, providing measurable insights into the effectiveness of procurement processes and their impact on service delivery. Qualitative data will be gathered through in-depth interviews and focus group discussions with key stakeholders, including hospital management, procurement staff, and healthcare providers, allowing for a richer understanding of the nuances and complexities of procurement processes in the healthcare context. The study will also draw on multiple data sources to corroborate findings, including primary data from surveys and interviews, as well as secondary data from relevant documents such as hospital records, procurement policies, and previous studies on healthcare procurement in Zambia. Through comparing and contrasting findings from these different sources, the study can validate its conclusions and address any inconsistencies that may arise. Engaging a diverse group of participants will be crucial for this study; by including various stakeholders such as hospital administrators, procurement officers, medical staff, and patients, the research will capture a wide range of perspectives on the procurement process and its impact

on service delivery. This diversity will help ensure that the findings reflect the realities of the healthcare environment at Matero Hospital. Additionally, the study will apply multiple theoretical frameworks to analyse the data, which may include theories related to public administration, supply chain management, and healthcare service delivery. Utilizing different theoretical lenses will enable the study to explore the procurement processes from various angles, fostering a deeper understanding of how these processes influence service delivery outcomes. Through employing triangulation across these dimensions, the study aims to produce robust and credible findings that not only highlight the effectiveness of public sector procurement processes at Matero Hospital but also contribute to the broader discourse on improving healthcare delivery in similar contexts.

3.8 Limitations

The study faced several limitations that impacted the research process and outcomes. One significant limitation was the delay in obtaining approval from the ethical committee, which postponed the initiation of the study. Additionally, the unavailability of respondents at the selected hospital posed challenges, as many targeted health personnel were often occupied with patient care, making it difficult for them to spare even a few minutes to complete the questionnaires. To address this, the questionnaires were left at the facility for respondents to fill out during their free time. However, this approach resulted in delays in receiving completed questionnaires, as some respondents took longer than expected to respond. Furthermore, some health personnel misplaced the questionnaires, which not only compromised the data collection effort but also increased costs due to the need for additional resources to replace them. Another limitation involved the reluctance of certain health personnel to participate fully in the study. Some individuals were hesitant to respond to the questionnaires due to concerns that their answers might jeopardize their job security, particularly when questions addressed challenges related to their roles and responsibilities that could impact service quality. Additionally, some medical staff were uncomfortable discussing specific issues, viewing them as politically sensitive. This discomfort led to the omission of crucial information that could have enriched the study's findings. Consequently, the reluctance of respondents to share key insights limited the depth of the data collected and, in turn, the overall conclusions drawn in the thesis. Despite these challenges, the research aimed to address the critical factors affecting healthcare delivery, and the

limitations encountered underscore the complexities involved in conducting research within sensitive organizational environments.

3.9 Ethical consideration

The research proposal was submitted to the University of Information and Communication Ethical Committee for review prior to the commencement of data collection for the main study. Full ethical clearance was subsequently granted by the University Directorate of Research and Graduate Studies Ethical Committee. Ethical considerations played a crucial role throughout the research process. Informed consent was obtained from all participants, ensuring that their involvement was voluntary and based on a clear understanding of the study's purpose, procedures, potential benefits, and associated risks. Participants received comprehensive explanations, enabling them to make informed decisions about their participation. Importantly, they retained the right to withdraw from the study at any time without facing any repercussions. Confidentiality was a paramount ethical consideration in this research. Participants' identities were anonymized through the use of pseudonyms during data analysis and reporting, thereby protecting their privacy and ensuring that personal information was not disclosed to unauthorized individuals. The researcher implemented secure storage and handling practices for the data, maintaining confidentiality throughout the research process. The study was conducted in compliance with relevant ethical standards and guidelines, with the design and procedures reviewed and approved by the appropriate research ethics committee or institutional review board. This oversight ensured adherence to ethical principles and safeguarded the rights and well-being of participants. To further mitigate any potential harm or

PRESENTATION OF RESEARCH FINDINGS AND DISCUSSION OF RESULTS.

4. Introduction

This chapter presents the findings of the study, highlighting the key results derived from the self-administered questionnaires conducted at Matero First Level Hospital in the Matero constituency of Lusaka Province. The research aimed to address specific objectives: first, to assess the effectiveness of the procurement process for medical supplies at the hospital; second, to determine how policies can enhance the efficiency of supply chains; and third, to evaluate methods for improving procurement efficiency in public health facilities within Lusaka District. The findings are categorized according to these objectives, incorporating

both quantitative and qualitative data presentation techniques, such as pie charts, bar graphs, frequency tables, and other visual aids to facilitate understanding. The analysis of the data involved transforming raw information into meaningful insights, allowing for a thorough examination of the hospital's procurement processes. Matero First Level Hospital, established in 1969, serves a significant population, with a catchment area of over 137,642 users as of 2016. Despite having 111 professional health staff and 78 support staff, the facility is understaffed compared to its establishment of over 200 positions. The hospital offers a range of services, including outpatient care, inpatient services, maternal health, and laboratory facilities, among others. Ongoing construction aims to upgrade the hospital to a District Hospital, enhancing healthcare access and alleviating congestion at the University Teaching Hospital (UTH). This project, supported by a grant from the Japan International Cooperation Agency (JICA), exemplifies efforts to improve medical infrastructure and services in Lusaka. The findings of this chapter will provide crucial insights for policymakers and healthcare administrators to optimize procurement processes and improve service delivery in public health facilities.

4.1 The presentation and analysis of Findings.

The data analysis focused on the main research question: the effectiveness of public sector procurement processes in enhancing service delivery, using Matero First Level Hospital as a case study under the Ministry of Health in

Lusaka. To present the collected data meaningfully, various tools such as pie charts, bar charts, and tables were utilized, providing a clear visual representation of the findings. A total sample size of 50 respondents, comprising a mix of patients and medical staff from the hospital, was selected to answer the structured questionnaire. Data collection took place in October 2024, with questionnaires distributed to respondents who were deemed to possess the necessary characteristics relevant to the research objectives. The sample included 16 female and 34 male respondents, reflecting a balanced representation of gender within the study. Remarkably, the response rate was 100%, as all targeted respondents successfully completed and returned their questionnaires. This high response rate exceeds the recommended minimum of 50% as noted by Mugenda (2003), indicating robust engagement from the participants. The demographic characteristics of the respondents were analyzed to classify them into various categories, including gender, occupation, and experience. This demographic analysis was essential to ensure that findings were representative of the diverse groups within the hospital community, thereby enhancing the credibility and applicability of the research outcomes. Through understanding the demographic composition, the study aims to provide insights into how different factors may influence perceptions of procurement effectiveness and service delivery at Matero First Level Hospital.

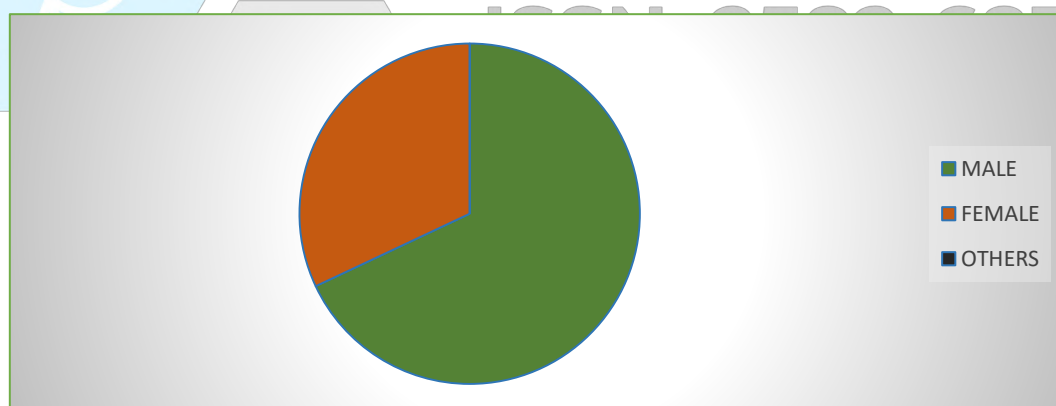


Figure 1. below illustrates the gender distribution of the study participants.

The gender distribution presented above reveals that 68% of the respondents were male, while 32% were female. The researcher initially aimed for a balanced representation of 50% for each gender to ensure that the findings would reflect a more equitable perspective on the issues being studied. However, achieving this ideal distribution proved challenging due to time constraints and the specific characteristics required for the sample.

The selection process prioritized obtaining responses from individuals who met certain criteria pertinent to the research objectives, which inadvertently led to a higher proportion of male respondents. Despite this imbalance, the researcher acknowledged the importance of capturing diverse viewpoints and experiences in the study.

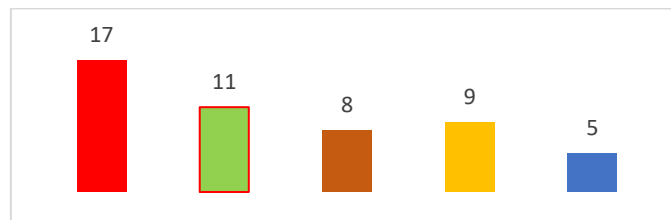


Figure 2. Below shows the age group of the respondents involved in this survey

The bar chart above illustrates the distribution of respondents by age group. Among the total sample of 50 participants, individuals aged 18-25 years accounted for 17 respondents, representing 34% of the sample. The 26-35 years age group included 11 respondents, corresponding to 22% of the total sample size. Those in the 36-45 years category comprised 9 individuals, making up 18% of the target population. Finally,

respondents aged 56 years and older numbered only 5, which represents 10% of the total sample. This age distribution provides insights into the perspectives and experiences of different age groups regarding the study's focus, enhancing the understanding of how age may influence opinions on service delivery and procurement processes at the Hospital.

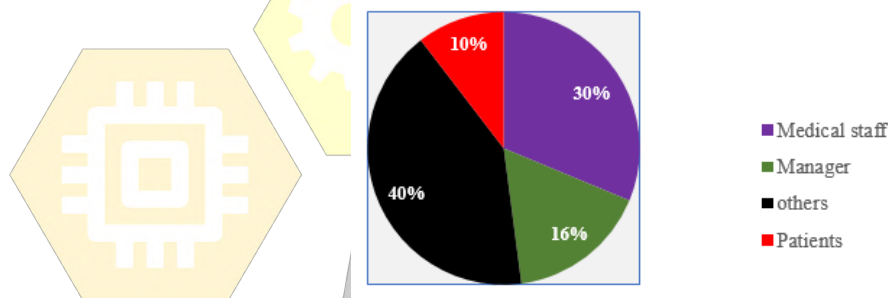
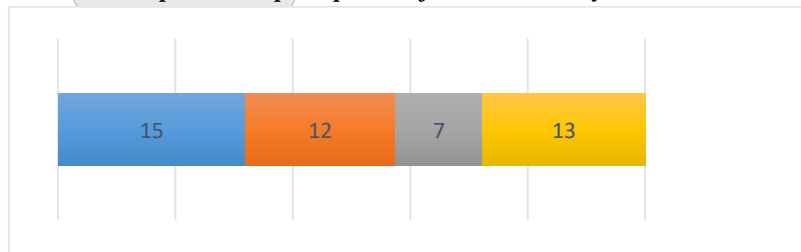


Figure 3. below presents an analysis of the respondents' occupations within the organization.

It reveals that 30% of respondents were medical staff, while 16% held positions as managers or officers. Notably, 40% of the respondents reported unknown occupations within the organization, indicating a lack of clarity regarding their roles. Additionally, 10% of the participants were patients at Matero First Level

Hospital. This distribution of occupations highlights the diverse backgrounds of the respondents, which can provide a broader understanding of perspectives on service delivery and procurement processes in the healthcare setting.

The chart 4 below illustrates the respondents' perceptions of service delivery at Matero First Level Hospital.



Among the total participants, 12 individuals perceived the service delivery as "very effective," representing 24% of the sample. In contrast, 15 respondents indicated that the service delivery was simply "effective," accounting for 30% of the responses. Notably, 13 respondents viewed the service delivery as "very ineffective," reflecting a significant divergence of opinion from those who rated it as "very effective." This

discrepancy highlights a conflict in perceptions within the same organization, with 26% of respondents expressing a viewpoint that directly contradicts the initial assessments.

Such conflicting responses underscore the necessity for further research to explore the underlying reasons behind these differing perceptions.

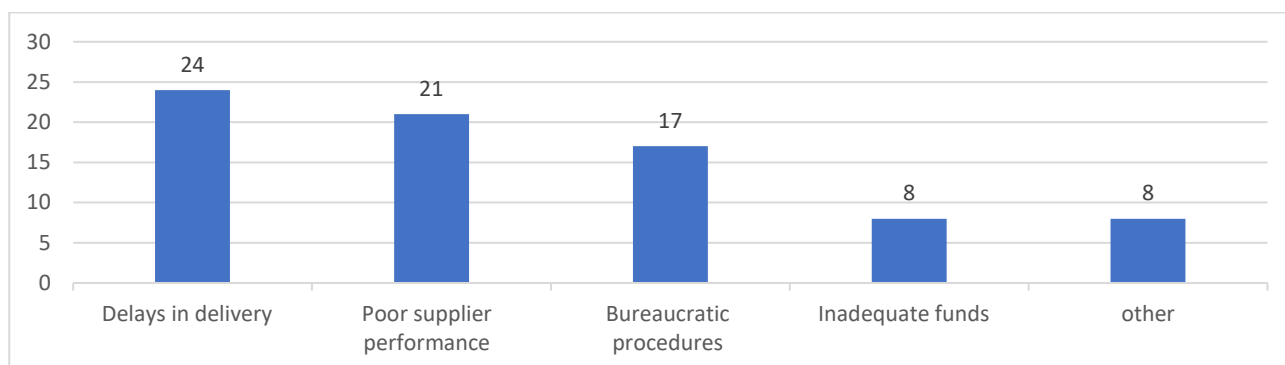


Figure 5. Challenges faced in the current procurement process for medical supplies at Matero first level hospital

The above analyzes the reasons provided by respondents regarding the obstacles affecting the hospital's efficiency. A significant number of respondents highlighted delays in the delivery of medical supplies as a major factor hindering the hospital's operational efficiency and overall service delivery. Additionally, poor supplier performance and bureaucratic hurdles

were frequently cited as contributing factors to the inefficiencies observed in the hospital's operations. These insights underscore the critical need for addressing these challenges to enhance the effectiveness of service delivery and improve the overall healthcare experience for patients at the hospital.

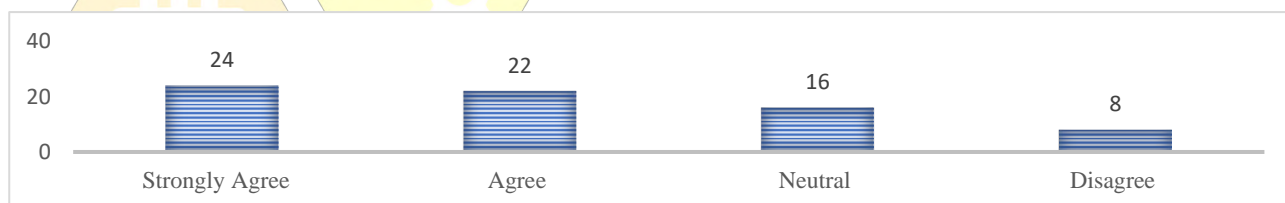


Figure 6. Efficiency of current procurement policies in enhancing the timely procurement of medical supplies.

The analysis of the findings regarding their perceived effectiveness. This perception highlights the importance of robust procurement strategies in ensuring that medical supplies and resources are delivered timely and adequately meet the needs of the hospital.

Understanding these perceptions can help inform potential improvements and adjustments to procurement practices, ultimately contributing to better healthcare outcomes for patients.

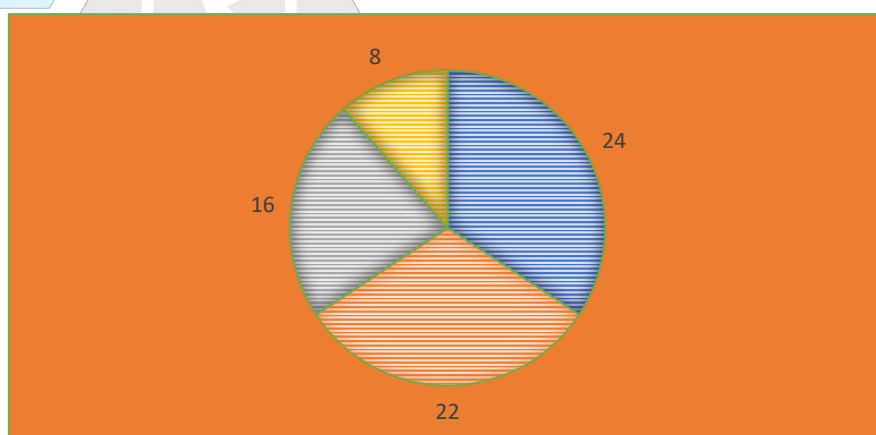


Figure 7: Are the policies aligned with the operational needs of the organization in ensuring adequate stock levels?

The alignment of policies with the objectives of the entity was examined, and the diagram above provides essential insights. This analysis highlights how well the existing policies correspond to the intended goals of

Hospital. Understanding this alignment is crucial for assessing whether the policies effectively support the hospital's mission and enhance service delivery.

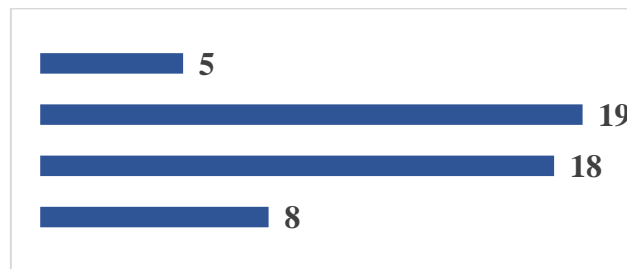


Figure 8: barriers affecting procurement process.

This research uncovers people's perceptions of factors in the procurement processes affecting service delivery in the ministry of health. Corruption and low budget being the major factors anticipated to be the most cause

of poor service delivery in these public hospitals. Lack of transparency and poor policy have been mentioned among the factors.

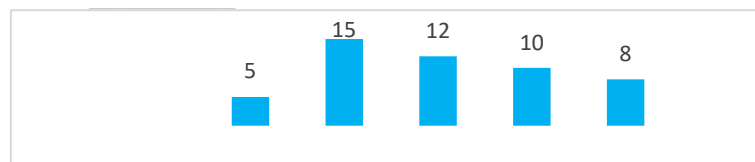


Figure 9: Effectiveness of public procurement process

The survey revealed a mixed perception of procurement process effectiveness. While a combined 40% of respondents rated the process as effective or very effective, a significant portion (26%) found it ineffective

or very ineffective, indicating a need for improvement. The remaining 34% held a neutral view, suggesting potential for positive change with targeted interventions.

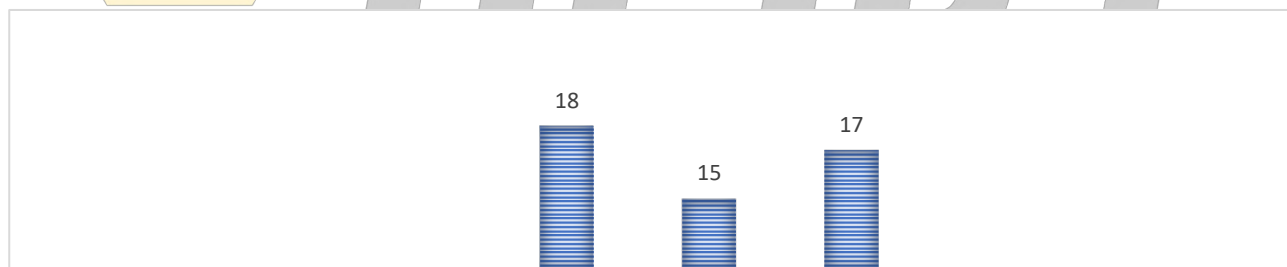


Figure 10. Meeting organizational needs

The procurement process's ability to meet organizational needs for timely medical supplies and delivery presents a concerning picture. Only 36% of respondents felt the process consistently met their needs,

while a larger portion (64%) indicated it either sometimes or never did. This highlights a critical gap in procurement effectiveness and its impact on service delivery.



Figure 11. Avoiding shortages

The procurement process's impact on preventing medical supply shortages reveals significant room for improvement. While half of the respondents felt the process helped to some extent, a concerning 36% stated

it did not help at all. Only a small fraction (14%) believed the process effectively prevented shortages, indicating a crucial area requiring attention to ensure consistent supply availability.

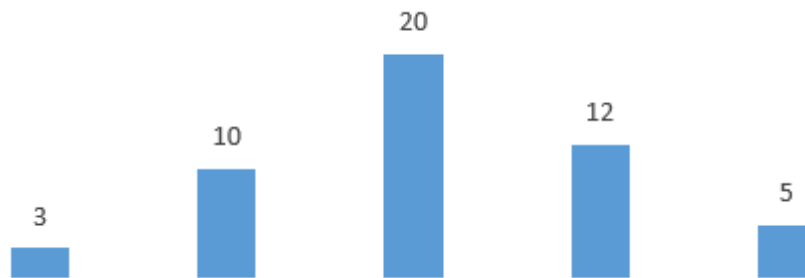


Figure 12. Matero level 1 hospital service delivery rating

Service delivery at Matero Level 1 Hospital received mixed reviews. While 26% of respondents rated it as effective or very effective, a larger combined percentage (54%) considered it moderately, less, or not effective.

This suggests a need to investigate the factors contributing to lower satisfaction and implement strategies for service delivery enhancement.

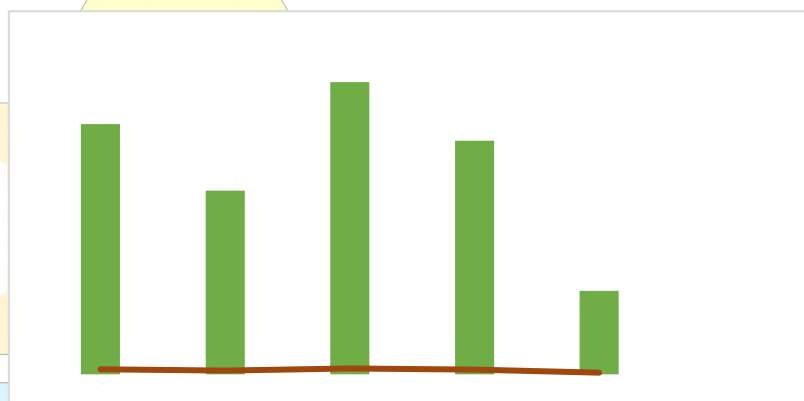


Figure 13. challenges faced

Respondents highlighted several key challenges within the medical supply procurement process. Bureaucratic procedures (70%) and inadequate funds (56%) were the most frequently cited obstacles. Delays in delivery (60%) and poor supplier performance (44%) also posed significant challenges. Additionally, 20% identified other issues, including staffing and transportation concerns, further emphasizing the complexity of the procurement.

with a shortfall in staffing not only impacts the quality of care provided but also exacerbates issues related to medical supply availability, further hindering service delivery standards.

DISCUSSION OF FINDINGS

The study identified significant challenges related to the adequacy of health professionals at Matero First Level Hospital, revealing that the current staffing levels are insufficient to meet the demands of the growing population. A critical shortage of health staff emerged as a primary obstacle to achieving quality health services. With an increasing patient load, the number of health workers is inadequate for optimal service delivery. Interviews with health staff indicated that they felt the staffing levels were insufficient to adequately address the needs of patients, with many citing medical supply shortages as another major challenge. Operating

The In-Charge of the hospital reported that the establishment calls for more than 78 staff members, yet only approximately 57 are currently employed. Matero Reference First Level Hospital operates with a total workforce of 189, which includes 101 professional staff and 78 non-professional staff. However, this workforce is below the required establishment of over 200. The two primary human resource issues identified are the critical shortage of health workers leading to unfavorable staff-to-patient ratios and the inequitable distribution of existing health workers, resulting in operational imbalances. According to the National Health Policy (2012), the current establishment is inadequate to meet health workforce needs. Initiatives like the Ministry of Health's 2011-2015 National Health Strategic Plan aimed to reduce the population-to-doctor ratio from 17,589 to 10,000 and the population-to-nurse ratio from 1,864 to 700 by 2015.

These goals remain unmet due to various factors, including low retention and motivation of existing health workers, inadequate funding for recruitment, and low outputs from health training institutions. The inability to retain medical graduates trained with public resources further contributes to the staff shortages, as many graduates emigrate due to a lack of recovery mechanisms for public funds invested in their education. Additionally, limited training facilities for doctors, primarily concentrated at the University of Zambia and emerging private universities, restrict the intake of new medical students, compounding the issue of insufficient staffing.

Interviews with a key informant from the District Medical Office highlighted that the staff-patient ratio in government hospitals is quite high, leading to health workers being overworked, which results in exhaustion and burnout. The World Health Organization suggests an ideal doctor-to-patient ratio of 1:5,000; however, Zambia currently faces a disparity with a ratio of 1:12,000, underscoring the severity of the staffing crisis.

Quality healthcare is an asset, while ill health represents a liability for any country. Therefore, it is imperative that high-quality services are provided, which must not only satisfy service providers but also meet the needs of users. The study found that procurement policy is a significant determinant of service delivery, indicating that a unit change in procurement policy will result in a 62.3% change in service delivery. These results align with previous studies; for instance, Nichols (2002) asserts that procurement policy is a principal function of procurement that significantly contributes to the successful operations of government and facilitates effective service delivery. Schooner and Whiteman affirm that the contributions of procurement policy to facilitating service delivery efficiently are generally undisputed. To enhance effectiveness, procuring entities must conduct market surveys on prices for major purchases to establish reasonable cost estimates as inputs for the budgeting process. This practice will minimize the risks of over-budgeting and under-budgeting procurement requirements. Under-budgeting can have serious repercussions on cost, quality, and delivery time for goods or services, ultimately leading to poor service delivery to the public.

The study established that staff motivation and job satisfaction are crucial for delivering quality healthcare. Factors influencing health workers' motivation include pay, working conditions, and institutional support.

Availability of financial resources is a key determinant of quality, as it affects the procurement of both medical and non-medical supplies necessary for the facility's operation. The research indicated that inadequate and irregular funding significantly hinders the delivery of quality health services. Although the facility is supposed to receive monthly grants, these funds often arrive inconsistently and fall short of meeting operational needs. As reported by the In-Charge of Matero Reference First Level Hospital, funding has been both irregular and erratic, with the last disbursement occurring in April, highlighting the financial challenges faced by the facility in sustaining its services.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

The study established that several factors affected the quality health services at this Hospital. These factors included both service provider-related and user-related aspects. The study identified that factors impacting service providers in delivering quality healthcare included the availability of staff, a high population of users, the level of staff satisfaction and motivation, and access to essential vaccines, drugs, and other medical supplies. Furthermore, factors affecting users in accessing quality healthcare included congestion at the facility, economic constraints, and insufficient satisfaction with the quality of care. The availability of financial resources was a key determinant of quality, facilitating the purchase of both medical and non-medical supplies, thus ensuring the smooth running of the institution. Inadequate funding emerged as a significant barrier to delivering quality health services. The survey indicated that, regarding efficiency and effectiveness, the majority of respondents stated that the hospital's procurement system operates in a timely manner with minimal bureaucracy, involving top management and adhering to delivery schedules. Most respondents agreed that through policy reviews, delivery checks, and supplier audits, the hospital achieves efficiency in terms of value for money. Concerning reduced corruption and theft detection, respondents indicated that examining the procurement cycle helps reduce corruption and detect theft. In terms of quality improvement and supply reliability, most agreed that quality improvement and supplier reliability are assured through supplier audits and evaluations. The study was prompted by the government's efforts to address weaknesses in the public procurement process, despite ongoing complaints about delays, poor quality, and non-cost-effective delivery. Mansi and Pandey also asserted

that proper procurement planning positively affects service delivery by aligning procurement with organizational needs and fostering the capability to meet customer expectations, a crucial aspect of service delivery. It revealed that shortages of medical supplies significantly hinder the provision of quality healthcare.

5.2. Recommendations

Upon completion of this research, the following recommendations have been made:

- The study recommends that the existing infrastructure at the health facility be expanded to accommodate the ever-growing population.
- More health workers should be trained, and those already trained should be placed on the payroll to reduce the current staff shortages and improve the patient-to-worker ratio.
- The study recommends strengthening the financial capacity of the health system. More resources must be directed toward healthcare to ensure the smooth running of the facility.
- The study recommends that Matero First Level Hospital integrate sustainability into its operations. The concept of sustainability ensures that waste is minimized while efficiency becomes a priority for the organization.

Acknowledgment

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