KNOWLEDGE MANAGEMENT AND PUBLIC HEALTH SERVICE DELIVERY IN LOCAL GOVERNMENTS: A STUDY OF THE PUBLIC HEALTH SECTOR IN PALABEK COUNTY, LAMWO DISTRICT

BY

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DECLARATION

This is to declare that this Dissertation titled "Knowledge Management and Public Health Service Delivery in Local Governments: A study of the Public Health Sector in Palabek County, Lamwo District" is my own and original work and that it has not been submitted to any institution of higher learning for any award.

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DEDICATION

I humbly dedicate this dissertation to my lovely and caring parents, Mr. Komakech Santo Okello and Mrs. Rose Anena Okello, my beloved husband, Mr. Odonga Robert, my siblings, Geofrey Okello Odongkara, Benzamin Lubangakene, Concy Amony, Pamella Okello, my children Rebecca Atim, Joshua Karenzi, Catherine Patricia Uwera, and Jessica Ingabire.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
CAO	Chief Administrative Officer
CPD	Continuous Professional Development
CVI	Content Validity Index
DHO	District Health Officer
DLGs	District Local Governments
EHR	Electronic Health Records
FY	Financial Year
GBV	Gender Based Violence
HC	Health Centre
HIV/AIDS	Human Immune Virus/Acquired Immunodeficiency Syndrome
KM	Knowledge Management
LDLG	Lamwo District Local Government
LG	Local Government
LGA	Local Government Act
MFV	Medical Form Five
MoFPED	Ministry of Finance, Planning and Economic Development
MoH	Ministry of Health
NGOs	Non-Governmental Organisations
NRM	National Resistance Movement
OPD	Out Patient Department
PDC	Parish Development Committee
SECI	Socialisation, Externalisation, Combination and Internalisation
SPSS	Statistical Package for Social Sciences
STIs	Sexual Transmitted Infections
UPDF	Uganda People's Defence Forces
UPS	Uganda Prisons Services
VHTs	Village Health Team

ABSTRACT

This study assessed the relationship between Knowledge Management (KM and Public Health Service Delivery (PHSD) in Palabek County, Lamwo District, and investigated the moderating role played by selected Operational Factors of Training and Resource Allocation. Steered by the Organisational Learning Theory and the SERVQUAL Model, the research implemented a descriptive survey design with a mixed-methods approach. The quantitative data was collected from 357 clients with the aid of structured questionnaires whereas the qualitative data was attained through carrying out Key Informant Interviews with 13 Health workers. IBM SPSS Statistics Version 27 aided analysis of quantitative data using descriptive statistics, multiple regression and moderation analysis, while Thematic Analysis was applied for qualitative data.

The results from this study showed that Knowledge Acquisition was the strongest Knowledge Management dimension, and closely followed by Knowledge Storage and Sharing while the weakest dimension was Knowledge Application. In terms of Service delivery, empathy performed better than responsiveness and then reliability with major challenges identified in medicine stock outs and high number of patients. Regression Analysis showed that Knowledge Management was statistically significantly related to Service Delivery ($R = 0.684$, $R^2 = 0.468$, adjusted $R^2 = 0.445$, $F(4,96) = 21.076$, $p < 0.001$) with the model highlighting 46.8% of the disparity in Service Delivery. Three Knowledge Management dimensions of; Knowledge Acquisition ($\beta = 0.544$, $p < 0.001$), Knowledge Storage ($\beta = 0.320$, $p < 0.003$), and Knowledge Sharing ($\beta = 0.27$, $p < 0.002$) had significantly positive predictors while there was no significance for Knowledge Application ($\beta = 0.076$, $p < 0.378$). The moderation analysis indicated that the selected operational factors of training and resource allocation had significant moderation of the relationship (Interaction Term $p = 0.0034$, $R^2 = 0.4606$, $F = 27.0457$). The qualitative results highlighted the Internal KM practices and Operational Constraints.

Conclusively, the study shows that knowledge acquisition, storage and sharing are vital predictors of PHSD whereas concerns still remain in regards to knowledge application and reliability. The study recommends for strengthening of knowledge application, improvement in staffing levels, supply of medicines, allocation of resources, promotion of continuous capacity building and feedback mechanisms for improved service empathy, responsiveness and reliability in Palabek County.

Key Words: Knowledge Management, Public Health Service Delivery, Palabek County

CHAPTER ONE
INTRODUCTION

1.0 Introduction

The study was about Knowledge Management (KM) and Public Health Service Delivery PHSD) in Local Governments: A Case of the Public Health Sector in Palabek County, Lamwo District. It is known that effective service delivery is pivotal for achieving developmental goals, enhancing citizen satisfaction, and improving overall quality of life (Olowu & Wunsch, 2018). However, local governments often struggle with limited resources, which impact their ability to provide quality, reliable and timely public health services. However, Knowledge Management (KM) provides a viable solution by improving information organization and dissemination, resulting in better decision-making and service efficiency (Davenport & Prusak, 2017). Therefore, this study sought to determine the role knowledge management plays in enhancing health service delivery in local governments. This chapter of the dissertation report provides background of the study, presentation of statement of the problem, purpose of the study and study objectives, questions, justification, significance and scope of the research.

1.1 Background to the study

Public Health Service Delivery (PHSD) is vital in prevention of diseases, diagnosing, treatment and wellbeing of the community. The effectiveness of PHSD does not only depend on resources but as well on how knowledge is managed in the health facilities (Davenport & Prusak, 2017). Knowledge Management (KM) comprises the acquiring, storage, sharing and application of knowledge for improved making of decision and performance of organizations (Alavi & Leidner, 2001). In the health facilities, the KM processes support the usage of feedback from patients, experience from health workers, clinical guidelines and records of patients for improving reliability, responsiveness and empathy of public health services.

In Sub Saharan Africa, insufficient financing, inadequate infrastructure, shortage of health workers, and weak health Information Systems hinder healthcare service delivery (World Bank, 2020). Effective Knowledge Management facilitates health facilities in coordinating activities, making informed decisions, and using available resources optimally. Though, accessing the information alone does not imply that there will be improvement in services. Therefore, health professionals should be able to apply the knowledge during their routine medical work. According to Argyris and Schön (1978), the Organizational Learning Theory

puts emphasis on learning from experiences, identification of errors and improvement of organisation practices.

In Uganda, Local Governments have critical roles to play in the coordination of public health services. Muninia et al., (2019) points out that scarce resources, equipment and essential medicine affect timely and consistent provision of healthcare services. Parasuraman et al., (1988) asserts that quality of health care services through reliability, responsiveness and empathy can be assessed using the SERVQUAL Model. Thus, examining these public service dimensions besides Knowledge Management supports in providing explanation on how organizational practices relate to healthcare experiences of patients.

In Lamwo District just like any other rural district in Uganda, communities are faced with numerous healthcare challenges including; insufficient medical supplies, limited infrastructure, and low staffing levels (Bamwenda & Kyomuhendo, 2021). These challenging situations raise concerns on how the public health facilities in Palabek County have been obtaining patient information, maintaining records, sharing work experiences, and applying knowledge in their administrative and clinical decision makings. According to Kisaakye et al., (2020), other notable challenges like unreliable electricity and water, working space and equipment may worsen the public health service delivery. Even though Knowledge Management improves decision making, the benefits are partly dependent on the availability of critical operational resources.

In Palabek County, health service delivery has faced numerous challenges as a result of poor infrastructure, presence of a larger refugee community, and the rural settings (Alonyo, 2018). The healthcare system comprises of NGO provided services, private and public; with service provision primarily being done by the government through the District Health Department at the various health centers. Though access is hindered by distance, understaffing and inadequate health professionals. The county's public health centers that range from health Centre IIs to IVs provide ranging levels of health care services but lack a well-equipped district hospital hence most referrals are done to Kitgum General Hospital. All the health centers in Palabek County face challenges such as unreliable water and electricity supplies, obsolete equipment, and limited office space. Shortage of staff has a long waiting time and overworked health workers with Village Health Teams (VHTs) supporting at the village levels.

Earlier literature shows that Knowledge Management is critical in the improvement of organizational performances (Alavi & Leidner, 2001; Davenport & Prusak, 2017; Olowu & Wunsch, 2018). Accuracy of patient records, improved coordination, and health care statistics can support in the identification of recurring challenges (Alonyo, 2018). However, trainings also impact on capacity of the health workers to use knowledge and allocation of resources regulates how health facilities can effectively implement decisions. Therefore, staff trainings and resource allocations could therefore strengthen or weaken the relationship between KM and PSHD.

In spite of the theoretical insights, additional empirical evidence was required Knowledge Management dimensions of; knowledge acquisition, storage, sharing and application relates to Public Health Service Delivery dimensions of reliability, responsiveness and empathy in the Health Centers in Palabek County. The level at which the selected operational factors of training and resource allocation impact on the relationship between KM and PHSD also needed to be examined. Accordingly, the study assessed KM and PHSD in Palabek County, Lamwo District with support of the Organizational Learning Theory and SERVQUAL Model to ascertain the relationship and moderating roles of the selected operational factors of training and resources allocation.

1.2 Problem Statement

In spite of efforts by the Government of Uganda (GoU) to decentralize public health service delivery to provide 100% of the public health services, significant challenges still persist in ensuring reliable, responsive, and empathetic healthcare services at the local level. In Lamwo District, only 40% of health facilities meet minimum service delivery standards, staffing levels remain at approximately 30% of required positions, and immunization coverage remains suboptimal (Ministry of Health, 2023; Uganda Bureau of Statistics, 2022; World Health Organization, 2023). These challenges have resulted in poor service quality, long waiting times, limited access to essential medicines, and low patient satisfaction. While interventions such as infrastructure development, workforce training, and community health programs have been implemented, these have not sufficiently addressed inefficiencies in service delivery (Mujinja et al., 2019). Evidence suggests that Knowledge Management (KM) through effective acquisition, storage, sharing, and application of knowledge can enhance coordination, making of decision, and service efficiency in healthcare systems (Fredrick Mutungi (2023); Joshi & Prata ,2025).

Still, no empirical evidence exists on how knowledge management practices influence public health service delivery within decentralized local government contexts, particularly in rural settings like Palabek County. Furthermore, the role of operational factors like training and allocation of resources in shaping this relationship remains underexplored (Sahay, 2017; Mujinja et al., 2019). It is based on this background that this study investigates the influence of knowledge management on public health service delivery in Palabek County, Lamwo District.

1.3 Purpose of the study

The purpose of this study was to examine the relationship between Knowledge Management Practices and Public Health Service Delivery in Palabek County, Lamwo District

1.4 Objectives of the study

To achieve the stated purpose, the study was guided by the objectives listed below.

i. To assess the status of Knowledge Management Practices in Public Health Service Delivery in Palabek County, Lamwo District.
ii. To evaluate the level of public health service delivery in Palabek County, Lamwo District.
iii. To examine the relationship between knowledge management practices and public health service delivery in Palabek County, Lamwo District.
iv. To determine whether staff the operational factors moderate the relationship between knowledge management practices and public health sector in Palabek County, Lamwo District.

1.5 Research Questions

i. What is the status of knowledge management practices in public health sector in Palabek County, Lamwo District?
ii. What is the level of public health service delivery in Palabek County, Lamwo District?
iii. What is the relationship between knowledge management practices and public health service delivery in Palabek County, Lamwo District?
iv. To what extent does the Operational factors moderate the relationship between knowledge management practices and public health sector in Palabek County, Lamwo District?

1.6 Scope of the study.

The study scope in this context covered three major aspects, including the content scope, time scope, and geographical scope.

1.6.1 Content scope

The subject scope of this study focused on knowledge management as an independent variable that will entail knowledge acquisition, knowledge storage, knowledge sharing and knowledge application. The study also involved health service delivery as the dependent variable being defined by reliability, responsiveness and empathy while the operational factors as the moderating variable that is defined by training and resource allocation. Operational Factors include; organization culture, availability of medical supplies, staffing levels, work load, ICT infrastructure, leadership and management support, Training, and Resource Allocation. However, for this study, training and resource allocation were selected as moderating variables due to the complementary dimensions in the health service delivery.

1.6.2 Geographical scope

This study was carried out in Palabek County, Lamwo District which is situated in Northern Uganda. The selection of study location was made was as a result of the relevance of the settings that are available for assessing knowledge management and professed quality of services in a rural community context with focus on Health Centers II, III and IV which included Palabek Kal H/C IV, Palabek gem H/C III, Palabek Ogili H/C III, Anaka HC II, Pauma H/C II, Apyeta H/C II, Kapeta H/C II, Awich H/C II, Akworo H/C II, Cubu Community H/C II, and Paluda H/C II where health professionals acquire, store, share and apply health related knowledge during health service delivery.

1.6.3 Time scope.

The study covered a notable period of 10 years; from 2014 to 2024, a period during which the government had designed significant changes in health policies and funding, which had a great impact on public health service effectiveness and equity (Ministry of Health, 2021). The duration of the study was six months from October 2025 to Feb 2026.

1.8 Significance of the study

The results of this research may be beneficial to Government of Uganda in designing a policy framework which can improvement knowledge management as an effort to improve on PHSD in the public sector at the various level of public health service delivery.

The study discoveries may be valuable in the academia since other researchers who want to have better understanding of the relationship between KM and PHSD in Local Governments can refer to. Consequently, new data shall be available in the area of KM and PHSD for the in Local Governments.

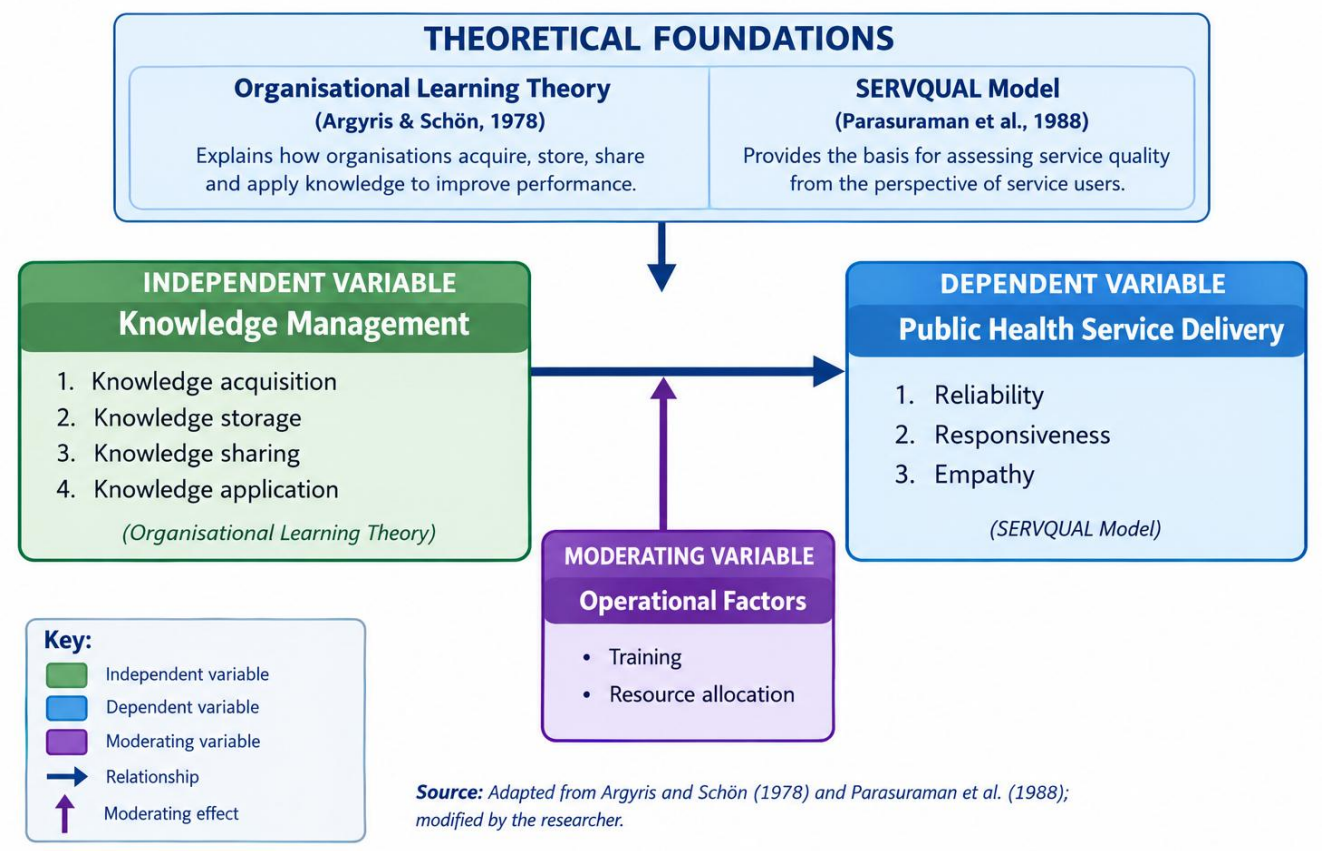
The findings from the research may be beneficial to the health sector practitioners in improving knowledge management as a way of improving public health service delivery within the country.

The research has been beneficial to the researcher because it has enhanced the research knowledge for further research work as well as realisation of the requirement for the attainment of the Degree of Master of Arts in Public Administration and Management.

1.9 Conceptual Framework

The Conceptual Framework illustrates the relationship between Knowledge Management and Public Health Service Delivery in Palabek County, Lamwo District with moderating variables of Training and Resource Allocation. The framework is steered by the Organizational Learning Theory by Argyis and Schön (1978) which provides explanation on the processes by which organizations acquire, retain, share and apply knowledge for improved organizational performance and the SERVQUAL Model advanced by Parasuraman et al., (1988) provides the basis which is used for assessing service quality. Consequently, Knowledge Management which is the Independent Variable is assessed through Knowledge Acquisition, Knowledge Storage, Knowledge Sharing, and Knowledge Application whereas Public Health Service Delivery which is the Dependent Variable is evaluated through Reliability, Responsiveness and Empathy.

Figure 1*: *Conceptual Framework



The framework suggests that effective Knowledge Management improves Public Health Service Delivery by allowing health workers to have access to relevant information, retention of institutional knowledge, experience sharing and application of lessons learn in administrative and clinical practices. The expectation is that these processes will enhance consistency in service provision. The Variables of; Training and Resource Allocation are hypothesised to moderate the relationship between the Independent Variable (IV) and the Dependent Variable (DV) through influencing the level of effective utilisation of acquired and shared knowledge. Suitable training reinforces competencies of staff while adequate financial, human, equipment and material resources enables the application of knowledge practically. Thus, the framework proposes that the influence of Knowledge Management on PHSD might differ dependent on appropriateness of training and resources allocated in the public health centres in Palabek County.

Table 1: Relationship between the Variables and Theoretical/Model

Variable and role	Dimensions	Theoretical/model basis
Knowledge Management (Independent Variable)	Knowledge Acquisition	Organisational Learning Theory
	Knowledge Storage	
	Knowledge Sharing	
	Knowledge Application	
Public Health Service Delivery (Dependent Variable)	Reliability	SERVQUAL Model
	Responsiveness	
	Empathy	
Operational Factors (Moderating Variable)	Training	Study-specific operational factor
	Resource Allocation	

1.10 Definition of keywords

Service Delivery: is the act of effective and efficient provision of services to beneficiaries or the community (Kavle, 2022).

Public Health Services: These are interventions, programmes and activities which are organised by government, partners and any institution with the aim of protecting and improving the wellbeing of the communities, families and individuals within a country (Msacky, 2024).

Local Government: is the administrative unit of a certain Sub County or district with elected legislatures who stay there and technical staff (LGA CAP 243 as amended 2021).

Knowledge Acquisition: Knowledge discovery and creation involve extracting valuable information from large datasets and generating new insights that can significantly enhance organizational processes (Ohara & Bai, 2019).

Knowledge Storage: Knowledge storage involves the organised gathering and categorising of knowledge in order for it to be easily identified when needed (Iftikhar & Mawra, 2023).

Knowledge Sharing: Knowledge sharing within a healthcare sector involves the exchange of information, skills, and expertise among healthcare professionals to improve patient care and organizational efficiency (Ohara & Bai, 2019).

Knowledge Application: This is the usage of available knowledge for informed decision making for performing tasks (Ju et al., 2023).

Training: Training is the act of impacting particular skills to person or animal (Cambridge Dictionary, 2024).

Reliability: Reliability is when the patients have trust that a health centre is providing the right services in a correct and consistent way which is required (Taylor, 2021).

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter of the literature review offers a general overview of Knowledge Management (KM) and Public Service Delivery (PHSD) in Local Governments, presentation of the theoretical review, conceptual review, review according to specific objectives of knowledge acquisition, storage, sharing and application in relation to PHSD in Local Government, and literature review summary.

2.1 Theoretical Review

2.1.1 Organizational Learning Theory

This research was steered by Organizational Learning Theory developed by Argyris and Schön (1978) for explaining the relationship between KM practices and PHSD in Palabek County, Lamwo District. The theory provides a foundation to understand how organizational knowledge is acquired from experiences, retention and dissemination what has been learnt and utilizing knowledge for improved organizational performance. For this study, the theory provides an insight of Knowledge Managed which is measured through knowledge acquisition, storage, sharing and application; and public health service delivery which is examined through reliability, responsiveness and empathy.

The Organizational Learning Theory that was advanced by Chris Argyris and Donald Schön (1978) emphasizes that organizations improve performance through continuous learning processes, including the detection and correction of errors. It distinguishes between single-loop learning, in which organizations adjust within present frameworks, whereas the double-loop learning, where underlying assumptions and policies are critically examined and modified (Argyris & Schön, 1978; Dodgson, 1993).

Organizational learning extends to organization learning systems, memory influences not only direct members but also imminent members as a result of the accumulation of stories, norms, experiences and histories. Prahalad & Hamel (1994) highlight that the creation of a learning organization is just half of the solution for a challenging problem. Similarly, creation of an unlearning organization means the organization must forget some of its past. Thus Dodgson, (1993) affirms that learning occurs within that kind of conflicting factors.

Argyris & Schon, (1994) provide description of three types of organization learning which includes single loop learning whereby there is detection of errors, corrected and organizations can carry on within their existing goals and policies. According to Dodgson, (1993), learning can be compared to knowledge base that does not alert the fundamental nature of the organizations. Double loop is where in addition to single loop, the organization questions and modify the existing norms, procedures, policies and objectives. It involves changing the organization knowledge base, (Dodgson,1993). The last type of organization learning is deuteron learning which takes place by involving both single-loop and double-loop learning, consciousness of ignorance inspires learning (Nevis et al., 1995). This implies that identifications of learning orientations, processes and the structure required to promote learning. According Argyris & Schon (1994), a lengthy period of positive feedbacks can block learning. It's due to the gaps identified in this theory that the research proposed to assess the role of knowledge management in enhancing public health service delivery in Local Governments: A case of the public health sector in Palabek County, Lamwo district.

2.1.2 SERVQUAL Model

The SERVQUAL Model which was established by Parasuraman et al., (1988) was discussed as the conceptual model that underpins the evaluation of service quality. While the Organizational Learning Theory provides explanation through the organizational learning processes by which knowledge contributes to improved organizational performance, SERVQUAL Model provides the framework that is used in the assessment of quality from the client's perspective. Though the two frameworks complement each other, they serve different purposes in this study.

The theory is complemented by the SERVQUAL model established by Parasuraman et al. (1988), which assesses service quality basing on dimensions such as reliability, responsiveness, and empathy. These dimensions are critical in assessing public health service delivery outcomes. The amalgamation of these frameworks provides a strong basis for understanding how knowledge management processes contribute to improved service delivery in healthcare systems.

2.2 Knowledge Management

Knowledge consists of skills, facts and information that has been aggregated to understand about a subject which an individual gain by means of reasoning, experiences or education (Shehzad et al., 2024). The key types of knowledge include: explicit knowledge which is

candidly expressed and shared among people; implicit knowledge which is obtained through application of other learned information; and tacit knowledge includes skills and abilities which is attained through experience and are always difficult to express in words.

Knowledge Management (KM) is a process through which an organization utilizes for gathering, organizing, sharing and analyzing the knowledge within the organization in a way that the employees can effortlessly access (Razzaq et al., 2019). According to Sahoo et al., (2019), Knowledge Management consist of series of steps used to identify, store and share knowledge within the organization. Durst and Zieba (2019) notes that the key knowledge that is shared with an organization include: training information, financial information, human resource and technical resources. Maravilhas and Martins (2019) highlights that Knowledge Management includes data mining which is a way of pushing information to employees for them to easily access it.

Knowledge management improves organizational efficiency and saves knowledge in a way that is easy to access. Knowledge management ensures that the right information is provided to employees at the exact time as needed through ensuring that; knowledge is captured and organized in a knowledge management system for addressing specific issues; knowledge is shared with other staff for their own benefit; improve processes and technology for providing easy access to knowledge; and promote generation of new knowledge for continuity within the organization (Sahoo et al., 2019). According to Abbas and Khan (2023) businesses have been able to break down silos as a result of knowledge management providing information in a place that is easily accessible by all staff by providing staff with a location for putting knowledge which they have obtained over time, ensuring that no information is lost when a staff leaves the organization.

The public health sector handles huge amount of data on patients, medical research information and medical regulations which is critical for the provision of high-quality services therefore effective storage, organization and retrieval of the knowledge is important but very challenging when the right system is not in place hence. Thus, knowledge management supports public health facilities to effectively and efficiently manage information to boost service delivery through improved decision making and enhanced client's outcomes. Meri (2020) points out that knowledge management helps improve service delivery in the public health sector through: improving clinical decision support; boosting efficiency; enhancing training; strengthening patient experiences; and promoting collaboration and continuity of health care.

2.2.1 Knowledge Acquisition

Knowledge acquisition involves extracting valuable information from large datasets and generating new insights that can significantly enhance organizational processes. This field, often associated with data mining, machine learning, and artificial intelligence, focuses on uncovering patterns, trends, and relationships within data to support decision-making and innovation (Fayyad et al., 1996). By leveraging advanced computational techniques, organizations can transform raw data into actionable knowledge, leading to improvement in the operational efficiency and strategic planning (Raghupathi & Raghupathi, 2014). This foundational understanding is critical for comprehending the subsequent impact on service delivery.

The integration of knowledge acquisition into service delivery processes can significantly enhance timeliness. Real-time data analysis and predictive analytics enable organizations to anticipate customer needs and respond swiftly to emerging trends (Chaudhuri et al., 2011). For instance, in healthcare, predictive models can predict admission of patients, allowing for improved resource allocation and reduced waiting times (Raghupathi & Raghupathi, 2014). Similarly, in logistics, data-driven insights can optimize delivery routes and schedules, ensuring timely deliveries (Tan et al., 2016). These improvements in timeliness does not enhance working effectiveness only but also lead to higher satisfaction of customer by meeting or exceeding service expectations.

Knowledge discovery and creation play an important part in enhancement of customer satisfaction by personalizing services and addressing specific customer needs. Through analyzing customer feedback, preferences and behavior, institutions can tailor their offerings to individual customers, providing a more customized and satisfying experience (Shaw et al., 2001). Take a retail case, personalized recommendations based on past purchases can increase customer loyalty and satisfaction (Huang & Rust, 2018). Additionally, sentiment analysis of customer feedback allows organizations to identify and address issues promptly, further improving the overall customer experience (He et al., 2013). These data-driven strategies provide for stronger customer relationships as well as ensure lasting business achievement.

The quality of services delivered is significantly enhanced through the application of knowledge discovery and creation. Data-driven insights enable continuous improvement by identifying inefficiencies and areas for enhancement (Chen et al., 2012). In manufacturing,

for instance, extrapolative maintenance that is driven by machine learning can reduce equipment downtime and ensure consistent product quality (Wuest et al., 2016). In the financial sector, fraud detection algorithms can maintain the integrity and reliability of services, thereby protect customer assets and enhance trust (Ngai et al., 2011). Through fostering a culture for constant improvement and modernization, organizations can achieve higher standards of service quality and operational excellence.

2.2.2 Knowledge Storage

Knowledge storage comprises of the organized gathering and categorizing of knowledge in order for it to be easily identified when needed **(**Iftikhar & Mawra, 2023). According to Almuayad et al., (2024), Knowledge Storage should take into consideration, both electronic and physical knowledge. Factually, health sector knowledge is handled by the health workers who are involved in the daily delivery of health services hence storage of health information could be stored for a shorter or longer period depending on the relevance and usefulness of the knowledge on the sickness (Dopffel et al., 2021).

Almuayad et al., (2024) notes that the stored knowledge should be easily available and accurate for effective decision making and treatment of patients. However, Iftikhar and Mawra, (2023) points out that there is always poor storage of knowledge that is created during the provision of health services and knowledge that is lost on a daily basis exceeds that which is needed for daily usage in the civic health sector.

Knowledge storage in the community health sector encompasses various methods and systems designed to preserve valuable information generated during the delivery of health services. Effective knowledge storage facilitates seamless access to critical data, ensuring that healthcare professionals can retrieve relevant information swiftly to make informed decisions. This process can be measured through several indicators, such as the accuracy and completeness of the stored information, the frequency of updates to the knowledge repository, and the accessibility of the information to authorized personnel. Metrics like the time taken to retrieve specific data and user satisfaction ratings regarding the stored information also serve as valuable measures of the efficiency of knowledge storage systems (Pillai et al., 2023). Furthermore, regular audits of knowledge storage practices help identify gaps and areas for improvement, ensuring that the systems in place are both effective and responsive to the ever-changing desires of healthcare professionals.

Additionally, the measurement of knowledge storage effectiveness in the health sector involves evaluating the integration of EHR and other digital systems that support knowledge management. A robust EHR system enables the systematic organization of patient information, treatment protocols, and clinical guidelines, facilitating better patient care. The effectiveness of such systems can be assessed through metrics such as the reduction of redundant data entry, the speed of information retrieval, and the degree of interoperability between different health information systems (Borg et al., 2022). Surveys and feedback mechanisms can further gauge user experience and identify obstacles to efficient knowledge storage. Collectively, these measurements highlight the importance of a well-structured approach to knowledge storage, warranting that health professionals have the information they need at their fingertips to enhance patient outcomes (Hassan et al., 2021).

2.2.3 Knowledge Sharing

Knowledge sharing in the healthcare sector involves the exchange of information, skills, and expertise among healthcare professionals to improve patient care and organizational efficiency. Effective knowledge sharing can enhance clinical decision-making, reduce medical errors, and foster innovation in healthcare practices. Haldorai et al., (2019) points out that knowledge sharing is crucial for the Continuous Professional Development of healthcare workers, which ultimately leads to improved health outcomes. The ability to share knowledge effectively is predisposed by organizational culture, technological infrastructure, and the willingness of individuals to share their expertise (Kim & Lee, 2016).

Effective knowledge sharing can significantly impact clinical decision-making processes. When healthcare professionals share their insights and experiences, it leads to more informed and evidence-based decisions. For example, a study by Li et al. (2017) demonstrated that knowledge sharing among physicians in a hospital setting led to more accurate diagnoses and better treatment plans. This collaborative approach helps in pooling different perspectives, which can be particularly beneficial in complex cases where multidisciplinary input is essential. Furthermore, the integration of knowledge sharing with clinical decision support systems has been shown to reduce the incidence of adverse events and improve patient safety (Zhang et al., 2020).

Knowledge sharing also plays a pivotal role in enhancing organizational efficiency and fostering innovation within healthcare institutions. Efficient knowledge management practices enable healthcare institutions to restructure their operations, reduce redundant

efforts, and minimize costs (Wang & Noe, 2014). Additionally, by promoting a culture of constant learning and knowledge exchange, healthcare institutions can drive innovation in medical practices and technologies. For instance, a study by Radaelli et al., (2018) discovered that hospitals with robust knowledge sharing mechanisms have higher chances of adopting innovative practices and technologies, leading to improved patient care and administrative performance.

While the benefits of knowledge sharing in healthcare are well-documented, there are several barriers that can impede this process. Factors such as lack of time, insufficient technological support, and cultural resistance can hinder effective knowledge exchange (Goh et al., 2016). On the other hand, facilitators such as strong leadership support, the presence of knowledge champions, and the use of technology platforms can enhance knowledge sharing practices. For instance, Ryu et al., (2018) showed the importance of leadership in promoting a culture of knowledge sharing and ensuring that adequate resources are allocated to support this practice. Furthermore, the usage of social media and other digital platforms has been shown to facilitate real-time knowledge exchange among healthcare professionals, thus improving the overall quality of care (Panahi et al., 2016).

2.2.4 Knowledge Application

Knowledge Application is the usage of available knowledge for informed decision making for performing tasks (Ju et al., 2023). Cegarra-Navarro and Martelo-Landroguez, (2020) notes that it is the process of employing knowledge to processes, services and products of a company for enhanced efficiency and effectively of knowledge. A

2.3 Public Health Service Delivery

2.3.1 Reliability

Public health service Reliability is when the patients have trust that a health centre is providing the right services in a correct and consistent way which is required (Tan et al., 2019). According to Özda and Demiralp (2024), reliability translates to a situation where every moment, a patient gets the right treatment from the right location at the right time from the right individual and aims at decreasing potential errors on patients. Urquhart and Brettle (2022) highlights that health care units are not reliable in most of their operations which makes it insecure and inefficient especially for patients in the rural areas.

Measurement of reliability improves on the quality and value of services offered in the health care facilities (Özda & Demiralp., 2024). Reliability measures the consistency of safety and

quality of health care systems for a given period of time. Tan et al., (2019) notes that highly reliable systems have lower risks of errors that can be harmful to patients. A reliable health care system captures faults, recovers the services and sends back a useful and friendly message to the health worker for patients. According to Urquhart and Brettle (2022), reliability of health care should be assessed in terms of: safety, effectiveness, patient-centered, timely, efficiency, and equitable.

2.3.2 Responsiveness

Over the past years, health care responsiveness has become a key issue in health care management. Responsiveness is when public healthcare services providers have the ability and will in offering relevant health information, prompt provision of patients' needs, addressing complaints and concerns of clients and providing timely assistance (WHO, 2000).

According to Mirzoev and Kane (2017), understanding of the responsiveness of health system is quite important at African countries which are facing rapid social and economic developments. Williams et al., (2019) highlights that responsive health systems are able to predict and identify changing needs, and harness opportunities for promoting timely interventions for improved health service quality.

Healthcare responsiveness has a focus on non-clinical aspects of health care services ad measures individual's experiences since wellbeing of patients are influenced by how they interact with health systems and the impact on the health of the patients. According to Pengpid and Peltzer (2022) responsiveness determines; quality of care and patient's satisfaction. Health system responsiveness supports in the evaluation of healthcare services which is provided to the patients and provides feedback for health workers and policy makers with focus on improving access to care, and basic amenities through clear communication. Hailemariam et al., (2023) notes that health service responsiveness is dependent on social development and financial capacity of health care facilities with developed countries fairing much better than low- and middle-income countries. Pengpid and Peltzer (2022) reports that responsiveness is relatively poor in most public health facilities.

2.3.3 Empathy

Empathy has become increasing important in the healthcare sector since understanding patient's experiences supports in the provision of better-quality care and improvement in

health outcomes (Aguilar, 2019). Empathy is the capability of understanding and sharing other individual's feelings (Howick et al., 2023). According to Nembhard et al., (2023), empathy involves understanding of other individual's emotional state of being and knowing their feelings. Empathy is the basis for therapeutic relationship patients and caregivers and provides greater health outcomes. Wild (2020) asserts that empathy supports caregivers in detecting and recognizing user perspectives, experiences and worries. The empathetic ability of health workers helps in providing better therapeutic results.

The Empathetic relationship of health workers and patients reinforces the ability to cooperate towards developing therapeutic plans which is tailored towards interventions which are aimed at increasing patients' satisfaction through the therapeutic processes. Research studies (Foster & Yaseen, 2019; Jeffrey, 2020) highlights that empathetic relationships which are developed between health workers and patients helps in speeding the recovery of patients since they feel secure after developing trust on the health workers. Jeffrey (2020) affirms that patients who experience empathy while receiving treatment show better results and relatively higher health improvement.

2.4 Operational Factors

Operational Factors include; organization culture, availability of medical supplies, staffing levels, work load, ICT infrastructure, leadership and management support, Training, and Resource Allocation. This study, training and resource allocation were selected as moderating variables due to the complementary dimensions in the health service delivery. Guided by the Organizational Learning Theory of Argryis and Schön (1978), staff trainings improve the ability of health workers in acquisition, interpretation, sharing and application of knowledge and resource allocation is used for determining the availability and distribution of resources which is necessary to translate knowledge into practice. Therefore, the selection of these factors was made to support in the evaluation of whether human capacity and finances weaken or strengthens the relationship between KM and PHSD.

2.4.1 Training

Research on the training of staff in health service delivery and knowledge management underscores its critical role in enhancing the quality of health services. Training programs for health practitioners are essential in updating their skills and knowledge, particularly in rapidly evolving fields. Studies have shown that well-structured training initiatives can lead

to improved health outcomes by equipping practitioners with the latest medical knowledge and skills (Sutton et al., 2019). In Sub-Saharan Africa and the Ugandan context, research highlights that comprehensive training programs have been pivotal in addressing healthcare challenges. For a case in point, a study by Namusisi et al., (2018) found that targeted training interventions in Uganda led to significant improvements in healthcare delivery and efficiency. These findings suggest that investing in continuous professional development for healthcare workers is crucial for maintaining high standards of care in resource-limited settings.

Knowledge Management (KM) practices are also integral to effective health service delivery. KM includes the systematic management of knowledge assets to foster better decision-making and improve service quality. Research indicates that effective KM systems can facilitate better information sharing, reduce redundancies, and enhance overall healthcare delivery (Sahay, 2017). In Sub Saharan Africa, the implementation of KM practices has been associated with improved health service outcomes. For example, a study by Osei et al., (2020) established that the adoption of Knowledge Management Systems (KMS)in Ugandan health facilities resulted in more efficient patient care and better resource utilization. This highlights the importance of integrating KM practices into public health service delivery frameworks to leverage existing knowledge and improve service quality.

In Uganda, specific examples illustrate the effect of training and KM on health services. A study by Ekoru et al., (2022) on health worker training in Uganda found that continuous professional development and knowledge sharing initiatives significantly enhanced the performance of health workers in rural areas. Additionally, Kizito et al., (2021) showed that the integration of KM practices in health facilities led to better management of healthcare information and resources. These studies emphasize that both training and effective KM are vital for improving health service delivery in Sub-Saharan Africa. Therefore, investing in these areas can lead to more informed, efficient, and responsive healthcare systems.

2.4.2 Resource Allocation

Resource allocation involves the process to identify and manage resources for distribution among individuals, community and programs (Chen et al., 2024). The healthcare system uses a number of resources which are not limited to human resources and financial resources (Chen et al., 2020). According to Okada (2021), efficient and reasonable distribution of

resources in the health sector entails everyone with medical need getting it addressed with the few resources as possible. Vipin (2021) highlights that local resources contribute significantly to central government's efforts in maintaining and extending health program.

The level of spending by governments on healthcare services in Africa is low the minimum amount required for financing necessary health care packages (Yemeke, 2020). Additionally, resources which are always allocated to health facilities in the rural areas are often diverted to specialist care units and hospitals. Funds across the different departments in the health care setting is allocated in different ways by the government systems (Odoch, 2016). For instance, in Uganda, the Ministry of Finance, Planning and Economic Development (MoFPED) allocates funds to Ministry of Health (MoH) and the various District Local Governments (DLGs). Consequently, the different DLGs allocates the received funds to the health facilities that are operating within their jurisdiction as per the shared Indicative Planning Figures (IPFs) from MoFPED.

The decentralized system in Uganda, the decision for allocation of additional resources from other sources of revenue in the district is made by the political leaders. Knowledge Management has significantly contributed to resource allocation in the health sector.

2.5 Summary of Literature Gap

Although the reviewed literature shows the importance of KM in enhancing organizational performance, several gaps remain. First, most studies have been conducted in developed countries, with limited focus on rural public health systems in Sub-Saharan Africa, particularly Uganda (Osei et al., 2020; Sahay, 2017). Second, previous research has often examined knowledge management as a general construct without disaggregating it into specific dimensions like knowledge acquisition, storage, sharing, and application (Razzaq et al., 2019; Sahoo et al., 2019).

Third, there is inadequate empirical evidence linking knowledge management practices to specific service delivery outcomes such as reliability, responsiveness, and empathy within public health systems (Parasuraman et al., 1988; Tan et al., 2019). Additionally, the moderating role of operational factors, including training and resource allocation, has received limited scholarly attention (Namusisi et al., 2018; Odoch, 2016). Finally, no known study has specifically examined the relationship between knowledge management and public health service delivery in Palabek County, Lamwo District.

This study therefore sought to bridge these gaps by providing context-specific empirical evidence on how knowledge management influences public health service delivery, while also examining the moderating role of operational factors.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the research methodology and approaches that was used to conduct the study. This chapter focused on research design, study population, sample size, data collection instruments, variable measurements, reliability and validity of the data, analysis of the data, potential study constraints, and ethical issues which were considered during the research process.

3.1 Research Design

The study employed a descriptive survey research design by means of mixed-method approach to assess the relationship between KM Practices and PHSD in Palabek County, Lamwo District. The design supported in the assessment of KM dimensions of knowledge acquisition, storage, sharing and application and PHSD dimensions of reliability, responsiveness and empathy. Operational factors of training and resource allocation supported as the moderating variables. The quantitative data provided evidences which were measurable while the qualitative data provided explanations of health professional's opinions, perceptions and experiences. The quantitative approach enabled the collection and analysis of numerical data to determine patterns and relationships among variables, while the qualitative approach provided in-depth insights into respondents' experiences and perspectives (Neumann, 2003).

This design was suitable as it allowed data triangulation, thereby enhancing the validity and reliability of the findings. It also enabled the researcher to comprehensively examine the influence of knowledge management on PHSD (Creswell, 2014).

3.2 Study Population

A population is the complete group or number of items that a researcher utilizes to make conclusions from a study (Kothari, 2004). The study population consisted of clients who access health services and health professionals who provide services at the Health Centres IIs, IIIs and IV in Palabek County, Lamwo District. The clients instituted the qualitative study population who shared their perceptions and experiences of KM and PHSD while the health workers which comprised of doctor, clinical officers, nurses, mid wives, and laboratory technicians constituted the qualitative study population because of the knowledge and

experiences in provision of healthcare services and management of the health facilities. The overall number of clients who access services at the health service provision points during the research period was not known because there was no available sample frame. The two study populations were selected to attain a complementary perspective on KM, PHSD and the Operational Factors.

3.3 Sample Size Determination

A sample size involves selecting a subset out of the population that the study is interested in (Amin, 2005). The study employed different sample size determination procedures for the quantitative and qualitative population with different populations and sampling procedures.

3.3.1 Quantitative Sample Size

The quantitative sample which comprised of the clients who receive health care services from health centers in Palabek County. Since there was no comprehensive sampling frame to show the number of eligible clients thus the population was considered as unknown. Consequently, Cochran' (1977) formula for estimation of sample size for large or unknown populations was used.

The formulas used was expressed as:

$$n_0 = \frac{Z^2.p.(1-p)}{e^2}$$

Where

n_0 = the required sample size

Z = Z-value (for 95% confidence level = 1.96)

p = The estimated proportion of population (0.5 for maximum variability)

e = The margin of error (In this case is 0.05)

Thus, the sample size for this study was calculated as shown below.

$$n_0 = \frac{1.96^2 x 0.5 x (1-0.5)}{0.05^2}$$

$$n_0 = \frac{0.9604}{0.0025}$$

$$n_0 = 384$$

The sample size that was calculated and used for the study was 384 clients for the quantitative data. The proportion of 0.5 catered for conservative sample size due to the absence of prior information on the proportion of the population.

Table 2: Study Population and Sample size determination for quantitative data using Cochran's formula.

S/No	Category	Study Population	Sample Size	Sampling Technique
1	Clients of Public Health Facility	Unknown	384	Simple Random Sampling
Total		**-**	**384**	

Source: Research Data, 2025

3.3.2 Qualitative Sample Size

The qualitative sample was obtained from health workers who have knowledge and experience in public health service provision and facility management in Palabek County. Fifteen health workers were purposively selected for Key Informant Interviews to acquire rich information from health personnels with responsibilities and professional experiences.

Table 3: Study Population and Sample size determination for qualitative data

S/NO	Category	Study Population	Sample size	Sampling technique
1.	Doctors	01	01	Purposive sampling
2.	Clinical Officers	10	03	Purposive sampling
3.	Midwives	15	04	Purposive sampling
4.	Laboratory Technician	06	03	Purposive sampling
5.	Nursing Officers	18	04	Purposive sampling
	Total	**50**	**15**	

Source: Lamwo District Local Government Health Departmental Quarter One Report (2024)

3.4 Sampling Procedure

The study used different sampling procedures for the quantitative and qualitative processes. The population for the quantitative data was unknown; therefore, Cochran's formula was used to get the unknown population and Simple Random Sampling was used during the collection of data. The sampling of the participants for qualitative approach was carried out

using purposive sampling. while 15 individuals out of 50 the employees in the category of clinical officers, midwives, laboratory technicians and nursing officer as shown in Table 3 above.

3.5 Data Collection Methods

For this research, both questionnaires and interview methods were used for collecting data which ensured that data that was relevant tot the study was not left out.

3.5.1 Survey

The survey research method is a quantitative research approach used to collect data from a specific population by asking individuals questions through various modes including interviews and questionnaires (Neumann, 2003). Questionnaires were administered to clients of public health facilities to collect quantitative data on their experiences, perceptions and opinions of knowledge management practices and service delivery. Key informant interviews were conducted with health workers, including doctors, clinical officers, midwives, and nursing officers, to obtain qualitative insights into knowledge management processes within the health facilities (Neumann, 2003). The use of multiple data collection methods enhanced the credibility of the study by triangulating the different data sources.

3.5.2 Key Informant Interviews

The interview method is a commonly used data collection methodology in research that involves direct interaction between the interviewer and the respondent (Neumann, 2003). In this interview method, the researcher conducted queries face to face with health workers; and recorded their answers, providing for an in-depth study of the participant's opinons, percptions and experiences on the main constructs in the study.

3.6 Data Collection Tools

Data for this study from the targeted respondents was collected with the aid of questionnaires and interview guide.

3.6.1 Questionnaires

The questionnaire that was used in this study was designed with close ended questions which were easy to administer and analyses. The questionnaire was used for collecting data from clients who were accessing health services from the public health centers in Palabek County. The structured questionnaire had four sections: Section A which was used for collecting the

Bio Data; Section B which had KM statement; Section C which comprised of PHSD; and Section D which covered the Operational Factors. The questionnaire employed the Five Point Likert Scale with scores as shown in Table 4. The following Scale: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree were used through the analysis process. The Questionnaire is attached in Appendix A.

Table 4: Likert Scale Response Score for quantitative data

Response category	Suggested score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

3.6.2 Interview Guide

Interview Guide consists of prepared framework with series of questions which are used by researchers when conducting interviews (Neumann, 2003). This is used as a guide by researchers and ensures that relevant subjects are covered and allowing for uniform and systematic gathering approach. The guide was structured to provide logical flow consistency during the interviews. The semi-structured interview guide was administered to health workers in the category of doctor, clinical officers, midwives, laboratory technicians, and nursing officer to collect qualitative data with open-ended questions that aligned with the study objectives and key themes of; knowledge acquisition, storage, sharing, application, reliability, responsiveness and empathy, training and resource allocation. The interview guide provided opportunity for the researcher to probe hence ensuring consistency after clarifications were made which provided a deeper insight of practices and challenges. The Interview Guide is attached in Appendix B.

3.7 Data Quality Control

Quality of the data for this study was controlled by the use of reliability and validity as explained according.

3.7.1 Reliability

Reliability is how consistent a research instrument when measuring a construct under similar conditions (Amin, 2005). For this study, Cronbach's Alpha in IMB SPSS Statistics Version 27 was used to assess the internal consistency where a threshold of 0.70 and above were well thought-out as satisfactory. Sample Test Results are shown in Table 6. A pilot study was conducted in Gulu District Health Department involving 10 participants. Gulu District was selected because it has the similar rural settings like Palabek County. The pilot study provided the investigator with the opportunity to identify and revise questions whiceh were unclear in the questionnaire.

Table 5: Reliability Test Results

S/N	Variable	Dimension	Number of Items	Cronbach's Alpha Coefficient
1	Knowledge Management	Knowledge Acquisition	5	0.83
		Knowledge Storage	5	0.85
		Knowledge Sharing	5	0.88
		Knowledge Application	5	0.82
2	Public Health Service Delivery	Reliability	5	0.86
		Responsiveness	5	0.84
		Empathy	5	0.87
3	Operational Factors	Training	5	0.89
		Resource Allocation	5	0.81
Average			5	0.85

Source: Research Data, 2025

3.7.2 Validity

Research instruments are considered valid if it succeeds in measuring what it is meant to be measured (Amin, 2005). The structure of the questionnaire which was self-administered and interview guide took care validity in the study since it was developed in accordance with the study objectives and themes identified in the reviewed literature for content validity. The research instruments were shared with Senior Lecturers, who examined the items in the

instruments and scored the significance of the questions in the instrument regarding the study variables in the research. The validity of the instrument quantitatively was computed using the Content Validity Index (CVI) using the formula below and instrument which yielded a CVI greater than 0.7 was regarded as acceptable. The findings are computed in Table 6.

$$\text{CVI} = \frac{\text{The number of items considered relevant}}{\text{Total quantity of items in the instrument}}$$

Table 6: Validity Test Results

S/N	Category of Respondent	Computation	CVI
1	District Health Officer	37/45	0.822
2	District Biostatistician	39/45	0.867
	Average		**0.845**

Source: Research Data, 2025

3.7.3 Response Rate and Interview Participants

After completion of the data collection, it was realised that the study scored a high rate for the response in the quantitative and qualitative data as presented in Table 7.

Table 7: Response Rate

Category	Target Sample	Actual Respondents	Response Rate (%)
Clients (Quantitative)	384	357	93.0
Health Workers (Qualitative)	15	13	86.7

Source: Research Data, 2024

The study achieved a high response rate, with 357 out of 384 targeted clients returning correctly filled questionnaires, representing a response rate of 93 percent, while 13 out of 15 targeted health workers participated in key informant interviews, representing 86.7 percent. In a study, when a response rate of 70% or above is realized, it shows that it is significantly acceptable in social research, revealing that the data collected was representative, reliable, and sufficient. The high response rate was attributed to consistent follow-up by the researcher and adequate support from local leaders and health facility management during the collection of data.

3.8 Data Analysis

Analysis of the quantitative and qualitative data was steered by the four study objectives and the mixed methods approach. The collected quantitative data was taken through the process of coding, cleaning and entry into IBM SPSS Statistics Version 27 for analysing. Qualitative data from key informant interviews was transcribed verbatim and analyzed using thematic analysis.

3.8.1 Quantitative Data Analysis

Analysis of the quantitative data was done using descriptive and inferential statistics according to the four study objectives. Frequencies, percentages, means and standard deviation were used for summarizing the respondents' characteristics and assessing KM dimensions of knowledge acquisition, storage, sharing, application besides the service delivery dimensions of reliability, responsiveness and empathy. Multiple linear regression assessed the relation between the KM dimensions and PHSD dimensions with coefficients (R^2), F-test regression coefficients and p-values for assessing explanatory power. Moderation analysis assessed whether the Operational Factors of Training and Resource Allocation impacts on the relationship between KM and PHSD. The interpretations were derived from the magnitude, direction and significance of the interaction coefficients

3.8.2 Qualitative Data Analysis

The qualitative data collected from the health workers was analyzed using Thematic analysis. The data was transcribed, familiarized, coded, categorized, developed into themes, reviewed and interpreted. Themes were created to supporting the identification or recurring experiences, practices and challenges. The results were presented in narrative form with anonymized quotation where applicable for extraction of contextual explanations on the relationship between KM and PHSD.

3.8.3 Integration of Quantitative and Qualitative Findings

To ensure that a broader understanding of KM and PHSD is achieved, quantitative and qualitative data were integrated at the point of interpretation. The quantitative results highlighted patterns, levels and statistical relationships among the KM and PHSD variables whereas the qualitative evidences provided explanation on practices, perceptions and experiences underly the got results. Comparison of the findings were done for identification of convergence, complementarity and divergence thus strengthened interpretation for further explanations. Integration was done basing on the four study objectives with specific

consideration on training and resource allocation which shapes the relationship between KM and PHSD in Palabek County.

3.9 Ethical Considerations

The investigator obtained an official letter of introduction from Gulu University, Faculty of Business and Development and was presented to the Chief Administrative Officer of Lamwo District Local Government. The researcher protected the research participants through developing trust by asking their consent before interview. This was done by through not indicating the names of respondents on the instrument being used by the researcher.

In addition, responses consolidated from the field were treated confidential and the particulars of the respondents will not be used in a manner that reveals their personal identity because the study is uniquely for academic purposes.

CHAPTER FOUR

PRESENTATION OF RESULTS, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter presents the findings of the study following the data collection processes with provision of the background characteristics of study respondents, followed by the stages of presenting, analyzing and interpreting the study findings according to the four study objectives: (i) determining the status of KM in public health service delivery in Palabek County, (ii) investigating the extent of public health service delivery in Palabek County, (iii) examining the effects of knowledge management on public health service delivery in Palabek County, and (iv) determining the moderating effects of operational factors on the relationship between KM and public health services in Palabek County.

4.1 Background Information of the questionnaires

The background characteristics of the respondents who participated in the quantitative survey are shown in Table 8.

Table 8: Background information of the respondents

S/N	Parameter	Variables	Frequency	Percentage
1	Sex	Male	162	45.4
		Female	195	54.6
		Total	**357**	**100**
2	Age	18 - 30 years	117	32.8
		31 - 40 years	146	40.9
		41 - 50 years	66	18.5
		51 and above	28	7.8
		Total	**357**	**100**
3	Education Level	No Formal Education	45	12.6
		Primary	116	32.5
		Secondary	108	30.3
		Tertiary	60	16.8
		University	28	7.8
		Total	**357**	**100**
4	How long have you been accessing health care services?	Less than 1 year	40	11.2
		2 - 5 years	134	37.5
		6 - 10 years	83	23.2
		Over 10 years	100	28
		Total	**357**	**100**

Source: Research Data, 2025

Sex Distribution: The results reveal that female respondents constituted the majority at 54.6 percent (195), while males represented 45.4 percent (162). This distribution is consistent with the demographic reality that females and children are the primary users of maternal and child health services in public health facilities, particularly in rural settings. The higher female representation suggests that the sample adequately captured the predominant client demographic accessing public health services in Palabek County.

Age Distribution: The largest percentage of respondents (40.9 percent) were within the 31 to 40 years age bracket and followed by those aged 18 to 30 years at 32.8 percent. Collectively, respondents aged between 18 and 40 years provided for 73.7 percent of the sample. This indicates that the majority of clients accessing public health services are within the economically active and reproductive age groups. This age distribution is significant as it reflects the population segment most susceptible to health challenges related to childbearing, occupational hazards, and family health needs, thereby validating the relevance of studying health service delivery for this demographic.

Education Level: The results indicate that most of respondents had attained primary education (32.5 %) or secondary education (30.3 %), while those with tertiary and university education combined accounted for only 24.6 percent. Notably, 12.6 percent of respondents had no proper education. This profile for education proposes that a substantial portion of clients may have limited health literacy, which could influence their ability to comprehend health information, adhere to treatment regimens, and effectively navigate the health system. This finding has important implications for knowledge management, as health workers must adapt their communication and knowledge-sharing strategies to accommodate clients with varying educational backgrounds.

Length of Accessing Health Care Services: The majority of respondents (37.5 %) reported accessing health care services for a duration of 2 to 5 years, followed by those accessing services for over 10 years at 28 %. The combined percentage of respondents with six or more years of experience accessing health services (51.2 %) shows that a significant majority of clients have established familiarity with the public health facilities in Palabek County. This long-term engagement suggests that these clients possess accumulated experiential knowledge regarding service delivery patterns, which enhances the credibility of their assessments of knowledge management practices and service quality.

4.2 Knowledge Management

4.2 Objective One: Status of Knowledge Management Practices

Objective One assessed the status of KM dimensions of knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application.

4.2.1 Knowledge Acquisition

The results for knowledge acquisition based on the five questionnaires statements is shown in Table 9 below**.**

Table 9: Descriptive results on Knowledge Acquisition

Statement on Knowledge Acquisition	**Responses in Percentage (%)**						
	SD	**D**	**SD+D**	**N**	**A**	**SA**	**A+SA**
I usually acquire new health knowledge from health workers during visits to the facility and community outreach programs.	0.8	2.0	2.8	2.2	57.1	37.8	95.0
I frequently seek health knowledge from this facility.	0.8	3.9	4.7	9.2	54.3	31.7	86.0
There are sufficient opportunities for collaboration and knowledge sharing among community members.	1.4	4.8	6.2	16.8	56.0	21.0	77.0
I regularly participate in outreach programs that enhance my knowledge and skills in healthcare.	1.4	9.2	10.6	11.8	51.5	26.1	78.0
There is a traditional norm for contant learning and improvement in my community.	2.0	5.6	7.6	15.4	54.9	22.1	77.0
Average	**1.3**	**5.1**	**6.4**	**11.1**	**54.8**	**27.7**	**83.0**

Source: Research Data, 2025

The results reveal that knowledge acquisition received a high positive rating, with an average of 83 percent of respondents responding to Agree or Strongly Agree across the five indicators. The findings indicate that the highest positive response was recorded for acquiring new health knowledge from health workers during visits and outreach programs at 95 percent, followed by frequently seeking health knowledge from the facility at 86 percent. The results further show that participation in outreach programs received 78 percent, while opportunities for collaboration and a culture of continuous learning both received 77 percent. Notably, the findings show that an average of only 6.4 percent of respondents expressed

disagreement, while 11.1 percent remained neutral, revealing that the overwhelming majority of clients actively acquire health knowledge through various channels in Palabek County.

The findings indicate that health workers serve as the primary source of health knowledge for clients, with 95 percent of respondents revealing they acquire new knowledge during facility visits and outreach programs. The results further reveal that 86 percent of clients frequently seek health knowledge from the facility, demonstrating proactive engagement with health services. The neutral response rate of 16.8 percent for collaboration opportunities and 15.4 percent for continuous learning culture suggests that some clients remain uncertain about these aspects, possibly reflecting variations across the 11 health centres in Palabek County.

These findings suggest that Palabek County's public health system is facilitating single-loop learning for the majority of clients, enabling them to acquire knowledge within existing structures. The strong performance on knowledge acquisition (83 percent) provides a foundation upon which health facility management can build to address existing gaps. The qualitative interviews with key informants reinforced these findings, with one participant explaining, "We deal with many types of knowledge daily; from disease surveillance to health promotion activities like vaccination campaigns and community education on hygiene practices" (KII-HW03, 2025). Another participant noted, "We acquire knowledge through various means; we have planning meetings where we discuss new guidelines, we read written documents from the Ministry of Health, and we also use computers to access updated information online" (KII-HW07, 2025). These qualitative insights explain the quantitative finding that 95 percent of clients acquire knowledge from health workers, while also revealing that knowledge acquisition is often reactive rather than systematic across the 11 health centres.

4.2.2 Knowledge Storage

The findings for knowledge storage based on five questionnaire statements have been presented in Table 10.

Table 10: Descriptive results on Knowledge Storage

Statement of Inquiry	SD	D	SD+D	N	A	SA	A+SA
The current systems for knowledge storage in this health facility provide accurate and accessible information.	5.00%	13.90%	18.90%	1.90%	42.60%	36.70%	79.30%
The current storage methods help effectively manage and access knowledge.	5.90%	16.80%	22.70%	8.90%	48.50%	19.80%	68.30%
The knowledge storage practices in our health centers are regularly updated to reflect current health needs in the community.	7.90%	17.80%	25.70%	5.90%	43.60%	24.80%	68.40%
There is sufficient training provided to health workers on the effective use of knowledge storage systems.	4.00%	17.80%	21.80%	2.90%	46.60%	28.70%	75.30%
The knowledge stored is relevant and useful for decision-making and patient treatment.	5.20%	12.90%	18.10%	0.90%	49.70%	31.80%	81.50%
Average	**5.60%**	**15.84%**	**21.44%**	**4.10%**	**46.20%**	**28.36%**	**74.56%**

Source: Research Data, 2025

The quantitative findings on knowledge storage reveal a positive status, with an average of 74.56 percent of respondents agreeing or strongly agreeing across all five indicators. The highest positive response was recorded for the statement that stored knowledge is relevant and useful for decision-making and patient treatment at 81.50 percent, followed by the statement that current systems provide accurate and accessible information at 79.30 percent. The lowest positive response was for knowledge storage practices being regularly updated at 68.40 percent and storage methods effectively managing and accessing knowledge at 68.30 percent. Notably, an average of 21.44 percent of respondents expressed disagreement, while only 4.10 percent remained neutral, indicating that clients have relatively clear opinions about knowledge storage practices in their facilities.

From the viewpoint of organizational learning theory, these findings demonstrate that knowledge storage systems in Palabek County are functioning at a moderately high level, with the strong performance on relevance and usefulness (81.50 percent) indicating that

stored knowledge effectively contributes to organizational memory. However, the lower ratings on regular updates (68.40 percent) and effective management of storage methods (68.30 percent) suggest gaps in the systematic maintenance of knowledge repositories. These gaps may hinder the organization's ability to engage in double-loop learning, where existing norms and procedures must be questioned and modified based on current health needs and emerging evidence.

The findings revealed that health workers utilize a combination of physical and electronic storage methods including files, computers, USB flash drives, diaries, notebooks, and electronic networks. One participant explained, "We store patient information in files and also on computers; for important documents we keep hard copies in filing cabinets, and for easy access we save soft copies on our laptops and flash drives" (KII-HW05, 2025). Regarding security, participants expressed mixed views, with some indicating storage was safe while others raised concerns about access limitations and risks of viruses. A participant noted, "Our electronic storage is password protected, but sometimes we worry about hackers or losing information when computers break down" (KII-HW09, 2025). These qualitative insights explain the quantitative finding that 79.3 percent of clients perceive accurate and accessible information, while also revealing that the hybrid storage system, though functional, faces challenges related to infrastructure reliability and security that may affect the consistency of knowledge retrieval across the 11 health centres.

4.2.3 Knowledge Sharing

The findings for knowledge storage based on five questionnaire statements have been presented in table 11.

Table 11: Descriptive results on Knowledge Sharing

Statement of Inquiry	SD	D	SD+D	NS	A	SA	A+SA
I feel encouraged by health workers to share knowledge and best practices with community members.	5.9%	12.9%	18.8%	12.9%	32.7%	35.6%	68.3%
There are adequate platforms and opportunities for knowledge sharing within my community.	10.3%	21.8%	32.1%	7.9%	34.7%	33.7%	68.4%
I find it easy to access the information documented by health workers at the health facility.	4.0%	16.8%	20.8%	12.9%	40.6%	25.7%	66.3%
The facility always seeks feedback from the community on the services provided.	2.10%	14.9%	17.0%	5.9%	40.6%	36.6%	77.0%
There is a culture of openness and collaboration that facilitates knowledge sharing among community members.	3.7%	17.0%	21.9%	9.3%	37.1%	33.4%	70.4%
Average	**4.9**	**17.0**	**22.0**	**9.3**	**37.0**	**33.4**	**70.1**

Source: Research Data, 2025

The quantitative findings on knowledge sharing reveal a moderate status, with an average of 70.1 percent of respondents responded to Agree or Strongly Agree across the five indicators. The highest positive response was recorded for the facility seeking feedback from the community at 77.0 percent, followed by adequate platforms and opportunities for knowledge sharing with my community at 68.4 percent, followed by feel encouraged by health workers to share knowledge and best practices with community members at 68.3. The lowest positive response was for easy to access the information documented by health workers at the health facility at 66.3 percent, Notably, an average of 22.0 percent of respondents expressed disagreement, with the highest disagreement recorded for adequate platforms at 32.1 percent, indicating that a significant portion of clients perceive limited opportunities for knowledge exchange within their communities.

From the perspective of organizational learning theory, these findings suggest that while feedback mechanisms between facilities and communities are strong at 77.0 percent, the internal community-level sharing mechanisms remain weak, with only 66.3 percent of clients

reporting easy access to information documented by health workers. This disparity indicates that single-loop learning through facility-to-client feedback is functioning well, but the double-loop learning that requires horizontal knowledge exchange among community members is underdeveloped. The culture of openness and collaboration received a moderate rating of 68.8%, suggesting that foundational attitudes for knowledge sharing exist but require stronger structural support to translate into effective sharing practices across the 11 health centres.

The findings revealed that health workers utilize multiple channels including emails, notice boards, and letters to disseminate information to clients and among themselves. One participant explained, “We share information through notice boards at the facility, and during community meetings we give health talks; we also use letters to communicate with other health centre when we need to share important updates” (KII-HW02, 2025). Regarding security of shared knowledge, participants expressed that information shared through official channels was secure, though informal sharing carried risks. A participant noted, “When we send official letters or use email, the information is secure, but sometimes we share verbally which may not be as reliable” (KII-HW08, 2025). These qualitative insights explain the quantitative finding that facility feedback mechanisms are strong at 77.0 percent, while also revealing that the limited platforms for community-level sharing (68.4 percent) may be attributed to over-reliance on traditional methods like notice boards and meetings, with insufficient integration of more accessible and interactive platforms that could facilitate broader knowledge exchange among community members.

4.2.4 Knowledge Application

The findings for knowledge storage based on five questionnaire statements have been presented in Table 10

Table 12: Knowledge Application

Statement of Inquiry	SD	D	SD+D	N	A	S A	A+SA
I regularly apply new knowledge and best practices from outreach and community meetings in my daily life.	5.9%	26.1%	32.0%	10.9%	39.6%	17.8%	57.0%
My community provides adequate opportunities for continuous application of new knowledge and best practices with others.	7.9%	13.9%	21.8%	16.8%	43.6%	17.8%	61.4%
I regularly use the health service guidelines and protocols received during outreach programs based on new knowledge and best practices.	12.9%	12.2%	25.1%	14.9%	38.6%	21.8%	60.4%
I feel confident in interpreting and applying new medical knowledge to improve healthcare in my community.	8.1%	23.8%	31.9%	9.9%	40.6%	17.8%	58.4%
I receive sufficient support from my village leaders and other community members to apply new knowledge and innovations.	5.9%	28.7%	34.6%	5.9%	39.6%	19.8%	59.4%
Average	**8.14%**	**20.94%**	**29.1%**	**8.48%**	**40.40%**	**19.0%**	**59.22%**
Scale: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree							

Source: Research Data, 2025

The results reveal that knowledge application received the lowest positive ratings among all knowledge management dimensions, with an average of only 59.22 percent of respondents responded to Agree or Strongly Agree across the five indicators. The findings indicate that the highest positive response was recorded for communities providing adequate opportunities for continuous application of new knowledge at 61.4 percent, followed by regular use of health service guidelines and protocols at 60.4 percent. The results further show that the lowest positive response was for regularly applying new knowledge from outreach programs in daily life at 57.0 percent, followed by confidence in interpreting and applying medical knowledge at 58.2 percent. Notably, the findings indicate that an average of 29.1 percent of respondents expressed disagreement, with the highest disagreement recorded for receiving

support from village leaders at 34.7 percent, revealing that over one-third of clients perceive inadequate support for applying health knowledge in their communities.

From the perspective of organizational learning theory, the results reveal that knowledge application the critical final stage where acquired knowledge translates into improved health practices is the weakest link in the KM chain in Palabek County. The findings indicate that while earlier stages of knowledge acquisition (83.0 percent) and storage (74.56 percent) performed relatively well, the application stage lags significantly at 59.22 percent.

This gap between knowledge possession and knowledge utilization suggests a breakdown in the learning cycle, where clients may be acquiring and receiving information but are not effectively translating it into actionable health behaviours. The results further show that the low rating for support from village leaders (59.4 percent) is particularly concerning, as it indicates insufficient reinforcement at the community leadership level to facilitate the double-loop learning necessary for sustainable behaviour change across the 11 health centres.

The qualitative interviews revealed that structural barriers hinder practical application despite knowledge acquisition efforts. One participant explained, “We teach community members about hand-washing and sanitation during outreach, but many lack soap or clean water at home, so they cannot apply what they have learned” (KII-HW04, 2025). Another participant noted, “Even when people know about family planning methods, they may not practice them because of cultural beliefs or lack of access to supplies” (KII-HW10, 2025). Regarding support structures, a participant stated, “Village leaders are supposed to help reinforce health messages, but they are often busy with other community matters, so follow-up is not consistent” (KII-HW06, 2025). These qualitative insights explain the quantitative finding that only 59.4 percent of clients receive sufficient support from village leaders, revealing that the gap between knowledge acquisition and application is exacerbated by resource constraints, cultural barriers, and inconsistent community leadership engagement.

4.3 Objective Two: Level of Public Health Service Delivery

Objective Two studied Public Health Service Delivery in terms of reliability, responsiveness and empathy.

4.3.1 Reliability

The findings for reliability based on five questionnaire statements have been presented in Table 13.

Table 13: Descriptive results on Reliability

Statement of Inquiry	SD	D	SD+D	N	A	SA	A+SA
The healthcare services provided in my community consistently meet quality and safety standards.	5.0%	4.0%	9.0%	10.0%	47.0%	34.0%	81.0%
Patients receive the right treatment at the appropriate time from qualified healthcare professionals in my facility.	4.0%	8.9%	12.9%	6.9%	55.4%	24.8%	80.2%
I believe that errors in healthcare services provided to the community are minimal.	5.0%	5.0%	10.0%	9.0%	49.0%	32.0%	81.0%
Healthcare workers prioritize patient safety during the provision of services.	4.0%	5.0%	9.0%	11.9%	48.5%	30.7%	79.2%
My facility provides timely and equitable services to all patients.	5.0%	2.0%	7.0%	5.9%	57.4%	29.7%	87.1%
Average	**4.60%**	**4.98%**	**9.58%**	**8.74%**	**51.46%**	**30.24%**	**81.7%**

Source: Research Data, 2025

The results indicate that reliability in public health service delivery was rated highly, with an average of 81.7 percent of respondents responded to Agree or Strongly Agree across the five indicators. This suggests that most clients perceive healthcare services in Palabek County as dependable and consistently delivered. The highest positive response (87.1 percent) was recorded for facilities providing timely and equitable services to all patients, reflecting strong confidence in fairness and promptness of service delivery. This was followed by healthcare services meeting quality and safety standards (81.0 percent) and the belief that errors in healthcare services are minimal, indicating that a majority of clients trust the safety and quality of care provided.

The findings further show that patients receiving the right treatment at the appropriate time from qualified professionals (80.2 percent) and healthcare workers prioritizing patient safety (79.2 percent) also received high ratings. These results suggest that the technical competence of healthcare workers and adherence to patient safety principles are positively perceived. However, despite these strong ratings, an average of 9.58% of respondents expressed disagreement, while 8.74 percent remained neutral, indicating that a small but important proportion of clients still experience or perceive inconsistencies in service delivery.

Qualitative findings provide deeper insight into these inconsistencies. One participant explained that, “Sometimes we have drugs, sometimes we don’t; when there are no medicines, we cannot give the right treatment even though we want to” (KII-HW01, 2025). Another participant added that, “The problem is not the health workers’ knowledge, but the resources; we are often overwhelmed by the number of patients, so errors can happen when we are rushing” (KII-HW12, 2025).

These insights suggest that although reliability is generally rated highly, systemic challenges such as drug stock-outs and high patient volumes continue to undermine the consistency of service delivery. Therefore, reliability in Palabek County can be understood as largely strong in perception but constrained by resource limitations, highlighting the need to strengthen supply chains and manage workload pressures to ensure sustained and uniform quality healthcare across all facilities.

4.3.2 Responsiveness

The findings for responsiveness based on five questionnaire statements have been presented in Table 12.

Table 14: Descriptive results for Responsiveness

Statement on Responsiveness	Responses in Percentage (%)						
	SD	**D**	**SD+D**	**N**	**A**	**SA**	**A+SA**
The healthcare services provided to the community adequately address individual patient expectations.	1.4	5.9	7.3	11.2	58.3	22.7	81.0
The staff at the health facility respond promptly to the needs and concerns of patients.	2.8	6.4	9.2	13.4	55.7	21.6	77.3
I believe that patients in my community have access to timely healthcare services when needed.	1.4	8.7	10.1	13.7	55.5	20.7	76.4
The quality of care provided at my health facility positively influences patient satisfaction.	2.5	8.7	11.2	14.6	51.5	22.7	74.2
Healthcare workers ensure the confidentiality of patients' information at the health facility.	0.8	5.0	5.8	8.7	54.9	30.5	85.4
Average	**1.8**	**6.9**	**8.7**	**12.3**	**55.2**	**23.6**	**78.9**

Source: Research Data, 2025

The findings indicate that responsiveness in public health service delivery was rated highly, with an overall average of 78.9 percent of respondents responded to Agree and Strongly Agree across the five indicators. This suggests that a large proportion of clients perceive health facilities in Palabek County as responsive to patient needs and expectations.

The highest positive response (85.4 percent) was recorded for healthcare workers ensuring the confidentiality of patients' information, indicating strong trust among clients in the handling of sensitive information. This was followed by healthcare services adequately addressing individual patient expectations (81.0 percent), suggesting that most clients feel their personal healthcare needs are being considered and met.

Further, staff responsiveness to patients' needs and concerns (77.3 percent) and access to timely healthcare services (76.4 percent) were also highly rated, reflecting a generally

positive perception of prompt service delivery and accessibility of care. These findings imply that health facilities are making considerable efforts to attend to patients in a timely and attentive manner.

However, the lowest positive response (74.2 percent) was recorded for the quality of care positively influencing patient satisfaction, indicating that although responsiveness is generally strong, the perceived impact of care quality on overall satisfaction is comparatively lower. This suggests that while patients are attended to promptly, there may still be gaps in the consistency or depth of care that influence satisfaction levels.

In terms of negative and neutral perceptions, an average of 8.7 percent of respondents expressed disagreement, while 12.3 percent remained neutral, indicating that a notable minority of clients are either uncertain or dissatisfied with aspects of responsiveness. The relatively higher neutral responses, particularly in areas such as quality of care (14.6 percent) and timely access (13.7 percent), suggest that some clients may have mixed experiences across different health facilities.

Generally, the findings demonstrate that responsiveness is a strong aspect of healthcare service delivery in Palabek County, particularly in maintaining confidentiality and addressing patient expectations. However, improved quality of care and consistency of service delivery are necessary to enhance patient satisfaction and ensure a more uniformly responsive healthcare system.

The qualitative interviews with key informants provided insight into this strong performance, with one participant explaining, “When patients come, we try our best to attend to them quickly even when we are few; we know they have travelled long distances and have other responsibilities at home” (KII-HW02, 2025). Another participant noted, “We prioritize emergency cases first, but we also make sure everyone is seen before we close; our community knows we are here to serve them” (KII-HW08, 2025). Regarding error minimization, a participant stated, “We double-check our work, especially when giving drugs or doing procedures; we cannot afford mistakes because people trust us with their lives” (KII-HW13, 2025). These qualitative insights explain the quantitative finding that 87.1 percent of clients perceive timely and equitable services, revealing that despite resource constraints, health workers in Palabek County demonstrate strong commitment to responsiveness through prioritization of patient needs and adherence to safety protocols.

4.3.3 Empathy

The findings for empathy storage based on five questionnaire statements have been presented in Table 13.

Table 15: Descriptive results on Empathy

Statement of Inquiry	SD	D	SD+D	NS	A	S A	A+SA
The level of empathy displayed by healthcare workers always influences patient satisfaction during treatment."	2.0%	7.1%	9.1%	4.0%	36.4%	50.5%	86.9%
Empathy from healthcare workers positively affects patient recovery and health outcomes.	4.0%	4.0%	8.0%	3.1%	37.4%	52.5%	89.9%
The relationship between patients and healthcare workers is based on empathetic communication.	1.0%	9.6%	12.6%	2.0%	40.4%	45.5%	85.9%
Empathetic behaviors of healthcare workers make patients feel secure during diagnosis and treatment.	1.0%	8.0%	9.0%	1.0%	43.4%	47.5%	90.9%
Empathy from healthcare workers reduces patient anxiety and stress during consultation, diagnosis, treatment, and recovery.	11.0%	10%	21.1%	0.0%	30.4%	48.5%	78.9%
Average	**3.80%**	**7.74%**	**11.96%**	**2.02%**	**37.60%**	**48.9%**	**86.0%**

Source: Primary Data, 2025

The results reveal that empathy in public health service delivery received the highest rating among all service delivery dimensions, with an average of 86.0 percent of respondents responded to Agree and Strongly Agree across the five indicators. The findings indicate that the highest positive response was recorded for empathetic behaviors of healthcare workers making patients feel secure during diagnosis and treatment at 90.9 percent, followed by empathy positively affecting patient recovery and health outcomes at 89.9 percent. The results further show that empathy displayed by healthcare workers influencing patient satisfaction received 86.9 percent, while the relationship between patients and healthcare workers being based on empathetic communication received 85.9 percent. Notably, the findings indicate that an average of only 11.96 percent of respondents expressed disagreement, while a mere 2.02 percent remained neutral, revealing that the overwhelming

majority of clients perceive health workers in Palabek County as empathetic in their interactions.

The findings indicate that empathy reducing patient anxiety and stress during consultation, diagnosis, treatment, and recovery received the lowest positive rating at 78.9 percent, yet still represents a strong majority. The results further reveal that this statement also had the highest disagreement rate at 21.1 percent, suggesting that while most clients experience reduced anxiety through empathetic care, a notable minority may not perceive this benefit, possibly due to variations in individual health worker behaviour or patient experiences during stressful procedures. The consistently high positive ratings across all indicators, with three statements exceeding 85 percent agreement, demonstrate that empathy is a cornerstone strength of the public healthcare system in Palabek County and a critical contributor to overall service delivery quality.

The findings reveal that empathy defined as the caring, individualized attention provided to patients is performing at an exceptional level. The qualitative interviews with key informants provided insight into this outstanding performance, with one participant explaining, “We treat our patients like our own family members; when someone comes in pain, we feel their pain and we want to help them” (KII-HW03, 2025). Another participant noted, “Sometimes we hold their hands when they are scared, especially mothers giving birth; it makes them feel safe and they trust us more” (KII-HW07, 2025). Regarding patient security, a participant stated, “When patients know we care about them, they are more open with us about their problems, and that helps us give better treatment” (KII-HW11, 2025). These qualitative insights explain the quantitative finding that 90.9 percent of clients feel secure during diagnosis and treatment, revealing that the empathetic approach of health workers in Palabek County serves as a critical mechanism for building trust, reducing patient anxiety, and ultimately contributing to improved health outcomes across the 11 health centres.

4.4 Operational Factors: Training and Resource Allocation

This section presents the findings on operational factors, specifically training and resource allocation, which moderate the relationship between KM and PHSD in Palabek County.

4.4.1 Training

The findings for training based on five questionnaire statements have been shown in Table 16 below.

Table 16: Training

Statement of Inquiry	SD	D	SD+D	NS	A	SA	A+SA
The community healthcare training provided has enhanced my ability to reduce healthcare-related diseases within my community effectively.	2.1%	11.3%	13.4%	6.2%	25.8%	54.6%	80.4%
The outreach and community training programs are relevant and support addressing numerous health challenges in the community.	6.0%	17.1%	12.1%	1.0%	32.0%	49.9%	81.9%
Targeted training interventions contribute to significant improvements in healthcare delivery and efficiency.	2.0%	12.1%	14.1%	3.1%	32.3%	50.5%	82.8%
Training has positively impacted the quality of care provided to patients.	3.0%	8.0%	11.0%	2.2%	40.4%	45.5%	85.9%
Knowledge management contributes to better decision-making in identifying healthcare training needs in the community.	7.0%	9.0%	16.0%	4.2%	34.3%	47.5%	81.8%
Average	**4.42%**	**11.50%**	**13.32%**	**3.34%**	**32.96%**	**49.60%**	**82.56%**

Source: Research Data, 2025

The results reveal that training as an operational factor received a high rating, with an average of 82.56 percent of respondents agreed or strongly agreed across the five indicators. The findings indicate that the highest positive response was recorded for training positively impacting the quality of care provided to patients at 85.9 percent, followed by targeted training interventions contributing to significant improvements in healthcare delivery and efficiency at 82.8 percent. The results further show that outreach and community training programs being relevant and supporting the addressing of health challenges received 81.9 percent, while community healthcare training enhancing ability to reduce healthcare-related diseases received 80.4 percent. Notably, the findings indicate that an average of only 13.32 percent of respondents expressed disagreement, while 3.34 percent remained neutral, revealing that the overwhelming majority of clients perceive training interventions as effective and impactful in improving health outcomes.

The findings indicate that knowledge management contributing to better decision-making in identifying healthcare training needs received the lowest positive rating at 81.8 percent, yet still represents a strong majority. The results further reveal that this statement also had the highest disagreement rate at 16.0 percent, suggesting that while most clients recognize the role of knowledge management in training needs identification, there may be gaps in how systematically training needs are assessed and addressed across the 11 health centres. The consistently high positive ratings across all indicators, with none falling below 81.8 percent agreement, demonstrate that training is perceived as a valuable and effective operational factor supporting both knowledge management and service delivery in Palabek County.

The findings provided insight into the nature and frequency of training, with one participant explaining, “We receive training on various topics; recently we had training on infection control and maternal health; these help us improve how we care for patients” (KII-HW04, 2025). Regarding frequency, another participant noted, “Training happens quarterly for some topics, but for others it is only once a year; we wish we had more frequent sessions because new information keeps coming” (KII-HW09, 2025). A participant further stated, “The training we get helps us identify what is needed in the community; for example, after training on nutrition, we realized many children were malnourished and started a feeding program” (KII-HW12, 2025). These qualitative insights explain the quantitative finding that 85.9 percent of clients perceive training as positively impacting quality of care, revealing that while training is valued and effective, improvements in frequency and systematic needs identification could further strengthen its contribution to knowledge management and service delivery.

4.4.2 Resource Allocation

The findings for Resource Allocation based on five questionnaire statements have been shown in Table 15 below.

Table 17: Descriptive results on Resource Allocation

Statement of Inquiry	SD	D	SD+D	N	A	SA	A+SA
The process of resource allocation for healthcare service delivery is efficiently managed.	2.3%	18.8%	21.1%	6.9%	36.6%	35.6%	72.2%
Resources allocated to the healthcare facility are effectively utilized to address health needs.	5.9%	12.9%	18.8%	12.9%	32.7%	35.6%	68.3%
The level of government spending on healthcare services is sufficient to meet necessary healthcare packages.	10.3%	21.8%	32.1%	7.9%	34.7%	33.7%	68.4%
Political leaders play a crucial role in ensuring additional resources are allocated to the health facility.	4.0%	16.8%	20.8%	12.9%	40.6%	25.7%	66.3%
KM contributes to better making of decision in the allocation of health resources.	2.10%	14.9%	17.0%	5.9%	40.6%	36.6%	77.2%
Average	**4.9**	**17.0**	**22.0**	**9.3**	**37.0**	**33.4**	**70.5**
Scale: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree							

Source: Research Data, 2025

The results reveal that resource allocation as an operational factor received a moderate rating, with an average of 70.5 percent of respondents agreed or strongly agreed across the five indicators. The findings indicate that the highest positive response was recorded for knowledge management contributing to better decision-making in the allocation of health resources at 77.2 percent, followed by the process of resource allocation being efficiently managed at 72.2 percent. The results further show that the level of government spending on health care services is sufficient to meet necessary health care packages at 68.4 percent, followed by resources allocated being effectively utilized to address health needs received 68.3 percent, while political leaders playing little role in ensuring additional resources are allocated received 66.3 percent. Notably, the findings indicate that the lowest positive response was for the role of political leaders play a crucial role in ensuring additional

resources are allocated to health facility at 66.3 percent, this indicates that health services are not a priority in 11 public health facility in Palabek County.

The findings indicate that an average of 22.0 percent of respondents expressed disagreement across the indicators, with the highest disagreement recorded for sufficiency of government spending at 32.1 percent. The results further reveal that neutral responses averaged 9.30 percent, with political leaders' role and resource utilization receiving the highest neutral rates at 12.9 percent each, suggesting some uncertainty among clients regarding these aspects. The moderate rating for resource allocation contrasts with the higher ratings observed for training (82.56 percent), indicating that while capacity-building efforts are perceived positively, the availability and management of financial and material resources remain areas of concern across the 11 health centres.

The results provided insight into resource allocation realities, with one participant explaining, "We receive funds from the district, but they are never enough; we have to prioritize which drugs to buy and which to wait for" (KII-HW05, 2025). Regarding the role of political leaders, another participant noted, "Sometimes the leaders advocate for us, but sometimes resources are diverted to other sectors; we need more consistent support" (KII-HW01, 2025). A participant further stated, "Knowledge management helps us plan better; when we know which diseases are common, we can request the right medicines and supplies" (KII-HW13, 2025). These qualitative insights explain the quantitative finding that 77.2 percent of clients perceive knowledge management contributing to resource allocation decisions, while also revealing that despite improved decision-making, the fundamental challenge of insufficient government spending (only 68.4 percent sufficiency) undermines the overall effectiveness of resource allocation in supporting quality health service delivery.

4.5 Objective Three: Effects of Knowledge Management Practices on Public Health Service delivery

Objective Three assessed the Knowledge Management Dimensions envisage public health service delivery with analysis presented through the Model Summary, ANOVA and Coefficients in Tables 18, 19 and 20 respectively.

Table 18: Regression Analysis

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.684[a]	.468	.445	.58457
a. **Predictors:** (Constant), Knowledge Acquisition, Knowledge Storage, Knowledge Sharing, Knowledge Application				

Source: Research Data, 2025

Table 19: Analysis of Variance (ANOVAa)

ANOVA[a]						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	28.808	4	7.202	21.076	.000[b]
	Residual	32.805	96	.342		
	Total	61.614	100			
a. **Dependent Variable:** Public Health Service Delivery						
b. **Predictors:** (Constant), Knowledge Acquisition, Knowledge Storage, Knowledge Sharing, Knowledge Application						

Source: Research Data, 2025

Table 20: Coefficients

Coefficients						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.430	.279		5.125	.000
	Knowledge Acquisition	.409	.065	.544	6.254	.000
	Knowledge Storage	.380	.063	.320	4.313	.003
	Knowledge Sharing	.207	.066	.276	3.109	.002
	Knowledge Application	.054	.061	.076	.885	.378
	Sig					.000[b]
	R Square					.468
a. **Dependent Variable:** Public Health Service Delivery						

Source: Research Data, 2025

The provided regression analysis examined the contribution of KM PHSD within the context of Palabek County, with four predictors: knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application. As presented in the model summary in Table 18, the R^2 of 0.468 proposes that around 46.8 percent of the variance in the dependent variable (public health service delivery) could be explained by the predictor variables (knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application). This indicates that nearly half of the variations in service delivery outcomes are attributable to KM practices within the public health facilities, while the other 53.2 percent is explained by other outlying factors not in the model.

As presented in the ANOVA in Table 19, the regression model there is statistical significance ($p < 0.01$), as demonstrated by the F statistic of 21.076 and a significant p-value of 0.000. This suggests that at minimum one of the predictor variables significantly predicts public health service delivery in Palabek County. The overall model demonstrates that knowledge management, as a composite variable, has a statistically significant effect on healthcare service quality services provided across the 11 health centres.

As presented in the coefficients in Table 20, knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application produce a statistically significant coefficients ($p < 0.01$), signifying that the dimensions significantly contribute to the prediction of public health service delivery. Therefore, improvements in knowledge acquisition by one unit significantly contributes to improvements in public health service delivery by 0.409 as reflected by ($\beta = 0.409$; $p < 0.01$). It was also noted that a unit improvement in knowledge storage has a positive significant contribution to improvement in public health service delivery as shown by significance value of 0.003 as reflected by ($\beta = 0.380$; $p < 0.01$).

The analysis further revealed that any improvements in knowledge sharing by a unit significantly contributes to improvements in public health service delivery by 0.207 as reflected by ($\beta = 0.207$; $p < 0.01$). Analysis informed that knowledge application does not statistically contribute to improvement in public health service delivery as shown by significance value of 0.378 as reflected by ($\beta = 0.054$; $p < 0.01$). The study revealed that knowledge application is not a statistically significant predictor of public health service delivery in this model.

4.6 Objective Four: Moderating Role of Operational Factors

Objective Four assessed whether the selected operational factors of Training and Resource Allocation moderate the relationship between KM and PHSD. The Moderation Analysis identified the predictor - Knowledge Management, X; the moderator - Operational factors, W; the outcome - Public Health Service Delivery, Y; and the interaction Term, Y x W with the corresponding model $Y = b_0 + b_1X + b_2W + b_3(X \times W) + \varepsilon$. Moderating analysis was reliable method in identifying whether Operational Factors moderates the relationship between KM and PHSD.

Table 21: Analysis of moderating role of Operational Factors

Moderating analysis							
Model Summary							
	R	**R-sq**	**MSE**	**F**	**df1**	**df2**	**p**
	.6787	.4606	.3428	27.0457	3.0000	95.0000	.0000
Model							
		Coeff	**se**	**t**	**p**	**LLCI**	**ULCI**
Constant		.2296	.7040	.3262	.7450	-1.1679	1.6272
PHSD		.6721	.2526	2.6606	.0092	.1706	1.1737
KM		.4477	.2008	2.2302	.0281	.0492	.8463
Int_1		.4611	.3630	.26924	.0034	.1562	.0640

Source: Research Data, 2025

Moderating analysis was a reliable method in identifying whether operational factors (training and resource allocation) moderate the relationship between KM and PHSD. As offered in the model summary, $R^2 = 0.4606$ shows that knowledge management and its interaction with operational factors explain 46.06 percent of the variance in service delivery, with the F-statistic (27.0457) and p-value ($p = 0.000$) showing out that the model is highly significant.

The interaction term (Int_1) had a statistically significant value ($p = 0.0034$; $p < 0.01$), indicating that operational factors moderate the relationship between KM and PJSD. This means the effect of knowledge management on service delivery is strengthened when training and resource allocation are adequate, and weakened when these operational supports are insufficient across the 11 health centers in Palabek County.

4.7 Integration of Quantitative and Qualitative Findings

The study findings from 357 clients and 13 health workers were integrated in accordance with the study objectives.

For Objective One: Knowledge acquisition, storage and sharing awere positively rated at 83%, 74.56% and 70.1% respectively whereas knowledge application was the weakest. The interviews identified Ministry of Health guidelines, meetings, outreaches and health educations as source of knowledge with paper files and digital devices used as storage media. However, the study also showed that accessing information does not imply that it will be used effectively.

For Objective Two: Empathy was most rated at 86.0%, reliability at 81.7% and responsiveness at 78.9%. Interviews discovered that compassionate care and attendance to patients besides shortage of medicines and high number of patients undermine consistency in service delivery.

In regards to the Operation Factors, staff training received a high ranking of 82.5% while resource allocation achieved only 70.5%. The interviews confirmed the importance of training but there are variations in the training opportunities, limited financing and competing health priorities.

For Objectives Three and Four: Regression and Moderation Analyses was used to determine the relationship between KM and PHSD and level of influence of the operational factors. Interviews highlight that trainings greatly support the application of knowledge but implementation can be constrained by scarcity of resources.

The mixed methods findings combine the ratings by the clients and experiences perceptions of health workers to provide a deeper understanding of KM and PHSD

CHAPTER FIVE
DISCUSSION OF FINDINGS

5.0 Introduction

This chapter presents a discussion of the findings offered in chapter four, organized according to the four study objectives. The discussion provides an interpretation of the results in relation to existing literature, the organizational learning theory that guided the study, and the contextual realities of Palabek County. The findings are compared with previous studies to establish areas of convergence and divergence for a broader and inclusive understanding of KM and PHSD in the local government context.

5.1 Discussion on the status of KM Practices in PHSD

The first objective pursued to determine the status of KM in PHSD in Palabek County. The findings revealed (by average) that KM practices varied across its four dimensions, with knowledge acquisition, performing highest, followed by knowledge storage and knowledge sharing, while knowledge application performed lowest. The strong performance in knowledge acquisition and storage aligns with Iftikhar and Mawra (2023), who emphasized that organized gathering and categorizing of knowledge is essential for easy identification when needed. The qualitative findings supported this, with participants describing knowledge gained through professional development and the use of files, computers, USB flash drives, and electronic networks for storing health information. However, the finding that storage practices were not consistently updated contradicts Almuayad et al. (2024), who argued that stored knowledge should be easily available and accurate for effective decision-making, suggesting that Palabek County health facilities face challenges in maintaining up-to-date knowledge repositories.

The findings on knowledge acquisition revealed that health workers serve as the primary source of health knowledge for clients. This finding provides some consistency with Sahoo et al. (2019), who pointed out that knowledge management ensures the right information is provided to employees and clients at the exact time needed. However, the finding that a notable proportion of clients reported inadequate knowledge acquisition reflects the staffing challenges documented in the background, where only a fraction of required staff positions is filled. The qualitative insight that knowledge acquisition is often reactive to specific programs rather than systematic supports the observation by Ohara and Bai (2019) that

knowledge discovery and creation require advanced techniques that may not be readily available in resource-constrained settings like Palabek County.

The findings on knowledge sharing revealed that facility feedback mechanisms were strong, while community-level sharing platforms were notably weaker. This disparity aligns with Haldorai et al. (2019), who highlighted that knowledge sharing in healthcare requires both organizational culture and technological infrastructure to support exchange. The qualitative findings that health workers rely on traditional methods such as notice boards and letters for sharing information reflect communication approaches that may not effectively reach all community members. This finding diverges from Panahi et al. (2016), who highlighted the potential of digital platforms to facilitate real-time knowledge exchange among healthcare professionals. The weak community-level sharing identified suggests that Palabek County health facilities have not fully leveraged technology to enhance knowledge dissemination.

The findings on knowledge application revealed the lowest performance among all dimensions, with a substantial proportion of clients not regularly applying new knowledge from outreach programs in their daily lives. This finding is particularly concerning given that knowledge application represents the ultimate goal of knowledge management translating acquired knowledge into improved practices. Cegarra-Navarro and Martelo-Landroguez (2020) emphasized that knowledge application involves employing knowledge to processes and services for enhanced efficiency. The qualitative findings that structural barriers such as lack of soap, clean water, and cultural beliefs hinder practical application explain this gap and support the assertion by Ju et al. (2023) that knowledge application requires enabling environments beyond mere knowledge availability.

From the perspective of organizational learning theory Argyris & Schön, (1978), the findings suggest that Palabek County's public health system is operating primarily at the single-loop learning level, where errors are detected and corrected within existing policies and goals. The weak performance in knowledge application indicates that double-loop learning where institutions question and modify existing norms, procedures, and policies is not yet fully realized. This finding aligns with Dodgson (1993), who noted that learning must occur amidst conflicting factors, and organizations must continuously adapt to ensure comprehensive knowledge dissemination.

5.2 Discussion on the Level of PHSD in Palabek County

The second objective sought to investigate the extent of PHSD in Palabek County across three dimensions: reliability, responsiveness, and empathy. The findings revealed that empathy received the highest rating, followed by reliability while responsiveness received the lowest rating. The exceptionally high rating for empathy aligns with Howick et al. (2023), who defined empathy as the capability of understanding and sharing other individuals' feelings, noting its critical importance in healthcare. The finding that clients felt secure during diagnosis and treatment due to empathetic behaviors of health workers supports Aguilar (2019), who asserted that understanding patient experiences supports better-quality care and improved health outcomes. The qualitative finding that health workers treat patients like family members and hold patients' hands during frightening procedures exemplifies the deep empathetic connection that compensates for other service delivery gaps.

The findings on reliability were notably lacking as service delivery dimensions, with less than half of clients agreeing that healthcare services consistently meet quality and safety standards. This finding is concerning given Özda and Demiralp's (2024) assertion that reliability translates to patients receiving the right treatment from the right area at the right time from the right person. The qualitative finding that drug stock-outs and high patient volumes undermine consistent service delivery supports Urquhart and Brettle (2022), who noted that health care units are often not reliable in their operations, making them insecure and inefficient, especially for patients in rural areas. The significant neutral response rate for quality standards further indicates client uncertainty, reflecting the inconsistent experiences documented by Tan et al. (2019), who emphasized that highly reliable systems have lower risks of errors that can harm patients.

The findings on responsiveness demonstrated strong performance though scored the lowest, particularly in timely and equitable services. This finding is consistent with Mirzoev and Kane (2017), who noted that understanding responsiveness is particularly important in African countries facing rapid social and economic developments. The qualitative finding that health workers prioritize emergency cases and ensure all patients are seen before closing reflects the commitment described by Williams et al. (2019), who highlighted that responsive health systems are able to predict and identify changing needs while harnessing opportunities for timely interventions. However, the finding that a portion of clients did not agree that health workers prioritize patient safety suggests areas for improvement that align with

Pengpid and Peltzer's (2022) observation that responsiveness is relatively poor in most public health facilities in developing countries.

The SERVQUAL model that informed this study (Parasuraman et al., 1988) recognises reliability, responsiveness, and empathy as crucial dimensions of service quality. The findings reveal a pattern where relational dimensions (empathy and reliability) outperform the technical dimension (responsiveness). This suggests that in resource-constrained settings like Palabek County, health workers compensate for systemic deficiencies through strong interpersonal relationships with patients. This finding has consistency with Nembhard et al. (2023), who noted that empathy is the basis for therapeutic relationships between patients and caregivers and provides greater health outcomes even when other resources are limited.

5.3 Discussion on the Effects of KM Practices on PHSD

The third objective sought to examine the effect of KM on PHSD in Palabek County. The regression analysis discovered that KM significantly predicts PHSD. This finding has consistency with Bolarinwa et al. (2012), who noted that knowledge management practices help in improving clinical decision-making, fostering innovation, and ensuring that best practices are followed. The significant contribution of knowledge acquisition, knowledge storage, and knowledge sharing to service delivery aligns with Meri (2020), who identified that knowledge management improves service delivery in the public health sector through improved clinical decision support, boosted efficiency, enhanced training, strengthened patient experiences, and promoted collaboration.

The finding noted that knowledge application was not a statistically significant predictor of service delivery is particularly noteworthy and provides important insight into the knowledge management dynamics in Palabek County. While the other dimensions of knowledge management positively influence service delivery, the translation of knowledge into actual practice does not significantly predict service outcomes. This finding supports the earlier descriptive results where knowledge application scored lowest among the knowledge management dimensions.

In addition, Cegarra-Navarro and Martelo-Landroguez (2020) emphasized that knowledge application is the ultimate test of knowledge management effectiveness, yet this study reveals a breakdown in the final stage of the KM process. This gap may be attributed to the resource constraints and infrastructure challenges documented in the background of the study, where

health facilities face unreliable water and electricity supplies, obsolete equipment, and limited office space.

From the perspective of organizational learning theory, these findings suggest that while Palabek County health facilities have established mechanisms for acquiring, storing, and sharing knowledge (single-loop learning), they have not yet fully developed the capacity for double-loop learning that enables effective knowledge application and transformation of organizational norms. Dodgson (1993) emphasized that learning can be equated to knowledge base that does not alter the fundamental nature of the organization, which appears to be the case in Palabek County. The findings also relate to Argyris and Schön's (1994) observation that a lengthy period of positive feedback can block learning, suggesting that health workers may be comfortable with existing practices despite the need for more effective application of knowledge to improve service delivery outcomes.

5.4 Discussion on the moderating effects of operational factors

The fourth objective sought to determine the moderating effect of operational factors (training and resource allocation) on the relationship between knowledge management and PHSD. The moderating analysis revealed that operational factors significantly moderate this relationship, with the interaction term being statistically significant. The finding that training positively moderates the knowledge management-service delivery relationship is supported by the descriptive results where training received a high rating.

The qualitative finding that training occurs quarterly for some topics but only annually for others indicates areas for improvement, consistent with Namusisi et al. (2018), who found that targeted training interventions in Uganda led to significant improvements in healthcare delivery and efficiency. The finding that a strong majority of clients perceived training as positively impacting quality of care further reinforces the crucial role of continuous professional development in enhancing service delivery.

The finding that resource allocation also moderates the knowledge management-service delivery relationship is consistent with Okada (2021), who emphasized that equitable and efficient allocation of resources in the health sector ensures everyone with medical needs get them addressed with as few resources as possible.

However, the descriptive finding that less than two-thirds of clients agreed that government spending is sufficient to meet necessary healthcare packages highlights the resource constraints documented by Yemeke (2020), who noted that the level of spending by

governments on healthcare services in Africa is below the minimum amount required for financing necessary healthcare packages. The qualitative finding that health workers prioritize which drugs to buy due to insufficient funds reflects the resource allocation challenges described by Odoch (2016), who noted that funds across different departments in healthcare settings are allocated in different ways by government systems.

From the perspective of organizational learning theory, the moderating role of operational factors indicates that knowledge management alone is insufficient to improve service delivery without complementary investments in training and resources. This finding supports Prahalad and Hamel's (1994) assertion that organizations must also create structures and allocate resources that enable learning to translate into improved performance. The significant interaction effect suggests that operational factors create the enabling environment necessary for knowledge management to effectively influence service delivery outcomes, reinforcing the importance of holistic approaches to health system strengthening in Palabek County.

CHAPTER SIX
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter presents a summary of the study findings according to the four objectives, draws conclusions basing on the evidence presented, provides recommendations for policy, practice, and identifies areas for further research.

6.1 Summary of findings

Objective One of the study was intended to find out the status of KM in PHSD in Palabek County. The results found out that KM practices were in the dimensions of; knowledge acquisition, storage, sharing and application. The KM dimensions of knowledge acquisition, storage and sharing were comparatively stronger while knowledge application was the weakest. Qualitative findings highlighted that knowledge is acquired by health workers through Continuous Professional Development, mentorship and trainings; information being stored in both physical and electronic formats; and shared through established communication means.

Objective Two of the study sought identify the level of PHSD in Palabek County. The results show clients have a generally positive perception of PHSD through reliability, responsiveness and empathy with empathy receiving the highest score, followed by reliability and responsiveness. The qualitative findings showed challenges in regards to availability of medicines and high number of patients seeking medical attention in the health facilities.

Objective Three of the study assessed the effect on KM on PHSD. The regression model showed R-Squared value of 0.468 meaning that the KM variables in the model combinedly provides explanation for 46.8% of observed variations in PHSD with knowledge acquisition, storage and sharing statistically significant predictors while knowledge application was not statistically significant for the reported model.

Objective Four assessed the moderating role of the operational factors. The moderation analysis showed that the collaboration between KM and the operational factors for training and resource allocation was statistically significant ($p = 0.0034$). This means that the relationship between KM and PHSD varies with the operational factors assessed.

6.2 Conclusions

Basing on the results from the study, conclusions were developed for the four study objectives.

KM practices occurred in the public health centers in Palabek County; however, the level of implementation for the different KM dimensions varied with knowledge acquisition, storage and sharing moderately stronger than knowledge application.

The clients shared largely positive experiences of PHSD in regards to reliability, responsiveness and empathy. However, the qualitative results showed notable challenges in the availability of medicines and high number of patients at the health facilities.

The outcome of the regression analysis showed a statistically significant relationship between the KM variables when considered jointly and PHSD. Knowledge acquisition, storage and sharing have been significant predictors whereas knowledge application was not statistically significant predictor.

The selected operational factors of training and resource allocation have a significant moderation on the relationship between KM and PHSD. Therefore, when planning and implementing KM in the health facilities, consideration should be given the operational factors.

6.3 Recommendations

The key recommendations of this study include:

Lamwo District Local Government, District Health Department and Health Facility In-Charges should consider strengthening knowledge acquisition, storage, sharing and application among health professionals which can be realized through routine meetings with staff, improved record keeping, effective usage of the health guidelines and peer to peer learning for improved decision making and care for the patients.

The District Health Office should prioritize practical and regular staff training to provide knowledge and skills required by the health workers to effectively provide quality healthcare services. The department should emphasis the application of the gained knowledge from the trainings for improved service reliability, responsiveness and empathy to the patients.

Lamwo District Local Government should ensure that adequate resources are allocated and provided to the health facilities in a timely manner so that required, equipment and

operational resources are acquired. Special attention should be put to ensure that drug stockouts are reduced and staff to patient ratio improved.

The Health Department and Facility In-Charges should carry out regular monitoring of the level of service delivery through service quality indicators, getting patients' feedback and staff supervision. The monitoring should be used for identification of areas of weakness, improving accountability and ensuring that KM practices and trainings are available to provide reliable, responsive and empathetic healthcare services.

6.4 Study Limitations

A primary limitation of this study was the unknown population of clients utilizing public health facilities in Palabek County, which introduced uncertainty regarding the representativeness of the client sample. To manage this constraint, the study was delimited by using Cochran's formula for an unknown population, assuming a 50 percent proportion at a 95 percent confidence level to calculate a robust sample size of 384 clients. This approach allowed the researcher to generate a statistically adequate sample despite the absence of a pre-existing sampling frame, thereby strengthening the generalizability of the quantitative findings within the study's defined scope.

Another significant limitation was the exclusive reliance on individual reported data collected through questionnaires and interview guides, which introduced the potential for social desirability bias where respondents may have provided favourable rather than accurate answers. Additionally, the absence of observational methods meant the study could not independently verify reported behaviours against actual workplace practices.

To mitigate this, the study was delimited to a mixed-methods approach that combined quantitative surveys with qualitative key informant interviews, enabling data triangulation. While direct observation was excluded, the integration of in-depth interviews provided contextual insight that helped clarify and substantiate the patterns identified in the survey data.

6.5 Areas for further study

The following areas have been recommended for further research:

1. A longitudinal study to examine how knowledge management practices evolve over time and their sustained impact on service delivery outcomes in Palabek County.

2. A comparative study across different districts in Northern Uganda to establish variations in knowledge management practices and identify contextual factors that influence effectiveness.
3. A qualitative study focused specifically on barriers to knowledge application, exploring in-depth the structural, cultural, and behavioral factors that hinder translation of knowledge into practice.

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APPENDICES

APPENDIX A: QUESTIONNAIRES

PROJECT TITLE: Knowledge Management and Public Health Service Delivery in Local Governments: A Case of The Public Health Sector in Palabek County, Lamwo District.

Dear respondent,

I am Ajok Alice Okello, Reg. No: 22/U/0889/MPA/PS, a student of Gulu University pursuing Master of Arts in Public Administration and Management. As a partial fulfillment of my study program, I am carrying out a study on the topic "Knowledge Management and Public Health Service Delivery in Local Governments; a case of the public health sector in Palabek County, Lamwo District" You are kindly requested to provide the most honest and accurate responses to this questionnaire which is exclusively for academic purpose. The information generated may be treated with utmost confidentiality.

Instruction:

Tick in the space provided and write in the spaces provided.

Section A: Bio-data of respondent

1. Sex: Male ☐ Female ☐

2. Age of respondents

18-30 years ☐ 31-40 years ☐ 41-50 ☐ 51 and above ☐

1. Occupation

Farmer ☐ Business Person ☐ Health Worker ☐ Teacher ☐
Others Specify: _____

4. Education level

No formal education ☐ Primary ☐ Secondary ☐ Tertiary ☐
Unversity ☐

5. How long have you been accessing healthcare services from this facility?

Less than one year ☐ 2 - 5 years ☐ 6 – 10 years ☐ over 10 years ☐

SECTION B: KNOWLEDGE MANAGEMENT (INDEPENDENT VARIABLE)

Instructions: Please tick your opinion basing on the below Likert scale.

Number	1	2	3	4	5
Scale	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

	Knowledge Acquisition	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
No	**Question**	**1**	**2**	**3**	**4**	**5**
1.	usually acquire new health knowledge from health workers during visits to the facility and community outreach programs.					
2.	I frequently seek health knowledge from this facility.					
3.	There are sufficient opportunities for collaboration and knowledge sharing among community members.					
4.	I regularly participate in outreach programs that enhance my knowledge and skills in healthcare.					
5.	There is a culture of continuous learning and improvement in my community.					
	Knowledge Storage	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	The current systems for knowledge storage in this health facility provide accurate and accessible information.					
2	The current storage methods help effectively manage and access knowledge.					
3	The knowledge storage practices in our health centers are regularly updated to reflect current health needs in the community.					
4	There is sufficient training provided to health workers on the effective use of knowledge storage systems.					
5	The knowledge stored is relevant and useful for decision-making and patient treatment.					
	Knowledge Sharing	Strongly Agree	Agree	Neutral	Disagre	Strongly Disagree
1	I feel encouraged by health workers to share knowledge and best practices with community members.					
2	There are adequate platforms and opportunities for knowledge sharing within my community.					
3	I find it easy to access the information documented by health workers at the health facility.					
4	The facility always seeks feedback from the community on the					

	services provided.					
5	There is a culture of openness and collaboration that facilitates knowledge sharing among community members.					
	Knowledge Application	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1)	I regularly apply new knowledge and best practices from outreach and community meetings in my daily life.					
2)	My community provides adequate opportunities for continuous application of new knowledge and best practices with others.					
3)	I regularly use the health service guidelines and protocols received during outreach programs based on new knowledge and best practices.					
4)	I feel confident in interpreting and applying new medical knowledge to improve healthcare in my community.					
5)	I receive sufficient support from my village leaders and other community members to apply new knowledge and innovations.					

SECTION C: Health service delivery (Dependent Variable)

	Reliability	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1)	The healthcare services provided in my community consistently meet quality and safety standards.					
2)	Patients receive the right treatment at the appropriate time from qualified healthcare professionals in my facility.					
3)	I believe that errors in healthcare services provided to the community are minimal.					
4)	Healthcare workers prioritize patient safety during the provision of services.					
5)	My facility provides timely and equitable services to all patients.					
	Responsiveness	Strongly Agree	Agree	Neutral	Disagre	Strongly Disagree
1	The healthcare services provided to the community adequately address individual patient expectations.					
2	The staff at the health facility respond promptly to the needs and concerns of patients.					
3	I believe that patients in my community have access to timely healthcare services when needed.					
4	The quality of care provided at my health facility positively influences patient satisfaction.					
5	Healthcare workers ensure the confidentiality of patients' information at the health facility.					

	Empathy	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	The level of empathy displayed by healthcare workers always influences patient satisfaction during treatment."					
2	Empathy from healthcare workers positively affects patient recovery and health outcomes.					
3	The relationship between patients and healthcare workers is based on empathetic communication.					
4	Empathetic behaviors of healthcare workers make patients feel secure during diagnosis and treatment.					
5	Empathy from healthcare workers reduces patient anxiety and stress during consultation, diagnosis, treatment, and recovery.					

Section D: Operational factors

	Training					
	The community healthcare training provided has enhanced my ability to reduce healthcare-related diseases within my community effectively.					
	The outreach and community training programs are relevant and support addressing numerous health challenges in the community.					
	Targeted training interventions contribute to significant improvements in healthcare delivery and efficiency.					
	Training has positively impacted the quality of care provided to patients.					
	Knowledge management contributes to better decision-making in identifying healthcare training needs in the community.					
	Resource Allocation					
	The process of resource allocation for healthcare service delivery is efficiently managed.					
	Resources allocated to the healthcare facility are effectively utilized to address health needs.					
	The level of government spending on healthcare services is sufficient to meet necessary healthcare packages.					
	Political leaders play a crucial role in ensuring additional resources are allocated to the health facility.					
	Knowledge management contributes to better decision-making in the allocation of health resources.					

Thank you so much for your time and contributions.

THE END

APPENDIX B: INTERVIEW GUIDE

PROJECT TITLE: Knowledge Management and Public Health Service Delivery in Local Governments: A Case of the Public Health Sector in Palabek County, Lamwo District.

Dear Respondent,

I am Ajok Alice Okello, Reg. No: 22/U/0889/MPA/PS, a student of Gulu University pursuing a Master of Arts in Public Administration and Management. As part of my study, I am conducting research on "Knowledge Management and Public Health Service Delivery in Local Governments; a case of the public health sector in Palabek County, Lamwo District." I kindly request your honest and accurate responses to this questionnaire, which is exclusively for academic purposes. The information provided will be treated with utmost confidentiality.

Knowledge Management

1. What types of knowledge do you use in providing healthcare services, and how do you acquire this knowledge?
2. How do you store healthcare knowledge during service delivery, and how secure is this storage?
3. Can you describe how knowledge is shared among health workers and with the community?

Service Delivery

4. How would you assess the quality of services provided to patients in your facility?
5. What is the level of patient satisfaction with the healthcare services offered?

Operational Factors

6. What kind of capacity-building training is provided to health workers, and how often does it occur?

Additional Comments

7. Is there anything else you would like to add regarding knowledge management or healthcare service delivery in your facility?

Thank you so much for your time and contributions.

THE END

APPENDIX C: THEMATIC ANALYSIS

Question	Code	Pattern	Sub Theme	Main Theme
1.	Surveillance, Vaccinations, Air quality, Suicide prevention, Smoking cessation, Obesity education, Condoms, Hand-washing, Breastfeeding, and Ventilation Knowledge	Health Facility Knowledge Planning Knowledge Project Knowledge Outreach Programme Knowledge	Kind of Knowledge	Public Healthcare Knowledge
2.	Planning meetings Background checking Written document Usage of computer Hard copy Soft copy Multimedia	Paper-based Papers Electronically Creating information Capturing information Kind of project	Knowledge Acquisition	Knowledge Acquisition
3.	Files Computers USB Flash drives Diaries Notebooks To-do-list Electronic networks Dropbox Laptops Hard drives Desktop Hard drives Audio and visual media	Physical storage Electronic storage Multimedia Recording devices	Knowledge Storage Medium	Knowledge Storage and Security
5.	Email Laptops Hard drives Desktop Hard drives Archives Stores Filling cabinets Office Trays Electronic networks	Physical Electronic	Knowledge Storage Location	Knowledge Storage and Security
6.	Very safe Safe Not sure Not very safe Not safe	Safety Access Hackers Viruses	Safety of Storage Location	Knowledge Storage and Security
9.	Emails Notice Boards Letters	Knowledge Delivery Postal Physical Electronic	Means of Knowledge Sharing	Knowledge Sharing
10.	Very Secure	Security	Security of	Knowledge

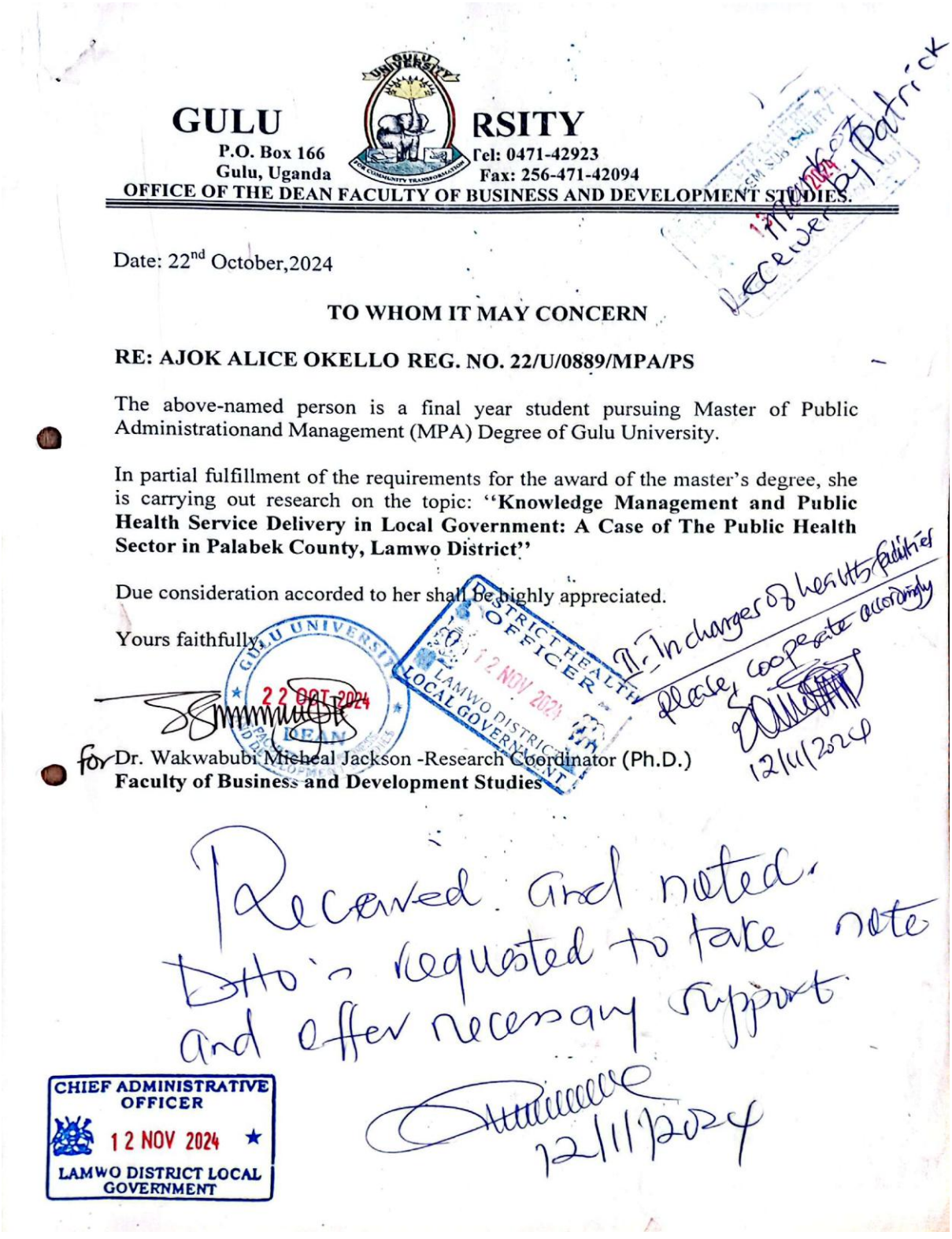
Question	Code	Pattern	Sub Theme	Main Theme
	Secure Not sure Not very Secure Not Secure		Knowledge being shared	Sharing
11.	Tangibility Assurance Patient safety,	Safety Patient-Centred Integrated	Quality of Services	Service Delivery
12.	Responsiveness Reliability Empathy	Effectiveness Efficiency Equity	Patient Satisfaction	Service Delivery
13.	Clinical Skills Development Infection control Quality Improvement, Mental health integration, community engagement, Maternal and child health, HIV/AIDS, or Non-communicable diseases	Training Supervision Mentorship	Capacity Building	Operational Factors
14.	Monthly Quarterly Bi-Annually Annually		Frequency of Capacity Building Training	Operational Factors

APPENDIX D: SUMMARY OF COLORS FOR THE CODED THEMES

Main Themes	Sub Themes
Knowledge Type and Acquisition (KTA)	Type of Knowledge (KTA-TK)
	Knowledge Acquisition (KTA-KA)
Knowledge Storage and Security (KSS)	Knowledge Storage Medium (KSS-KSM)
	Knowledge Storage Location (KSS-KSL)
	Safety of Storage Location (KSS-SSL)
Knowledge Sharing (KS)	Means of Sharing (KS-MS)
	Security of Knowledge being shared (KS-SK)
Service Delivery (SD)	Quality of Services (SD-QS)
	Patient Satisfaction (SD-PS)
Operational Factors (OF)	Capacity Building (OF-CB)
	Frequency of Capacity Building (OF-FCB)

Source: Research Data, 2024

APPENDIX E: INTRODUCTORY LETTER



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OFFICE OF THE DEAN FACULTY OF BUSINESS AND DEVELOPMENT STUDIES.

Date: 22nd October,2024

TO WHOM IT MAY CONCERN

RE: AJOK ALICE OKELLO REG. NO. 22/U/0889/MPA/PS

The above-named person is a final year student pursuing Master of Public Administrationand Management (MPA) Degree of Gulu University.

In partial fulfillment of the requirements for the award of the master's degree, she is carrying out research on the topic: **''Knowledge Management and Public Health Service Delivery in Local Government: A Case of The Public Health Sector in Palabek County, Lamwo District''**

Due consideration accorded to her shall be highly appreciated.

Yours faithfully,

22 OCT 2024
DEAN

for Dr. Wakwabubi Micheal Jackson -Research Coordinator (Ph.D.)
Faculty of Business and Development Studies

DISTRICT HEALTH OFFICER
12 NOV 2024
LAMWO DISTRICT LOCAL GOVERNMENT

In charges of health facilities please cooperate accordingly
12/11/2024

Received and noted.
Dtto - requested to take note and offer necessary support.
12/11/2024

CHIEF ADMINISTRATIVE OFFICER
12 NOV 2024
LAMWO DISTRICT LOCAL GOVERNMENT