

**ASSESSING THE FACTORS INFLUENCING ATTRITION OF HEALTH WORKERS
IN GOVERNMENT HEALTH UNITS IN LYANTONDE DISTRICT, UGANDA**

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DECLARATION


I, **Kansiime Benon**, declare that this dissertation entitled “*Assessing the Factors Influencing Attrition of Health Workers in Lyantonde District*” is my original work unless stated otherwise therein with complete references and it has never been submitted to any institution for any award.

Sign Date

KANSIIME BENON

APPROVAL

This is to certify that this Research report titled, “*Assessing the factors influencing attrition of health workers in Lyantonde District, Uganda*” has been conducted under my supervision and is now submitted with my approval.

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ABBREVIATIONS

CBO	Community-Based Organization
DWD	Directorate of Water Development
MDG	Millennium Development Goal
NEMA	National Environment Management Act
NWSDS	National Water Sector Development Strategy
PHA	Public Health Act
SDGs	Sustainable Development Goals
SIM	Sector Investment Model (Uganda)
SSA	Sub-Saharan Africa
SWA	Sector-Wide Approach
SWG	Sector Working Group
UNICEF	United Nations Children's Fund
WA	Water Act
VIP	Ventilated improved pit latrine
WHO	World Health Organization

OPERATIONAL DEFINITIONS

Attrition: exits from the workforce, which can be due to emigration, voluntary exits, illness, death or retirement.

Health workers: Trained health professionals involved in the delivery of health services.

Hard to reach: Places that are far away from major towns in the country. In such places, transport is unreliable and the terrain is bad.

Motivation: Internal and external factors that make employees continuously interested and committed to a job or role.

Performance: What an employee demonstrates in carrying out a task.

Workload: Amount of work done compared to the ideal

Skill: Ability to perform a task

Nurse: A person who offers Nursing care and treatment to a patient.

Midwife: A person who offers midwifery services to the community

Client: An individual family, group, or community with whom the Health Worker interacts

Attrition of health workers: the departure of health workers from health units for any reason (voluntary or involuntary), including resignation, termination, death or retirement.

TABLE OF CONTENTS

DECLARATION	i
APPROVAL.....	ii
ACKNOWLEDGEMENTS	iii
ABBREVIATIONS.....	iv
OPERATIONAL DEFINITIONS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES.....	x
ABSTRACT	xi
CHAPTER ONE: INTRODUCTION	1
1.0 Introduction	1
1.1 Background to the study	2
1.1.1 Historical perspective	2
1.1.2 Theoretical Perspective	3
1.1.3 Contextual Perspective	3
1.2 Statement of the problem	5
1.3 Objectives of the study	6
1.3.1 General Objectives	6
1.3.2 Specific objectives of the study	6
1.4 Research Questions	6
1.5 Justification	7
1.6 Scope of the Study.....	7
1.6. 2 Content scope	7
1.8 Conceptual Framework	7
CHAPTER TWO: REVIEW OF THE RELATED LITERATURE	10
2.0 Introduction	10
2.3 Analyzing the strategies in place that have been adopted to minimize the attrition of health workers	15
2.4 Retention Measures of Health Workers in Areas of Deployment	19
CHAPTER THREE.....	21
RESEARCH METHODOLOGY	21
3.0 Introduction	21
3.1. Research Design.....	21
3.2 Inclusion criteria.....	21

3.3. Exclusion criteria.....	22
3. 4. Study Population	22
3.5 Sample size.....	22
3.5.1. Sample size determination.....	22
3.6 Sampling procedure.....	23
3.6.1 Simple random sampling.....	23
3.6.1 Purposive sampling	24
3.7 Methods of Data collection	24
3.7.1 Data collection method.....	24
3.7.1.1 Questionnaire.....	24
3.7.2 Interview.....	25
3.7.3 Observation method	25
3.8 Data Analysis and Presentation.....	25
3.8.1 Quantitative Data Analysis	25
3.8.2 Qualitative Data Analysis.....	25
3.9 Quality Control.....	26
3.9.1 Validity.....	26
3.9.2 Reliability	27
3.10. Ethical Considerations.....	27
3.10.1 Informed Consent.....	27
3.10.2 Confidentiality.....	27
3.10.3 Honesty.....	28
3.10.4 Limitations and delimitation of the Study	28
3.10.5 Dissemination of Results.....	28
3.11 Limitations to the study	28
CHAPTER FOUR: PRESENTATION OF STUDY FINDINGS.....	30
4.0 Introduction	30
4.1 Socio-Demographic characteristics of the Respondents	30
4.5 Considering leaving the current job	36
Correlation between gender, factors that lead to attrition of health workers, and considering living the current Job	38
4.6 Effect of Attrition of health workers on service delivery	38
4.7 Measures put in place to mitigate attrition of health workers in Lyantonde district	39
4.7 Measures put in place to mitigate attrition of Health workers in government health units in Lyantonde District.....	40

4.7.2 Qualitative data from the healthcare workers.....	42
4.8 Regression analysis between attrition factor and effect of attrition on service delivery	44
CHAPTER FIVE: DISCUSSION OF FINDINGS.....	46
5.0 Introduction	46
5.1.1 Socio-Demographic characteristics of the Respondents	46
5.3.2 Considering leaving the current job	47
5.4 Effects of attrition of health workers on service delivery	48
5.5 Measures put in place to mitigate attrition of Health workers in government health Units in Lyantonde District.....	48
5.7 Conclusion.....	49
5.8 Recommendations	49
5.9 Further studies	49
REFERENCES	50
APPENDICES	54
APPENDIX I: STUDY PARTICIPANTS INFORMED CONSENT FORM.....	54
APPENDIX II: QUESTIONNAIRE	55
Appendix III: Topic guide for Discussion.....	60
Appendix iv: budget in dollars for the whole study	61
APPENDIX V: WORK PLAN FOR THE STUDY.....	59
Appendix vi: Letter of approval from Mbarara University Ethics Research Committee.....	60
PPENDIX VII: Acknowledgement of receipt by Lyantonde district local government	63
Appendix viii: Introduction letter from the head of department	64
Appendix ix: Introduction letter from the supervisor.....	65
Appendix x: A map of the study area.....	66
Appendix xi: Pictures captured during data Collection.....	68

LIST OF TABLES

Table 1: showing the response rate	23
Table 2: Showing Content Validity Index Ranges	26
Table 3: shows the demographic characteristics of the respondent.....	30
4.2 Drivers of attrition of health workers in Lyantonde district.....	31
Table 4: showing the drivers of attrition of health workers.....	32
Table 5: Factors that lead to attrition of healthcare workers	34
Table 6: considering leaving the current job	37
Table 7: correlation between gender, factors that lead to attrition of health workers, and considering living the current job.....	38
Table 8: Effect of attrition of health workers on service delivery.....	39
Table 9: Strategic policies to minimize the attrition of health workers on service delivery	39
Table 10: Measures put in place to mitigate attrition of Health workers in government health units in Lyantonde District.	40
Table 11: qualitative data collected from the key informants	41
Table 12: Qualitative data from the health workers	43

LIST OF FIGURES

<u>Figure 1: Conceptual framework showing the factors influencing attrition of Health Workers</u>	<u>8</u>
<u>Figure 2: Showing years of qualification by the respondents</u>	<u>33</u>

ABSTRACT

Introduction

The shortage of health workers remains a critical public health issue globally despite of national strategic plans enacted in 2014 by world leaders which aimed at handling the shortage of health workforce. This study assessed the factors influencing attrition of health workers in government health units in Lyantonde district, Uganda. This was guided by three specific objectives of the study which were to: find out the drivers of attrition of health workers in Lyantonde district; determine the effects of attrition of health workers in Lyantonde district; and establish retention measures of health workers in Lyantonde district.

Methodology

Across sectional study of collecting qualitative and quantitative data was conducted on 171 study participants including health workers, Chief Administrative Officer, the District Health Officer, the District Principal Human Resource Officer, Secretary District Service Commission, the Chairperson District Service Commission, the District Principal Internal Auditor, and Secretary for Health, Medical superintendent Lyantonde Hospital, District Planner and the Chief Finance Officer. Frequencies, percentages, means, standard deviations and correlations were used to achieve the objectives. Thematic analysis was used to analyse the qualitative data.

Results

171 respondents participated in the study making a response rate of 95%, 34.5% were males, and 65.5% were females. The cadre distribution of the participants was as follows: Medical Officers 5 (2.9%), clinical officers 14 (8.2%), Nursing 82 (48.0%), Health Assistant 11(6.4%), Health inspector 4 (2.3), Radiographers 2 (1.2), Laboratory Assistants 9 (5.3%), Laboratory technicians 3(1.8%), Dispensers 2 (1.2%), Orthopaedic officer 1 (0.6%), and Midwives 38 (22.2%). The drivers of attrition included: low pay/salary/allowances 49.7%, limited opportunities for promotion 51.5%, poor/lack of utilities 62.6%, lack of housing facilities 75.4%, and poor education facilities for health workers 48.5%. the effect of attrition of health workers included; shortage of health workers 85.5%, lack of access to all health services in the facilities 73.1%, and poor service delivery 43.3%. Moreover, on measures to mitigate the attrition of health workers, the following were found to be most important: provision of accommodation to the health workers (Mean=4.02), the government should provide training and promotion outlets (Mean=4.08), provision of incentives (Mean=4.31), provision of retention allowances (Mean=4.16). However, respondents were not sure if good relationship between the community and the health workers can lead to retention (Mean=3.0), and Availability of infrastructure and quality services (Mean=3.82).

Discussion: The majority of the health workers have enough experience by they still face challenges of: inadequate pay, lack of equipment, health units accessibility, and availability of housing and social amenities which may contribute to their attrition. The effects of attrition of health workers cited in the study were: shortage of health workers, inadequate service provision, and patients did not access all services. Measures to mitigate the attrition of health workers cited in the study were provision of accommodation to health workers, training and promotion outlets for health workers with additional qualifications, provision of retention allowances especially to those working in the hard to reach areas.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

The shortage of health workers remains a critical public health issue globally. They prevent national health systems from meeting the needs of the population and achieving the Sustainable Development Goals of Universal Health Coverage (Winkelmann et al., 2021). In 2013, world leaders gave their commitment to handling shortages in the health workforce. The global shortage is being implemented with the World Health Organization 2030 Global Strategy on Human Resource for Health (Osei-Afriyie et al., 2019). One of the milestones on the roadmap was the development of the national strategic plans by 2014 which was aimed at handling the shortage of the health workforce.

According to the study by Lopes et al. (2017) on a rapid review of the rate of attrition of the health workforce, attrition of health workers is defined as exits from the workforce, which can be due to emigration, voluntary exits, illness, death or retirement is an important element of outflows from the labour market and something that governments can directly influence by implementing strategies for health workers motivation and retention.

The attrition of health workers has crippled the healthcare system through poor service delivery. A study by Lopes et al. (2017b) shows that attrition of health workers is attributed to increased workload which worsens the working conditions of the remaining health workers, which in turn contributes to lower quality of care and worse outcome.

Uganda which still faces a challenge of underfunding also faces the challenge of attrition of health workers due to underpayment, inadequate supplies of medicines and essential equipment in government facilities, insufficient hospital beds, high costs, and poor accessibility to health services, particularly in rural areas, have contributed to poor service delivery (Nabukeera, 2016; Ministry of Health, 2020).

A study conducted by Kiwanuka et al. (2017b) shows that attrition of health workers remains a problem in Uganda. However, the study stresses that a major problem remains in the rural areas. According to Kiwanuka et al. (2017b), 7211 out of 8353 health workers recruited in 2013 turned up to work and in the same year, some health units lost 25% of their staff. Non-government organization (NGOs) such as the MANIFEST project have provided training support supervision, and mentors to motivate health workers in providing quality health service delivery which also later led to the loss of health workers due capacity building skills acquired (WHO, 2010).

The World Health Organization argued that Uganda was among the 57 countries which were still experiencing a shortage of health workers due to high rates of attrition (WHO, 2006). The report further states that Uganda has only 2-3 physicians, midwives, and nurses per 1,000 people (WHO, 2006). Furthermore, the retention of health workers in public health units in both developed and developing countries should be one of the key factors in extending social service delivery to the community (WHO, 2006). Retention of health workers plays a great role in reducing Mortality rates as well as being Responsive to the health system (Conseil et al., 2010), however, Lyantonde district still faces challenges related to service delivery due to a shortage of health workers due to lack of retention policy by the Lyantonde district local government retention policy. Challenges to health workers' retention are majorly due to Political interference, low salaries, and lack of accommodation for staff.

Uganda as a country has made several attempts to solve this issue of health worker retention and motivation. These have been embedded in both national policies as well as locally designed strategies which have been described as civil service reforms and decentralization since 1993. These include pay reforms such as salary increments and centralization of payroll for health workers (2001/2002). Uganda Human Resources for Health Policy and Health Strategic Plan (2005–2020) has instituted incentives mechanism to boost staff welfare in terms of salaries and lunch allowances, also the rewards and sanctions scheme, accommodation for health workers, rotational transfers, and training opportunities, to motivate health workers. However, this plethora system of payment strategies for motivation has not improved health worker retention in some districts including Lyantonde district.

1.1 Background to the study

The background to the study comprises the historical, theoretical, conceptual, and contextual backgrounds as indicated hereunder.

1.1.1 Historical perspective

Globally, it is observed that human resources for health are a key element in the delivery of health services and the achievement of Sustainable Development Goals. Recent health sector studies, as well as policies, strategies, and plans, acknowledge that Human Resources for Health constrictions are hindering health sector planning, service delivery, and eventually health outcomes in Uganda and the world at large (Witter et al., 2016). It was revealed that America has 14% of the world's population compared to sub-Saharan Africa with 11 % of the world's population. It has also been noted that Americans allocate 50% of their annual expenditure to the health sector compared to African countries with less than 1 % annual budgetary allocation to the health sector (WHO, 2016). The report further revealed the worldwide

geographical distribution of health workers was spatial and it noted that many factors influence health workers' decision to leave work in rural areas due to health system organizations, not forgetting social, political, and economic environmental factors among others. In Uganda, these are the same factors affecting health staff turnover in rural areas, Lyantonde district inclusive. Furthermore, it was observed that from 2013 to 2019, Lyantonde District Local Government recruited 12 medical officers, but by 2020 the district had lost 9 medical officers.

Currently, Uganda as a country faces a challenge of understaffing due to poor retention measures and underfunding resulting to the health system vacancy rates by cadre of staff: pharmacists (60%), medical doctors (51%), midwives (25%), nurses (23%), laboratory scientists (19%) and clinical officers (non-physician clinicians - NPCs) (8%). The Lyantonde district vacancy rates stand at: pharmacists (100%), medical doctors (35%), midwives (19%), nurses (17%), laboratory scientists (15%) and clinical officers (non-physician clinicians - NPCs) (5%) (DHO's letter reference number Health/163, 2020). The current overall Uganda's attrition rate stands at 29% against that of Lyantonde which stands at 26% (Kiwanuka et al., 2017).

1.1.2 Theoretical Perspective

The study was guided by Kerlinger's theory of 1979 about motivating workers. The theory describes how the welfare of workers should be handled. It was stated by Chiboiwa, Samuel, and Chipunza (2010) who highlighted factors that led to staff turnover as follows: lack of an employee competitive compensation system, management style, lack of recognition, and poor working environment including job insecurity, and job dissatisfaction. The theoretical perspective is classified into intrinsic and extrinsic motivation factors. The extrinsic factors of motivation include; financial rewards, praise and recognition, peer pressure, and consequences of punishment, while the intrinsic factors include: curiosity, challenge, control, recognition, cooperation, competition, and fantasy.

1.1.3 Contextual Perspective

The World Health Organization noted that attrition of health workers is the exit from the workforce due to retirement, death, outmigration, or resignation in a given period (WHO, 2023). The main drivers of attrition of health workers include: poor working environment, lack of room for promotion and education, lack of accommodation, poor road network, and lack of pay/allowances.

Studies conducted in South Africa and Cameroon stated that allowances for health workers played a big role in retaining workers while in Zimbabwe it was noted that financial support was not equally

distributed between health workers. However, Uganda observed the lowest level of staff turnover because of the efforts to increase salaries and other allowances for staff (Alam et al., 2020).

Several studies show that attrition of health workers remains a global challenge leading to poor service delivery. A study conducted in Kenya shows the overall health workers attrition rates from 2004-2005 were similar across the type of health facility: provincial hospitals lost on average 4% of their health workers, compared to 3% for district hospitals and 5% for health centres (Chankova et al., 2009). Their findings indicate that the most affected were doctors and registered nurses.

Currently, Uganda as a country faces a challenge of understaffing due to poor retention measures and underfunding resulting in the health system vacancy rates by a cadre of staff: pharmacists (60%), medical doctors (51%), midwives (25%), nurses (23%), laboratory scientists (19%) and clinical officers (non-physician clinicians - NPCs) (8%). Lyantonde district vacancy rates stand at: pharmacists (100%), medical doctors (35%), midwives (19%), nurses (17%), laboratory scientists (15%), and clinical officers (non-physician clinicians - NPCs) (5%) (DHO's letter reference number Health/163, 2020).

The attrition of health workers from government health facilities is attributed to inadequate pay, sex, and weak performance management, place of work, and experience of health professionals (Atnafu et al., 2013).

There have been efforts to support the healthcare sector in the entire globe on issues concerning health reforms mostly on structures and financing resource issues (Martineau and Buchan, 2000) to improve efficiency and reduce the administrative cost which largely affected the health workforce. (Shemdoe et al., 2016;WHO, 2006) observed that this workforce is affecting Uganda as a country with lower pay which has forced staff to move to private facilities to seek additional welfare or good pay.

According to Odhiambo et al. (2017) the attrition of health workers is the driver of human resources for health crises. In 2010, the World Health Organization recommended policies for attraction, recruitment, and retention of health workers (WHO, 2021). The recommendations included recruitment of health workers, inclusion of patient needs in training curricular, and use of mandatory service for both rural and urban, improving the welfare of the health workers.

In line with the World Health Organization 2010, the government of Uganda through the Ministry of Health has developed policies meant to improve the working conditions of health workers in the government health facilities such as; increasing lunch allowances, salary increments increased PHC funds, and construction of staff quarters for health workers (Masaba, 2021).

Following government policy for the health sector, Lyantonde district increased salaries for all health workers; however, due to the lack of wage bill the district still has many vacancy gaps for all cadres in the health sector, lack of accommodation for health workers, poor road infrastructure, and lack of social amenities, especially in the rural areas leading to poor retention of health workers. This study anticipated that if the actual causes of attrition of health workers in Lyantonde district are not attended to, then the district is more likely to lose more health workers.

1.2 Statement of the problem

The inability to hold Human Resources for Health workers in Uganda's healthcare delivery system continues to poorly affect service delivery over many years which is not in line with Sustainable Development Goals that target to train and skill health workers at the right place of work with adequate enthusiasm by 2025. Despite the rigorous effort in Lyantonde district system approach for the recruitment and placement of such a health workforce, the system is found to be fragmented, politicized, or underfunded. These findings are similar to the study conducted by Mare et al. (2005) on recruitment and retention of the health workforce, who noted that having a qualified skilled health workforce, especially in rural areas remains a challenging issue for Uganda's health system due to recruitment bureaucracy, underfunding, and pressure from the political wing. Other challenges have been observed mostly during the recruitment of new staff such as political influence and corruption has seen many health workers being deployed to urban centres leaving rural settings with gaps, the poor road network to health units merged with low salaries and lack of housing in rural areas for staff has led to poor service delivery because of multi-slot of staff absenteeism from duty (Ministry of Health Uganda, 2013).

Although there is promising progress to handle human Resources for Health workers as a priority by the government through budgetary allocations in a phased manner spread over different financial years, there is still a gap with the promise receiving little or no attention due to financial and political influence regarding too important issues that are facing the Human Resource for Health Workers. The slow implementation of the promise has made service delivery in Lyantonde district very poor since many health workers do not stay in their places of posting due to poor working conditions, low salary pay, lack of transport, poor education facilities, increase stress due to overload, economic difficulties, living conditions, and lack of equality and discipline (Witter et al., 2017). In response, the Ministry of Health has always come up with interventions meant to improve the working conditions of health workers in the government health facilities such as; increasing lunch allowances, salary increments

increased PHC funds, and construction of staff quarters for health workers (Masaba, 2021). However, due to unknown reasons, Lyantonde district as an autonomous district has experienced attrition of health workers from government health units. High attrition of critical health worker cadres has created a gap. According to DHT minute number 07/2020 (2020), and the DHO's letter reference number Health/163 (2020), the district has a gap of pharmacists (100%), medical doctors (35%), midwives (19%), nurses (17%), laboratory scientists (15%) and clinical officers (non-physician clinicians - NPCs) (5%) (DHO's letter reference number Health/163, 2020). Despite the district's commitment to recruit health workers in the government units each time, there is a shortage. There is a need for improving staff financial and non-financial incentives to attract specialized health workers category, especially in the rural areas which shoulder a big burden of the effects that have continued to get the least share of health services, thus affecting development initiatives in the country and Lyantonde District in particular. Such hindrances continue to undermine the government's commitment to equitable development opportunities for its population. This research, therefore, sought to assess the factors influencing the attrition of health workers in government health units in Lyantonde District.

1.3 Objectives of the study

1.3.1 General Objectives

The main objective of the study was to assess the factors influencing the attrition of health workers in Lyantonde District, Uganda.

1.3.2 Specific objectives of the study

1. To find out drivers of attrition of health workers in Lyantonde district.
2. To determine the effect of attrition of health workers on service delivery in Lyantonde district.
3. To establish retention measures for health workers in Lyantonde district.

1.4 Research Questions

1. What are the drivers of attrition of health workers in Lyantonde district?
2. What is the effect of attrition of health workers on service delivery in Lyantonde district?
3. What are the measures that minimize the attrition of health workers in Lyantonde district?

1.5 Justification

This study will help to determine the factors that influence the attrition of health workers in Lyantonde district and it will bridge the information gap on health workers' retention in service delivery and set evidence-based intervention in the district. The study will help the student to expand on the knowledge the University will base on it for his academic award.

1.6 Scope of the Study

The study took into account; geographical scope, content scope, and time scope as indicated below.

1.6.1 Geographical scope

The study was all about assessing the factors influencing the attrition of health workers in Lyantonde district and was conducted in all government health units in Kabula County, Lyantonde District. The district is located in the South Western region of Uganda. It borders Rakai district in the South, Masaka in the East, Kiruhura in the West, and Sembabule in the North East. It is headquartered in Lyantonde Town Council.

1.6.2 Time scope

The study was conducted for 2 years that is, from 2021 to 2022.

1.6. 2 Content scope

The study was limited to assessing the factors influencing the attrition of health workers in Lyantonde District. The study was conducted based on the research objectives.

1.8 Conceptual Framework

This is a framework with a scheme of concepts or variables along which the researcher operated to achieve stated objectives. The conceptual framework demonstrates the relationship between the attrition of Health workers and Service Delivery, the graphic presentation of the interrelationships of the variables at play is shown below;

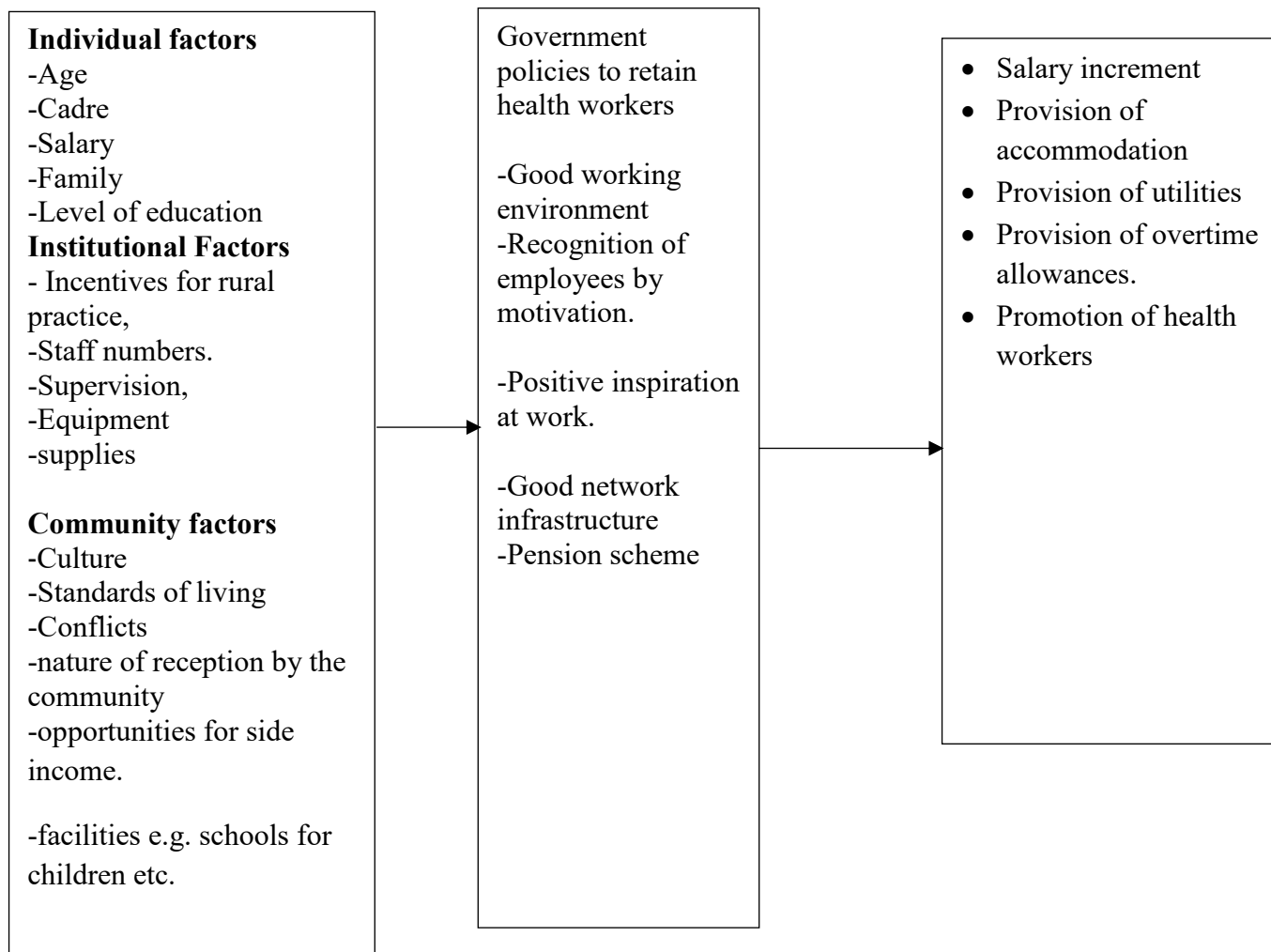
INDEPENDENT VARIABLES**Attrition of health workers****INTERVENING
VARIABLES****DEPENDENT
VARIABLE****Retention measures**

Figure 1: Conceptual framework showing the factors influencing attrition of Health Workers

Figure 1 above illustrates the relationships between the variables used in the study and that is, the organizational factors that lead to attrition of health workers as the independent variables and staff retention as the dependent variables. Health workers' retention depends on the nature and management of the organization. If the organization recognizes the efforts of its employees and rewards them appropriately according to capability and willingness, then employees are more likely to stay and work for an organization. Second, if an organization provides housing and other benefits like consolidated allowances and overtime allowances, health workers get motivated to work, hence good service delivery.

Above all, there must be intervening variables that should provide checks for the above two variables (independent variables and dependent variables). This variable indicates the standards and policies that should be put in place to achieve the desired goals of the study. For example, the government has to come

up with a policy to recruit more health workers and motivate them to work. Motivation involves better salary enhancement, good housing for health workers, and promotion at work.

The conceptual model above illustrates the interrelationship of variables in the study, negative factors leading to the attrition of health workers are conceptualized as the independent variables whereas health workers' attrition (both qualitative and quantitative growth) are conceptualized as dependent variables.

CHAPTER TWO: REVIEW OF THE RELATED LITERATURE

2.0 Introduction

The chapter presents a review of literature related to the topic under investigation. The review was done following the study objectives.

2.1 Finding out drivers of attrition of health workers

Herzberg's theory explains how the conditions of work are a key factor in determining how employees feel content at work. His motivational theory explains that the motivating and demotivating aspects of the workplace are very different. This theory assumes that job satisfaction is affected by two different sets of factors. The first set of factors is related to the job environment or context (extrinsic factors). These factors are normally associated with sanitation or maintenance factors reported in line with job satisfaction. Such factors include; the organization's policies and administration, supervision, salary, interpersonal relations, working conditions, and job security.

The second set of factors is related to more job content that is, intrinsic factors. The intrinsic factors are motivators or satisfiers. These factors describe the scenarios that lead to job satisfaction which later are transformed into self-actualization. These factors include; achievement, recognition, the nature of the work itself, responsibility, advancement, and growth. These are normally driven to fulfill employees' satisfaction from intrinsic factors (Yasin et al., 2020).

According to the study by Njuguna (2014), married health workers were forced to leave where they are posted due to lack of housing and educational amenities. The type of education provided in some areas was assumed to be wanting, and many would not admit their children to local schools. Therefore there is a possibility that some health workers are forced to leave their facilities for other areas with good housing and educational facilities.

He further reveals that limiting demotivators inspires an employee to keep their job, but compromises on performance. In the same vein, some scholars contend that evading demotivators improves the rate of retaining employees instead of just creating specific standards of making the employees contented; others, regarding professional employees, contend that the turnover of employees is more likely to arise due to a lack of self-motivation than due to the bad working atmosphere. Most developing countries have faced the problem of a lack of or improper distribution of medical staff which tends to be worsened by the breakdown of the health sectors of the developing countries. Poor pay, unfavourable work atmosphere, improper management, absence of equipment and reliable substructures, and the presence of HIV /AIDS make the medical workers desert their rural workplaces (Lehmann et al., 2008). To

improve benefits, there is a need for the accessibility of appropriate health services. This is only likely when the rural populace has access to well-furnished health services with adequate staffing (Dussault et al, 2006).

Wurie et al. (2016b) in their study titled “Retention of health workers in Rural Sierra Leon: Findings on history” conducted interviews with 23 participants, found out that lack of accommodation, limited access to training, and inability to access rural areas have led to attrition of health workers.

According to Prust et al., (2019) provision of education incentives and facility improvements can increase the likelihood of increasing job uptake of health workers especially in the rural areas (OR 5.04, 95% CI 4.12–6.18).

Eilish, et al (2008) observe the catastrophic levels that the staffing issues have reached Sub Saharan Africa despite the disparity of the crisis depending on the regions of the continent. They established that there was a doctor-to-population ratio of 20:100,000 in about 37 of the 47 countries in Sub-Saharan Africa. They also state that in sub-Saharan Africa, there is an average of 15.5 physicians for 100,000 people, 73.4 nurses for 100,000 people, 30.9 midwives for 100,000 people, and 1.1 pharmacists for 100,000 people. This greatly contrasts with the average for the Organization for Economic Cooperation and Development (OECD) countries which in 2002 was estimated at 311 Physicians and 737.5 Nurses per 100,000 people. This implies that average there are roughly 20 times fewer physicians and 10 times fewer nurses in sub-Saharan Africa as compared to the developed countries.

It is important to note that the staffing issues are not only regarding doctors but rather are crosscutting to all medical personnel (Eilish et al, 2008). Several countries in Africa have not been able the least requirement of the ratio of medical staff to the population (WHO, 2008).

In Tanzania, despite having several related problems, job dissatisfaction amongst the health workers was also attributed to infrastructural and managerial issues. Some workers deserted because they felt that they or their patients risked their safety working with inappropriate infrastructure. Instances such as hazardous handling of blood, poor accommodation, and transport greatly affected the female workers and those that worked in more remote areas, hence making them quit their jobs. To emphasize this point, it is worth noting that female staff that worked in rural hospitals that were church-run felt safer being accommodated within the hospital premises (WHO, 2012).

Improper management of employees' issues such as tolerance of unprofessional conduct like employees engaging in counter-accusations also affected the employees' job satisfaction and competence. This calls for the intervention of top management to shield the affected employee from such unprofessionalism. Regarding training opportunities, discrimination was identified in the selection of who should be recommended for further training because of the financial benefits that come with the pieces of training.

A WHO (2010) report reveals that in Uganda, training opportunities have been perceived as financial opportunities in which people are in a position to acquire a training stipend rather than an opportunity to acquire knowledge and skills, hence making the selection criteria for the trainees doubtful. The selection of the wrong people for the training would benefit neither the selected person nor the organization because they were not the rightly qualified people for the training.

There is evidence that recruiting and retaining healthcare workers are very critical issues, especially in the developing world where positions for this category of staff are still vacant. In South Africa alone, there were 30,000 vacant positions for nurses in 2003 (Zurn et al, 2005). This problem of recruitment of new staff and retention of the old staff has created a mentality internationally to ensure that healthcare providers are retained in their jobs.

There is evidence of unfair less transparent processes in accessing training and continuous professional development by health workers (WHO, 2010). These demotivated the workers who left their positions. In Tanzania, the health workers in remote areas were not provided with adequate training opportunities; they also had no people to replace them while they went for training, and they felt that those who worked in urban areas had a wide range of opportunities to make money and undertake further training on their own.

Kruk et al (2010), stated that to motivate workers in remote areas, there is a need to provide them with support supervision so that they do not feel isolated. Support supervision and effective communication from high-level staff provide professional growth to junior staff and encourage them to stay in remote areas (Kruk et al, 2010). To ensure equitable distribution of health workers, there is a need to retain those in the remote areas and even attract more to the remote areas. This, however, has not been very easy for developing countries because of issues such as deprived conditions of work and life, limited chances of promotion, poor equipment and drugs, low motivation, and poor management.

Attrition of health workers is an international mechanism aimed at creating a balance between the health workforce in urban and remote areas to reach the Kampala Declaration and WHO agenda that aims at promoting the idea of retaining health workers in rural areas (WHO, 2011).

Mwanika et al, (2011) observe that the capabilities of the health workers in remote areas can be improved through regular supervision where the supervisors will observe and show better practices to their rural staff in form of training which is cost-effective.

According to the World Health report, Uganda was among the 57 countries in the world that had a scarcity of medical personnel. The ratio of medical workers in the populace was staggeringly low (WHO Report, 2006)

According to MoH (2008), the national doctor-population ratio stood at 1:36,045, the nurse proportion stood at 1:5,190 and the midwife-to-population ratio was 1:10,107. However, this density depended on district coverage and population, for example, Kampala with a doctor-to-nurse ratio of 1:8 and a doctor ratio of 1:26,432. However, this ratio increases while moving from urban centres to rural areas. This implies that more medical workers preferred to work in urban centres compared to rural areas.

The WHO (2006) observes a 4.2 million shortage of medical personnel worldwide. Uganda has equally experienced problems in trying to recruit and retain its medical workforce (WHO, 2010). Most of the medical personnel have left the country for greener pastures, while others are doing other jobs alongside their officially assigned responsibilities.

The desire to improve their financial well-being has also forced health workers to leave rural areas in preference for urban settings (Kolstad, 2011). In Tanzania, nurses desired a rise in their pay rather than anything else so that they could keep working in rural settings (Munga, 2013).

Kotzee et al. (2006) note that in Limpopo, the creation of senior and other high-ranking positions in remote areas attracted doctors and other health workers to move and work in remote areas. Similarly, in Ghana doctors in remote areas desired to have positions in management to be created in remote areas for them to work (Adjei et al, 2009). Therefore the equitable distribution of positions of rank between urban and rural areas can motivate health personnel to work in the rural areas.

A study in Tanzania also found out that there was a willingness by the COs to work in remote areas if they were made to head the medical facilities there. This could probably be because of the prestige that came with heading the facilities (Kolstad, 2013).

2.2 Exploring the effect of attrition of health workers on service delivery

WHO (2010) report reveals that it is very expensive not to retain the staff that the medical sector had because it would be forced to suffer the cost to hire, and, replacing to overcome the scarcity. In Tanzania, there is a big problem with the recruitment and training of medical workers in remote areas but the emphasis still lies on more recruitment instead of concentrating on the reasons for the disparity in areas and worker mobility. For them, the inequitable distribution of medical workers in the regions is also shown by the disparity in the skills of the workers in the different districts where those with fewer resources have fewer highly skilled workers.

According to the Global Strategy on Human Resources for Health (2015), there was a shortfall of roughly 17.4 million health workers worldwide, comprising about 2.6 million doctors and more than 9 million nurses and midwives, while the rest were other health personnel. South-East Asia recorded the highest shortfalls of 6.9 million while Africa recorded 4.2 million. The case for South-East Asia is a result of the huge population in the region. The problem for Africa is having the highest disease burden with the lowest numbers of health workers and the least monetary resources despite the support from developed countries.

Despite having 70% of its population staying in remote areas, 69% of Tanzania's health workers are in urban places according to (SARA). This inequitable distribution of health workers is however quite obvious. This problem has been caused by several factors such as Unfavourable conditions of work, and the absence of resources and equipment which demotivate highly qualified health workers from staying in rural areas, hence forcing them to seek greener pastures overseas.

Maseko et al. (2015) asserted that inadequate service providers with poor supervision, lack of absence of elementary tools, irregular stocking of medical supplies in some health amenities; and insufficient financing of the programmes made some patients not access all services they would want.

The care that the patients receive is greatly affected by the leaving of medical workers that results in increase in mortality rates. It is important to determine the reasons for too much workforce turnover that has affected performance because of the unreliability of the staff. Studies in the United States have shown that the lower the rate of turnover, the lower the risk-adjusted mortality scores, and vice versa (Human Resource Health, 2003).

According to the study conducted by High-level Commission on Health Employment Growth (2016), findings showed that effective assets in the health staff could generate much development in health,

welfare, and human safety, with decent jobs and comprehensive economic growth. The compelling proof of the association between investments in the health workforce and fulfilment of SDGs, as stated in the 17 Sustainable Development Goals (SDGs), specifically SDG 3 (Good health and wellness) and SDG 8 (Decent work and comprehensive economic growth), as well as SDG 1 (End poverty in all its forms everywhere), SDG 4 (Quality education), SDG 5 (Gender equality), SDG 10 (Reduced inequalities), SDG 16 (Peace, justice and strong institutions) and SDG 17 (Partnerships for the goals).

Apart from money and medication, health attainments were dependent upon the forefront medical personnel that provided services and technologies to the communities. Medical workers are the personnel that operate in the health systems. This implies that medical staff ensure the health of the people. For Africa, the problem is beyond just the lack of and leaving of health workers. The health sector has also been affected by the HIV/AIDS epidemic that has killed many of the already overworked staff and led to more demand for treatment, attention, and provision. Despite the expected ongoing shortage of health specialists, training organizations are not doing a lot of inventions in training a capable medical workforce. These findings show that challenges surrounding the health sector are many including training of staff, deployment, incentives, and retaining health workers. Generally poor financed HealthCare force system (Samuel, 2007).

The main problem countries are faced with the disparity between medical personnel populations in urban areas and those in rural areas. For example, a study that was carried out in Bangladesh showed that the majority of nurses were found in the four metropolitan districts where only 15% of the population lives. Furthermore, in South Africa, studies showed that 46% of the entire population lived in rural areas with only 12% of doctors and 19% of nurses working for such a big population. According to the findings, medical personnel working in urban areas with better living and working conditions. Similarly, another study conducted in Kenya indicated that 64% of psychiatrists were found in Kenya's capital Nairobi which accounts for only 7.5% of Kenya's population. For another survey conducted in Mali in 2002, 256 nurses were posted in Bamako and regional hospitals, while a few 164 were deployed in lower health units. The outcome indicated that only 24% of deliveries were conducted by qualified staff (WHO, 2009).

2.3 Analyzing the strategies in place that have been adopted to minimize the attrition of health workers

To ensure health contact for communities, less developed countries ought to beef up their health sectors. There are many problems that medical personnel encounter. These challenges include; compromising the sustainability of the medical support system, and inadequate, sparsely distributed health staff in rural

areas, where much need, yet less disadvantage, this undermines health-consolidation efforts to the deployment of health workers in remote areas which receives negative attitudes from medical staff for various reasons (Chen et al. 2004). The deployments usually relate to the high amount of work and a lack of incentives discourages the medical personnel in remote areas, hence making it difficult to retain them in such. This has led to a lack of medical staff, too much work burden, anxiety, and a lack of motivation among the staff. According to a WHO report (2010), attracting and retaining medical personnel in remote areas requires improving the strategies for retaining workers. Such policies and strategies on retention and motivation should be incorporated into Human Resources in Health strategic policies (WHO, 2010).

Dussault et al. (2006), in their study, stressed that an equitable allocation of infrastructure requires an equally equitable allocation of medical workers for cost-effectiveness in investment. According to Intra Health International, despite Kenya's efforts in providing good quality training to its medical personnel as required by the World Health Organization, Kenya still has few nurses and midwives half than what is needed.

In the study conducted in Kenya by Miseda et al., (2017), Kenya has inadequacies of medical personnel at the Primary Health Care stage as a result partly of medical personnel migrating for greener pastures and improved conditions of work. Much lack was experienced in rural areas, where about three-fourths of Kenyans live in rural areas (75%). For every 10000 people, there are only 2 doctors and 7 nurses and midwives (WHO, 2014; UNAIDS, 2014). Hanson (2010) elaborated that different inequalities in salary scales according to location influenced the practice of medical personnel in rural areas. Similarly, Lamba et al. (2021) found out that medical personnel needed increased pay to work in rural areas. Relatedly, a study in Ghana found that medical personnel in remote areas desired higher pay compared to their urban counterparts because they did not have the opportunity to make extra income by doing extra work (Snow et al, 2011). The desire for medical personnel to operate in remote areas is largely dependent upon the level of remuneration they receive; the nature of payment; and the presence of banks in the area. These factors may motivate medical personnel to operate in rural areas.

According to equity theory, workers compare their and others' inputs and outputs when it comes to working. Similarly, the Expectancy Theory focuses on the workers' views regarding the inputs and performance. This implies that they perceive equity in terms of the situation and not necessarily the aim. When the workers realize a disparity in the conditions, they experience "equity tension" that they only can overcome by behaving appropriately (Adams, 1967, as cited by Bananuka, 2010).

According to the study conducted in Tanzania by Songstad et al. (2012), some workers stayed in the stations they were posted to because they received regular pay and were provided with survival grants. Other workers were motivated to work in remote areas by the government pension scheme (Songstad et al, 2012). Therefore equity rather than disparity attracts and retains medical personnel in rural areas.

The accessibility of stipends in rural areas attracts medical personnel to take up jobs in rural areas. According to a study by Blaauw (2010) provision of financial incentives encourage medical workers to operate and stay in rural areas. This was equally witnessed in Nigeria, and Kenya (Ebuehi et al, 2011; Mullei et al, 2010).

Construction, upgrading, and restoration of medical facilities and the accommodation of medical workers in all areas, supply of equipment, and medicines result in improvement of the conditions of work and life for the medical personnel (MoHSW, 2014).

In Malawi, the government presented a strategic plan in 2004. The introduction of the HRH strategy aimed at raising the numbers of all medical personnel in rural areas. This also included financial incentives to the medical personnel. Six years later, the program was assessed and found that the medical personnel had increased by 53% hence reducing the workload strain for the medical personnel. The medical worker population ratio had increased from 0.87/1,000 in 2004 to 1.44/1,000 in 2009. There were also improvements registered in the supply of medicines and medical equipment and accommodation for medical workers (O'Neil et al, 2010).

Uganda as a country introduced several strategies to retain health workers in 2008. These strategic policies included; a motivation and retention plan that looks at salary increments, motivation allowances, improvement in leadership and organization, creating conducive and safe working environments, professionalism, and ethical repetition. In an attempt to implement the stated strategies, over time the government has provided amalgamated financial increases. For hard-to-reach areas such as Karamoja, a hard-to-reach allowance was provided, accommodation for staff, and further training opportunities. This has motivated the attraction and retention of medical personnel in the region.

In South Africa, a rural allowance policy was introduced to appeal to health workers and hold native doctors in rural areas. This commenced in 2004 for medical personnel except for junior nurses. These medical workers received non-pensionable rural financial incentives for their annual salary. The challenge, however, was that some medical departments excluded numerous rural sectors in the rural financial incentive due to the use of obsolete information (Ditlopo 2011).

Ross et al, (2004) highlight that good training and expansion opportunities can discourse the fundamental factors for employee turnover while also improving arrangements. Employees should be trained and given the required equipment to do their jobs. This approach makes the staff competent to do their jobs.

There is a need to look into the motivating and demotivating issues simultaneously because there is a very high demand for medical personnel the world over despite few being trained. It is therefore necessary for developing countries to make the health sector a priority and improve the conditions of work to attract and retain medical workers (Omaswa, 2021). There should also be radical reforms in education, workforce innovation, technological transformation, health workforce for growth, placing women in the first order, ensuring rights that rights are respected, transforming aid, international migration, humanitarian crises, and information and accountability. Of significance to the present study, the report called for the countries to address push and pull factors driving attrition of skilled health workers from countries with the most serious health worker shortages.

According to the advocacy for better action paper, the Ministry of Health must devote itself to continued refresher pieces of training for the health personnel. The capability of medical personnel to precisely compute and foretell medical supplies is vital in lessening stock outs of crucial drugs and provisions. Most health workers require further skilling to deliver the required family planning services. Government priority also ought to be put on supervising and monitoring medical personnel to curb their absence from work to ensure better provision of services (Intra Health International, 2015). The report further reveals that self-driven medical personnel executes their services effectively. However, inadequate salaries and other benefits raise concerns for health workers. The issue of salary increments has contributed to the loss of health workers in the district creating a brain drain for the public sector as members of the staff leave the district for greener pastures.

Furthermore, bad working conditions have a detrimental effect on medical personnel's drive to conduct their duties and hence result in them leaving or absenting themselves. Every day, the majority of the personnel struggle with poor work tools and lack or loss of provisions, stock out of critical supplies, and bad set-up. Occasionally, workers may face protection dangers. The prolonged lack of medical personnel raises the amount of work of the remaining few which overwhelms them in addition to no motivation and pay is not enough.

Government should instantly earmark resources to employ more health personnel to occupy vacant positions, in addition to adding funding for medical personnel to motivate medical personnel to perform

their duties, their pay should be increased to match the neighbours like Kenya. Increased funding would promote the reward, monitoring, and supervision of rural medical teams (Intra Health International, 2015.)

The labour market model outlined earlier provides a framework for analyzing the role of incentives. Health personnel accepts to take up jobs provided the incentives are worthwhile. Attracting and retaining medical personnel calls for improved incentives to ensure that the health workers are not attracted to less rewarding options. The creation of new medical occupations in the majority of countries is a means of decreasing the movability of requirements, thus decreasing the chances of costing jobs at home. There can also be skills for customized needs of the local health sector with an emphasis on quality and well-being. Generally, there will be a better-trained health workforce with many preferring to stay in the system while a few may desire other careers or leave the country (Kyaddondo and White 2003).

2.4 Retention Measures of Health Workers in Areas of Deployment

A study conducted by Russell et al. (2021), on interventions for the health workforce in rural and remote areas: a systematic review found that an increase in retention payment was found to be statistically significant to the retention of health workers especially in the hard to reach areas ($p < 0.001$).

Furthermore, a study on the retention of health workers in Sierra Leone found that communities' high regard for health workers and the fact that in some instances they took on mentorship roles in the societies they worked in encouraged them to remain in their areas of deployment (Wurie et al., 2016). In some cases, this encouraged them to find solutions to problems or constraints, put in a lot of effort, and improvise in challenging environments to continue serving the community and improving it. For instance, one respondent took it upon himself to urge locals to use the healthcare facility, ensuring that the best healthcare service was sought after (Wurie et al., 2016).

A study conducted in Uganda on poor retention does not have to be the rule: retention of volunteer community health workers in Uganda (Ludwick et al., 2014). Community health workers were not paid a salary but received various forms of financial and non-financial incentives such as the retention of volunteer community health workers in Uganda, found that the provision of incentives was one of the measures that would retain health workers in government facilities Health Units. Some of these incentives included; financial incentives, material incentives, and recognition awards.

A study on balancing the cost of leaving with the cost of living: drivers of long-term retention of health workers: an explorative study in three rural districts in Eastern Uganda by (Kiwanuka et al., 2017) showed

that organizational factors such as infrastructure, and recruitment policies, and provision of incentives had a strong influence on health workers willing to stay in rural posts.

Moreover, Kiwanuka et al. (2017) stated that training and promotion opportunities can also encourage health workers to stay at their workstations for a long time. However, his study showed that male health workers benefited from these opportunities more than their female counterparts.

A study titled "accommodate or reject: The role of communities in the retention of health workers in rural Tanzania" that included an explanatory qualitative study of 19 key informants in the two rural districts of Kilimanjaro and Lindi found that communities welcomed new health workers by giving them accommodation, taking on the burden of resolving health issues in the community, and encouraging behaviors that placed a high value (Sirili et al., 2022).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research design and methodology. The researcher also points out the techniques and methods of sampling, data collection, processing, and analysis. This provides a background against which the findings of the study were assessed regarding their validity and reliability and upon which conclusions were made.

3.1. Research Design

The study used a cross-sectional survey design that is analytical and descriptive and adopted both qualitative and quantitative approaches. Primary data was collected from the Health workers who were the main respondents in this study. Moreover, secondary data was collected from the Key informants who were the top officials from Lyantonde district local government (Chief Administrative Officer, the District Health Officer, the District Principal Human Resource Officer, Secretary District Service Commission, the Chairperson District Service Commission, the District Principal Internal Auditor, and Secretary for Health, Medical superintendent Lyantonde Hospital, District Planner and the Chief Finance Officer).

A qualitative approach was used in key informant interviews and purposively selected respondents and observed people's behaviours and changes that could be attributed to the retention of health workers and attrition of health workers that can affect service delivery. The data that was collected through qualitative methods were used to enhance the quantitative data collected using the questionnaires.

A quantitative approach was used and a questionnaire was designed with both open and closed questions. The questionnaire was administered to randomly selected respondents to obtain data and the results were coded analyzed and interpreted. These questionnaires were administered to 180 respondents though 171 respondents were able to fill out the questionnaires properly and returned them.

3.2 Inclusion criteria

All health workers who give medical care to the patients and who were found in the Government health units in the study area were considered to participate in this study.

3.3. Exclusion criteria

The study excluded some of the participants based on the following;

Health workers who were not found in the Government health units in the area of the study.

Health workers who were sick or on annual work leave.

Health workers who were absent or off duty did not participate in the study.

3.4. Study Population

The population of the study consisted of government Health workers in the health units and administrators in the district including; the Chief Administrative Officer, the District Health Officer, the District Principal Human Resource Officer, the Secretary District Service Commission, the Chairperson of the District Service Commission, the District Principal Internal Auditor, and Secretary for Health, Medical superintendent Lyantonde Hospital, District Planner and the Chief Finance Officer.

3.5 Sample size

A sample size of 180 respondents was selected for participation. These were selected from a total population of 300 using the Yamane (1967:886) formula. Respondents were selected from government Health units in the district, while 10 top district officials in the Lyantonde district were the key informants. The key informants included; the Chief Administrative Officer, the District Health Officer, the District Principal Human Resource Officer, Secretary District Service Commission, the Chairperson District Service Commission, the District Principal Internal Auditor, and Secretary for Health, Medical superintendent Lyantonde Hospital, District Planner and the Chief Finance Officer were considered as part of the 180 respondents.

3.5.1. Sample size determination

Considering a population of 300 a total number of 180 respondents were selected using the Yamane (1967:886) formula. This provided a simplified formula to calculate sample sizes.

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

Where;

n = sample size

N = population

e = level of precision

$$N = 240$$

$$e = 0.05$$

By substituting;

$$\begin{aligned} n &= \frac{300}{1 + 300(0.05)^2} \\ &= \frac{300}{1 + 300 * 0.0025} \\ &= \frac{300}{1 + 0.75} \\ &= \frac{300}{1.75} \\ &= 171 \end{aligned}$$

A sample size of 171 was obtained for the study. Adding 5% of none responses,

Which is 9

$$\text{Hence} = 171 + 9$$

$$= 180$$

Therefore, 180 respondents were considered for the study.

Table 1: showing the response rate

Targeted Unit	Actual participants	Percentage
180	171	95

Table 3.1 above shows that there was a good relationship between response and non-response units among the respondents. 10 key informants out of the 10 participants participated in the study making a 100% response rate.

3.6 Sampling procedure

This study adopted both probability and non-probability sampling techniques. In probability sampling, simple sampling method was used while in non-probability sampling technique, purposive sampling was used.

3.6.1 Simple random sampling

This method was used in selecting health workers from all health units in Lyantonde district. The study used a simple random sampling method for this case. Phrases bearing either Yes or No were written

on each paper-wrapped well and placed in the box. Each member was tasked to pick one paper from the papers placed in the box. Thereafter each participant was asked to check on the phrase written on his/her paper. Only those who chose “Yes” managed to proceed and participate in the study. However, in some facilities where there were few health workers, especially in the Health Centre IIs, all participants who were willing to participate were allowed. Furthermore, any given pair of elements had the same chance of selection as any other such pair (and similarly for triples, and so on). This minimized bias and simplified the analysis of results.

3.6.1 Purposive sampling

This method was used to choose participants from the district who had vast knowledge of the issues related to the attrition of health works in the government health units, and knowledge of human resources in the district. This included the Chief Administrative Officer, the District Health Officer, the District Principal Human Resource Officer, the Secretary District Service Commission, the Chairperson District Service Commission, the District Principal Internal Auditor, and Secretary of Health, Medical superintendent Lyantonde Hospital, the District Planner and the Chief Finance Officer. The above said participants were chosen based on participant characteristics and their role in the district.

After identifying the participants, the researcher scheduled appointments with each of the participants in this group category for the convenient time of the interview. Each participant was approached based on the specified and agreed timeframe and interview guides were used to obtain information from each of them. During the interview process participation was voluntary and only those who accepted to participate in the study were given a chance to do so.

3.7 Methods of Data collection

3.7.1 Data collection method

Primary data was obtained through the following;

3.7.1.1 Questionnaire

The questionnaire was developed to collect data from the main participants in the study (health workers). The questionnaire comprised both Closed-ended and open-ended questions that were formulated to simplify data collection and analysis with open-ended questions to help the researcher to get in-depth information about the attrition of health workers in the selected health units. This method helped the researcher to collect quantitative data which informed more about the problem of the study.

3.7.2 Interview

The researcher used this method to collect data through face-to-face interviews with the respondents and an interview guide was designed to support the interview process. The interview was recorded in the English language for easy understanding. The results from the interview enabled the researcher to collect data that would not be collected from the questionnaire method to the study's objectives.

3.7.3 Observation method

This method was used to collect secondary data which was through reading published and unpublished documents (Amin 2005) this method was helpful in the research design and provided a baseline where primary data was collected then the results helped to inform the study. This kind of data was obtained from administrative records, patient medical records, patient surveys, and standardized clinical data. This was done during the proposal writing phase and report writing phase.

3.8 Data Analysis and Presentation

The data was collected and analyzed, it involved scrutinizing the acquired information and searching for patterns of relationships that exist among the data groups (Kothari, 2010). The study employed both quantitative and qualitative methods in data analysis for purposes of proper triangulation to enhance the validity and reliability of the study findings.

3.8.1 Quantitative Data Analysis

Data were collected using the questionnaire method and random sampling helped in selecting respondents. Data were analyzed using SPSS statistical package and presented with a frequency table with mean and standard deviation. To determine the factors associated with the attrition of health workers, multivariate analysis and regression analysis were used.

3.8.2 Qualitative Data Analysis

This is the method where the researcher collected data using the interview method using face-to-face interviews. The researcher used a quick summary in analyzing qualitative data, and then summarize key findings by noting down the frequency of responses of the respondents during the interview on various themes effect of attrition of health workers.

In the procedure of qualitative data analysis, data were prepared for analysis by sorting, and individual interviews were then recorded, transcribed, and merged. Later, the merged data were assigned codes and thematic groupings were performed to merge findings from the interviews.

3.9 Quality Control

On quality control, questionnaires, and interview guides were pre-tested to ensure the validity and reliability of the data that was collected. Questionnaires were given serial numbers to avoid double entries to ensure the good quality of the data. Two research assistants were recruited and trained on how to use the tools and how to approach and guide respondents for self-administered questionnaires.

3.9.1 Validity

Mazaki (2009) noted that validity is the extent to which an instrument measures what it is supposed to measure and whether it measures it accurately. The researcher visited the Lyantonde administration to seek permission to conduct a study from the district and to ascertain that the study was necessary.

The CVI formula by Amin (2005) was applied; $CVI = \text{Number of items declared valid} / \text{total Number of items}$. After computing the CVI as a way of determining the level of accuracy of the instrument, the researcher interpreted the CVI based on George and Mallery's (2003) rule of thumb;

$CVI = \frac{\text{Number of relevant items}}{\text{Total number of items in an instrument}}$

$$CVI = \frac{37}{42}$$

=0.88

The content validity index for a questionnaire for Health workers was 0.88 which was good implying that the instrument was valid for data collection

According to George and Mallery (2003 a), content validity ranges areas in the table below;

Table 2: Showing Content Validity Index Ranges

CVI Range	Interpretation
0.9-1	Excellent
0.8-0.89	Good
0.70-0.79	Acceptable
0.60-0.69	Questionable
0.50-0.59	Poor
0.00-.0.5	Unacceptable

3.9.2 Reliability

Reliability tests the extent to which the measuring instrument produces consistent scores when the same groups of individuals are repeatedly measured under the same conditions. The reliability of the research instruments was also tested through a pilot study that was conducted among respondents purposively and simply randomly chosen from the target area. Questionnaires were pilot tested on five health workers from each of the selected health units in the Lyantonde District. They were requested to check the questionnaire on the following aspects: question construction, language, clarity, and comprehensiveness. These comments were used to effect necessary changes. Items that were found irrelevant or vague were removed and language was clarified and found necessary. The reliability of the instruments was further established using Cronbach's Alpha coefficient (1951). The scores were found at 0.76 using Statistical Package for Social Scientists (SPSS) version 20 and this indicated that the instruments were reliable and better for use.

3.10. Ethical Considerations

3.10.1 Informed Consent

An introductory letter was obtained from Kabale University Faculty of Medicine introducing the researcher to the study area, and seeking permission to collect data. This was done after obtaining clearance from the Research Ethics Committee at Mbarara University of Science and Technology (MUST-2021-254), and approval from Kabale University. Furthermore, an acceptance letter from Lyantonde District in the office of DHO was obtained acknowledging the researcher and the intention to conduct research in the government health units in Lyantonde district health units. Consent was obtained from all study participants before administering the questionnaire as a matter of emphasis on ethical issues.

3.10.2 Confidentiality

Anonymity and confidentiality were strictly observed during data collection, description, and reporting of findings. The researcher achieved this by eliminating names on questionnaires and during reporting of findings they were given pseudo names and kept the data under lock and key.

Data collected from the individuals was collected using the required procedure of data collection and kept in a safe custody by locking in the cabin. Access to information collected from individual's participants was restricted and only accessed by the researcher. Besides, respondents were told about ethical issues for example, withdrawal was voluntarily and attracted no penalty, the incentives provided

inform of refreshments, airtime and transport, and information gathered from them would be kept confidential.

To ensure privacy of the respondents, the researchers asked participants to choose areas where they felt that they were comfortable go give information freely without obstruction and fear.

3.10.3 Honesty

The researcher ensured that he was honest throughout the study. To avoid plagiarism, the researcher acknowledged all the works of other scholars that were cited.

3.10.4 Limitations and delimitation of the Study

The researcher faced a response bias, especially with respondents who minded about motivation and retention. This problem was majorly faced in the urban setting where most of the health workers demand to pay for participation in the study. However, after an explanation from the researcher, they agreed to participate in the study. The researcher trained the research assistants on how to approach respondents, and create a rapport that solved the problem.

The researcher also faced the challenge of insufficient funds to meet transport, the printing of research tools, and reaching all planned respondents. This was solved by sourcing funds through loans.

3.10.5 Dissemination of Results

The final results of the study will be disseminated by giving copies to the relevant stakeholders; Office of the Chief Administrative Officer Lyantonde District, Office of the District Health Officer (In-charges of all health units the Office of District Health Office. Dissemination at this level will be done by holding a meeting with relevant stakeholders for dissemination.

The results will also be disseminated to Kabale University by providing final copies of the report that will also be submitted to the department of Community Health Department of Kabale University for further dissemination in the library.

3.11 Limitations to the study

Health workers chosen from government health units, and selected district leaders participated in the study. Data entry a single spreadsheet was very hectic which delayed the process of analysis. Additionally, the researcher was unfamiliar with the statistical package for Social Sciences which was

used for data analysis. However, after having discussions with colleagues and supervisors, decisions regarding file splitting and data merging were done, simplifying the analytical process. Therefore, the conclusions can be drawn with confidence from the findings.

The study was theoretical in the assessment of the effect of attrition of health workers in the government health facilities in Lyantonde district. The study could not practically establish how the attrition of health workers has affected service delivery by evaluating health workers still serving in the government health facilities and those who left the service to establish if the attrition of health workers has affected the health system in terms of service delivery. However, the current findings adequately reveal the theoretical position of the attrition of health workers in government health facilities in Lyantonde district on service delivery.

CHAPTER FOUR: PRESENTATION OF STUDY FINDINGS

4.0 Introduction

This chapter present the results of the socio-demographic characteristics of the respondents, drivers of attrition of health care workers, level of job satisfaction, and reasons for attrition. The results are presented in tabular form (Tables 4.1 to 4.13 below) and graphs as outlined in the sections below.

4.1 Socio-Demographic characteristics of the Respondents

The following were considered; gender of the respondent, a cadre of the respondents, current job title, Age bracket of the respondents, marital status, and If Uganda, which district. This Data was collected from a total of 171 participants, giving a response rate of 95%.

Gender and age bracket of the respondent of the respondents: 112 (65.5%) were females while 59 (34.5%), and 59 (34.5%) were males. The majority 112 (65.5%) were in the age bracket 31 – 40, 28 (16.4%) were within the age bracket 41-50 and the 41-50 age group was the minority 28 (16.4%) as shown in Table 4.1 below.

About the cadre of the respondents, 87 (50.9%) belonged to nursing, 42 (24.6%) were midwives, 14 (8.2%) were Clinical Officers, 17 (9.9%) were Laboratory technicians, and 5(2.9%) were medical officers. while 2 (1.2%) were radiographers, Dispensers, and Orthopaedic officers respectively.

Table 3: shows the demographic characteristics of the respondent

Characteristics	Category	n (%)
Gender of the respondent	Female	112 (65.5)
	Male	59 (34.5)
Marital status	Married	121 (70.8)
	Single	40 (23.4)
	Divorced	8 (4.7)
Age of the respondent	31-40	112 (65.5)
	41-50	31 (18.1)
	20-30	28 (16.4)
Cadre of the respondent	Clinical Officer	14 (8.2)
	Nursing	87 (50.9)

	Midwife	41 (24.0)
	Medical lab technician	17 (9.9)
	Medical Officers	5 (2.9)
	Dispensers	2 (1.2)
	Orthopedic officer	2 (1.2)
	Radiographer	2 (1.2)
Current job title	Enrolled Nurse	62 (36.3)
	Midwife	42 (24.6)
	Assistant Nursing Officer	22 (12.9)
	Clinical Officer	14 (8.2)
	Laboratory Assistants	11 (6.4)
	Laboratory Technicians	6 (3.5)
	Nursing Assistant	6 (3.5)
	Medical Officers	5 (2.9)
	Radiographer	2 (1.2)
	Orthopedic	2 (1.2)
	Dispenser	1 (0.6)
If Uganda, which district?	Other (Masaka, Rakai, Mubende, Sembabule, Kisoro, and Mukono)	116 (67.8)
	Lyantonde	55 (32.2)

4.2 Drivers of attrition of health workers in Lyantonde district

Objective one of the study aimed at identifying drivers of attrition of healthcare workers in Lyantonde district.

Employment record: 96 (56.1%) of respondents had other jobs before, while 75(43.9%) stated that they had not had other jobs before as shown in table 4.2 below. Furthermore, the study indicates that the majority of the respondents had worked in the facilities of deployment for 1 year 54 (31.6%), while few health workers had worked in the same facilities for three years. Moreover, regarding salary adequacy, the majority of the respondents stated that salary was not adequate 96 (56.1%). More details on objective one are summarized in Table 5 below.

Table 4: showing the drivers of attrition of health workers

Study item questions	Category	n (%)
When did you qualify for the health position	1985-1995	24 (14.0)
	1996-2005	65 (38.0)
	2006-2015	57 (33.3)
	2016-2022	25 (14.6)
Is this your first job	Yes	75 (43.9)
	No	96 (56.1)
For how long have you been at this facility	For less than a year	48 (28.1)
	1 year	54 (31.6)
	2 years	31 (18.1)
	3 years	10 (5.8)
	4 years and above	28 (16.4)
Is your current salary adequate?	Yes	53 (31.0)
	No	118 (69.0)

Profession experience, majority of healthcare workers qualified between 1996-2005 65 (38.0%), while few respondents qualified between 2016 and 2022 25 (14.6%) as shown in the figure below.

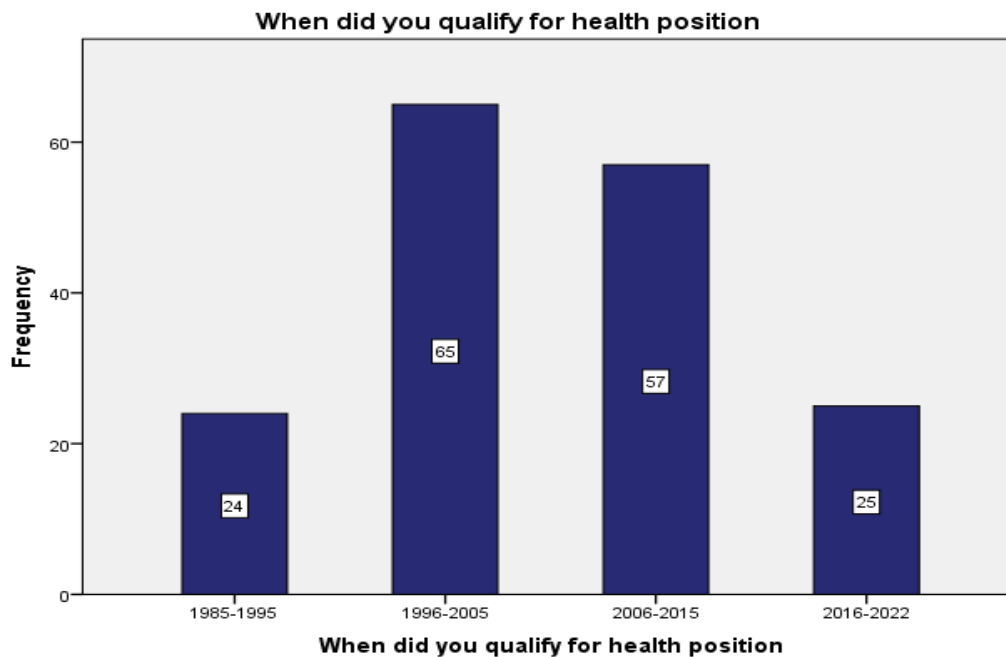


Figure 2: Showing years of qualification by the respondents

4.3 To find out the drivers of attrition of health workers in Lyantonde district

The study aimed at determining factors that lead to the attrition of health workers. Respondents were asked to circle the number that best fits their level of agreement with each statement. The level of agreement was measured using the five-point Likert scale. Strongly Agree = 5 Agree = 4 Not sure = 3 Disagree = 2 strongly Disagree = 1.

Job satisfaction and job match: 87(50.9%) are not sure, 44 (25.7%) strongly agree that they are satisfied with their jobs, 38 (22.2%) strongly agree and others are not sure whether the jobs they have are a good match to their skills and experience respectively.

Availability of supplies and equipment needed to do the job well: 68(39.8%) are not sure whether they have enough supplies they need to do their job right, while 40.0% disagree. On the other hand majority of the respondents disagree with the statement that they have the equipment they needed to do their jobs well and efficiently (blood pressure cuffs, weighing scales, HIV test Kits) 60(35.1%). More details are presented in table 5 below.

Table 5: Factors that lead to attrition of healthcare workers

Items Questions on the	5	4	3	2	1	Mean	Std. dev
Considering everything I am satisfied with my job	44 (25.7)	20 (11.7)	87 (50.9)	16 (9.4)	4 (2.3)	1.0	0.00
The job is a good match for my skill and experience	38 (22.2)	73 (42.7)	38 (22.2)	15 (8.8)	7 (4.1)	3.5	1.04
When I come to work I know what is expected of me	48 (28.1)	65 (38.0)	42 (24.6)	16 (9.4)	0 (0.0)	3.7	1.03
I receive recognition for doing good work	18 (10.5)	43 (25.1)	73 (42.7)	37 (21.6)	0 (0.0)	3.8	0.93
In the past six months, someone has talked to me to encourage my development	8 (4.7)	58 (33.9)	9 (5.3)	77 (45.0)	19 (11.1)	3.2	0.91
My opinion seems to be listened to at work; I am respected	27 (15.8)	38 (22.2)	47 (27.5)	46 (26.9)	13 (7.6)	2.8	1.17
I have the flexibility to balance the demands of my workplace and my personal life	17 (9.9)	21 (12.3)	58 (33.9)	45 (26.3)	30 (17.5)	3.1	1.19
I have been given the training needed to succeed in my position.	30 (17.5)	34 (19.9)	57 (33.3)	39 (22.8)	11 (6.4)	3.0	1.20
This organization takes specific measures to protect me against medical hazards	17 (9.9)	53 (31.0)	34 (19.9)	47 (27.5)	20 (11.7)	3.0	1.07
I consider myself part of this community	19 (11.1)	42 (24.6)	32 (18.7)	78 (45.6)	0 (0.0)	3.8	0.95

My supervisor is available when is a need for support	42 (24.6)	68 (39.8)	41 (24.0)	20 (11.7)	0 (0.0)	3.6	0.88
The health unit administrator here is competent and committed	37 (21.6)	44 (25.7)	80 (46.8)	10 (5.8)	0 (0.0)	3.6	0.88
I am actively involved in helping to make this a great healthcare facility	23 (13.5)	59 (34.5)	74 (43.3)	15 (8.8)	0 (0.0)	3.5	0.84
The workload is manageable	23 (13.5)	59 (34.5)	74 (43.3)	15 (8.8)	0 (0.0)	3.7	0.78
I have the supplies I need to do my job well and safely (gloves, needles, bandages, and others)	11 (6.4)	43 (25.1)	68 (39.8)	40 (23.4)	9 (5.3)	3.0	0.97
I have the equipment I need to do my job well and efficiently (blood pressure cuffs, weighing scales, HIV test Kits).	34 (19.9)	51 (29.8)	19 (11.1)	60 (35.1)	7 (4.1)	3.3	1.24
This facility has good access to drugs and medications.	13 (7.6)	60 (35.1)	51 (29.8)	38 (22.2)	9 (5.3)	3.8	1.03
At work, I have access to good facilities.	15 (8.8)	46 (26.9)	89 (52.0)	20 (11.7)	1 (0.6)	3.3	0.82
At home, I have good access to good facilities.	19 (11.1)	81 (47.4)	33 (19.3)	30 (17.5)	8 (4.7)	3.4	1.05
I have access to good schooling for my children.	26 (15.2)	47 (27.5)	55 (32.2)	35 (20.5)	8 (4.7)	3.3	1.09

I have safe and efficient transportation to work.	34 (19.9)	27 (15.8)	64 (37.4)	35 (20.5)	11 (6.4)	3.2	1.17
I feel I have job security.	15 (8.8)	74 (43.3)	47 (27.5)	27 (15.8)	8 (4.7)	3.6	1.00
The community where I live has good shopping and entertainment.	7 4.1	58 33.9	53 31.0	40 23.4	13 7.6	3.0	1.0

4.5 Considering leaving the current job

Respondents were asked to state how important the decision would be if they chose to leave their current jobs. The factor of the decision was rated in; 3=Very important, 2=somehow important, and 1=Not important

Low pay/salary/allowances: the majority of the respondents stated that it's very important 85 (49.7%), while only a few proportions of respondents stated that low salary pay is not important as shown the table 4.5 below.

Limited opportunities for promotion: 88 (51.5%) of the respondent do agree that limited opportunities for promotion are very important when deciding to leave the job, 55 (32.2%) say it's somehow important, while 28 (16.4%) of respondents stated that it's not important.

Poor/lack of utilities (water, electricity) at work and transport problem: the majority of respondents 107(62.6%) stated that it's very important, while 17 (9.9%) agree that lack of utilities at the workplace is not important. Regarding the transport problem, 102 (59.6%) say it's very important, while 24 (14.0%) stated that the transport problem is not important as shown in table 7.

Lack of housing facilities: majority stated that it's very important 129 (75.4%), while 7 (4.1%) stated that is not important.

Poor education facilities for health workers: 83(48.5%) of the respondents stated that it's important, 72 (42.1%) states that is somehow important, and 16 (9.4%) think that the education facilities respondents are not important. More details are presented in Table 7 below

Table 6: considering leaving the current job

If you were to consider leaving your current job position, how important would the following factors be in that decision? (Very Important = 3 somehow important = 2 Not important = 1.)					
Items Questions on the	3	2	1	Mean	Std. dev
Low pay/salary/allowances	85 (49.7)	46 (26.9)	40 (23.4)	2.3	0.82
Poor access to supplies and equipment	75 (43.9)	84 (49.1)	12 (7.0)	2.4	0.59
Limited opportunities for promotion	88 (51.5)	55 (32.2)	28 (16.4)	2.4	0.61
Social conflicts in the workplace	41 (24.0)	99 (57.9)	31 (18.1)	2.4	0.74
Poor supervision and management	67 (39.2)	71 (41.5)	33 (19.3)	2.1	0.64
Transport problem	102 (59.6)	45 (26.3)	24 (14.0)	2.2	0.74
Poor /lack of utilities (water, electricity) at work	107 (62.6)	47 (27.5)	17 (9.9)	2.5	0.72
Lack of housing facilities	129 (75.4)	35 (20.5)	7 (4.1)	2.5	0.67
Poor educational facilities for children	93 (54.4)	60 (35.1)	18 (10.5)	2.4	0.67
Poor education facilities for me	83 (48.5%)	72 (42.1%)	16 (9.4%)	2.4	0.65
Work is far from home	93 (54.4%)	66 (38.6%)	12 (7.0%)	2.5	0.62

Correlation between gender, factors that lead to attrition of health workers, and considering living the current Job

The correlation analysis shows that considering leaving the current job was significant with $p < .05$ ($p = 0.031$), while factors that lead to attrition were significant with $p < .05$ ($p = 0.010$). Therefore, factors related to attrition of health workers and considering leaving the current job, were statistically significant and attributed to attrition of health workers as shown in table 8 below.

Table 7: correlation between gender, factors that lead to attrition of health workers, and considering living the current job

		Gender of the respondent	Considering living the current job	Factors that lead to attrition of health workers
Gender of the respondent	Pearson Correlation	1	.046	.076
	Sig. (2-tailed)		.031	.010
	N	171	171	171
Considering living the current job	Pearson Correlation	.046	1	.131
	Sig. (2-tailed)	.031		.087
	N	171	171	171
Factors that lead to attrition of health workers	Pearson Correlation	.076	.131	1
	Sig. (2-tailed)	.010	.087	
	N	171	171	171

4.6 Effect of Attrition of health workers on service delivery

Objective two of the study aimed at determining the effect of attrition of health workers on service delivery. Findings indicate that on the availability of staff in the facility, 85.4% of the respondents do not agree with the fact that there is adequate staff in the facility (Table 9).

On Patients accessing all services in the health facility, results indicate that the majority (73.1%) of the respondents agreed that patients do not access all services in the facility, while 26.9% of the respondents do agree that patients access all services in their facilities.

On ranking the current system of delivery, 43.3% of the respondents ranked service provision as good, 36.8% ranked service provision as Very Good, 14.6% ranked it as excellent, and while few respondents (5.3%) ranked service delivery as fair (Table 8).

Table 8: Effect of attrition of health workers on service delivery

Variable	Variable option	Freq.	Percentage	Mean	Std. dev
Are there adequate staff in the facility	Yes	25	14.6	1.90	0.35
	No	146	85.4		
Do all patients access your services?	Yes	46	26.9	1.73	0.44
	No	125	73.1		
How do you rank the current system of service delivery?	Good	74	43.3	1.82	0.87
	Very Good	63	36.8		
	Excellent	25	14.6		
	Fair	9	5.3		

4.7 Measures put in place to mitigate attrition of health workers in Lyantonde district

Objective three of the study aimed at establishing measures that can be put in place to mitigate attrition of health workers in Lyantonde district. Results of this objective were collected using both qualitative and quantitative captured from the Key informants and health workers.

About whether the strategic policies put in place have sustained health workers in the health units 141 (82.5%) of the respondents indicated that strategic policies have not sustained health workers in the government Health units, while a scanty proportion of respondents do agree that strategic policies put in place have sustained health workers in the health units 30 (17.5%). Moreover, 166 (67.8%) of the respondents do not agree with the fact that strategic policies put in place to keep healthcare workers in the health units have worked. More details are summarized in table 10 below.

Table 9: Strategic policies to minimize the attrition of health workers on service delivery

Variable	Variable option	Freq.	Percentage
		14130	82.5

Have the strategic policies put in place by the Ministry of Health and Lyantonde District sustained health workers in the Health units?	False		
	True	30	17.5
Have strategic policies been put in place to keep health workers in health units working?	No	116	67.8
	Yes	55	32.2

4.7 Measures put in place to mitigate attrition of Health workers in government health units in Lyantonde District

About measures put in place to mitigate attrition of health workers in government health units in Lyantonde district, results indicate that the majority agree that provision of accommodation to the health workers (Mean=4.02), the government should provide training and promotion outlets (Mean=4.08), provision of incentives (Mean=4.31), provision of retention allowances (Mean=4.16). However, respondents were not sure if a good relationship between the community and the health workers can lead to retention (Mean=3.0), and Availability of infrastructure and quality services (Mean=3.82).

Table 10: Measures put in place to mitigate attrition of Health workers in government health units in Lyantonde District

Statement	5	4	3	2	1	Mean	Std Dev.
Provision of accommodation to the health workers	76 (44.4)	41 (24.0)	36 (21.1)	18 (10.5)	0 (0.0)	4.02	1.04
The government should training and promotion outlets	0 (0.0)	84 (49.1)	27 (15.8)	6 (3.5)	0 (0.0)	4.08	0.91
Provision on incentives	48 (28.1)	123 (71.9)	0 (0.0)	0 (0.0)	0 (0.0)	4.31	0.45
Provision of Retention allowances	40 (23.4)	119 (69.6)	12 (7.0)	0 (0.0)	0 (0.0)	4.16	0.53
Good relationship between the community and the health workers	0 (0.0)	80 (46.8)	21 (32.7)	56 (32.7)	14 (8.2)	3.30	1.01

Availability of infrastructure and quality services	30 (17.5)	81 (47.4)	60 (35.1)	0 (0.0)	0 (0.0)	3.82	0.70
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4.7 Study Findings from the qualitative data

4.7.1 The qualitative data was collected from a total of 9 key informants in Lyantonde District and the Healthcare workers.

On causes of attrition of health workers, key informants pointed out that attrition of healthcare workers was mainly due to; lack of promotional outlets, inadequate and lack of promotion, poor working environment, low pay , and inadequate accommodation and transport means respectively 2 (20%).

The effect of attrition of health workers was death of clients due to poor service delivery 4 (40%), brain drain from the district 4 (40%), and staff do not gain seniority 2 (20%).

Furthermore, results on strategic policies revealed that recruitment of more health workers at 3 (30.0%) would help to fill in the gap caused by the attrition of health workers, provision of accommodation for health workers 3 (30.0%), granting staff study leave with pay 2 (20.0%), enhancing salaries of health workers at 1 (10.0%), and promotion of health workers 1(10.0%). More information on qualitative data obtained from key informants is summarized in Table 11 below.

Table 11: qualitative data collected from the key informants

District administration Responses (n=10)		
Question Items	Responses	n (%)
Theme 1: Causes of attrition of healthcare workers What are the causes of Healthcare workers in the Lyantonde District?	Lack of promotional outlets	2 (20.0)
	Inadequate upgrading and lack of promotion	2 (20.0)
	Poor working environment	2 (20.0)
	Low pay	2 (20.0)
	Inadequate accommodation and transport means	2 (20.0)
	Low local revenue collections	2 (20.0)
Theme 2: Effect of attrition of health workers on service delivery	This can lead to the death of clients due to poor service delivery	4 (40.0)
	Brain drain from the district	4 (40.0)

What is the effect of attrition of health workers on service delivery?	Staff doesn't gain seniority and experience.	2 (20.0)
Theme 3: Strategic policies put in place to minimize the attrition of health workers What are the strategic policies put in place to minimize the attrition of healthcare workers in the Lyantonde district?	Recruitment of more staff	3 (30.0)
	Granting staff study leave with pay	2 (20.0)
	Enhancement of salaries of health workers	1 (10.0)
	Provision of accommodation for health workers	3 (30.0)
	Promotion and rewarding of health workers	1 (10.0)
Theme 4: recruitment plan	Yes	10 (100.0)
a. Do you have a recruitment timeframe for health workers in the Lyantonde district?		
b. How often do you recruit health workers?	When there is a need	4 (40.0)
	When the structure provides the funds	4 (40.0)
	After obtaining clearance from the public service	2 (20.0)
Theme 5: Importance of retaining health workers What is the importance of retaining health workers in government health units?	Reducing maternal and mortality rates	3 (30.0)
	Career development is assured	2 (20.0)
	Experience is gained	2 (20.0)
	Increased quality service delivery	2 (20.0)
	No wastage of funds by recruiting to fill the gap	1 (10.0)

4.7.2 Qualitative data from the healthcare workers

Concerning service delivery, results indicate that patients do not access all services from the government health facilities 171 (100%). This was mainly due to; understaffing 75 (43.9%), lack of motivation in form of overtime allowances 60 (35.1%), lack of equipment and supplies 36 (21.1%), and. Furthermore, regarding the ranking of the current system in the health units, the majority of the respondents ranked the current system as poor 171 (100%). Moreover, Respondents stated that attrition of health workers can lead to poor service delivery 82 (48.0%), increased maternal and mortality rates 51 (29.8%), and low productivity in the community 38 (22.2%).

On what should be done to retain health workers at the workplace, respondents stated that Lyantonde district as an autonomous body may; provide accommodation facilities to the health workers 62 (36.3), increase salaries of health workers 60 (35.1%), promote health workers if the position are available and if the health workers have the required qualifications for such positions 31 (18.1%), and providing overtime and extra work allowances 18 (10.5%).

Table 12: Qualitative data from the health workers

Question Items	Responses	n (%)
Theme 1: current service delivery	No	171 (100)
a. Do all patients access your services		
b. If not why?	Understaffing	75 (43.9)
	Lack of overtime allowances	60 (35.1)
	Lack of equipment and supplies	36 (21.1)
Theme 4: Ranking the current system		171 (100)
a. How do you rank the current system?	Poor	
b. Give reasons for your answer	Lack of promotion and refresher training	62 (36.3)
	Inadequate staffing	60 (35.1)
	Lack of accommodation	31 (18.1)
	Lack of utility services and transport means	18 (10.5)
Theme 2: Effect of losing health workers in the district	Poor service delivery	82 (48.0)
What is the effect of losing health workers in the district	Increase in maternal and mortality rates	51 (29.8)
	the low productivity in the community	38 (22.2)
Theme 3: Strategic policies retain health workers	Provision of accommodation	62 (36.3)
Please identify five of the strategic policies put in place to sustain health workers in the health units	Increasing salaries of health workers	60 (35.1)

	Promotion of health workers	31 (18.1)
	Provision of overtime and extra work allowances	18 (10.5)
Theme 4: Strategies to sustain health workers in health units What can be done to have health workers sustained in the health units	Provision of utilities such as water and electricity	62 (36.3)
	Salary increment	40 (23.4)
	Intensify support supervision	38 (22.2)
	Promoting the available staff	16 (9.4)
	Recruitment of enough staff	15 (8.8)

4.8 Regression analysis between attrition factor and effect of attrition on service delivery

Regression analysis was used to model the correlation between the drivers of attrition of health workers and service delivery, and to discover the relationships between the independent variables (attrition of health workers) and dependent variables (effect of service delivery). According to the table below, constant (independent variables) were statistically significant and attributed to the attrition of health workers with P-value >0.005 (P-value 0.014). However, when each category of attrition factors was further divided, exploring the attrition of health workers and the level of satisfaction were found not to be statistically significant. But, on considering leaving the current position and how important it would be, it was statistically significant with a P-value >0.05 (p-value= 012).

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.940	.380		2.474	.014	.190	1.691
Exploring the drivers of attrition	.032	.057	.045	.563	.574	-.081	.145
Level of satisfaction with the current job	.049	.073	.054	.661	.510	-.097	.194
Considering leaving the current position. How important would it be?	.261	.103	.195	2.546	.012	.059	.464

a. Dependent Variable: Effect of Attrition of health workers on service delivery

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.0 Introduction

This chapter discusses the findings of the results on the effects of attrition of health workers the in Lyantonde district.

The study was about assessing the effect of attrition of health workers in the Lyantonde district. The research was guided by three objectives and an analysis of these objectives was presented in chapter four.

5.1.1 Socio-Demographic characteristics of the Respondents

Findings on the demographic characteristics of the respondent indicate that most of the respondents belonged to nursing. This category included Senior Nursing Officers, Nursing Assistants, and Enrolled Nurses. These findings are in line with Njuguna (2014), on a study on the proposed County Health System in Kenya whose findings indicated that majority of the respondents in the study belonged to nursing. Moreover, the study found out that marital status of health a health worker was determinant to attrition of health workers. Njuguna et al. (2014), due to limited housing, most health workers find it hard to stay with their families especially young children and their spouses which forces some of them to leave their places of deployment.

Furthermore, the type of education facilities provided in some areas was assumed to be wanting, and many would not admit their children to local schools hence they are forced to move to areas where quality education can accessible. Therefore a larger proportion of married health workers were forced to leave their facilities for other areas with good housing and educational facilities. Furthermore, a study conducted by Smith and Thomas (1998) on marital status, noted that spouses were classified as affecting a person's movement, and family accountability. In their admission, they found out that female workers were always forced to follow their husbands. This implies that female health workers are always forced to find their husbands hence leaving work or transferring the service elsewhere.

5.2 Examining the drivers for attrition of health workers

Findings indicate that health workers leave their place of deployment due to; lack of housing facilities, limited opportunities for promotion, poor/lack of utilities and poor educational facilities. These findings are in line with Wurie et al. (2016b) whose findings stated that the attrition of health workers in the rural areas of Sierra Leon was majorly due to lack of accommodation, limited access to training, and inability to access rural areas have led to attrition of health workers. Prust et al. (2019) assert that employment incentives such as housing allowance influences health workers decision to at work or

areas of deployment. Furthermore, Prust et al. (2019) assert that provision of education incentives and facility improvements can increase the likelihood of increasing job uptake of health workers especially in the rural areas (OR 5.04, 95% CI 4.12–6.18). These points also agree with qualitative findings from the key informants which stated that there are low allowances paid. This is attributed to low revenue collection by the Lyantonde District Local Government which facilitates allowances for health workers from the collected local revenue in the district.

5.3.1 Drivers of attrition of health workers in Lyantonde district

Regarding the diverse attrition of health workers findings indicate that health workers are forced to leave their places of work due to poor working environments and a lack of motivation from Lyantonde district. The poor working environment includes poor or no housing for the health workers, and a lack of medical supplies (blood pressure cuffs, weighing scales, HIV test Kits, and personal protective gear (gloves, masks, and autoclaves). These findings are in line with the study conducted by (Afolabi et al., 2018) on the effect of organizational factors in motivating healthcare employees: a systematic review noted that retention of healthcare workers depends on the level of motivation, besides, healthcare workers in the rural areas were the most affected and felt isolated and abandoned due to poor supervision or nonexistent at all. However, (Giles et al., 2015) state that financial incentives were considered important to motivate health workers to work and remain at the same workplace despite other factors. Moreover, *key informants stated that the major cause of attrition among health workers is low pay, lack of promotional outlets within government health units, and poor working conditions, especially with no medical supplies and equipment.* WHO (2009) stated that medical supplies in most of the health units in sub-Saharan Africa still lack medical equipment, especially in government-aided facilities. This indicates that doctors who are dedicated would prefer to work in health units will all the equipment they need to practice their professions hence leaving the district to other areas with good working environments.

5.3.2 Considering leaving the current job

Findings on considering leaving the current job indicate that Poor/lack of utilities such as water and electricity at work and transport problems was the major factor leading to the high attrition rate. The study agrees with the qualitative data obtained from the key informants who stated that inadequate accommodation and transport means can lead to attrition of health workers. This is in line with the study conducted by Kim (2000) who stated that lack of housing is one of the reasons why either staff does not join or leave health services in remote areas.

5.4 Effects of attrition of health workers on service delivery

Findings on the effect of health workers' attrition on service delivery indicate that there is no adequate staff in the facilities. This makes health workers work for long hours without rest. Similarly, Wilunda et al. (2015) conducted an assessment on staffing in Karamoja Region where they found out that Napak and Moroto Districts had a shortage of 47 midwives which represented half of the minimum number required. According to Human Resource Health (2015), worldwide, there is a shortfall of health workers estimated to be about 17.4 million with the largest demand being in Africa.

Furthermore, findings showed that patients did not access all services in government health units leading to poor service delivery. This is similar to a study conducted in Malawi by Maseko et al. (2015) inadequate service providers with poor supervision, lack of basic equipment and regular stock-outs of medical supplies in some health units; and inadequate funding of the programs made some patients not to access all services as they would want. *According to key informants, patients do not access all services due to; inadequate staffing and lack of accommodation for health workers.*

5.5 Measures put in place to mitigate attrition of Health workers in government health Units in Lyantonde District

Findings on the measures to mitigate the attrition of health workers in the government health Units show that provision of accommodation to health workers can lead to retention of health workers (Mean=4.02). These findings are in line with (Sirili et al., 2022) who stated that the provision of accommodation to health workers by the community promotes the retention of health workers in the areas they are posted. Moreover, training and promotion outlets for health workers with additional qualifications were also found to be one measure that may lead to the retention of health workers. These findings are similar to Kiwanuka et al. (2017) who stated that training and promotion opportunities can also encourage health workers to stay at their workstations for a long time.

Furthermore, findings indicate that the provision of retention allowances such as hard-to-reach allowances can motivate health workers to remain at the place of deployment for the long term. This is in line with Kiwanuka et al., (2017) who stated that organizational factors such as infrastructure, recruitment policies, and provision of incentives had a dyadic influence on health workers' willingness to stay in rural posts.

5.7 Conclusion

There is Attrition of health workers in Lyantonde in Lyantonde district. This was majorly attributed to; the working environment such as the lack of medical supplies, inadequate accommodation in the district health units, limited opportunities for promotion and poor infrastructure has attributed majorly to the attrition of health workers. Furthermore, factors related to attrition of health workers and considering leaving the current job were statistically significant and attributed to attrition of health workers.

In conclusion, the attrition of health workers has an effect on service delivery. Therefore, the more the district loses health workers, the poor the service delivery. Therefore, there is a need to recruit more health workers for better implementation of health services to the population of Lyantonde district. Besides, the district should emphasize on providing accommodation for health workers and promoting staff growth by granting them opportunities to go for further studies and promoting those with experience and higher academic qualifications.

5.8 Recommendations

Lyantonde district as an autonomous district may find ways of provision of accommodation for all health workers by constructing staff quarters in every unit. This will bring health workers close to their areas of work in turn improving productivity.

Recruitment of more health workers to bridge the health workforce gap in the health sector within the district is necessary. The prolonged shortage of healthcare workers increases the workload for those on duty, which causes many to feel overwhelmed and overworked, especially when incentives and pay are inadequate.

The district should intensify support supervision right from the district hospital to lower health units and carry out mentorship where necessary.

The district should provide incentives and inform of allowances (overtime allowances, hard to reach allowances) to health workers

5.9 Further studies

Upon the completion of this research, the following are therefore recommended for further studies;

- Assess the effect of Human Resources for Health on service delivery
- Involvement of stakeholders in Health Service Delivery
- assessing the factors influencing maternal mortality rates

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APPENDICES

APPENDIX I: STUDY PARTICIPANTS INFORMED CONSENT FORM

Dear respondent,

My name is **Benon Kansiime** a student of the Public health department of Kabale University conducting a study under the title: “**Assessing the factors influencing the attrition of health workers in Lyantonde District.**” which has been approved by Kabale University and permission given by Lyantonde District Health Officer. Taking part in this study is voluntary. If you agree to participate, I will ask you some questions about the above title. Any information obtained will be kept confidential and will not be disclosed to anyone except for this study.

There are no direct benefits to choosing to participate in this interview, but by participation, you will help the researcher, the Lyantonde district Local Government, and the Public service Commission in making reforms to minimize the attrition of health workers in Lyantonde District.

For any information or inquiries on this research, contact me at 0772550410. Now that the consent form has been read and explained and understood, further questions addressed. You can agree to participate by consenting to this form.

I therefore willingly agree to take part in the study.

Initial of adult participant

Signature/Thumbprint of participant/ Date
Parent/Guardian/Next of Kin

Initials of Researcher

Signature

Date

APPENDIX II: QUESTIONNAIRE

Good morning/good afternoon sir/madam

My name is Benon Kansime a student of a Master of Public Health (MPH) from Kabale University.

I am researching “*Assessing the factors influencing the attrition of health workers, in Lyantonde district*”. I kindly request you sacrifice a few minutes of your precious time to complete this questionnaire. It is purely for academic purposes. Your assistance in filling out this questionnaire will be highly treasured and all the information you give will be kept confidential.

PART ONE: PERSONAL DATA (write in the space provided)

Section A: Background Information

A) County Name: _____

B) Facility Name: _____

C) What is your cadre?

1= Clinical Officer Specify type: _____

2 = Nursing (Registered Nurse, Enrolled Nurse) Specify _____

D) Current Job Title: _____

1 Gender 1=Male 2=Female

2 Date of birth -----

3.1 If Ugandan, which District? -----

4 What is your marital status? (Circle one category

1=Single 2=Married

3=Divorced 4=Widowed

5=Separated

Section B (1): Exploring the drivers for the attrition of health workers

5. When did you qualify from training for your health position?

6. Is this your first job since receiving your most recent qualification?

1=Yes

2=No

7. For how long have you worked with Lyantonde District? -----

8. For how long have you been at this facility? -----

9. Is your Current Salary adequate?

a) Yes

b) No

c) Not sure

10. If No please explain further.

.....
.....

10. Subsection B (2) please circle the number that best fits your level of agreement with each statement. Using a 5-point scale where 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree.

Statement	5	4	3	2	1
Considering everything, I am satisfied with my job.					
The job is a good match for my skills and experience.					
When I come to work, I know what is expected of me					
I receive recognition for doing good work.					
In the past six months, someone has talked to me to encourage my development.					
My opinion seems to matter at work; I am respected.					
I have flexibility to balance the demands of my workplace and my personal life.					
I have been given the training needed to succeed in my position.					
The organization takes specific measures to protect me against medical hazards					
I consider myself a part of this community.					
My supervisor is available when I need support.					
The health unit administrator here is competent and committed.					
I am actively involved in helping to make this a great healthcare facility.					
The workload is manageable.					
I have the supplies I need to do my job well and safely (gloves, needles, bandages, and others).					
I have the equipment I need to do my job well and efficiently (blood pressure cuffs, weighing					

Scales, HIV test kits).					
This facility has good access to drugs and medications.					
At work, I have access to good facilities					
At home, I have good access to good facilities.					
I have access to good schooling for my children.					
I have safe and efficient transportation to work.					
I feel I have job security.					
The community where I live has good shopping and entertainment					

11. Sub Section B (3): Please circle the appropriate response.

If you were to consider leaving your current job position, how important would the following factors be in that decision?

3 =Very important 2=somewhat important 1= Not important

Statement	3	2	1
Low pay/salary/allowances			
High workload			
Poor access to supplies & equipment at work			
Limited opportunities for promotion			
Social conflicts in the workplace			
Poor supervision and management			
Transport problems			
Poor/lack of utilities (water, electricity) at home			
Poor/lack of utilities (water, electricity) at work			
Lack of housing facilities			
High cost of living			
Poor educational facilities for children			
Poor access to higher education for me			
Work is far from home.			

12. Please identify five things you don't like about working here:

1. -----

2. -----

3. -----
- 4.-----
5. -----

Section C: Analyzing the effect of attrition of health workers on service delivery

13. Are there adequate Staff in this facility?

- 1) Yes 2) No 3) I don't know

14. Do all patients access your services?

Yes = 1 No =2

15. If no, what do you think stops some of the patients from accessing your services?

16. How do you rank the current system of service delivery?

- 1) Good 2) Very Good 3) Excellent 4) Fair 5) Poor

17. Give reasons for your answer-----

18. In your opinion, what do you think is the Effect of losing health workers in the district?

1. -----
2. -----
3. -----
4. -----
5. -----
6. -----
7. -----
9. -----

Section C: Assessing the strategic policies put in place by the government to retain essential health workers in government health units

19. Ministry of Health and Lyantonde district have put strategies to sustain health workers in the health units. (Tick appropriately)

1. True
2. False

3. I don't know

58. Please identify any five of the strategic policies put in place to sustain health workers in the health units

1. -----
2. -----
3. -----
4. -----

59. I think the strategic policies put in place to keep health workers in the health units have worked.

1. Yes

2. No

If yes, end from here.

60. If no, in your view, what can be done to have the health workers sustained in the health units?

1. -----
2. -----
4. -----
5. -----

SECTION D: Measures to mitigate the attrition of health workers in government facilities in Lyantonde District.

Statement	5	4	3	2	1
Provision of accommodation to the health workers					
The government should training and promotion outlets					
Provision on incentives					
Provision of Retention allowances					
Good relationship between the community and the health workers					
Availability of infrastructure and quality services					

Thank you.

Appendix III: Topic guide for Discussion

1. What are the causes of attrition of health workers in Lyantonde district?
2. What is the effect of health workers attrition on service delivery in Lyantonde district?
3. What are the strategies put in place to minimize attrition of essential health workers in government health units in Lyantonde district?
4. Do you have a recruitment plan for health workers in Lyantonde district?
5. How often do you recruit health workers in the district?
6. What is the importance of retaining health workers in government health workers in your district?

Thank you

Appendix iv: budget in dollars for the whole study

Item		amount
Stationary	Photocopying & ruled papers	26
	Flash disk	19
	Airtime (MTN/Airtel)	36
	Transport to and fro	100
	Data collection	28
	Preliminary typing /printings	30
	Subtotal	177
Secretarial services	A) Secretarial services	
	Final printing	50
	Photocopying	25
	Binding proposal	10
	Binding Final report	10
	Subtotal	75
	c)Miscellaneous	120
	Grand Total	476

APPENDIX V: WORK PLAN FOR THE STUDY

ACTIVITY	2021						2022				
	July 2021	Aug 2021	Sept 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	April 2022	May-Oct 2022
Identify the research topic & develop a research proposal.											
Proposal approval by the faculty											
Clearance from the Research Ethics Committee at Mbarara University of Science and Technology											
Data collection and data entry											
Data analysis and report writing											
Research submission											
Research correction and re-submission											

Appendix vi: Letter of approval from Mbarara University Ethics Research Committee



MBARARA UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O. Box 1410, Mbarara Uganda. Tel: +256 485433795; Fax: +256 4854 20782

RESEARCH ETHICS COMMITTEE

E-mail: sec.rec@must.ac.ug

22/12/2021

To: KANSIIME BENON

KABALE UNIVERSITY
0772550410

Type: Initial Review

Re: MUST-2021-254: Assessing the factors influencing attrition of health workers in Lyantonde District, Uganda.

I am pleased to inform you that at the **137th** convened meeting on **21/12/2021**, the MUST Research Ethics Committee, committee meeting, etc voted to approve the above-referenced application. Approval of the research is for the period of **22/12/2021** to **22/12/2022**.

As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the REC for re-review and approval **before** the activation of the changes.
3. Reports of unanticipated problems involving risks to participants or any new information which could change the risk-benefit: ratio must be submitted to the REC.
4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by participants and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.

5. Continuing review applications must be submitted to the REC **eight weeks** before the expiration date of **22/12/2022** to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. You are required to register the research protocol with the Uganda National Council for Science and Technology (UNCST) for final clearance to undertake the study in Uganda.

The following is the list of all documents approved in this application by MUST Research Ethics Commit

No.	Document Title	Language	Version Number	Version Date
1	Research tools cleaned	ENGLISH	English	2021-12-10
2	cleaned protocol	ENGLISH	English	2021-12-10
3	Informed Consent forms	English	English	2021-10-15

Yours Sincerely



Bajunirwe Francis

For: MUST Research Ethics Committee

PPENDIX VII: Acknowledgement of receipt by Lyantonde district local government

KABALE

P.O Box 317
Kabale - Uganda
Email: info@kab.ac.ug
admissions@kab.ac.ug



UNIVERSITY

Tel: 256-392-848355/04864-26463
Mob: 256-782860259
Fax: 256-4864-22803
Website: www.kab.ac.ug

**DEPARTMENT OF COMMUNITY HEALTH
KABALE SCHOOL OF MEDICINE (KABSOM)**

To
The Responsible Officer,

I - Received
Noted

Kabale, 20th January 2022

Dear Sir/Madam,

RE: INTRODUCTION OF Mr. BENON KANSIIME, DOING RESEARCH

This is to introduce to you Mr. Benon Kansiime, a student of the Master of Public Health (MPH) at Kabale University, requesting to do research in your community.

Mr. Kansiime is a *bona fide* second year MPH student in the Department of Community Health at Kabale University (Reg. No. 2018/MPH/1557/W). He has fulfilled all the requirements of Kabale University School of Medicine to proceed with his dissertation. His research has been approved by the Uganda National Council for Science and Technology, represented by the Research Ethics Committee of Mbarara University of Science and Technology (MUST). It is entitled:

"ASSESSING THE FACTORS INFLUENCING ATTRITION OF HEALTH WORKERS IN LYANTONDE DISTRICT"

Any assistance given to him in this regard will be very well appreciated.

Yours Sincerely,

Dr. Everd BIKAITWOHA MANIPLE, PhD (RCSI), MPH (MAK), MBChB (MAK), FAIPH
Professor of Public Health
Ag. Head, Department of Community Health
Tel: +256 772 592506 e-mail: ebmaniple@kab.ac.ug

II Incharges of Health facilities
Receive the bearer of this
document and give him
the necessary assistance.



HO - Lyantonde

Appendix viii: Introduction letter from the head of department

KABALE

P.O Box 317
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UNIVERSITY

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Website: www.kab.ac.ug

**DEPARTMENT OF COMMUNITY HEALTH
KABALE SCHOOL OF MEDICINE (KABSOM)**

To
The Responsible Officer,

Kabale, 20th January 2022

Dear Sir/Madam,

RE: INTRODUCTION OF Mr. BENON KANSIIME, DOING RESEARCH

This is to introduce to you Mr. Benon Kansiime, a student of the Master of Public Health (MPH) at Kabale University, requesting to do research in your community.

Mr. Kansiime is a *bona fide* second year MPH student in the Department of Community Health at Kabale University (Reg. No. 2018/MPH/1557/W). He has fulfilled all the requirements of Kabale University School of Medicine to proceed with his dissertation. His research has been approved by the Uganda National Council for Science and Technology, represented by the Research Ethics Committee of Mbarara University of Science and Technology (MUST). It is entitled:

"ASSESSING THE FACTORS INFLUENCING ATTRITION OF HEALTH WORKERS IN LYANTONDE DISTRICT"

Any assistance given to him in this regard will be very well appreciated.

Yours Sincerely,

Dr. Everd BIKAITWOHA MANIPLE, PhD (RCSI), MPH (MAK), MBChB (MAK), FAIPH
Professor of Public Health
Ag. Head, Department of Community Health
Tel: +256 772 592506 e-mail: ebmaniple@kab.ac.ug

Appendix ix: Introduction letter from the supervisor

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Tel: 256-392-848355/04864-26463
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Website: www.kab.ac.ug

02/10/2021

The Head of Department,

Community Health-Kabale University.

RE: MR. KANSIIME BENON REG.NO: 2018/MPH/1557/W

The above person is a final student of master of public health program (MPH) at Kabale University in Community Health Department.

This is to inform you that he has successfully completed his research proposal entitled “**assessing the factors influencing attrition of health workers in lyantonde district, Uganda**”, under my guidance as his research supervisor and it is now ready for submission to other approval processes before he can embark on data collection. I wish him well.

Byamukama Topher (MPH, PhD cand).

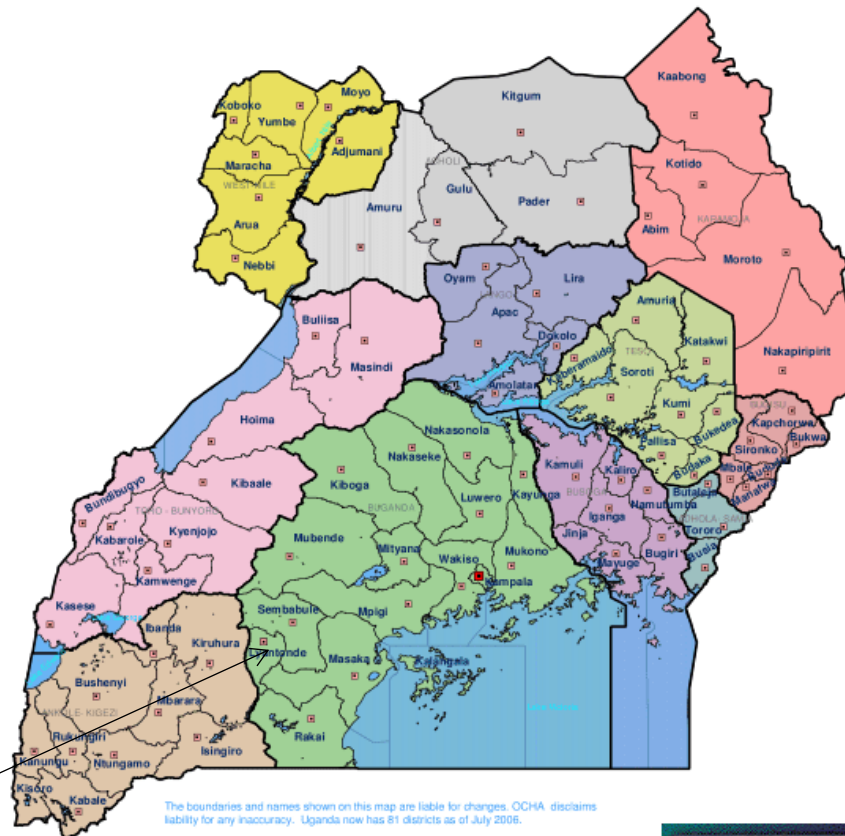
Assistant Lecturer/ Kabale University.

Tel: +256783871103

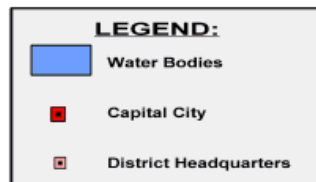
Email: tbyamukama@kab.ac.ug

Appendix x: A map of the study area

PART A: Map of Uganda



Lyantonde district



SOURCE(S):
DISTRICT AUTHORITIES
NUDC
OCHA



PART B: MAP OF LYANTONDE DISTRICT



Appendix xi: Pictures captured during data Collection

