ADOPTION OF ELECTRONIC RECORDS MANAGEMENT SYSTEM IN MANAGING PATIENTS RECORDS AT KABALE REGIONAL REFERAL HOSPITAL

BY

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A RESEARCH REPORT SUBMITTED TO THE FACULTY OF
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UNIVERSITY

DECLARATION

I MUSIIMENTA LUCKY, hereby declare that this is my original work out ofmy effort and it has never been submitted to any institution of higher learning for any award.

Signature:..... Date:03/02/22

MUSIIMENTA LUCKY

APPROVAL

This is to certify that this research report has been done under my supervision as a University Supervisor and it is ready for submission.

Signature ... ~• · · · · · Ms Kaku ru Sarah

Rwotolonya

(UNIVERSITY SUPERVISOR)

DEDICATION

I dedicate this report to Mr Spencer Mucunguzi, Jailence Twebaze and Jackline Nabaasa for the support and guidance they gave to accomplish this report.

ACKNOWLEDGEMENT

My heartfelt thanks goes to the almighty God for the protection and provision he gave me. May his name be praised and glorified.

More thanks goes to Mr Mucunguzi Spencer who provided me with everything to accomplish this research report

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May God bless you abundantly

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LIST OF ABBREVIATIONS

EHRs Electronic Health Records

EMR Electronic Medical Records

HITECH Health Information Technology for Economic and Clinical Health Human

HPT Performance Technology

IT Information Technology

NAHIT National Alliance of Health Information Technology

Pl Performance Improvement

RHIO Regional Health Information Organization

ABSTRACT

This study was about adoption of electronic records management system in managing patients records at Kabale regional Referral hospital. It was guided by specific objectives which included; to establish the availability of Electronic Records Management Systems in Hospitals, to find out the benefits that have accrue with adoption of Electronic Records Management Systems in Kabale Regional Referral Hospital, to investigate the strategies employed for effective management of patients records in Hospitals and to identify the system challenges encountered in managing patient records Hospitals. The study used a cross sectional study design where qualitative research design was used.

The study targeted a population of 100 Participants and a sample of 80 Participants using Morgan and Krejen table. The study basically used interview guide and observation methods to collect data from Participants who were patients, hospital administration and records personnel.

The study found out that adoption of electronic records management system for managing patient records in Kabale regional referral hospital in Kabale district in that control quality of information, improving filing system, Regulate and oversee actions and decisions, improve information handling and allow quick retrieval, Reduces operating costs, foster professionalism and avoid records redundancy. Participants gave the challenges as low service quality due to lack of qualified staff, followed by inadequate knowledge, Lack of security and privacy, technological changes, unstable power supply, additional operating costs, computer viruses and lastly information hacking and misuse Possible ways of improving electronic records in Kabale Regional Referral Hospital were installation of anti virus soft wares which was ranked highly by the Participants followed by regular change of passwords, using only trained personnel, Restrictions on access to records, have stable power supply, Records be maintained in its Cycle, have a backup system and more workshops be provided to all records keepers at Kabale RRH for proper maintenance of records. then finally the study recommended that there is need for the hospital to increase its training programs or workshops in electronic records keeping to the record managers, recruit trained personnel and the records and information keeping department should keep viruses monitoring soft ware's updated

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.0 Introduction

This chapter presents the background of the study, the statement of problem, purpose of the study, objectives of the study, research questions, scope of the study, significance of the study, conceptual framework and operation definition of terms and concepts

1.1 Background to the study

An electronic medical record, according to the latest definition from the National Alliance of Health Information Technology (NAHIT), " is a record of health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff within one health care organization" (Electronic Support for Public Health, 2008). An EMR characteristically contains lists of patient problems, medications, allergies, as well as health maintenance data, progress notes, various test results, and ordering functions (Ebell, 2003).

With electronic medical record systems being one of the most widely utilized forms of health information technology, students should be exposed to computerized documentation systems during their formal nursing educational experiences. Upon graduation, students must be proficient in the computerized documentation of nursing activities performed during patient care.

In 2004 the federal government, under the direction of President George W. Bush, set a goal for the nation that healthcare providers would utilize EMR for the majority of citizens by the year 2014 (The National Alliance for Health Information Technology, 2008). Subsequently, the American Recovery and Reinvestment Act (ARRA) of 2009 allocated \$ I 9.2 billion for implementation of health information technology into clinical practice. The Health Information Technology for Economic and Clinical Health (HITECH) act is the portion of the ARRA that provides the United States Department of Health and Human Services with the power to facilitate promotion and utilization of health information technology usage through government

programs. These government programs are focused on improving health care quality, safety and efficiency (United States Department of Health and Human Services [USDHHS], 2012).

Most recently federal agencies have moved from encouraging simple utilization of electronic medical record systems to instituting actual "meaningful use" of system capabilities. Additionally, The HITECH Act provides funding for incentive payments through the Centers for Medicare and Medicaid Services (CMS) to eligible health professionals and hospitals that demonstrate meaningful use (Centers for Medicare and Medicaid Services [CMS], 2012). CMS (2012) also stipulates that by 2015 those professionals and hospitals not demonstrating meaningful use will have adjustments to reimbursement payments in the form of penalties. In light of new federal mandates, nursing graduates will be expected to be proficient in computerized documentation and in the navigation of a computerized EMR when entering the workforce.

As health care organizations progress into the twenty-first century, the interest and implementation or EMRs has grown significantly (Carroll, Bradford, Foster, Cato, & Jones, 2007). Anecdotes on the benefits of EMRs, from several health care organizations that have implemented them, include increased patient safety by reducing medical errors, time efficiency, and decision support tools (Deese & Stein, 2004). EMRs can help promote teamwork across disciplines by enhancing the visibility of each disciplines' work. The EMR also has the capacity to track outcomes by capturing and compiling data (Beaty, 2007). However, extensive EMR implementation has not yet occurred due to the vast financial and organizational requirements (E Gospodarevskaya, 2015). Experiences with implementation have been varied as some organizations have adopted them without the proper preparation (Westbrook, 2015).

Uganda had used paper records to manage care, treatment, and reporting needs until it partnered with the University of California, San Francisco on research initiatives. In 2004 ISS (Injury Severity Score) Clinic became a global health initiative beneficiary and the outpatient antiretroviral therapy center of Mbarara Regional Hospital. Offering free treatment, patient enrollment jumped dramatically and the clinic's electronic Access database was unable to keep up. The clinic secured a grant to implement a new medical record system, and leaders struggled to convince the physicians and other stakeholders of its value. The most clinically-relevant

pieces were slow to be put in place, and new Ministry of Health regulations posed minor setbacks. At the end of 20 10, the clinic had seen nearly 21,000 patients. Clinic research had contributed to more than 20 peer-reviewed articles, but the long-term prospects for the database were unknown.

1.3 Problem Statement

Although there are other implementing partners supporting data management, they operate in specific departments like using specific tools specifically designed to suit their needs.(www.mets.org.ug). There are efforts to retain the captured data for future reference using national Health Management Information Systems tools in the hospital, but data that is captured is manual and record management is only done by papers which makes records prone to disasters like insects, dust, rainfall and fire (Keirembo & Kisubi, 2020). This has led to failure to make informed decision on data that is manually handled in storage which is time consuming and leaves a lot of room for error and inconsistency.

At hospital level, there is bulky, multiple and different data collected without proper records. this is a result of inadequate knowledge and skills of staff and other factors therefore there is a need to carry out a study on examining the adoption of electronic record management systems at Kabale Regional Referral Hospital

1.3 Purpose of the study

The main purpose of the study was to assess the adoption of electronic records management system for managing patient records in Kabale regional referral hospital in Kabale district.

1.4 Objectives of the study

- 7. To establish the availability of Electronic Records Management Systems at Kabale Regional Referal Hospital.
- 8. To find out the benefits that have accrue with adoption of Electronic Records Management Systems at Kabale Regional Referral Hospital.
- To identify the system challenges encountered in managing patient records at Kabale Regional Referal Hospital

 To investigate the strategies employed for effective management of patients records at Kabale Regional Referal Hospital.

1.5 Research Questions

- v. What is the extent of the availability of Electronic Records Management Systems at Kabale Regional Referal Hospital?
- vi. What are the benefits that have accrued with adoption of Electronic Records Management Systems at Kabale Regional Referal Hospital?
- vii. What are the system challenges encountered in managing patient records at Kabale Regional Referal Hospital.?
- viii. What are the strategies employed for effective management of patients records at Kabale Regional Referal Hospital?

1.6 Scope of the study

1.6.1 Geographical scope

The study was carried out at, Kabale regional referral hospital which is found in the central division at Makanga Hill in Kabale Municipality, Kabale district, South Western Uganda.

1.6.2 Content scope

The study focused on the adoption of electronic records management systems in managing patient records at Kabale regional referral hospital.

1.6.3 Time scope

The study was carried out between July 2021 -January 2022.

1. 7 Significance of the study

The study will be of significant in the following ways;

To the researcher, the study would aid her to fulfill the requirements that lead to the award of a Diploma in Records Management of Kabale University.

The study would provide possible strategies for proper management of electronic record systems in health facilities.

The research findings would help the hospital management committees to find out strategies for proper adoption to electronic records management system to improve their performance

1.8 Operational of key terms

Electronic Records Management System

Electronic records management [ERMS] is using automated systems to manage records regardless of format. Electronic records management is the broadest term that refers to electronically managing records on varied formats, be they electronic, paper, microfilm

Patients

A person under health care. The person may be waiting for this care or may be receiving it or may have already received it. There is considerable lack of agreement about the precise meaning of the term "patient."

Records Management

Records Management refers to a set of activities required for systematically controlling the creation, distribution, use, maintenance, and disposition of recorded information maintained as evidence of business activities and transactions.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the review of related literature on adoption of electronic records management system in managing patients' records at Kabale Regional Referral Hospital. The purpose of reviewing literature is to establish what others have researched about on the availability of ERMS, the benefits that have accrued with adoption of ERMS, the strategies employed for effective management of patient's records, and the system challenges encountered in managing patient records.

2.1 Availability of ERMS in Hospitals

The advent of computers, lead to many ways to store vast amount of information without requiring huge physical storage space. They also offered the convenience where several people can access the same information concurrently and from different locations. In keeping up with the complexity of managing the patients' health-related information, the healthcare industry started computerizing these records over a decade ago

EMRS Comprises a set comprehensive database used to store and access patients' healthcare information. The EMRs replaced the paper medical records as the primary source of information for healthcare purposes including clinical, legal, and administrative requirements. It is seen as a virtual compilation of non-redundant health data about a person across lifetime, including facts, observations, interpretations, plans, actions, and outcomes (Conway, 2000).

The EMRS is supported by a network of systems that captures, stores, processes, communicates, secures, and presents information from multiple disparate locations as per requirement. The system facilitates the interaction among specialists or initial attending doctors, patient, attendance of long-term care, and business administration such as risk management and billing. EMRS allows medical personnel to look at charts and histories of patients without having to search for paper-based medical reports. With the use of document imaging system, cataloguing can be done according to its specific need. Moreover, patients' charts can be customised

ding to the preference of the medical personnel. Besides that, it can also list the type of <u>...ci</u>on and dosage on a patient's file (Keirembo and Kisubi, 3013)

he moment, there are many EMR systems available in the market. Healthcare organisations

♦"":Onnally caught in a dilemma either to purchase ready-made or custom-made system. There system in the market that could accommodate all the requirements of any organisation. ore initial investment is definitely needed if the organisation decides to go for custom-made stem. As far as ready-made system, the organisation will tend to adapt the system and see how could compliment to its operations. Whereas, for custom-made system, the organisation will decide on how the system is going to improvise on its current workflow.
Measuring tools such as ecklist must be developed to keep track of the entire implementation process. Since the market s very competitive, vendors are outshining each other with additional features to attract potential --:ers. The following are some of the import EMR Management Systems that are being used in arious hospitals. health centres and clinics (Sishasen,, 2018).

Visionary Medical Systems, This system enables better office efficiency and workflow of EMR y providing fast access to the patient's information. The use of Microsoft architecture enables petter stability and integration with most software in the market. Besides that, visionary could store critical information of a patient such as medication, allergies, laboratory reports, charts. The system also has an easy-to-use Windows user interface that helps the users in booking of medical appointments, billing, financial, and operational elements of a successful medical practice. Another advantage of this system is that electronic claims can be processed to insurance carriers of commercial or government entities. This system is suitable for use either for single or multiple practices (Thede,2003)

AdvantaChart: This system is a Window-based EMR application designed in partnership with Obstetricians and Gynaecologists. The system is easy to use and is available at affordable price. Besides that, this system could be used for workflow process to streamline and to provide qua! ity patient care.

The interface is user friendly and doctors and healthcare professionals could record all phone calls, laboratory tests, and hospitalisation records. The system is reliable in which the

formation and charts of the patient could be accessed from remote locations through an Internet connection. This system combined imaging, data recognition, and other leading edge technologies to create, maintain, and access to patient records. It helps in tracing patients; the movement of particular patient could be monitored at every stage (from check-in till discharge)

Rudin et al, 2020)

2.2 Benefits that have accrued with adoption of ERMS in Hospitals,

Electronic Health Record Systems are the Vehicle for Implementing Performance Measures. Toole, Kmetik, Bossley, (2005) emphasized that advances in information technology and recent national directives have the potential to support dramatic improvements in health care. Two key components are the implementation of functional electronic health record (EHR) systems and widely accepted, evidence-based clinical performance measures for physicians. Midwest Heart Specialists, a 55-physician cardiovascular group at 14 locations in northern Illinois, has utilized an outpatient electronic health record (HER) system since 1997. Since 2003, the group has integrated cardiovascular measurement sets developed by the American Medical Association-convened Physician Consortium for Performance Improvement into its EHR system. With this integration, the group was able to capture data needed for internal quality assessment and improvement as part of routine outpatient care without the need for additional resources. Critical disease-management data for decision support are available continuously, resulting in improvements in health care. The reporting of these standardized data could be the foundation to support quality-based reimbursement strategies and physician office-based, disease-management strategies.(Thede,2003)

Gans, Kralewski, Hammons, Dowd (2005), surveyed a nationally representative sample of medical group practices to assess their current use of information technology (IT). their results suggest that adoption of electronic health records (EHRs) is progressing slowly, at least in smaller practices, although a number of group practices plan to implement an EHR within the next 2 years. Benefits of implementing an EHR include improved access to medical record information, workflow, patient communications, and accuracy for coding evaluation and management procedures. For those both with and without EHRs, the top five barriers were related to costs and concerns about physicians' support and their ability to use the new system. Overall, the process of choosing and implementing an EHR appears to be more complex

and varied than we expected. This suggests a need for greater support for practices, particularly smaller ones, in this quest, if the benefits expected from EHRs are to be realized.

Miller and Sim (2004), emphasized that electronic medical record (EMR) ts an enabling technology that allows physician practices to pursue more powerful quality improvement programs than is possible with paper-based records. However, achieving quality improvement through EMR use is neither low-cost nor easy. Based on a qualitative study of physician practices that had implemented an EMR, they found that quality improvement depends heavily on physicians' use of the EMR? and not paper? for most of their daily tasks. The key barriers to physicians' use of EMRs include high initial costs and uncertain financial benefits; high initial physician time costs to learn the system; difficulties with technology, including EMR usability; and difficult complementary changes and inadequate assistance from both IT support and EMR vendors. We then suggest policy interventions to overcome these barriers, including providing work/practice support systems, improving electronic clinical data exchange, and providing financial rewards for quality improvement.

The Impact of Electronic Health Records on Time Efficiency of Physicians and Nurses:

Poissant, (2006) examined the impact of electronic health records (EHRs) on documentation time of physicians and nurses. Twenty-three papers met their inclusion criteria; five were randomized controlled trials, six were posttest control studies, and 12 were one-group pretest/posttest designs. The use of bedside terminals and central station desktops saved nurses, respectively, 24.5 percent and 23.5 percent of their overall time spent documenting during a shift. Using bedside or point-of-care systems increased documentation time of physicians by 17.5 percent. In comparison, the use of central station desktops for computerized provider order entry (CPOE) was found to be inefficient, increasing the work time from 98.1 percent to 328.6 percent of physician's time per working shift. Studies conducting their evaluation process relatively soon after implementation of the EHR tended to demonstrate a reduction in documentation time; studies with a longer interval between implementation and the evaluation process observed an increase in time. This review highlighted that a goal of decreased documentation time in an EHR project is not likely to be realized.

The Value of Electronic Health Records in Solo or Small Group Practices. Initial EHR costs averaged \$44,000 per full-time equivalent (FTE) provider, and ongoing costs averaged \$8,500 per provider per year. The average practice paid for its EHR costs in 2.5 years and profited handsomely after that; however, some practices could not cover costs quickly; most providers spent more time at work initially, and some practices experienced substantial financial risks. (Friedberg,2020)

Policies should be designed to provide incentives and support services to help practices improve the quality of their care by using EHRs. This article provides useful information for clinicians interested in purchasing and implementing an EHR, and for provider organizations and policymakers who may be involved in making decisions about EHR adoption. While only focusing on two EHR vendor systems is a limitation of this study, the numbers are consistent with other cost data from similar studies, Ganchoff, (2008).

Using Diffusion of Innovation Concepts to Enhance Implementation of an Electronic Health Record to Support Evidence-Based Practice Geibert, (2006); identified the explosion of clinical data that is available and how difficult it is for clinicians to find answers to clinical questions. Electronic health records (EHRs) are used increasingly to assist clinicians in this process; however, resistance to the implementation of technology-assisted care is not uncommon. The article reviews the diffusion of innovation research and provides the nurse manager with suggestions for applying these concepts to enhance the implementation of an EHR that can support evidence-based practice. Five characteristics of innovations are discussed, as they help explain different rates of adoption. These characteristics are represented by the acronym TACOS: Trialability (Can we try this on a small scale first?), Advantage (Is this an important goal for our unit?), Compatibility (Will the practice work in our environment?), Observability (Can we see the practice in action at another site?), and Simplicity (How big a change will this be?). The five-stage, innovation-decision process is studied as it relates to EHR implementations (Meyer,2011).

Information systems, such as electronic medical records, have been found to improve patient safety and decrease medication errors in practice. Implementation of an academic EMR as part of the nursing education program could increase the time spent in direct patient care and

decrease the time spent documenting when the student nurse transitions into professional practice (Ornes & Gassert, 2007). The use of evidence-based practice is imperative in providing quality patient care. Students can use academic EMR and other information technology to search for evidence-based guidelines that can be incorporated into patient care (Flood, 20 I 0).

The importance of proper utilization of electronic health information resources in nursing schools is hard to overstate. Resource utilization is figuring out the optimal way in which a procedure, therapy or technique can be used to achieve desired health outcomes. It can also refer to the appropriate usage of available medical staff and healthcare professionals. Sometimes resource utilization is in reference to using the appropriate medical technologies or supplies. In all cases, resource utilization refers to an accurate assessment and use of supplies or staff hours to ensure there is no waste or redundancy Bushey (2011).

It is important when delegating tasks to hospital personnel to be extremely specific as to what procedures, supplies, technologies and medicines should be used in patient care to ensure proper resource utilization occurs. This requires you have knowledge of your staff, the available medical supplies and technologies on hand as well as their efficacy and cost. This saves time for your staff so they do not have to improvise with a potentially less effective or more expensive method of treatment. It is critical to be precise in your instructions to staff to ensure that no harm comes to the patient due to an inadequate substitution of supplies. The efficacy of the treatment is always the cornerstone of appropriate care, with cost being an important factor as long as it meets the needs of the patient and follows best practices guidelines (Johnson, 2010).

Curan (2001) suggested that Training and service delivery organizations have tried for decades to improve the quality and access of healthcare services in developing countries by providing training to health care providers. The assumption has been that the gap in providers' performance is attributable to inadequate knowledge and skills - and therefore, training is what is called for. Millions of training dollars later, healthcare indicators are little improved and providers are still in need of support.

Realizing that training is oftentimes not the only solution, organizations such as IntraHealth International have searched for a key to improving outcomes at the most basic point of contact

tetween the provider and the client (Kenneddy2009) Intralealth analyzed both domestic esearch in Human Performance Technology (HPT), as well as the current research on the systems influencing family planning provider performance within developing countries themselves. A line of research on family planning provider performance has focused on capturing a holistic view of the entire family planning program in a given region or country, a here data is collected from experts in the area. Although this research has offered evidence of overall program effects on population-level outcomes, it is of limited use in understanding specific conditions affecting the performance of providers at the facility level.

2.3 System challenges encountered in managing patient records in Hospitals

One of the major issues that come to the fore from research conducted by Akussah (2002) was **the** lack of records management awareness among the staff and users of public records in the registries of government ministries. The main reasons for this were inadequate professional training of staff, and the lack of continuous records management education in the form of seminars, workshops and the like.

Akussah (1991) identified inadequate awareness of preservation issues on the part of both information professionals and users of records, as militating against the effective records management in Uganda. He recommended the education of information professionals and patrons of libraries and archives, and emphasized the need to raise awareness of document preservation in Uganda. The lack of training and awareness were also isolated by Akussah (2002 as one of the key factors contributing to the rate of deterioration in the National Archives of Uganda. He recommended staff education at all levels, including in house, training, seminars, workshops and formal training. He also recommended intensive orientation programmes for the clientele of the archives to raise their awareness of how to care for and handle documents.

There is no doubt that any country that is plagued with deficiencies in preservation training and awareness may not be able to discharge its responsibility towards safeguarding its documentary heritage. This view was forcefully stressed by Piggott (1987) when he wrote, "A concern for conservation (preservation) is a central to the true responsibilities of the archivist. To ignore the matter is to be professionally negligent. There can be no compromise on this point, and not even a shortage of resources can excuse a lack of concern for conservation."

Records Management professionals in Uganda like all other professionals in other countries are ucemed about the following:

The **low** profile of and limited support for records professionals as key players in information **and** records management, particularly in the electronic age.

The absence of legislation and policies for the management of information technologies and electronic records.

The lack of standards and systems for the management and preservation of information technology products and electronic records.

The lack of adequate training and human resource development

The need for increased funding and more appropriate budgeting of funds for records and archives work, not just for technology-oriented approaches to records creation and management (Millar, 2004).

Carlos (1998) claims that if people are not trained on how to keep track of information, it will be very difficult for that society to make a transition to electronic government. This adds to the new challenges that the information era is introducing to developing countries in the public sector. These challenges are magnified by other types of constraints: the influence of the regulatory environment; the availability of laws with respect to electronic signatures; the proper treatment of intellectual property rights and how you can integrate this at the level of a modern knowledge management system; and also the most basic aspects of having people trained and able to keep track of records in a way that supports accountability and transparency. In a study conducted by Sebina (200 I), it was found that officers appointed to the position of records management were not fully trained records managers. Therefore, they were not prepared to professionally handle all the records management problems faced by the company under investigation.

A research investigation by Moyo and Ngulube (2000) established that many countries did not have archival preservation policies and plans.

This is indicative of the fact that institutions on the continent have not seriously committed themselves to prolonging the life of information in their archival documents.

According to Conway (2000), digitization requires a deep and longstanding institutional commitment to traditional preservation in order for it to work. The fact that many archival institutions in sub-Saharan Africa do not have clearly articulated preservation programmes raises a lot of concerns about their ability to implement emerging digitization procedures when they do not have any grounded experience in traditional preservation techniques. Archival institutions should pull their act together before thinking about digitization.

2.4 Strategies employed for effective management of patients records in Hospitals

The line MoH should hold National Medical Stores managers personally accountable for what goes right or wrong in National Medical Stores. Tough measures must be put in place (by MoH, MoFPED and the President) to punish NMS management; if essential medicines (like antimalarials) are inadequate, if NMS delivers medicines that are not requested by clients, if NMS dumps onto lower health facilities drugs that have less than three months' shelf-life or if NMS delays to deliver medicines on time. The aim of these tough interventions is to improve efficiency in delivery of medicines Gueye et al (2017).

The wide spread problem of drug stock outs which affects service delivery country wide, NMS should be given adequate capitalization to enable it procure I 00 percent of the drugs requested by clients. Once NMS has financial autonomy and adequate capitalization, there should be zero tolerance to NM S's perpetual problem of non-availability of medicines. The NMS must purchase the medicines requested from the market, including JMS and/or other private pharmacies in line with national procurement guidelines. In other words, NMS should be given an expanded mandate of procuring and distributing all medicines (Camargo, 2012).

The inability of EHR and health IT systems to communicate with each other (interoperability) has also been identified as a barrier to provider adoption and utilization. Interoperability among IT systems may facilitate provider adoption and utilization because it could potentially reduce rework by care providers as well as improve dissemination of new medical knowledge among physicians (Payne *et al*, 2006). Finally, positive communication in which providers share thoughts, opinions, and information by speech, in writing, or through peer professional or social networks has been shown to be associated with provider health IT adoption and utilization (Jerome *et al*, 2008).

Hieeis (2006) asserts that in system quality the elements of interest should include; Data **auracy:** the extent to which the data are free of identifiable errors. This ensures that the **imeventions** employed are correct in regard to the target audience. Data items that are easily **inable** and legal to access with strong protections and controls built into the process.

at Timeliness: Concept of data quality that involves whether the data is up-to-date and **available** within a useful time frame; timeliness is determined by manner and context in which the <u>-a</u>are being used by Health management information system (HIMS) to improve service delivery (Heeks, 2006).

Pizziferri, (2005), said that despite benefits associated with the use of electronic health records EHRs), one major barrier to adoption is the concern that EHRs may take longer for physicians use than paper-based systems. To address this issue, they performed a time-motion study in e primary care clinics.

25Summary of literature Review

-_:cording to literature, there are different HMIS tools available in the market such as EMR, **Epivac**, and these are of benefit to improving reporting, however, these require strategic terventions such as strengthening internet, training users among others. due to the challenges of inadequate skilled labour and unreliable internet connection. Although different researcher shuch as Akussah (2002), Moyo and Ngulube (2000) and Conway (2000) have researcher about Health management information systems they have not tackled on the adoption of health management - ..:orrnation systems

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter covers the methodology that was used in the study. It contains the research design and techniques as regards to the sources of data, sampling techniques, design and procedures, data collection method, data collection instruments, target population, data analysis techniques and expected limitations in the study.

3.1 Research Design

A cross sectional design was used to enable the researcher draw certain trends of data, qualitative nature was used. This assisted the researcher to obtain information, which enabled her to arrive to a conclusion.

This study was qualitative in which cross sectional research was used to asses adoption of electronic records management system in managing patients records at Kabale regional referral hospital., Jacobs, Sorensen and Razavieh (2009) noted that qualitative research seeks to understand a phenomenon by focusing on the total picture rather than breaking it down into variables. Consequently, this research aimed at achieving an in-depth understanding of the adoption of electronic records management system in managing patients records at Kabale regional referral hospital

3.2 Target Population

This was comprised of 100 Participants including one (I) records staff, 15 doctors and 84 patients at Kabale regional referral hospital because they were the ones who with records management directly.

3.3 Sample Size

Considering the financial constraints and time, a sample of 1 (one) records officer, 10 (ten) doctors and 69 (sixty nine) patients of Kabale regional referral hospital was selected using Krejcie & Morgan (1970) table making a total of 80 (eighty) Participants.

34 Sampling Methods

urposive sampling was used in the selection of records officer and doctors since the researcher as to identify the Participants given the data she wants on adapting to the use of electronic records management system in health facilities

Simple random sampling was used in the selection of the patient Participants as they will assumed to have similar information on the subject under study.

3.5 Data Sources

The study used both primary and secondary data sources. Primary data was obtained directly from Participants by use self-administered interviews. This was used because Participants did not have time to answer the questionnaire therefore interviewing would work better.

The researcher intended to clarify on question that Participants might fail to interpret. Secondary data sources included a review of related literature from recognized journals, reports, publications, brochures, newsletters, both local and internationally published reports documents and written literature on adoption of electronic records management systems in hospitals

3.6 Methods of data collection

3.6.1 Interviewing Method

Oral interviews which involved two people mainly interviewer and respondent who. answered a set of questions from an interviewer was conducted. This helped the researcher to get immediate feedback as Participants who accepted to be interviewed responded immediately. With the aid of an interview guide, the researcher conducted a face to face interview with the records officer, patients and doctors

3.6.2 Observation Method

The observation method is described as a method to observe and describe the behavior of a subject. As the name suggests, it is a way of collecting relevant information and data by observing. Observational research is a qualitative research method where the target respondent/subject is observed and analyzed in their natural/real-world setting. Observational

<u>~</u>Il is used when other data collection procedures. The advantage with using observation <u>merhod</u>. **is** its directness whereby the researcher can collect data at the time they occur (Rahman, 6). Observation method was used to observe the events associated with adoption of electronic **rcords** management systems in hospitals.

3 Data Collection Instruments

The researcher used interview guide during data collection that was qualitative in nature. It only ses interview guide and observation checklist for data collection.

.7.1Interview guide

e researcher designed an interview guide and administered it to the selected staff of Kabale

Regional Referral Hospital to capture qualitative information. An interview is a useful method for discovering the individual's way of thinking and feeling about a topic and why they hold certain views. Interviews are also good for sensitive topics which people may feel uncomfortable **to** discuss in a focus group. The semi-structured interview guide enabled collection of data about adoption of electronic management system in a systematic manner.

3.7.2 Observation checklist

Observation method was also utilized in trying to understand the electronic record management' system at Kabale regional referral hospital. Observation can occur in a natural setting and involve the researcher taking lengthy and descriptive notes of what is happening. The researcher observed the way Kabale regional Referral hospital is adopting to electronic management systems and different electronic management systems available at Kabale Regional Referral hospital.

3.8 Data Collection Procedure

The researcher got a letter of introduction from the Department of Library and Information Science to conduct a research on the adoption of electronic records management system in Kabale regional referral hospital .A copy of this letter was presented to the Participants, who

_:?;}proached with research instruments in place, visiting and administration of interviews to Participants by the researcher and hence interviews was conducted and record keeping was **mrorant** in interpreting and analyzing of the findings.

.:.... Data Presentation and Analysis

~~ data was presented and analyzed qualitatively using themes of the study extracted from search objectives

310 Themes of the study

- -:.er collecting data, the researcher organized the collected data from interviews; data was **edited**, coded, and sorted. Data was classified and presented using frequency tables and percentages.

7he data was presented in a tabular form, with frequencies and percentages for classification of responses, easier analysis and usual impression.

3.10 Ethical Considerations

The researcher considered ethical issues. Consent was obtained from concerned individual participants. The researcher informed the participants/institution about the study, and operated within the parameters agreed with the institution. However, the researcher considered the caution **by** Hoyle et al., (2002) that giving too much information about the study to the Participants may lead to bias in the responses. Hoyle et al., (2002), also advised against forcing Participants into participating in the study.

3.11 Limitations

Participants refused to provide information to the researcher but the researcher tried to explain for them that the purpose of the study is purely academic.

Some Participants emphasized on private matters which need a lot of persuasion and encouragement of the researcher about confidentiality. The researcher provided the entire necessary guarantee about confidentiality to the Participants.

CHAPTER FOUR

DA TA PRESENTATION, ANALYSIS AND DISCUSSION OF THE FINDINGS

4.0 Introduction

This chapter deals with presentation, analysis and Discussion of the findings from the study which was carried out using interviews and attached meaning to them. The findings of the study were presented, analyzed and discussed according to the objectives of the study which were; To establish the availability of Electronic Records Management Systems in Hospitals, To find out the benefits that have accrue with adoption of Electronic Records Management Systems in Kabale Regional Referral Hospital, To investigate the strategies employed for effective management of patients records in Hospitals and To identify the system challenges encountered in managing patient records Hospitals. In order to form logical and acceptable conclusion, the findings are presented starting With the background information of Participants followed by the findings from the study.

4.1 Bio-data for Participants

Using the interviews, the study was able to get social information about the Participants most especially the staff and patients of Kabale RRH in terms of Age, Sex and their respective educational levels as follows.

4.1.1 Age of the Participants

The researcher asked the Participants their age groups in which they were categorized and the findings gave research age distribution for those Participants to their question as shown in the table below

Table 1: Showing Age of Participants at Kabale Regional Referral Hospital

Age	Frequency	Percentages (%)
15-20 years	16	20
20-25 years	32	40

Total	80	100
35-40 years	08	10
30-35 years	08	10
25-30 years	16	20

Source: Field data, 2021

From table 1 above, the majority of the Participants were in Age bracket of 20-25 reflecting 40% followed Age bracket of 15-20, 25-30, reflecting 20% each, and lastly 30-35, 35-40 reflecting 10% each

4.1.1 Sex/Gender of Participants at Ka bale Regional Referral Hospital

The research was also able to come up with sex distribution for Participants as shown below.

Table 2: Showing Sex of Participants at Ka bale Regional Referral Hospital

Sex	Frequency	Percentages (%)
Male	50	62
Female	30	38
Total	80	100

Source: Field data, 2020

in relation to gender, majority of the responds were male [62% followed by females (38%]. This implies that the most dominant Participants that were sampled in Kabale RRH were females.

4.1.3 Education Level of Participants at Kaba le Regional Referral Hospital

The researcher also sought to find out the education levels of Participants as an aspect of back ground information of the study and the findings were summarized in the table below.

Table 3: Showing the Education Background of Participants at Kabale Regional Referral Hospital

Education level	Frequency	Percentages(%)
Certificate	40	50
Diploma	24	30
Degree	16	20
Total	80	100

Source: Field data, 2021

From table 3 above, the majority of the Participants where certificate holders reflected 40 (50%) followed by diploma holders reflecting 24 (30%), and lastly followed by degree holders reflecting 16(20%)

QUALITATIVE ANALYSIS

4.2 Availability of Electronic Records Management Systems in Kaba le Regional Referral Hospital

The researcher analyzed the availability of electronic record management systems in hospitals and according to the results got from interviewing.20% of Participants suggested EPivac system which is used to capture data for covid 19 data entry and many others.this sytems helps to capture many clients who are vaccinated at the hospital. One of the respondent said that "Epivac systems are used to capture and report about Covid 19, it is the new system that were recently introduced by ministry of health to manage data about covid 19 and he said that it is available at the hospital"

Ministry of Healthy system was suggested by 30% of Participants. This system is helps to report many cases like malaria, TB and any outbreak in the area." *Ministry of health system is available at the hospital and is used to manage data about specific diseases such as Malaria*", said the respondent

50% of Participants suggested hybrid systems which are used to capture data about HIV patients.one of the respondent told the researcher that "Hybrid system is a special system designed to capture data on Tb and HIV specifically".

4.2 Benefits that have accrue with adoption of Electronic Records Management Systems in Kabaie Regional Referral Hospital,

Control quality of information had the highest response reflecting 20 (25%), this is reflected by good performance on local and international sites since its always in green colour. This was confirmed by the respondent who said that **HMIS** said "HMIS control quality of information since systems are designed to output quality data".

Improving filing system reflecting 18 (23%), this is evidenced by electronic capturing of patient records electronically. This was confirmed by one of the respondents who said that "with the use of HMIS filing is made easy since it comes with easy retrival and storage notforgetting backup"

Regulate and oversee actions and decisions reflecting 12 (15%), these systems help in decision making following the data captured. One respondent said that "HMIS helps stakeholders to get summarized data which help them to achieve take their decision"

Improve information handling and allow quick retrieval reflecting 10 (13%), this was comfirmed by one of the respondent who said that "HMIS comes with better information handling techniques once data is captured in the system, this can be done by using sorting and filtering"

Reduces operating costs reflecting 08(10%), these electronic systems helps in cutting operating as one of the respondent said that "HMIS employs few technical staff to handle records as compaired to manual record systems which require a lot of manpower"

Foster professionalism reflecting 06 (07 %), these systems helps to indicate professionalism in data management as **in** agreement with one of the respondent who said that "the use of HMIS foster professionalism in that when computer is used to manage records instead of manual ways, professionalism is fostered'

A voids records redundancy had the least response reflecting 02 (2%).quoting one of the

respondent "record redundancy is a major problem in records management which is eliminated in HMIS systems"

The use of HMIS improves information handling and allows for the speedy retrieval of records and information through electronic search facilities. As a result, policy makers can make informed decisions quickly and efficiently, contributing to the effectiveness of the organization. Further, when the retrieval of records and information happens swiftly and decisions are made on time, the image of the organization improves as it is seen to be reliable, capable and responsive to the needs of its clients or the public (Pember, 1998:64). Certainly

The professional image of an institution can be enhanced by improved information flow, and the institution may be able to take on more complex work because it is more efficient and costeffective. Computers can improve communications, reduce the loss of essential information, speed up the completion of projects and increase public current awareness of the institution. The use of technologies also exposes institutions to communities outside of their normal client base, locally, regionally, nationally and internationally. For example, the creation of an institutional website raises awareness and increases interest of clients and members of the public regardless of the physical location of an organization. Chimainikire, (2002)

4.3 System challenges encountered in managing patient records in Kabale Regional Referral Hospital,

Low service quality due to lack of qualified staff was put at excellent by majority Participants 24 (24%), one respondent told the researcher that "sometimes the hospital employee qualified staff but who are not skilled enough forexample who have slow typing speed who sometimes delay data in time"

Inadequate knowledge 18 (23%), because of limited training as one of the respondent said that "some employees sometimes dodge trainings because of unavoidable circumstances such as sickness, being busy in other things and other functions"

Lack of security and privacy reflecting 10(12%), I ike weak passwords, some respondent said that "some data managers save passwords in computers so whoever come on the site can easily login which puts data on a big risk"

ermo logical changes and Unstable power supply each reflecting 08(10%), which brings abrupt

sa!It downs, one of record managers told the researcher that "when iam working on the and power is down, it delays me to meet the deadline of meeting the backlog cleared"

<u>iirition</u>aloperating costs reflecting 06 (08%), because designing and maintaining electronic **stems** is a bit expensive. One of the respondent told the researcher that" *maintaining and iesigning the HMIS systems* is expensive in that one has to pay for system development, **maintaining** it and even annual licence"

_CCJputer viruses reflecting 04 (05%) which always destruct the performance of computers here these systems are installed. This was "evidenced by sharing of removable disks such as **flash** disks in transferring data from one computer to another which spread the virus easily" said he respondent

-: formation hacking and misuse reflecting 02 (02%). This is always a problem by people who need information for unhealthy reasons like summoning the government agencies. One oth respondent told the researcher that there is one incident which happened on the hospital that -: here is an independent researcher who came to collect some information about hospital but he did not have the required documents to introduce him so he was denied information, what he did he tried all means to access the systems without our knowledge and at the end of the day we found our data published on social media which was not good on the image of the hospital"

4.4 Strategies employed for effective management of patients records in **jfi** Kaba le Regional Referral Hospital,

Installation of antivirus soft wares which was 09 (23%) was ranked highly by the Participants. this helps to protect computers where electronic systems are installed and this was evidenced at Kabale regional referral hospital where a respondent told the researcher that "We use anti viruses such as kerspersky which is one of the strongest antivirus on the market"

Keep changing passwords reflecting 16 (20%), this helps to protect computers and systems where such electronic systems are installed. The researcher was told by one of the respondent

that "in order to be safe working on HMIS passwords need to be changed often times in order people who may be knowing them cannot have access to the systems"

Use only trained personnel reflecting 12 (15%), through employing only staff with skills necessary for the smooth operation of systems. This was evidenced by one of respondent who said that at "Kabale regional referral hospital, those who are employed to manage records are qualified in that one to qualify to be employed he or she must be having a certificate in medical records from a qualified institution"

Restrictions on access to records reflecting 10 (12%), by putting fingerprint doors to places where systems are installed. "People are not allowed to enter records room without authority" said the respondent

Have stable power supply each reflecting 08 (10%), this can be done by installing automatic generators to provide power backup as one of respondent said that "HMIS indormation are backed up on servers hosted on cloud and google drive in case of data loss, retrieval becomes easy

Records be maintained in its lifecycle 06 (08%) this helps record not to be lost as it was posted by one of the respondent who said that" a record should be created, stored, managed and archived in hospital premises, not going outside"

More workshops be provided to all records keepers each reflecting 02 (05%). This helps to get information incase to keep HMIS users to keep updated on the use of sysyem as it was posted by one of the respondent who said that "every month, we get a one week training on the advancements within the systems which help us to keep updated'

Barry (1996) in his presentation on improving information and records management. An important agenda for sustainable development, March 05, 1996 outlined several findings of

interest for developing countries. For example; the need to address the imbalance in focus between information technology. Need for normal legislation to protect the integrity of government paper/ electronic records.

According to Personnel Records and Information Systems for education management in Uganda (1990) published jointly within Uganda ministry of education, and in the work shop Kampala, 13-17 march 1989, group reports had the following steps suggested to be taken to halt the decline and improve the record keeping systems in Uganda. Providing good storage of records and ensure the security of those records. Provide stationary and required materials including equipment. Maintaining good records and build new ones on regular basis. Train staff on how to keep and use records through short term and long term training programs and the establishment of procedures manuals.

Health services can be classified along different characteristics. An economic classification can use the degree to which health services are transaction-intensive (how much professional input is needed); discretionary (similar for everybody or customized to the individual); and the level of information asymmetry (to what extent are both parties equally able to judge the transaction in terms of quality and appropriateness),. (Damme et al. 2008).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction.

This chapter contains three sections, summaries of the findings, conclusion and recommendations.

5.1 Summary of findings.

The study was focused on the adoption of electronic records management system for managing patient records in Kabale regional referral hospital in Kabale district. The aim of the study was to encourage the use of HMIS in Health Organizations in order to achieve proper results.

The objectives of the study were to; To establish the availability of Electronic Records Management Systems in Hospitals, to find out the benefits that have accrue With adoption of Electronic Records Management Systems in Kabale Regional Referral Hospital, to investigate the strategies employed for effective management of patients records in Hospitals and to identify the system challenges encountered in managing patient records in Hospitals. The sample population was 80 Participants and these included only the staff members and patients of Kabale RRH

The method used to collect data from Participants using simple random sampling and purposive sampling. under persuasive sampling; more techniques were used to select Participants with much information. Most female participated in the study compared to men

5. 1.1 Availability of Electronic Records Management Systems at Ka bale Regional Referral Hospital

The study assessed the role as control quality of information, improving filing system, Regulate and oversee actions and decisions, improve information handling and allow quick retrieval, Reduces operating costs, Foster professionalism and a voids records redundancy.

5.1.2 Benefits that have accrue with adoption of Electronic Records Management Systems at Kabale Regional Referral Hospital.

Participants reacted on the benefits that come with the adoption of electronic records management system in Kabale regional referral hospital as Control quality of information, improving filing system, Regulate and oversee actions and decisions, Jmprove information handling and allow quick retrieval, Reduces operating costs, Foster professionalism, avoids records redundancy.

5. 1.3 System challenges encountered in managing patient records at Kabale Regional Referral Hospital

Participants gave the challenges as Low service quality due to lack of qualified staff was put at excellent by majority Participants, followed by Inadequate knowledge, Lack of security and privacy, Technological changes, Unstable power supply, additional operating costs, Computer viruses and lastly Information hacking and misuse was the least response

5. 1.4 Strategies employed for effective management of patients records at Ka bale Regional Referral Hospital

Participants responses were Installation of antivirus soft wares which was ranked highly by the Participants followed by keep changing passwords, Use only trained personnel, Restrictions on access to records. Have stable power supply, Records be maintained in its, Have a backup system and More workshops be provided to all records keepers should be done at Kabale RRH for proper maintenance of records.

5.2 Conclusion

The study established that adoption of electronic records management system for managing patient records in Kabale regional referral hospital in Kabale district is that control quality of information, improving filing system, Regulate and oversee actions and decisions, improve information handling and allow quick retrieval, Reduces operating costs, Hoster professionalism and avoid records redundancy. systems. For quality control. However these systems come with challenges of Low service quality due to lack of qualified staff was put at excellent by majority Participants, followed by Inadequate knowledge, Lack of security and privacy, Technological changes, Unstable power supply, additional operating costs, Computer viruses and lastly

Information hacking and misuse was the least response but teh hspital has put up strategies such as Installation of antivirus soft wares which was ranked highly by the Participants followed by Keep changing passwords, Use only trained personnel, Restrictions on access to records, Have stable power supply, Records be maintained in its, Have a backup system and More workshops be provided to all records keepers should be done at Kabale RRH for proper maintenance of records to avert challenges

5.2 Recommendations

After thorough analysis of the findings the researcher presents the following recommendations that could be employed by the Organization to improve electronic records management.

There is need for the Organization to increase its training programs or workshops in electronic records keeping to the system users.

There is need for Organization to recruit trained personnel and more staff or refresher courses be carried in order to ease electronic records management and service delivery in the Organization

The records department needs to ensure that all staff adheres to the code of conduct and avoid leaking out information without authority from responsible individuals.

The records and information keeping department should keep viruses monitoring soft ware's updated, such as Norton antivirus which allows you to update the program so that the programs access the recent discovered viruses.

The Participants deemed it necessary that dedicated instructors or a subject specialist should educate the system users on how to locate subject-specific information referring to activity reports, journals, reference materials, manuscripts, governmental publication, videos and electronic means of information and on how to use electronic data bases and the internet resources.

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APPENDIX I: INTERVIEW GUIDE

How are you?

- I. What is your name?
- 2. Which position do you hold at Kabale regional referral hospital?
- 3. Do you understand the term electronic records?
- 4. Do you know the types of records maintained in the hospital registry?
- 5. What are the records management systems that should be adopted at the hospital?
- 6. What is the extent of the availability of ERMS in Kaba le Regional Referral Hospital?
 - 7. What are the benefits that have accrued with adoption of ERMS in Kabale Regional Referral Hospital?
 - 8. What are the strategies employed for effective management of patients records in Kabale Regional Referral Hospital?
 - 9. What are the system challenges encountered in managing patient records Kabale Regional Referral Hospital?