TOPIC: TO INVESTIGATE THE EFFECT OF E-HEALTH RECORDS MANAGEMENT ON SERVICE DELIVERY IN LUSAKA HEALTH FACILITIES.

BY

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LUSAKA

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ABSTRACT

The main objective of this study was to investigate the effect of electronic health records management on service delivery in Lusaka health centres. Specifically, the study opts to answer the questions; what proportion of health centres are using electronic records management systems? Do health personals prefer manual records management systems to electronic records management systems? What are the effects of e-records management on the time taken to deliver health services? What challenges do personals in charge of records management face in service delivery?

Self-administered questionnaires were used to obtain data from health records personals in Lusaka health centres. The study targeted 60 health centres and 60 questionnaires were administered of which 48 were obtained back. Statistical package for social sciences (SPSS) was used in the analysis of the data obtained from the questionnaires.

The results showed that most health centres were still using manual records management systems. On the preference of electronic to manual records management systems the results showed that health personals preferred electronic records to manual records management systems. The results also showed that generally electronic records management systems reduce time taken to deliver service. When cross tabulated with gender, age and educational qualification the results showed that females were more efficient in delivering service, the people in the age range of 26-35 were more efficient than those in the other age ranges and that educational qualification improved service delivery respectively. The main challenges that records management staff faced as revealed by the results were low motivation, inadequate storage space, unsatisfactory salaries and other fringe benefits, lack of prospects of promotions, inadequate shelving and filing equipment and lack of electronic records management policy. It is important that every health centre comes up with motivational strategies such as rewards for excellent service provision by records management staff. The study recommended it was important that every health centre private or public to ensure by all means to have a continuous supply of shelving and filing equipment such as file folders, clips etc., strive to migrate to electronic records management systems as they were found to be more preferred and more efficient and equitable prospects for promotion for all records management staff.
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CHAPTER ONE

1.0 Introduction

Proper management if records generated by an organization is essential in ensuring efficient and effective service delivery. Different organizations use different records management systems and these records management systems have an impact on the efficiency of their service delivery. Some organizations use electronic records management which are a combination of information and communications technology (ICTs) while others use paper records management systems. Most health facilities in Lusaka use paper records management to manage patient health records. This type of records management system has however not been very efficient with regards to service delivery as measured by the waiting time of patients to receive health services.

Records management systems have several benefits such as improving efficiency, better traceability and ensuring regulatory compliance. Record management and retention allows organizations to make sure its staff have complete access to accurate information in a timely and cost-effective manner. Proper records management allows an organization to control the generation and growth of records, effectively retrieve and dispose records, assimilate new records management technologies, ensure regulatory compliance, minimize litigation risks, safeguard important information, cut cost and save time & efforts, make better management decisions, preserve company knowledge and keep employees motivated. (Ngoepe, 2008)

This research therefore aims to investigate the effects of electronic records management on service delivery in the public and private health centres in Lusaka province of Zambia. This chapter specifically will discuss the background information of the study, statement of the problem, research objectives, research questions as well as the significance of the study. Ethical considerations and definition of key terms will also be covered by this chapter.

1.1 Background

Electronic health records have the potential to improve the delivery of health care services. However, the adoption of electronic health records has been slow and this is mostly evident in developing countries. Electronic health records empower patients through greater access to personal data, health information, and communication tools, which may aid self-care, shared decision making, and clinical outcomes. They may increase patient safety through exposing
diagnostic or drug error, recording non-prescribed medicines or treatments, or increasing the accessibility of test results or drug alerts. They may also reduce geographical barriers to patients care and act as a point of record integration, particularly in fragmented health systems, thus improving continuity of care and efficiency. (Jha, et al., 2011)

Most developed countries have a growing and robust health care infrastructures that receive substantial funding support from their governments. These countries are able to make significant investments in research to develop information systems that would meet the need of their particular health care system. That is in sharp contrast to the healthcare infrastructure in many developing countries. For many of these countries the delivery and management of healthcare service alone comes with many challenges. In many of these countries, implementers of healthcare information technology based solutions are faced with complex challenges such as inadequate funding. (Sood, et al., 2008)

In Zambia, health institutions have traditionally relied on paper records management system which involve a lot of data repetition due to misplaced or misfiled records. However, with use of a digital system, this is eliminated since all records are stored electronically. Health facilities in Southern and Copperbelt province are already paperless in their quest to strengthen delivery of services. Likewise, a number of Lusaka health centres have adopted the E-record management system because of its many merits, for example in the University Teaching Hospital (UTH) system, all departments are centrally connected, they do not have to maintain individual records for the same patient as each patient is identified by a unique ID, and the patient’s record can be updated using this unique ID. This has shown improved service deliveries (Ministry of Health, 2017)

With the use of e-records, there is less or no chance of any data to get lost as all the data entered is analysed and the system makes sure that the necessary information is captured before saving the file (Chilufya, 2018)

Certainly, an Electronic Medical Record Management System is used for storing and retrieving information instantly. This reduces the time patients have to wait for attendance or generally to receive the best service. Therefore, it can be seen that electronic records management systems better service delivery and It is in line that this study aims to investigate the effects of health E-records management in service delivery in Lusaka health centres.

1.2 Statement Of The Problem
The patient that go to seek health services in health centres in Lusaka are faced with the problem of delayed time to receive treatment. This is because once they get to the hospital or clinic they have to wait for the records manager or the person in charge of health records management to search through thousands of records to find their record. On average it takes a records manager twenty to thirty minutes to search, locate and retrieve a record for each patient. At such a pace patients end up spending more time waiting with others even getting critically weak and ill or passing out due to delayed treatment.

Medical personals equally find it challenging to offer efficient and effective treatment to patients whose records have been misplaced. This is because it becomes impossible to trace a patient’s medical history which is essential in understanding the treatment the patient has already received and which they haven’t that can be prescribed for them. Moreover, the doctors are put in a situation of potentially prescribing the treatment that didn’t works in the past or even mistakenly providing a wrong treatment that may worsen a patient’s condition rather than curing them.

The aforementioned problems have been faced under the paper records management system and in this vain this study seeks to investigate the effects the use of electronic records managements on service delivery.

1.3 Research Objectives
The general objective of this research is to investigate the effects of health e-records management in service delivery in Lusaka health centres in Zambia. The specific objectives are:

1. To determine the proportion of health centers that are using electronic records management systems.
2. To find out whether health personals prefer manual records management systems to electronic records management systems.
3. To find out the effects of e-records management on time taken to deliver health services.
4. To find out the challenges faced by personals in charge of records management in service delivery.

1.4 Research Questions
1. what proportion of health centers are using electronic records management systems?
2. Do health personals prefer manual records management systems to electronic records management systems?

3. What are the effects of e-records management on the time taken to deliver health services?

4. What challenges do personals in charge of records management face in service delivery?

1.5 Justification Of The Study
This study would be of great significance to health organizations of the public sector, researchers, policy makers, other organizations of the public sector, students who would like to conduct research in the same area as well as to the nation. In essence the study is valuable in terms of its contribution to the body of knowledge. It enlightens policy makers on the effective records management systems. Specifically, the study helps to provide relevant data for further academic research, highlight the importance of e-record to improve productivity.

1.6 Ethical Consideration
Ethical considerations are important in ensuring a professional research and non-intrusive in accomplishing a research objective. For this study, researcher will ask for permission to carry out the study from relevant administrative authorities in the institutions. Confidentiality of the respondent will be ensured and confirm that the study is for the purposes of accomplishing academic goals. Acknowledgement of all additional sources of information from other scholars will be noted.

1.7 Definition Of Key Concepts
It is necessary to define important concepts utilized mostly in the study. This definition of the key concepts give a better understanding to learners who are beginners in the field of records management as well as the professionals in the field (Yusuf & Chell, 2005).

RECORDS
All documented information, regardless of its characteristics, media, physical form, and the manner it is recorded or stored. Records include accounts, agreements, books, drawings, letters, magnetic/optical disks, memos, micrographics, etc. Generally speaking, records function as evidence of activities, whereas documents function as evidence of intentions. (Business Dictionary, 2018)
RECORDS MANAGEMENT
Records management is the administration of records and documented information for the entirety of its lifecycle, which includes creation, maintenance, use, storage, retrieval and disposal. (Whatis.com, 2014)

ELECTRONIC RECORDS
Electronic records as Information captured through electronic means, and which may or may not have a paper record to back it up. Also called machine readable record. (Business Dictionary, 2018)

MEDICAL RECORDS
A chronological written account of a patient's examination and treatment that includes the patient's medical history and complaints, the physician's physical findings, the results of diagnostic tests and procedures, and medications and therapeutic procedures. (dictionary.com, 1995)

E-HEALTH
This is the use of information communication technologies (ICT) for health (WHO, 2018)

SERVICE DELIVERY
Service delivery is a component of business that defines the interaction between providers and clients where the provider offers a service, whether that be information or a task, and the client either finds value or loses value as a result. (Reference, 2018)

1.8 Summary
This chapter introduced the study as well as discussed, the background of the study. It further stated the problem and the objectives of the study as well as gave the justification of the study, ethical considerations and definitions of key terms.

Chapter two will discuss the literature review of the study which will explore related studies that have been done with regards to records management and service delivery.
CHAPTER TWO
LITERATURE REVIEW

2.0 INTRODUCTION

Literature review is important in the understanding of the various literature in relation to the topic under study. It is also a way of identifying and understanding the similarities between other related studies were done by other researcher and the study at hand.

This literature review will be guided by the following themes – proportion of health centres that are using electronic records management systems, health personals preference between manual records management systems to electronic records management systems, the effects of e-records management on time taken to deliver health services and the challenges faced by personals in charge of records management in service delivery.

2.1 Proportion of health centers that are using electronic records management systems.

Gulla et. al. (2009) in their study “Electronic Medical Records Management Systems: An Overview” conducted with the aim of reviewing the existing Electronic Records Management systems and assess the impact of EMR systems on the healthcare industry, reviewed that more and more government agencies, companies and healthcare organizations are moving from records on paper towards electronic records. For instance, in Switzerland passed a new federal law on patient electronic health records (HER). The reform requires hospitals to adopt interoperable EHRs to facilitate data sharing and cooperation among healthcare providers, ultimately contributing to improvement in quality of care and efficiency in the health system. (De Pietro & Francetic, 2018). Similarly, Ravindra et. al. (2016) in their study on the state of health information systems and electronic medical records in various Fijian government hospitals were out of a total of 200 government hospitals it was discovered only 36 were linked with a health information system called patients information systems (PATIS). This shows that most health provider are still using paper or rather manual records management systems.

2.2. Health personals preference between manual records management systems to electronic records management systems

According to a study conducted by Linda et al (2004) at a large Magnet hospital in southwest Florida to assess the nursing personnel’ needs, preferences, and perceptions associated with electronic health record (EHR) documentation methods; 80% of nurses with expertise in computer use had a more favourable attitude toward EHRs than those with less expertise.
Overall 75% of nurses thought EHRs had improved the quality of documentation and 76% believe electronic charting would lead to safety and patient care.

In study conducted Msiska, Kumitawa, & Kumwenda (2016) in Malawi which looked at factors affecting the utilization of electronic medical records system in Malawi central hospitals stated that Paper-based records are still used by health workers largely because many healthcare workers are more familiar with paper-based records after long-term use. Paper-based record-keeping does not require the relatively high level of technical knowledge and skills needed for electronic record-keeping this is because Paper-based record systems can be used by people with less education or, indeed, with no training at all. However, paper-based records have a number of limitations. Illegible handwriting makes it difficult for others to read, which can result in errors and consequently compromise the quality of data captured. Poor data quality has serious implications on patient care, such as mixing of laboratory samples and provision of incorrect drug prescriptions. Paper-based record systems lack confidentiality because they are shared among many users and patient privacy can be easily compromised. Unauthorized users can easily access information as it gets transferred from one point to another. Patient follow-up is also difficult in paper-based record systems, which in turn disrupts continuity of care. Electronic medical records provide a solution to the limitations of paper-based systems. Msiska, Kumitawa, & Kumwenda (2016) Concluded that differences in age, gender, and previous computer experience were not associated with electronic records management(EMR) usage. However, education and employment levels as a positive association with EMR usage. Hardware and connectivity problems, as well as lack of training and management support negatively affected the use of EMRs.

2.3. The effects of e-records management on time taken to deliver health services

Petterson & Asch (2005) carried out a study in the united states to describe how community hospital nurses uses Electronic Health Records (EHRs) as they provide patient care and their views of the impact of EHRs use on their work and patient outcome. The study involved a convenient sample of nurses who volunteered after solicitation through direct mail, latter placed in their work slot, and flyers posted in the units’ break rooms that described the study. Questionnaire surveys, individual interviews and observation techniques were used to collect data for the study and finding of the study reviewed that the use EHRs affected the work of nurses and patient outcomes. Specifically, the nurses perceived EHRs use is extensive and time consuming; both helps and hinders nursing work; has positive and negative effects on patient outcomes; and is preferred over paper charts. It speeds up the process to give medication, get reports and to communicate with other facilities. Overall the nurses thought the benefits of HER use outweighed its distraction.
Similarly, Pizziferri, et al (2005) in their study; Primary care physician time utilization before and after implementation of an electronic health record: A time-motion study, found that the use of EHRs decreased all time spent per patient during clinic hours 0.5 minutes estimated at 95% confidence interval. Precisely from an average of 27.55min per patient before EHRs implementation to 27.05 after with the majority believing EHRs use resulted in quality improvement.

Another study was conducted by (Carrol, et al., 2012)on the impact of records management in service delivery in Kenya immigration department which sought to find out how records management affects service delivery in the perspective of accessibility, retrieval of information, the application of ICT, the accountability and transparency of the processes at the Department and as well as the quality of the services being rendered to the clients. The study targeted all the 413 staff at the Department’s Headquarters but sampled 90 members of staff representing a 21.98 % using stratified random sampling. Primary data was collected using questionnaires while secondary data was collected from the libraries, journals, internet and data from the Department. The finding of the study on the effect of records management on the time used in management of records, reviewed that majority of the respondents (40) representing 62.5% said that the effect was to a great extent, another 14 respondents representing 21.9% said that the effect was to some extent and whether records management enabled quick response in delivery of service to the clients, 60.9% said that the effect was to a great extent.

2.4. the challenges faced by personals in charge of records management in service delivery.

According to IRMT (1999: 179) Eastern and Southern African countries had several challenges with regard to the capturing, preservation and management of records. They added that in many countries of the world, public records are unmanaged and government information is not easily accessible. Coetzer (2012) reiterates that records management programs in Africa were plagued with various challenges and problems, due to the inability of registries and national archival institutions to perform their roles effectively. Some of the common challenges include a lack of records management plan; inadequate knowledge about the importance of records management for organizational efficiency; no legislation, no policies and procedures, lack of central ability to manage records, understaffing of records management units; poor records security and access control; no budget for records management; no records retention and disposal policy and no records movement control techniques (IRMT, 1999:179). According to Marutha (2011:175) records management challenges can be addressed or prevented through the establishment and implementation of an effective records management program. Marutha (2011) added The most serious administrative problems for records management such as shortage of filing space; misfiling and missing files; damage to record; incompetent/unskilled
staff; shortage of staff; inadequate budget; Lack of general staff awareness about the importance of records; Insufficient budget; in the hospitals could be resolved using, amongst others, proper retention and disposal schedule and training.

Additionally (Miller & Sim, 2004) conducted a study Key surface barriers to EMR use that emerged as persistent themes from our interview data included high initial financial costs, slow and uncertain financial payoffs, and high initial physician time costs. Underlying barriers included difficulties with technology, complementary changes and support, electronic data exchange, financial incentives, and physicians’ attitudes. These barriers were most acute for physicians in solo/small-group practice, a mode in which a substantial majority of U.S. physicians practice.
CHAPTER THREE

METHODOLOGY

3.0 overview
Chapter three describes the research design, type of research, and the population under study. Detailed procedures of sampling, data collection, the research process and the statistical analysis method used in the study are also highlighted. Ethical considerations have also been stated in this chapter.

3.1 Survey Design
According to Social Science Research & Institutional Center (1998) a survey design is a method of collecting information by asking questions, sometimes interviews are done face-to-face with people at home, in school, or at work, other times questions are sent in mail for people to answer and mail back. Increasingly, surveys are conducted by telephone. In this study the investigation will be undertaken in in Lusaka district health centers, it will provide a detailed evaluation of e-health records management and how they affect service delivery. The choice of the Survey design was influenced by the type of research topic, the target population, data collection methods and the research process among others. The research used quantitative and qualitative approaches. The qualitative approach will help bring out and explain the feelings, views and ideas of the respondents while quantitative research facilitated the measurement and analysis of quantifiable values. According to Coetzer (2012) quantitative research uses descriptive statistics that enable the researcher to summarize quantities of data by using graphs and numbers such as values and percentages while qualitative research does not describe data using statistics, but by using words, sound, images/visuals or objects to make a detailed report of the feelings, opinions, attitudes, beliefs and behavior of the respondents. Quantitative and qualitative research methods were employed in this study in order to maximize the theoretical implications of research findings and to summarize quantities of data by using graphs and numbers (Ngoepe, 2008). Triangulation i.e the use of both approaches is important in this as they complement each other allowing the researcher to have a comprehensive view.

Target Population
The target population of this research will be records management staff of Lusaka health centers. According to Ministry of Health (2013) they are 194 health facilities in Lusaka district. This research will look at 50 health facilities across Lusaka
Sample size and sampling procedure

i. Sample Size
The study population will consist of 100 records management staff of which two will be from each health centre visited. A large sample size has been chosen for this study in order to collect authentic and reliable information from the participants.

ii Sampling Technique
For this study, the selection of elements from the target population will be done using simple random sampling. This sampling method has been chosen because it is relatively easy to carry out and less time consuming. Elements are selected based on their characteristics that qualify them for this research.

Data collection instruments
In this study the data will be collected using questionnaires. The questionnaires will be self-administered as this will enable the respondents to answer at their own convenience and without the demand for immediate response. Closed-ended questions will be employed in this study. The reason for using this type of questionnaire is to collect detailed information from the respondents in order to fully obtain their perceptions and experiences on the matter.

Data analysis
Cooper & Schinder (2001) cited in Mwale-Munsanje (2011:18) data analysis is “the reduction and accumulation of data to manageable size, developing summaries, looking for patterns and applying statistical techniques.” Data analysis is important as it enable the researcher to establish consistent patterns with the data collected. Primary data will be collected using self-administered closed end questions. During data analysis descriptive statistics on background information will be analyzed using the statistical package for social sciences (SPSS) and Microsoft Excel.

SUMMARY
In this study the investigation will be undertaken in Lusaka district health centres. The choice of the Survey design was influenced by the type of research topic, the target population, data collection methods and the research process among others. The research will use quantitative and qualitative approaches. The target population of this research will be records management staff of Lusaka health centres. The study population will consist of 100 records management staff of which two will be from each health centre visited. For this study, the selection of elements from the target population will be done using simple random sampling. Data will be
collected using questionnaires. The questionnaires will be self-administered as this will enable the respondents to answer at their own convenience and without the demand for immediate response. The study will use Statistical Package for Social Sciences (SPSS) to extract inferential statistics in form of graphs, pie charts and histograms.
CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Overview
A total of 60 questionnaires were administered and 48 were received back. The respondents were asked to indicate their demographic information and following data was obtained; 26 of the 48 which represents 54.2% of the sample were male and the remaining 22 of the 48 which represent 45.8% were female. 5 representing 10.4% of the respondents were of the age group of 18-25, 25 representing 52.1% were of the age group 26-35, 8 representing 16.7% were of the age group 36-45 and 7 representing 14.6% were above 45 years old.

The respondents were also asked to indicate their academic qualifications; the bar chart below summarizes the finding.

The respondents that had diplomas were 30 representing 62.5%, those with certificates were 11 representing 22.9 %, those with degrees were 5 representing 10.4% and 2 representing 4.2% had none.

4.1 Work Position Of Respondents
The respondents were further asked to indicate their work positions and the following positions were observed; Clinical Officer, Counsellor, Intern, Lab Technician, Nurse, Nursing Officer, Pharmacist, Receptionist, Records Clerk and Registry Clerk. The table below summarizes the findings.
WORK POSITION OF RESPONDENTS

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLINICAL OFFICER</td>
<td>2</td>
<td>4.2</td>
</tr>
<tr>
<td>COUNSELLOR</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>INTERN</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>LAB TECHNICIAN</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>NURSE</td>
<td>4</td>
<td>8.3</td>
</tr>
<tr>
<td>NURSING OFFICER</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>PHARMACIST</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>RECEPTIONIST</td>
<td>2</td>
<td>4.2</td>
</tr>
<tr>
<td>RECORDS CLERK</td>
<td>7</td>
<td>14.6</td>
</tr>
<tr>
<td>REGISTRY CLERK</td>
<td>28</td>
<td>58.3</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 1

28 of the respondents representing 58.3% served as registry clerks, 7 representing 14.6% served as records clerks, 4 representing 8.3% served as nurses while the positions of clinical officers and receptionist had 2 respondents representing 4.2% each. The positions of councillor, intern, lab technicians, nursing officer and pharmacists had 1 respondent representing 2.1% each. Similar the questionnaire also asked the respondents the number of years that they have been in service. The results showed 22 representing 45.8% served for less than 5 years, 11 representing 22.9% served in the range of 5-10 years, 3 representing 6.2% served in the range of 11-16 years, 4 representing 8.3% served in the range of 16-20 years and 1 served for over 20 years.

4.3 Type of Records Management System

To ascertain the type of records management system each institution in the sample used the respondents were asked to indicate whether they had an electronic records management system or a manual (paper based) system. The results revealed the 11 institutions representing 22.9% were using electronic records management systems only while 26 representing 54.2% were using manual records management systems only. 11 institutions representing 22.9% had both
For the 26 respondents that had manual records management system only, the questionnaire asked them to indicate whether they would like to upgrade to electronic records management system. The results showed that 22 respondents representing 84.6% wanted to upgrade, 2 representing 7.7% had no interest of upgrading and 2 representing 7.7% did not indicate whether they wanted to upgrade or not. The respondents were further asked to rate both records management systems on a scale of one to five (where one was bad, two was fair, three was good, four was very good and five was excellent). The results revealed 9 representing 18.8% rated electronic records management system as good, 23 representing 47.9% rated it as very good and 16 representing 33.3% rated it as excellent. The manual records management system was rated bad by 10 representing 20.8%, fair by 15 representing 31.2%, good by 16 representing 33.3%, very good by 3 representing 6.2% and excellent by 3 representing 6.2%.

4.4 Time Taken To Deliver Service

The respondents that were using electronic records management system in their institution were also asked to indicate how long it took for them to retrieve patients’ records. The results revealed that 12 representing 54.5% took less than five minutes, 5 representing 22.7% took five minutes, 1 representing 4.5% took more than five minutes and 4 representing 18.2% did not indicate their time. These results were cross tabulated with academic qualifications of the respondents and the table below summarizes the results.
ACADEMIC QUALIFICATION * TIME TAKEN TO RETRIEVE RECORDS CROSS TABULATION

<table>
<thead>
<tr>
<th>ACADEMIC QUALIFICATION</th>
<th>TIME TAKEN TO RETRIEVE RECORDS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LESS THAN 5 MINUTES</td>
<td>5 MINUTES</td>
</tr>
<tr>
<td>DEGREE</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>DIPLOMA</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>CERTIFICATE</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2: ACADEMIC QUALIFICATION * TIME TAKEN TO RETRIEVE RECORDS CROSS TABULATION

These results revealed that those with degrees 3 took less than 5 minutes, 1 took 5 minutes and none too more than 5 minutes. Those with diplomas six took less than 5 minutes, 4 took 5 minutes and 1 took more than 5 minutes. Those with certificates three took less than 5 minutes and none took 5 minutes or more.

Furthermore, the results of time taken to deliver were cross tabulated with the gender of the respondents the table below summarizes the results
GENDER * TIME TAKEN TO RETRIEVE RECORDS CROSSTABULATION

<table>
<thead>
<tr>
<th>TIME TAKEN TO RETRIEVE RECORDS</th>
<th>LESS THAN 5 MINUTES</th>
<th>OVER 5 MINUTES</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENDER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>FEMALE</td>
<td>7</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3: GENDER * TIME TAKEN TO RETRIEVE RECORDS CROSSTABULATION

The results above show that 5 males took less than 5 minutes, 2 took 5 minutes and 1 took more than 5 minutes. Similarly, 7 females took less than 5 minutes, 3 took 5 minutes and none took more 5 minutes.

When time taken to deliver service was cross tabulated with age range that following results were obtain as summarized below.

AGE RANGE*TIME TAKEN TO RETRIEVE RECORDS CROSSTABULATION

<table>
<thead>
<tr>
<th>AGE RANGE</th>
<th>TIME TAKEN TO RETRIEVE RECORDS</th>
<th>LESS THAN 5 MINUTES</th>
<th>OVER 5 MINUTES</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>26-35</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>36-45</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Above 45</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>3</td>
<td>1</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 4: AGE RANGE*TIME TAKEN TO RETRIEVE RECORDS CROSSTABULATION

The results above indicate that 2 of the respondents in the age range 18-25 took less than 5 minutes and none took 5 minutes or more. In the age range 26-35, 6 took less than 5 minutes, 1 took 5 minutes and 1 took more than 5 minutes. 4 of those in the age range 36-45 took less
than 5 minutes, 1 took 5 minutes and none took more than 5 minutes. For the respondents above 45 years old 2 took less than 5 minutes, 1 took 5 minutes and none took more than 5 minutes.

The respondents that were using electronic records management system were further asked if they could perform better or worse off using manual records, 15 out of the 22 representing 68.2% stated that they would perform worse off citing that locating misfiled records consumed a lot of time and the remaining 7 representing 31.8% stated that they would perform better because they were not familiar with the software used in electronic records.

4.5 Challenges In Executing Records Management Responsibilities

The respondents were also asked to indicate as many challenges they encounter in executing their records management duties as possible. The results revealed that the challenge of locating and retrieving active records was encountered by (48.9%), tracking and locating semi-active records (36.2%), inadequate shelving and filing equipment (57.4%), inappropriate shelving and filing equipment (44.7%), inadequate storage space (66.0%), inadequate filing and classification system (31.9%), lack of records retention and disposal schedule (44.7%) and overcrowding working environment (40.4%). Lack of supplies (folders, file clips etc.) had (44.7%), lack of records policy (31.9%), lack of operational manual (29.8%), lack of electronic records management policy (53.2%), lack of records protective measures (38.3%), lack of job satisfaction (38.3%), unsatisfactory salary and other benefits (59.6%), lack of prospects for promotion (59.6%) and low motivation (74.5%). The table below summarizes the results.
<table>
<thead>
<tr>
<th>Challenges</th>
<th>N</th>
<th>Percent of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating and retrieving active records</td>
<td>23</td>
<td>48.9%</td>
</tr>
<tr>
<td>Tracking and locating semi-active records</td>
<td>17</td>
<td>36.2%</td>
</tr>
<tr>
<td>Inadequate shelving and filing equipment</td>
<td>27</td>
<td>57.4%</td>
</tr>
<tr>
<td>Inappropriate shelving and filing equipment</td>
<td>21</td>
<td>44.7%</td>
</tr>
<tr>
<td>Inadequate storage space</td>
<td>31</td>
<td>66.0%</td>
</tr>
<tr>
<td>Inadequate filing and classification system</td>
<td>15</td>
<td>31.9%</td>
</tr>
<tr>
<td>Lack of records retention and disposal schedule</td>
<td>21</td>
<td>44.7%</td>
</tr>
<tr>
<td>Overcrowding working environment</td>
<td>19</td>
<td>40.4%</td>
</tr>
<tr>
<td>Lack of supplies (Folders, file clips etc.)</td>
<td>21</td>
<td>44.7%</td>
</tr>
<tr>
<td>Lack of records policy</td>
<td>15</td>
<td>31.9%</td>
</tr>
<tr>
<td>Lack of operational manual</td>
<td>14</td>
<td>29.8%</td>
</tr>
<tr>
<td>Lack of electronic records management policy</td>
<td>25</td>
<td>53.2%</td>
</tr>
<tr>
<td>Lack of records protective measures</td>
<td>18</td>
<td>38.3%</td>
</tr>
<tr>
<td>Lack of job satisfaction</td>
<td>18</td>
<td>38.3%</td>
</tr>
<tr>
<td>Unsatisfactory salary and other fringe benefits</td>
<td>28</td>
<td>59.6%</td>
</tr>
<tr>
<td>Lack of prospects for promotion</td>
<td>28</td>
<td>59.6%</td>
</tr>
<tr>
<td>Low motivation</td>
<td>35</td>
<td>74.5%</td>
</tr>
</tbody>
</table>

The column labelled ‘Challenges’ show the various challenges encountered by records management personnel. The column labelled ‘N’ shows the number of respondents that encounter that challenge and the column labelled ‘Percent of Cases’ show the percentage of the sample size that encounter the challenge.

4.7 SUMMARY

This chapter presented findings of the research as analysed from all the administered and received questionnaires. The findings revealed most of the records management personal were served as registry clerks and most of the institutions used manual records management systems. After cross tabulating with the background information, the results showed that the time taken
to retrieve patients records by most was less than five minutes. The most encountered challenge by records management personals in executing their duties were low motivation, lack of storage space, unsatisfactory salary and other benefits and lack of prospects for promotion just to mention a few.
CHAPTER FIVE
DISCUSSION OF FINDINGS

5.0 Overview
This chapter discusses the research findings of the investigation of the effects of health electronic records management on services delivery in Lusaka health facilities. The study was aim on answering the questions; what proportion of health centres are using electronic records management systems? Do health personals prefer manual records management systems to electronic records management systems? What are the effects of e-records management on the time taken to deliver health services? What challenges do personals in charge of records management face in service delivery?

The finding will be discussed as the relate to these questions and thereafter conclusions and recommendations will be drawn.

5.1 Proportion of health centers that are using electronic records management systems.
The first objective of the study was to find outs the proportion of health centres in Lusaka that are using electronic records health records management systems. The findings revealed that the majority of health centres represented by 54.2% were using manual records management systems.

Similar findings were obtained by Ravindra et. al. (2016) in their study on the state of health information systems and electronic medical records in various Fijian government hospitals were out of a total of 200 government hospitals it was discovered only 36 were linked with a health information system called patients information systems (PATIS).

5.2 Health personals’ preferences between manual records management systems and electronic records management systems.
The study also sought to find out the preferences of health personals between electronic and manual records management systems. It was discovered the majority of the health personals preferred electronic to manual records management systems. The results revealed 9 representing 18.8% rated electronic records management system as good, 23 representing 47.9% rated it as very good and 16 representing 33.3% rated it as excellent. The manual records management system was rated bad by 10 representing 20.8%, fair by 15 representing 31.2%, good by 16 representing 33.3%, very good by 3 representing 6.2% and excellent by 3 representing 6.2%. These findings were conformity with those of Linda et al (2004) in a study.
conducted at a large Magnet hospital in southwest Florida to assess the nursing personnel’s needs, preferences, and perceptions associated with electronic health record (EHR) documentation methods. The study found that 80% of nurses with expertise in computer use had a more favourable attitude toward EHRs than those with less expertise. Overall 75% of nurses thought EHRs had improved the quality of documentation and 76% believe electronic charting would lead to safety and patient care.

Similarly, Acquah-Swanzy (2015), did a report with main goal of evaluating the electronic health records in Effia Nkwanta Regional Hospital in order to understand where the system is, in terms of its implementation and user’s acceptance or perceptions to the system. Respondents were also asked to rate their level of satisfaction under very satisfied, moderately satisfied, satisfied and less satisfied. Six of the respondents indicated they were very satisfied with the system, 15 moderately satisfied, 11 satisfied and 3 responded to be less satisfied with the system. From the figures above, majority of the respondents (91%) indicated their satisfaction with the electronic heath records.

The similarity of the findings could have been associated with the beliefs and fact that computers and information communications technologies (ICTs) are perceived by many to be quick and efficient at processing and disseminating information than humans can with the use on paper records.

5.3 Time taken to deliver service
The study also wanted to find out the effects of e records on the amount of time to deliver health service. The results reviewed that 54.5% of the respondents that were using electronic records management systems took less than 5 minutes, 22.7% took 5 minutes to deliver service. 4.5% took more than 5 minutes while 18.2% did not indicate the time they took. Hamish, et al (2005) conducted a similar study and showed that patients visits were shorter, provider time per patients was reduced and patients spent less time waiting in the clinic after the implementation of electronic records system in Kenya. Therefore, it can be seen that the introduction of ERM reduces time taken to deliver service and betters service delivery in Lusaka health centres.

When the results were cross tabulated with the highest education qualification it was revealed that education qualification had a positive impact on the time taken to deliver service. These results revealed that those with degrees 3 took less than 5 minutes, 1 took 5 minutes and none too more than 5 minutes. Those with diplomas six took less than 5 minutes, 4 took 5 minutes
and 1 took more than 5 minutes. Those with certificates three took less than 5 minutes and none took 5 minutes or more. This also showed that all the 12 respondents out of 18 that took less than five minutes had some form of academic qualification.

Furthermore, when cross tabulated with gender the results revealed that females were more efficient than males. Out of a total of 18, 5 males took less than 5 minutes, 2 took 5 minutes and 1 took more than 5 minutes. Similarly, 7 females took less than 5 minutes, 3 took 5 minutes and none took more 5 minutes. This could have been due to the fact that there were more female participants in the study than male.

The results were also cross tabulated with the age range of the respondents. It was observed that 2 of the respondents in the age range 18-25 took less than 5 minutes and none took 5 minutes or more. In the age range 26-35, 6 took less than 5 minutes, 1 took 5 minutes and 1 took more than 5 minutes. 4 of those in the age range 36-45 took less than 5 minutes, 1 took 5 minutes and none took more than 5 minutes. For the respondents above 45 years old 2 took less than 5 minutes, 1 took 5 minutes and none took more than 5 minutes. This showed that those in the age range 26-35 were faster at service delivery than those in the other age ranges.

5.4 Challenges and problems encountered
The study also sought to identify the problems faced by registry staff in executing their duties. The findings revealed that low motivation was the most faced challenge with a frequency of 74.5%. similarly, Hoyle and Wamukoya (2007) identified low morale, lack of space in registries including limited capacity in terms of shelving and accessing information as problems faced by public registries in Tanzania.

Inadequate storage space as a challenge faced by records management staff had a frequency of 66.0% which was also in line with the findings of Hoyle and Wamukoya (2007). Similarly, Nabombe (2012) described the same scenario in his research findings which revealed that court registries often stored active, semi-active and inactive records together due to lack of adequate space in record centers and storage shelves.

The results also showed unsatisfactory salary and other fringe benefits another major challenge in records management with a frequency of 59.6%. this was however not in conformity with the study by Chirwa (2014) were it had a frequency of 23.9% but was also among the challenges observed in Hoyle and Wamukoya (2007) study.

Lack of prospects for promotion was the other major challenge with a frequency of 59.6% too. In line with Chirwa (2014) lack of prospects for promotion had a frequency of 30.4%. Hoyle
and Wamukoya (2007) added that it was difficult to retain registry staff in Tanzania due to low salaries and the poor image of the work, which was viewed by many as only suitable for people who were not educated.

Inadequate shelving and filling equipment had a frequency of 57.4%. Hoyle and Wamukoya (2007) also noted inadequate shelving and filling equipment as one of the challenges in records management. Chirwa (2014) observed inadequate storage space and filing equipment with 60.3%.

lack of a records management policy with 53.2% was the least of the major challenges faced by records management staff in executing their duties.

5.5 Conclusion and Recommendation

The study sought to find out the proportion of health facilities using electronic records management systems and it was discovered that many health facilities are using manual records management systems. The study also wanted to find out the preference of health personals between electronic records management systems and manual records management systems. It was discovered that health personals preferred electronic records management systems to manual records management systems. Furthermore, the study wanted to find out the effects of e-records management on time taken to deliver health services. it was revealed that electronic records management reduced time taken to deliver service to five minutes or less. Finally, that study wanted to find out the challenges faced by personals in charge of records management in service delivery. It was found that the most prominent challenges were low motivation, Inadequate storage space, Inadequate shelving and filing equipment, lack of prospects for promotion, unsatisfactory salary and other fringe benefits, and lack of electronic records management policy.

Following the challenges faced by records management staff in performing their duties which results in inefficient service delivery, the following recommendations are made;

1. It is important that every health center comes up with motivational strategies such as rewards for excellent service provision by records management staff.
2. It is important that every heath center private or public to ensure by all means to have a continuous supply of shelving and filing equipment such as file folders, clips etc.
3. Every health center should strive to migrate to electronic records management systems as it was found to be more preferred and rated more efficient. This can also help overcome the challenge of low storage space.
4. Salaries and other infringed benefits of records management staff should be improved to satisfactory levels to serve as motivation for staff member.

5. There should be equitable prospects for promotion for all records management staff.

5.6 Implications for further study

Future studies are recommended to look at areas such as the following:

1. Low motivation and job satisfaction by records management staff.

2. Records management policy and its importance in any organization.
References


Sood, S. A., Nwabueze, s. N. & Mbarika, V. W., 2008. eletronic medical records: a review comparing the challenges in developed and developing countries.. Honolulu, national science foundation, pp. 2-4.
