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A framework for medical records appraisal as a first gear towards an eventual efficient disposal to support effective healthcare service delivery

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A framework for medical records appraisal as a first gear towards an eventual efficient disposal to support effective healthcare service delivery

Abstract

The importance of records appraisal in the public healthcare sector is worth prioritising during healthcare business planning. If records are not properly appraised may lead to storage congestions, which lead to untidy filing that results in misfiling or no filing at all, resulting in retrieval difficulties or impossible retrieval during healthcare service delivery. In the healthcare institutions, that may lead to patients receiving poor service or no service at all. This study sought to investigate and recommend a framework for medical records appraisal to eventual disposal as a means to ensure support to effective healthcare service delivery in the public hospitals of the Limpopo province of South Africa. This predominantly quantitative study used the questionnaire supported by documents analysis and observation to collect data in 40 hospitals in Limpopo. The study discovered that retention periods for different categories of medical records in the public healthcare sector of the Limpopo province was conducted and populated into the policy and filing plans but no disposal was implemented. Instead, these appraisal products which are policy, procedure manual and filing plans, are not implemented due to a lack of key resources. Officials are still struggling with the search for medical records required by doctors in a pool of useless records that should have being disposed of many years ago. The study recommended a framework for medical records appraisal to eventual disposal to ensure effective support to healthcare service delivery and appropriate management support with the required resources.

Keywords: Records appraisal, retention period, disposal, healthcare service, public hospitals, patients records, healthcare records, medical records

Introduction and background

Medical records appraisal is one of the first steps in initialising proper records management in the healthcare institutions. Proper records management serves as a cornerstone for the survival of any formal organisation, whether private or public. According to Marutha and Ngoepe (2017:1); Marutha and Ngoepe (2018:187), many professions depend on proper

records management for them to survive in rendering their services. They further posed examples with accounting, auditing, health, finance, human resources and law, and these can be confirmed from studies by Ngoepe (2012:1-207); Ngoepe and Ngulube (2016: 890–903) about the auditing process, Ngoepe and Makhubela (2015:288-305) about provision of justice systems, Ngoepe (2008: 1-162) about service delivery and human rights, and Katuu (2015:1-322) as well as Marutha (2011:1-216; 2016:1-319) about healthcare services. Within records management business functions, there is also records appraisal, which is one of the most fundamental activities in records management and it usually needs to be done during the beginning of the business, and it is the focus of this study. This study sought to investigate and recommend a framework for medical records appraisal to eventual disposal as a means to ensure support to effective healthcare service delivery in the public hospitals of the Limpopo province of South Africa.

Limpopo is one of the nine provinces of South Africa, located in the northern part of the country. The province is made up of five districts, each divided into five local municipalities, which make up 25 local municipalities in the entire province. The provincial government is also established with 12 departments, including a department of health and the Office of the Premier. This study is focused on the department of health records appraisal in the hospitals. The department of health comprises 438 clinics, 24 health centres and 40 hospitals. The department produces different kinds of records from different units or functions every day, including the healthcare service, which is the focus of this study. The healthcare service produces a large number of medical records daily as patients consult and do follow-up visits. The department decentralised records management functions like physical keeping, access control and maintenance to the hospitals, but centralised the responsibility to control in a way that control measures like policies and procedures for management of medical records are created centrally at the provincial office for implementation in the hospitals. The provincial office also took responsibility to train staff, monitor and evaluate compliance with assistance, or in conjunction with the district office records management teams. This implies that records appraisal is also planned provincially as coordinated by province and district records managers and to the hospitals, it is a matter of implementation. Records in the hospitals are used for different purposes, such as nursing and clinical peer review, medical history reference for patients' treatments, response to litigation, auditing, court orders and citizen information requests in terms of the promotion of access to the Information Act, investigations and the promotion of the Administrative Justice Act.

Records appraisal

Ngoepe and Nkwe (2018:130) see appraisal as like a way or process of separating chaff from the wheat, which means separating records with long-term value from records with only short-term value. They use wheat to refer to long-term value records as they are permanently important and chaff used to refer to short-term value records as they are only used for short period before they are destroyed. Records appraisal brings about a lot of benefits if properly planned and implemented, such as compliance to legislations, easy destruction of ephemeral records to keep only enduring value records, and the smooth running of an organisation (The National Archives of UK 2013). Legislations give a mandate or obligation to proper records management for any business activity in any organisation as long as the activity is legalised. The National Archives of UK (2013) underscore that proper records appraisal requires consideration of five key principles, which are timing, methodology, engagement, documentations and guidelines. This means appraisal needs to be done in time so that the records may also be disposed of in line with the set retention period. In the process of appraisal, several things need to be considered. There are needs to have a way or mode of conducting appraisal. There should also be a consultation with the creators of records and end-users to understand the need and use of the records concerned. There should also be a recording taking place during the appraisal to keep record of each record regarding the value and retention period for future implementation of appropriate disposal. Finally, a guideline should be developed to assist officials in the whole process of appraisal throughout to disposal. The National Archives of UK (2013) see records appraisal as:

the process of distinguishing records of continuing value from those of no further value so that the latter may be eliminated. Records can possess different types or degrees of value to an organization, which will affect how long collections need to be kept. In general, there are two layers of value, primary and secondary

Records appraisal is the process of planning for the organisational business records that are to be created during business transactions and also to determine how long each category of records will be preserved; for example, determining which records are to be kept permanently and which ones for a short period in business accountability. During appraisal, business activities are assessed or evaluated through a survey to determine the kind of records to be created during the business process and captured into the recordkeeping

systems, and how long they will need to be kept (Ismail and Jamaludin 2009: 138; Ndenje-Sichalwe, Ngulube and Stilwell 2011:270-271; Chaterera, Ngulube and Rodrigues 2014:370). Maryland State Archives (2015) underscore that:

Records appraisal is an analysis of all records to determine their administrative, fiscal, historical, legal, or other archival value. The purpose of this process is to determine for how long, in what format, and under what conditions a record series ought to be preserved. Records appraisal is based upon the information contained in the records inventory. Records series shall be either preserved permanently or disposed of when no longer required for the current operations of office).

Appraisal is not only focused on one kind of record or paper-based record per se. It is also applicable to electronic records, but unlike other formats, electronic records should also be appraised at an early stage. This is because it is not easy to appraise a terminated electronic system since the information about its operation and metadata may be lost as well. The electronic records storage is more affordable compared to paper-based records and this is why other organisations do not recommend appraisal of electronic records. Keeping records that are less important to the organisation may pose direct and indirect costs. Direct costs include disk space, bandwidth, hardware, software and migration. It can indirectly cost an organisation with system maintenance staff, records retrieval time, back-up and disaster recovery. “Appropriate appraisal scheduling and disposal procedures should be applied to electronic records” (National Archives and Records Service of South Africa 2006:16).

Assessment of the regulatory environment, business nature and process, requirements for accountability, and risks are the key factors in deciding and determining a records retention period. The decision about the records retention period should be taken in collaboration or consultation with business administrative staff, designated records managers and all other stakeholders. The decision must be taken with consideration to compliance with both internal and external policies, standards, statutory or regulatory requirements and other business activity requirements. This decision must not be made with the intention to deliberately deny people the right of access to information (ISO 15489-12001; Ndenje-Sichalwe, Ngulube and Stilwell 2011:270–271).

Records retention

There are many benefits out of appraisal. For instance, at the end of an appraisal, the end product includes a records retention schedule, containing the records retention periods for all the records identified during the evaluation or assessment. Records retention has to do with keeping or retaining medical records for a certain period according to its value in a records storage media until such time that it reaches a disposal period to either be destroyed or transferred to archival repository for permanent preservation. The organisation should have their own “documented records retention and disposal program” to secure records with fiscal, legal and business continuity (vital records) value (Ismail and Jamaludin 2009:139; Ndenje-Sichalwe, Ngulube and Stilwell 2011:270-271).

Furthermore, a survey plays a central role in starting the records retention process, since it enables, among other things, activities of managing the records creation of the retention schedule, identification of records with permanent value, and the identification of records that are due for disposal (Chaterera, Ngulube and Rodrigues 2014:370). In the case of South Africa, which is similar to the Maryland State Archives (2015), proper retention and disposal rules must be applied only after the national archivist issued a written disposal authority (National Archives and Records Service of South Africa (NARS) 2006:32), although there were always some delays or lack of support for disposal approval from the NARS (Ngoepe 2014:8; Ndenje-Sichalwe, Ngulube and Stilwell 2011:272). Asogwa (2012:201) also attests that South Africa, unlike other African countries such as Botswana, Kenya and Zimbabwe, has developed and put in place for implementation the relevant guiding policies for electronic records management, destruction and disposal, following proper disposal authority.

However, the researcher is of the same view as Moreq2 (2008:51) that the organisation needs to develop a retention and disposal schedule that will guide them “to govern the retention and eventual fate of records from on-going operation” as also underscored by Ngoepe (2016:7); Nengomasha (2013:3); and Ndenje-Sichalwe, Ngulube and Stilwell (2011:271–272). This is the reason Chinyemba and Ngulube (2005) confirmed that “a records retention and disposition is crucial to the management of records of the organisation”. The schedule will guide the organisation on the period of retaining the records and the way each category or class of records may be disposed of. The records

retention tables give a procedure to the organisation as to how and when to move inactive records to inactive storage and destroying records that have no organisational value (Chinyemba and Ngulube 2005; Moreq2 2008:51; Ngoepe 2016:7; Ndenje-Sichalwe, Ngulube and Stilwell 2011:271). The records may be retained and disposed in classes, files, sub-files and volumes according to the requirements of the organisational business that created such records (Moreq2 2008:51). This is because shortage of filing space is always considered fundamental in government bodies (Chaterera, Ngulube and Rodrigues 2014:369). Yet, according to the study by Ngoepe (2016:9-10) on records management models in South Africa, most governmental bodies are still lingering around in terms of records disposal. For instance, Ngoepe stated that most government bodies had no ability or knowledge to distinguish archival value records from the ephemeral record and there was also no disposal authority issued from the National Archives for ephemeral records destruction.

Furthermore, in an electronic records management, retention and disposition may be managed using the electronic records management system (ERMS). This is why ISO 15489-1 (2001); Ndenje-Sichalwe, Ngulube and Stilwell (2011:271) underscore that records retention and disposal process should be given consideration during the system design. The system must be designed in such a way that it facilitates implementation of records retention and disposal as decided by the organisation. If possible, the system should be programmed to activate an alert for disposal automatically. It must be capable of providing an audit trail that shows completed disposal or disposed records and records outstanding for disposal. I do not share the same sentiment with Lott (1997:vi), and Yusuf and Chell's view (2005:63) that records may be preserved permanently if digitised and kept in media such as tape, even if according to policies such records have to be disposed of after a certain period. This is because records may not be permanently useful or required for the organisation of origin and if is no longer required, the end result should be disposal. Even if the records have secondary value, it will still be disposed of by means of a transfer to an archive repository whether paper or electronic format as required by the NARS Act (No 43 of 1996) and attested by Ngoepe (2016:7); Ndenje-Sichalwe, Ngulube and Stilwell (2011:271).

Problem statement

The problem that resulted in this paper is that in the healthcare institutions of Limpopo, medical records are appraised but never being terminated, separated and disposed of ever since, which directly affect provision of healthcare services to patients (Marutha 2011: 1-216; 2016: 1-319). Medical record management officials are struggling with the timely retrieval and provision of medical records to clinicians due to file or record congestions that cause misfiling and missing files, and eventually result in long waiting times for patients to receive healthcare service (Marutha 2011: 1-216; 2016: 1-319). This is because even if the records are appraised in the healthcare institutions, disposal has never being done. Records appraisal is one of the starting points in planning and implementing the records management programme since it assists the organisation in identifying and eliminating ephemeral records and in retaining an enduring value record. Records appraisal needs to be conducted at the earliest stages and level of record creation guided by record creators to gain an understanding of the creation and usage context (The National Archives of UK 2013). If appraisal is not properly conducted or completely neglected as part of key records management activities, this eventually results in the hospital staff and patients suffering the consequences of long turnaround time in retrieving the files (Marutha 2011: 1-216). When it takes more time for files to be retrieved and given to the healthcare givers, doctors or nurses, it results in them taking more time to render healthcare service to the patients (Marutha 2016: 1-319). When records are not appraised, disposal of such records are unlikely to happen, which results in the organisation unnecessarily keeping a large number of useless records. This leads to the difficulty for officials to identify enduring value records among the mist of ephemeral records for retrieval daily as they discharge their duties. “This results in patients waiting long before they could be helped as the records cannot be retrieved or medical files are lost. In such instances, health workers are unable to assist patients” (Marutha and Ngoepe, 2017:2).

Purpose and objectives of the study

The purpose of this study was to investigate a framework for medical records appraisal to eventual disposal as a means to ensure support to effective healthcare service delivery in the public hospitals of the Limpopo province of South Africa. The objectives of the study was:

- To determine understanding of appraisal in the healthcare institutions of the Limpopo province of South Africa.
- To determine the existence of a medical records retention schedule in the hospitals of the Limpopo province of South Africa.
- To assess implementation of medical records disposal as appraised in the Limpopo province of South Africa.
- To propose a framework for medical records appraisal to eventual disposal as a means to ensure support to effective healthcare service delivery in the public hospitals of the Limpopo province of South Africa.

Research methodology

The study applied a quantitative approach and exploratory survey research design with the use of a questionnaire to collect data from records management staff in the 40 hospitals of the Limpopo province of South Africa. The questionnaire was coupled with observation and document analysis (medical records management policy and procedure manuals analysis) to clarify statistical data. All the data collection instruments (questionnaire and observation schedule) were prepared in line with the objectives of the study to effectively collect empirical data. The records management officials were found relevant to the study because they were responsible for medical records management and administration daily when they discharge their duties. Officials were sampled using a stratified random sampling method to select them from each hospital. The population was framed using the human resource management spreadsheet containing information about all employees per hospitals and districts as well as the designations or job positions or post level. Employees responsible for records management were stratified in accordance with their districts, hospitals and job position or level before they were randomly selected. The total population of the study in the 40 hospitals was 622 (100%), from which 306 (49%) was sampled. The response rate was 71% (217). The sampling results were adopted as guided by a Raosoft sample size

calculator, which confirmed a confidence level of more than 95% and a 4% margin of error on the sample.

Presentation and discussion of the findings

The findings of this study are also discussed based on the objectives of the study.

Understanding of the concept appraisal

In order to establish the understanding of participants of the concept "appraisal", the researcher requested them to identify the definition. The intention was to establish whether officials in the hospitals know about records appraisal and how it must be done since the definition says it all. Analysis of the medical records policy shows that medical records in the public healthcare institutions was done because the policy also contains retention periods for every category of medical records. The retention schedule in the policy also shows whether records are ephemeral or has archival value using D symbol to show that records is for destruction disposal and A20 for transfer to archive disposal. The D symbol was shown with years for retention such as D3, D7 or D10.

Focusing on the knowledge about appraisal in Table 1, 24.9% (54) respondents specified that appraisal is the act of making decisions on what records are to be created and how long they need to be kept to meet organisational accountability. Many respondents, 79.7% (173) stated that it is the process of evaluating an organisation's business activities to determine which records need to be created, captured into the recordkeeping systems and how long the records need to be kept. The majority, 92.6% (201) said it is the process of determining the records retention period according to their values; and only few, 20.3% (44) specified that it is the process of destroying the records. Nobody specified any other definition or description of the appraisal concept.

UNDERSTANDING OF APPRAISAL CONCEPT	RESPONSES	
	NUMBER	PERCENTAGE
<ul style="list-style-type: none"> Appraisal is the act of making decisions on what records are to be created and how long they need to be kept to meet organisational accountability. 	54	24.9%
<ul style="list-style-type: none"> Appraisal is the process of evaluating an organisation's business activities to determine which records need to be created, captured into the recordkeeping systems and how long the records need to be kept. 	173	79.7%
<ul style="list-style-type: none"> It is the process of determining the records retention period according to their values. 	201	92.6%
<ul style="list-style-type: none"> It is the process of destroying the records. 	44	20.3%

Table 1: Understanding of the appraisal concept (N=217)

Indeed, appraisal is the process of planning for the organisational business records that are to be created during business transactions, and also to determine how long each category of records will be preserved. For example, determining which records are to be kept permanently and which ones for a short period for business accountability (Ismail and Jamaludin 2009:138; Ndenje-Sichalwe, Ngulube and Stilwell 2011:270-271; Chaterera, Ngulube and Rodrigues 2014:370). "Records appraisal is an analysis of all records to determine their administrative, fiscal, historical, legal, or other archival value" (Maryland State Archives 2015). There is a good understanding of the concept appraisal in the healthcare institutions of Limpopo. This is because the majority (79.7% (173)) of respondents described appraisal correctly as the process of evaluating an organisation's business activities to determine which records need to be created, captured into the recordkeeping systems and how long the records need to be kept. Respondents also described it as the process of determining the records retention period according to their values – 92.6% (201).

Implementation of medical records appraisal in the healthcare institution

The researcher also established whether the medical records appraisal was being conducted in the institutions, to which 34.1% (74) said yes, 60.8% (132) said no and 5.1% (11) never replied. The (medical records policy) documents analysis, shown that records appraisal

were conducted during or before the creation of the medical records policy since the policy also outlined the retention period for different categories of medical records. The respondents were also requested to identify on the list the methods of medical records appraisal. According to Figure 2, 37.8% (126) respondents specified that when appraising records, the institution identified categories of medical records to be kept; and 58.1% (126) said during appraisal of records, retention periods were determined for each category of medical records. Then, 30.9% (67) respondents specified that electronic records to be captured into the recordkeeping systems were identified with the retention period. The majority, 74.7% (162) of respondents said records of long-term value and short-term value were identified while the minority, 26.7% (58) respondents stated that ephemeral records were destroyed and archival value records were transferred to archive repository; and no respondent specified any other activity not listed. The researcher took some rounds around medical records storages in the hospitals to see or assess the status of existing medical records, especially the terminated records, including their disposal status in accordance with the retention schedule in the medical records management policy. Then the observation shows that medical records has never being disposed of ever since the establishment of the hospitals since there are lot of dated medical records and registers dumped in a congested dusty storages with old furniture dated back to beyond years of 1970s.

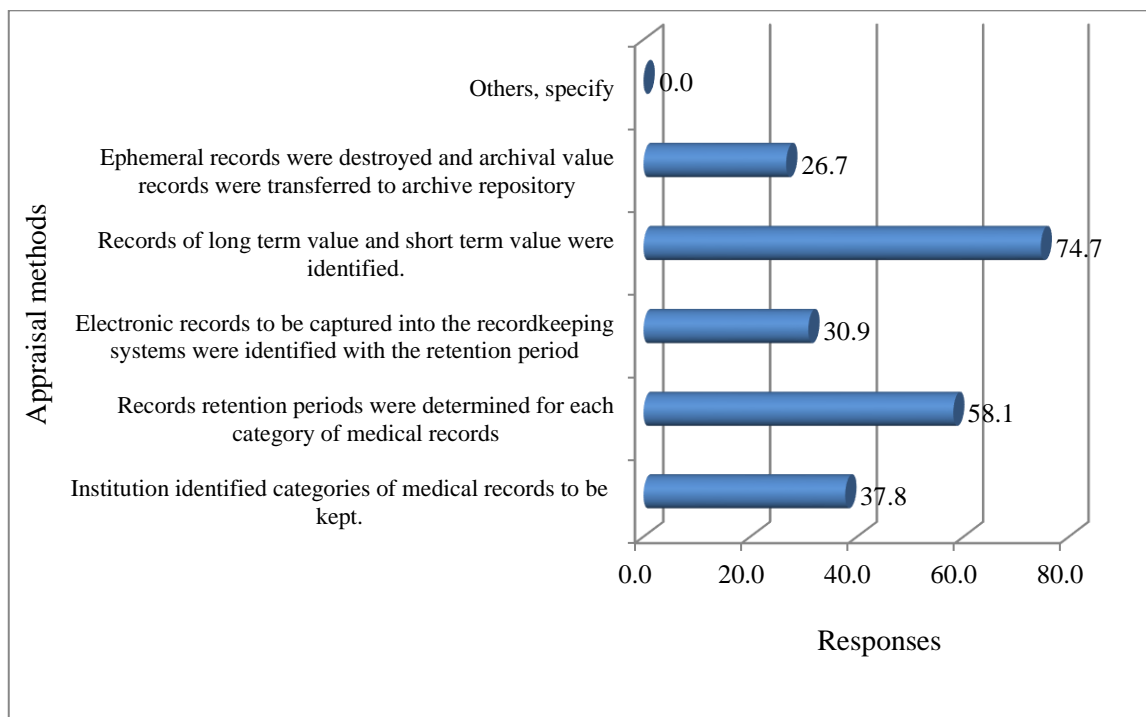


Figure 2: Appraisal methods for medical records (N=217)

Still, appraisal has been conducted in the healthcare institutions of Limpopo as confirmed by recordkeeping documents analysis. The records retention schedule was developed and consolidated into the filing plans and schedule of records other than correspondence. The medical records policy also outlined the retention period for different categories of medical records. During records appraisal in the healthcare institutions of Limpopo province, records retention periods are determined for each category of medical records and records of long-term value and short-term value are also identified. These were confirmed by 74.7% (162) of the respondents in Figure 1.

The retention period for medical records

Records retention has to do with keeping or retaining medical records for a certain period according to its value in a records storage media, until such time that it reaches a disposal period to either be destroyed or transferred to archival repository for permanent preservation. The organisation should have their own “documented records retention and disposal program” to secure records with fiscal, legal and business continuity (vital records) value (Ismail and Jamaludin 2009: 139; Ndenje-Sichalwe, Ngulube and Stilwell 2011:270-271). Respondents were also requested to specify if the institution already assigned the retention period for all categories of medical records to establish the current affairs in terms of records appraisal. Out of all respondents, 24.9% (54) replied with yes, 62.2% (135) with no and 12.9% (28) never replied to the question. Document analysis on medical records management policy revealed that a retention period was assigned for different categories of medical records as also confirmed. Although the majority of respondents (62.2% (135)) stated that the retention period for medical records were not assigned in the institution, the researcher can confirm that it was assigned since the medical records management policy revealed that a retention period was assigned for different categories of medical records. During the rounds taking (observation) to medical records storages within hospitals, observation shown that the medical records that were due for disposal were not yet prepared or processed for disposal as scheduled retention in the policy. Inactive or terminated records were still mixed with active records in different storages. This implies that there were no demarcations or separation between the two categories of records, which eventually makes disposal very difficult or impossible or made with errors or accident of disposing the active and/or non-ephemeral records.

Medical records disposal

During the records disposal stage, records are disposed of when they are no longer useful to the organisation. Disposal is conducted in the form of destruction if the records in question do not have a secondary value or long-term value. Furthermore, if records have a permanent or secondary value, they are disposed of by transfer to an archive repository as required by or planned in the retention schedule for permanent public consumption or use (Bantin 2009:3; Horsman 2001:16; National Archive and Records Service of South Africa 2007a: 51-52; Ndenje-Sichalwe, Ngulube and Stilwell 2011:266-270). The disposal of records is also one of the important operational activities in managing records properly. It is all about retaining, deleting, transferring or destroying records after the decision about appraisal is taken. The process of disposal includes actions such as records appraisal, sentencing, destruction or transfer of records to the national archive repository (State Records New South Wales 2004).

In disposing any records stored in the system as evidence of business activity or processes, the organisation has to apply for authority, which must be granted before any disposal can take place. For example, in South Africa, authority is granted or denied by the National Archives of South Africa based on certain conditions or reasons in response to an application by an organisation or government body. The organisation must investigate the records before deciding to dispose of it, to check if there is any work, litigations or investigations pending on the records that will be needed as evidence. They must be sure that the records are no longer required by or valuable to the organisation (ISO 15489-12001; National Archive and Records Service of South Africa 2007a:26). In the Limpopo hospitals, the medical records management functional operations conducted at the records disposal life cycle stage include sorting and registration of records (54.4%(118)), disposal permission application (74.7% (162)), records disposal (72.8% (158)), issuing of disposal certificates (49.8% (108)), and safe keeping of the disposal register for future reference (42.9%(93)). The report is presented clearly in Table 2. However, identification and separation of records according to their value, whether primary or secondary value, were not accounted for at this stage. The observations also shows that disposal was never conducted since the establishment of the hospitals because there are still a lot of dilapidated medical records dated as far back as 1970s. These kinds of records (terminated records) are not properly filed or kept but instead they are just piled in uncleaned, dusty and congested

small rooms. In some of these small rooms old furniture are dumped there mixed with medical records.

Table 2: Medical records management functional operation during records disposal (N=217)

RECORDS DISPOSAL FUNCTIONAL OPERATIONS	RESPONSES	
	NUMBER	PERCENTAGE
• Records identification for disposal	174	8
• Records separation per archival and ephemeral value	79	36.4
• Records sorting and registration for disposal	118	54.4
• Disposal permission application from the Archivist	162	74.7
• If disposal authority is granted, records disposed off	158	72.8
• Disposal certificate issuing by the records manager	108	49.8
• Disposal register creation and safe keeping for future reference and accountability	93	42.9

Conclusion and recommendations

It is clear from the discussion of this study that lack of records appraisal plan implementation contributes to a long waiting time for patients due to a long turnaround time to retrieve the files. This is because if records are not properly identified and separated according to their value (appraisal) they usually get lost or misfiled and officials struggle to locate them. This eventually led to patients waiting too long before receiving the healthcare service (Marutha and Ngoepe 2017:7). The officials in the organisation understood the records appraisal and that they developed it, but the problem was that it was not implemented due to a lack of resources, for example, there were no disposals ever conducted since the origin of the healthcare institutions. There was an understanding of appraisal in the healthcare institutions, since officials in the healthcare institutions were able to describe appraisal correctly as the process of evaluating an organisation's business activities, to determine which records need to be created, captured into the recordkeeping systems and how long the records need to be kept. They also described it as the process of determining the records retention period. Besides, appraisal has been conducted in the healthcare institutions of Limpopo and the only challenge is resourceful support.

The records retention schedule was developed and consolidated into the filing plans and schedule of records other than correspondence, but the disposal was never conducted even after the records reached their disposal periods. The medical records policy also outlined the retention period for different categories of medical records. During records appraisal in the healthcare institutions of the Limpopo province, records retention periods are determined for each category of medical records and records of long-term value and short-term value are also identified. The retention period for medical records were assigned in the institution, since the medical records management policy has shown that a retention period was assigned for different categories of medical records. The institutions had the retention period for their records and it is populated into the policy. This is because the medical records filing plan used was the electronic healthcare business system, which generated the file numbers though other records management functionalities relating to, among others, disposals that were not covered by the system. This is why the system could not assist the organisation in terms of records disposal.

Proposed framework for appraisal to eventual efficient disposal of medical records

This study propose a framework mapped in Figure 3 for the smooth running of medical records management to support healthcare services in relation to appraisal and disposal as well as an eventual maintenance of patients' records. In order for the healthcare institutions to operate with ease in rendering healthcare services they need to start appraisal before business implementation, during business planning and/or earliest during the beginning of healthcare business implementation. As shown in **Stage A (patients records appraisal)** on the Figure 3, healthcare institutions need to identify different kinds of medical records at this stage and assign retention periods to each category. The retention periods must be assigned in accordance with the value and the use or need of each kinds of patients' records. At some times records that has, reached retention periods will be removed from active medical records storage to the storage used to store semi-inactive storage where they will eventually get disposed of. Patients records at this storage will need to be maintained until such time that they are disposed of. During **Stage B (Patients records disposal)**, when healthcare business process is on the pipeline a lot of patients' records will be produced and some transferred to semi-active storage or terminated. More importantly, some of the patients' records that has reached retention periods will be disposed of. The disposal will happen in two different ways depending on the value of records involved, as to whether

the value is permanent or short term. Records of an enduring value will be transferred to archive repository and ephemeral records will be disposed in a form of destruction. This will assist the healthcare institutions to create more space and relieve other useful records from congestions that may damage them and make them difficult to retrieve and cause some to even be lost or misfiled. During the Stage C (Patients records maintenance), healthcare institutions will then maintain only those patients records that are still useful and needed by the organisation for administrative purpose. A suitably qualified records manager with his/her staff will properly keep, maintain and manage records with primary value that are still required for healthcare service and administration. These records will be easy to locate and retrieve since they will be little and free out of all lot of junk of useless records. Eventually, the healthcare service delivery will be supported with ease because the key goal of striving towards proper records keeping including appraisal and disposal is to eventually support the healthcare service delivery with relevant patients' records.

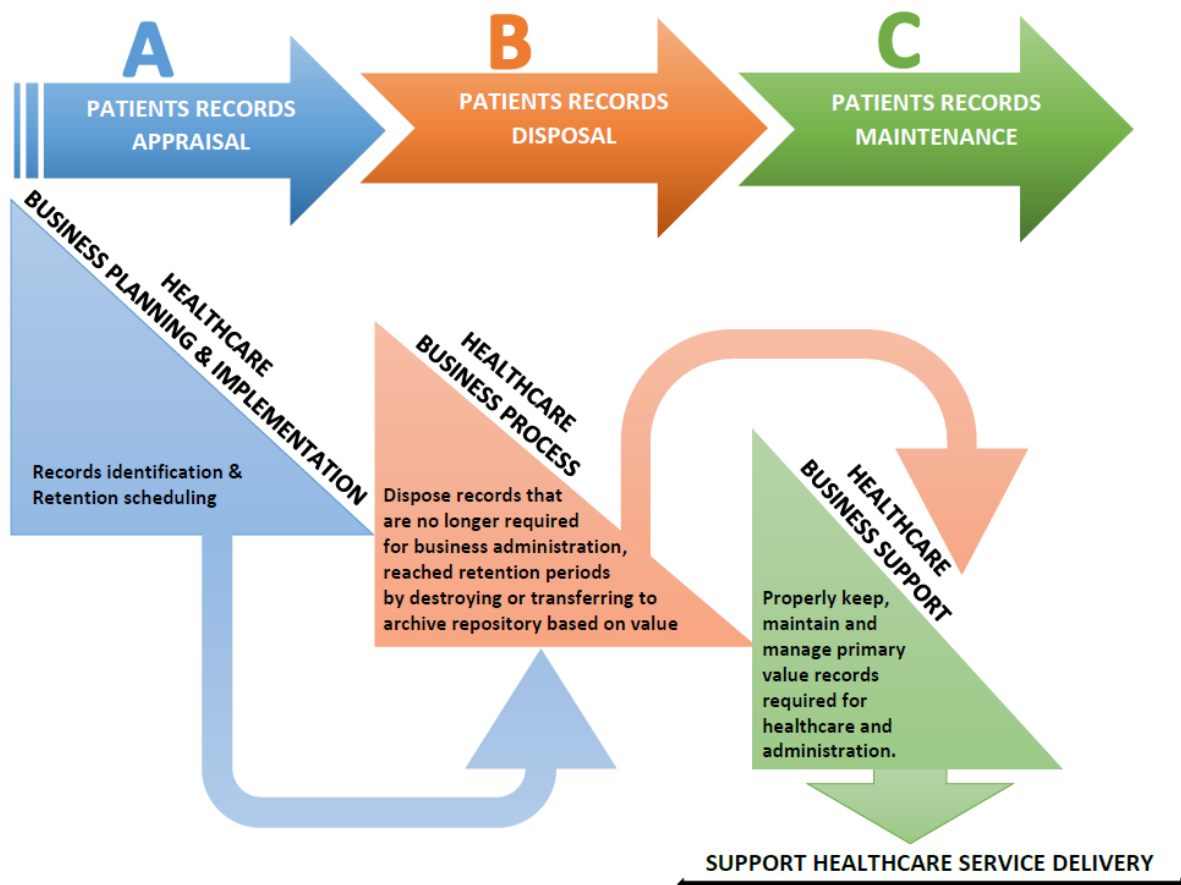


Figure 3: A proposed framework for appraisal to eventual efficient disposal of medical records to support healthcare service delivery

Finally, it is an advantage that the officials in the organisation understand exactly what the records appraisal is and that the medical records were already appraised and assigned a retention period in the institutions. Then, the institutions need to draw their system specification according to the records appraised and retention schedule as also populated in the policy to ensure that, among others, some of the disposal activities are conducted by the electronic system. The institutions may also ensure that the system assists in terminating semi-active records and archiving of records with an enduring value, destruct ephemeral electronic records that are due for disposal, generate a list of all paper-based records that are due for disposal, and generate the disposal register or database and certificate for disposal. Lastly, all records that are no longer useful for organisational administration need to be disposed of to ensure adequate filing space and decongested shelving. This will ensure that hospitals only retain few valuable records that are manageable with ease. This will ensure that available records are minimal, manageable, easily locatable, and served to clinicians as and when they are required. Eventually the healthcare providers such as nurses and doctors may be provided with the required medical records in time to serve their patients rightfully and timeously. This may extremely lead to high improvement of healthcare service in the public healthcare sector. It is hoped that the healthcare institutions may apply the proposed framework to ensure a full implementation of their healthcare support strategy with proper appraisal and eventual disposition of their patients records for improved healthcare service delivery. It is also the hope of this study that implementation of the proposed framework will assist the public hospitals in supporting effective healthcare service delivery.

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