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THE ROLE OF RECORDS MANAGEMENT PROFESSIONALS IN THE NATIONAL HEALTH INFORMATION SYSTEM AND E-HEALTH IN HOSPITALS IN BULAWAYO, ZIMBABWE

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Abstract

The introduction of information communication technologies (ICTs) in the health sector has brought about electronic health (eHealth) which uses computing, networking and communications technologies to improve health delivery. However, the inclusion of records management and archival concerns during system design in healthcare informatics has not been prioritised, resulting in systems which fail to produce authentic, reliable and records with all features of recordness. Furthermore, the long- term preservation of records and information created by such systems has been a challenge. This study sought to find the level of engagement of records and archives management (RAM) professionals and their concerns in eHealth in hospitals in the Bulawayo Metropolitan Province, Zimbabwe. Five hospitals, the Ministry of Health and Child Care and Health Information and Disease Surveillance Unit and the National Archives of Zimbabwe, Bulawayo Branch participated in this study. The study was qualitative, applying an interpretivist approach and a qualitative case study research design. Face-to-face interviews and document analysis were used as data collection methods. Narratives of respondents were presented thematically and the themes were derived from the research objectives of the study. The findings of the study showed that there was a general lack of concern for the long term preservation of records and information in electronic platforms. Records and archives management personnel were not capacitated to handle e-records and the National Archives of Zimbabwe was not involved in e-records management initiatives.

Introduction

Over the years, the long term preservation and management of paper medical records has been the responsibility of archivists and records managers, who have made sure that these records are organised and accessible as and when needed. Institutions like the National Archives of Zimbabwe (NAZ) have worked closely with hospitals in ensuring that health information and records are meticulously managed throughout their life cycle. The national archival institution has been mandated by government through the National Archives of Zimbabwe Act (1986) to

be the authority in managing public sector records. However, the inception of information communication technologies (ICTs) has changed the records management field of play as records management professionals and national archival institutions are being left out of e-records management processes. The implementation of e-health information management systems without input from records and archives management experts can plunge the health sector into what Ngulube (2004) referred to as an information dark age. Nengomasha (2009:4) highlighted that it is imperative that electronic systems projects from the onset incorporate record-keeping requirements to ensure the creation, capturing and preservation of evidence of government's transactions and decision making.

However, records management is not being given the attention it requires in the transition to the electronic environment. ICT systems are often introduced without the essential processes and controls for the capture, long-term safeguarding and accessibility of electronic records (International Records Management Trust (IRMT), 2008:1). Several studies identified a lack of recordkeeping awareness within public organisations (Barata 2004; Valtonen 2007; Shepherd Stevenson and Flinn 2009). The International Records Management Trust (IRMT) (1999:52) postulated that using electronic records to document decisions or transactions needed for long-term use is a high-risk strategy as there are significant difficulties in protecting the availability of electronically generated information. Wamukoya and Mutula (2005:80) postulated that a central agency such as the national archives should be designated to coordinate e-records management activities and to ensure that government-wide standards and practices are developed, implemented, and appropriate facilities and resources are available. The trend however, has been that governments roll out e-records and information management programmes without consulting national archival institutions and experts. Mnjama (2005:463) advanced that many of the problems relating to the management of electronic records stem from the fact that more often, governments adopt different ICTs without adequate consultation with national archives on how best to manage records that will emanate from these technologies.

The advent of ICTs has not only affected archivists and records managers, but health records and information management departments and personnel in hospitals. To the American Health Information Management Association (AHIMA) (2005), the influence of technology on the health information management industry has seen many of the past roles of health information managers centred on paper medical records eliminated and replaced by new roles focused on patients' electronic health records. In some sectors, records management tasks have been passed on to information technology (IT) personnel. ICTs have greatly impacted on how information is created, distributed, managed, accessed and preserved. Furthermore, within any given healthcare organisation, health information management professionals are no longer centralised in one single department; but rather decentralised and applying their expertise across entire organizations (AHIMA 2005). Clearly, ICTs have had a huge impact on the records and archives management field, and in the process, traditional paper records management approaches have proved to be inadequate. Some problems faced in the country's health information management in the country are related to records and archives management.

Background to the study

The National Archives of Zimbabwe (NAZ) has been advising and assisting public sector bodies, including hospitals, in managing records. Researchers, hospitals and the general public have been able to make use of health records due to the role played by NAZ, that is, of long term preservation and the general management of health records. Hospital medical records units in Zimbabwe have been liasing with NAZ, but, one wonders if NAZ is seen as a major stakeholder in the country's health informatics arena. Records management related challenges

have been raised in the country's health informatics as it has emerged that the long preservation and archiving of electronic health information has been a major concern in the country's e-health information management (The Draft National E-health Strategy, 2012-2017).

The Bulawayo Metropolitan Province is one of the ten provinces in Zimbabwe. This province is serviced by six hospitals which are:

    i.   Mpilo Central Hospital;
    ii. United Bulawayo Hospitals (UBH);
    iii. Ingutsheni Central Hospital;
    iv. Mater Dei Hospital;
    v.   Thorn-Grove Isolation Hospital; and
    vi. Hillside Premier Hospital

The Bulawayo Metropolitan Province is also served by NAZ, Bulawayo, which among other things, oversees the management of records in the province. The Bulawayo NAZ Branch has been instrumental in guiding health records management in the province, conducting records surveys, advising hospital medical records units on the management of health records.

Statement of the problem

The inception of ICTs in health information and records management has seen national archival institutions and records management professionals in Zimbabwe left out. Such a move is worrying especially considering that the MoHCC Draft Strategic Plan (2012- 2017) shows that the Ministry of Health and Child Care was facing challenges to do with the archiving of e-health information. Without the involvement of records and archives management professionals in the country's NHIS, there are risks that e-records management functional requirements will not be considered in the design of and acquisition of systems. Furthermore, the authenticity, long term preservation and integrity of records and information created therein may be compromised. There has been a tendency to leave e-health information and records management to IT professionals. However, the National Archives and Records Services of South Africa (2006:52) stated that the management of electronic records should not be left to the IT manager alone, because he or she is involved with the technical management of the IT systems and may not have time to apply records management principles to the records generated in these systems. This study, therefore sought to examine the role played by records management professionals in hospitals in the Bulawayo Metropolitan Province in e-health initiatives and in the National Health Information System (NHIS) with a view to recommending the inclusion of these records management professionals in e-health initiatives in the country.

Literature Review

The importance of national archival institutions in the management of health records in a given country cannot be underestimated. The Council of State Archives, United States of America (2013:2) defined the role of state or national archives as ensuring that rapidly changing technologies do not create a new information dark age, and also to protect essential records from natural and manmade disasters. In implementing e-health programmes, national archives should be involved right from the beginning, for example, the planning and design of business processes, underlying (information) architectures, and supporting systems (Hofman 2012). The International Council on Archives (ICA) (1996) stated that organisations positioning themselves into an increasingly electronic environment will need to define the management structures required to control the electronic environment and they will need to state clearly what levels of responsibility each officer must take when creating, using, transferring, or storing electronic

documents (ICA 1996). The exclusion of records management personnel in e-health programmes has been a cause for concern.

The reasons for non-participation are varied and range from the medical records officers (MROs) not being consulted or involved because the planning authorities do not realise their ability in this area, or the MRO has not been interested or has felt incapable of involvement in such a daunting task (IFHIMA 2012:1). Even though the electronic health information management community is concerned about archiving, its benefits and importance are not known and appreciated enough. Suna (2011:56) stated that after implementation of the e-Archive in Finland's health sector, the benefits of this archive still remain unknown. It is therefore important that archivists enlighten the community on the relevance of archiving in e-health initiatives. Ramirez (2011) accentuated that archival methodology has value in the digital domain and should be consulted when dealing with hairy data management issues. The archiving community in Zimbabwe must be worried by the fact that the MOHCW (2012:24) in its Draft eHealth Strategy (2012-2017) stated that it will be guided by the e-Governance policy on how to store, archive or delete electronic health data. Also worrying is the fact that the Draft e- Health strategy did not recognise NAZ as an important stakeholder in the management of e-records and information, neither did it recognise the place of archivists and health records managers in e-health.

The library and information science field has been awash with literature on the participation and role of medical librarians in health informatics. Barron and Manhas (2011) buttressed this point when they highlighted that in 2010, the Journal of the Medical Library Association (JMLA) seeing the many potential roles of health librarians in EHR projects devoted an entire journal issue to this topic. Wood (2008) outlined that there has been discussions on ways that health librarians can bring value to EHR projects to ensure that evidence-based information is available (or linked from) within record systems. Medical Librarians have worried about archiving of digital information for years and are making some headway. Corn (2009) declared that the preservation of EHR is the responsibility of the organisation's IT department. The integration of synthesized evidence into patient records presents new opportunities for health librarians looking to promote their expertise at points of care (Haynes, 2007). Medical practitioners and nurses have also been actively involved in health informatics and also done research and published papers in line with health informatics. However, Valerius (2007) highlighted that for medical practitioners whose primary responsibility is to meet and care for a patient, recordkeeping is not a happy task, for them, it is a necessary evil. Since the management of health records is not the primary focus of health practitioners, the archival community must be concerned and alarmed.

In EHR, there is an archiving problem for digital data (Elkin et. al, 2007). Mutiti (2001:58) however, pointed to the fact that despite advances in the use of IT in many organisations, archival institutions have, in most cases, lamentably remained behind. Mutiti (2001:58) raised concern over the fact that the responsibility has been left in the hands of IT specialists, whose concerns are not necessarily related to the archival concerns for long term preservation which would ensure legal, evidential, operational and historical accountability. Hannigan (2000) highlighted that some national archives are hesitating to get involved in the physical preservation of e-records, although most declare themselves determined to do so. Such a stance at the end of the day leaves EHRs at the mercy of people who neither understand nor even care about such records to guarantee their long term preservation. Mazikana (2009) posited that some African archivists feel that national archives should not dissipate scarce resources by indulging in activities for which they are neither well equipped nor trained. If ever archivists and records

managers are generally adopting such a stance in e-health initiatives, there will be a very high likelihood of a health information dark age.

Furthermore, Wamukoya and Mutula (2005) raised concern over the fact that among records and information managers, and national archivists, there is insufficient capacity and training to articulate e-records issues and provide guidance and input to policy makers and planners. The result of such shortcomings has been that archival concerns are not taken into consideration in policy formulation in line with ICT initiatives. National archival institutions are voiceless in that regard and at the end of the day there is a possibility of an information "Dark Age" in the health information management sector brought about by the rolling out of ICT initiatives like health informatics without consideration of records management and archival concerns. Mutiti (2001) revealed that national archives were not playing a role in the introduction of electronic government, and electronic records issues were not being addressed systematically, and to Thibodeau (2001) the existence of National Archives of the United States in the digital era could only be guaranteed if the profession tackled challenges of managing e-records.

Wamukoya and Mutula (2005:75) observed that national archives in ESARBICA were not playing a role in the introduction of electronic government, and electronic records issues were not being addressed systematically. With such a view in mind, this would therefore create gaps and vacuums in the management of EHRs in informatics. Health informatics led to creation of a number of different records that include EHR, voice messages, video messages, x-rays, and other formats, which need the archival fraternity to decide how to describe, link, preserve all these records in different formats, how to migrate them and make sure that archival concerns are addressed at conception stage of these electronic systems.

ICA (1997) emphasized that an archive whose activities in e-records management starts only when records are transferred will confront technical difficulties and many of these difficulties could be eliminated or avoided if the archives could influence the records creators earlier in the life cycle of the records. The role of archivists in the electronic age has been forwarded by archival theorists who have suggested that archivists must have a pro-active role and be involved when IT-systems are to be bought or (re)designed and implemented (Bearman 1994; Dollar 1992). Landis and Royce (1995:9) noted that digital materials with long-term value are placed in jeopardy due to inadequate recognition of their status as records and a failure to implement an adequate system to manage them. Archival institutions are coming up with programmes and means to come to terms with e-records. This has seen some archival programmes, most notably the World Bank and the National Archives of Canada, venturing into software development for document management (Barry 1993).

Objectives of the study

This study sought to examine the role played by records management professionals in hospitals in the Bulawayo Metropolitan Province in e-health initiatives and in the NHIS)with a view to recommending the inclusion of these records management professionals in e-health initiatives in the country. The specific objectives of the study included:

  i.   To determine the role played by the National Archives of Zimbabwe in the country's eHealth information and NHIS;
  ii. To establish the role played by Medical Records units within hospitals in Bulawayo in the NHIS: and

iii. To establish the relationship between the National Archives of Zimbabwe, Health Information Management Units in hospitals and the Health Information Management and Disease Surveillance Unit, in e-health information management.

Methodology

This study applied a qualitative research methodology and a case study research design. Krauss (2005) averred that qualitative research and qualitative data analysis in particular have the power to generate new levels and forms of meaning, which can in turn transform perspectives and actions. The application of the case study research design was informed by Darke, Shanks and Broadbeat (1998) who asserted that case study research is well suited to understanding the interactions between information technology- related innovations and organisational contexts. It was therefore prudent to apply the case study research design which would help the researchers to find out how technology was being used by medical records personnel and if they were coming across any challenges related to training in e-records management.

The case study research design was advantageous in that research questions could be modified during the research process if the original questions were found to be less relevant or salient, and such flexibility is not possible in any positivist method after the data is collected (Bhattacherjee 2012:93). A judgemental or purposive sampling was used, where all 5 heads of Medical Records Units of hospitals in Bulawayo, the National Health Information Manager (Ministry of Health and Child Care Health Information Management and Disease Surveillance Unit in Harare), the Chief Archivist, Principal Archivist and Records Management Officer at NAZ Bulawayo were interviewed. Face-to-face interviews were held with a total of nine out of the targeted nine research participants.

A total of six hospitals which are located in the Bulawayo Metropolitan Province were targeted, however, the researchers were only allowed to collect data from only five hospitals. The researchers, through the office of the Registrar of the National University of Science and Technology applied for permission to collect data from the six hospitals and only five hospitals, that is Mpilo, United Bulawayo Hospitals, Ingutsheni, Mater Dei and Thorngrove Isolation hospitals granted the researchers permission to collect data.

The aim of data analysis in this study, as highlighted by Kemoni (2007:143) and Ngulube (2015) was to transform information (data) into an answer to the original research question. The was achieved through thematically analysing interview transcripts, field notes, and memos for each case. The following five stages used in qualitative data analysis which were highlighted by Denscombe (2007:288) were applied in this study:

i. preparation of the data;
ii. familiarity with the data;
iii. interpreting the data (developing codes, categories and concepts);
iv. verifying the data; and
v. representing the data.

Presentation of the findings

The findings are presented below and they are organised around the objectives that informed this study.

The Position of NAZ in e-records management and eHealth initiatives in Zimbabwe

NAZ is the authority responsible for the management of public sector records, working together with registries in government departments. The NAZ Act (1986) Section 6 (1) and 6(2) state that: 6. (I) Subject to the provisions of subsection

(2). The Director may in respect of any Ministry-

(a) Inspect and examine the records of that Ministry;

(b) Give advice 'or instructions concerning the filing, maintenance and preservation and. when necessary, the transfer to the National Archives of the records of that Ministry;

(c) Give instructions with regard to the retention or destruction of the records of that Ministry.

In an interview with the Chief Archivist at NAZ Bulawayo, the researchers sought to establish the position of NAZ in e- records management and e-health initiatives in the country. The Chief Archivist at NAZ Bulawayo stated that NAZ was currently not involved or even consulted in e-health information management initiatives in the country, and it was alarming to note that e-health information management systems were being introduced as this would lead to information gaps in the future. The Chief Archivist further highlighted that most e-records management initiatives in many instances were spearheaded and led by IT personnel who had no idea about records and archives management, and this usually led to blunders which from the onset led to creation of records that lack "recordness" and ignore all archival concerns. The Principal Archivist at NAZ, Bulawayo also stated that "if the health sector does not involve NAZ as a stakeholder in eHealth initiatives, this will be problematic in the long run as no one will mind the long term preservation, authenticity and integrity of records created in such platforms. We as NAZ must be stakeholders in e-government initiatives and make input in line with access, storage, preservation of electronic records". However, it emerged in this interview that NAZ had expressed its commitment to e-records management in some of its strategic plan documents.

It therefore emerged in this study that NAZ had not come out openly to highlight its stance with regards to e-records management and its position in e-health initiatives in the country.

Awareness of eHealth initiatives in the country by NAZ

It is of vital importance that the national archival institution be aware of developments that have a bearing on records and information management so as to prepare or even participate in such initiatives. The interview conducted by these researchers with the Chief Archivist at NAZ revealed that NAZ was aware that the health sector had been applying ICTs in the management of health information. However, the Chief Archivist was not aware of the particular e-Health systems that were in use in the country's health sector. He was also not aware of the extent to which the health sector in the country had implemented e-Health initiatives. He alluded to the fact that NAZ was not a stakeholder in the country's e-health initiatives and thus he was not aware of developments in the in health information management. The Principal Archivist at NAZ Bulawayo also pointed out that there was awareness that there were e-health systems being implemented in the country, but their functionalities and details were not known by NAZ.

NAZ's capacity to manage electronic records
In as much as it is important for NAZ to play a role in e-health and e-records management in general, attention must be paid to looking at the capacity of NAZ to manage e-records. Wamukoya and Mutula (2005) posited that e-records management in particular in the ESARBICA region is severely under resourced resulting in inadequate capacity. The Chief Archivist, in an interview with these researchers, stated that:

> *As of now, Zimbabwe has been going through an economic meltdown over the years and this has cascaded to budget deficits where NAZ has also been affected in that financial resources allocations availed to us are not adequate. You may ask yourself how this is connected to your question on capacity, and the answer is that e-records demand investment in infrastructure, archival software and staff training, and all these require funds. Thus, as of now, NAZ is not really capacitated to manage e-records.*

The Principal Archivist also highlighted that "NAZ does not have adequate resources and expertise to oversee the management of e-records and in the country. The data therefore, pointed to the fact that NAZ was incapacitated to manage e-records considering the inadequacy of funding and training and expertise in e-records management. The data gathered also revealed that there were no e-records capacity building programmes by NAZ aimed at capacitating employees and the national archival institution to manage e-records. The interview with the Chief Archivist and the Principal Archivist revealed that there were no e-records management projects or activities that NAZ was part of.

Presence of E-records Management Unit at NAZ
Commitment to different functions at NAZ is shown by the establishment of units dedicated to such functions. Such units include the Audio-visual Archives section, the Records Centre, the Archive, the Research departments inter alia. The interview with the Chief Archivist revealed that NAZ had not yet established a section or unit dedicated to planning and researching on e-records management. This study revealed that there was no IT department at NAZ. The study also revealed that all Medical Records units in the 5 hospitals did not play a part in e-health systems neither were they consulted prior to the acquisition and or design of e-health information systems being used in the Ministry of Health and Child Care. This was revealed in 5 face to face interviews which were conducted with Medical Records Officers of the hospitals. This study, however, revealed that the Health Information Management and Disease Surveillance Unit was active in processes such as the selection of e-health information systems. However, this unit also did not have the capacity to design e-health information and records management systems.

Visibility of NAZ in e-government initiatives in Zimbabwe
The inclusion of NAZ in eHealth initiatives will at most depend on its visibility and the extent to which decision makers in eHealth initiatives understand the importance of NAZ in the creation and management of e-records and information. The Chief Archivist highlighted that there were a number of e-government initiatives in the country that were in place without the involvement of NAZ as a stakeholder. On the contrary, the Health Information Manager highlighted that the Health Information Management and Disease Surveillance Unit was aware of NAZ and its importance in eHealth initiatives. To him, NAZ would be consulted after the acquisition of an Electronic Health Records (EHR) system as contacting NAZ prior to acquisition of such systems was presumptuous. However, this showed that the roles played by NAZ was not understood as NAZ was supposed to be consulted prior to the acquisition of EHR systems as

NAZ would be normally be expected to draft e-records management functional requirements that could be used in the selection of EHR systems.

Respondents from NAZ were also asked to shed light on what they thought were the reasons for the non-visibility of NAZ in the country's health informatics initiatives. The Chief Archivist and the Principal Archivist highlighted that NAZ had not conducted any programming or awareness campaigns in line with e-records management. Some of the reasons for the non-visibility of NAZ in e-records and information initiatives and consultations as raised by the Chief Archivist and Principal Archivist were that;

i. NAZ had not shown interest in the area;

ii. NAZ lacked the technical capacity required to participate in health informatics;

iv. NAZ was only known as the custodian of paper records;

v. There was no legal instrument clearly stating the place of NAZ in e- government initiatives; and

vi. NAZ has not come up with awareness programmes to position itself and raise awareness of its role in e-records management.

Views on the implications of not including NAZ in the e-health consultative process

The inclusion of NAZ in e-records and e-platforms has to be justified and implications of not having the national archival institution on board in e-government initiatives be highlighted. The interview with the Chief Archivist revealed that "the danger of leaving out NAZ in eHealth initiatives was that the health sector had no expertise and the mandate to manage records and ensure their long term preservation. Therefore, the health sector may wake up to find that records are no longer accessible or they have been tempered with or compromised". The Principal Archivist also highlighted that the failure to incorporate NAZ in eHealth initiatives and other e-government initiatives in the country could lead to the creation of records that lacked the characteristics of "recordness". The Principal Archivist further highlighted that without NAZ, the long term preservation of EHRs and information will be jeopardised since all actors participating in eHealth initiatives will not be mandated to archive records. Further the interview with the Chief Archivist highlighted that without NAZ in the picture, no authority will be accountable for the long term preservation of e-records.

The role of Medical Records Units in eHealth initiatives

Hospitals have medical records units which have been responsible for the management of paper medical records and health information. The data gathered through face to face interviews with the 5 Medical Records Officers showed that their medical records and health information management responsibilities and roles had not been taken over by IT personnel. In hospitals which had IT departments, that is 3 public hospitals and 1 local government hospital, Medical Records units worked well with IT departments which provided support services, but the overall management of health information was still the role of these Medical Records units. In the fifth hospital which is a private hospital, there was no IT department at all. One of the Medical Records Officers highlighted that "the MoHCC has a Department of Health Information Management and Disease Surveillance Unit which is responsible for rolling out e-health information and records. Medical records units stationed in hospitals are branches of this department and there is no way in which IT personnel can take our roles and responsibilities even in electronic environments".

When the question on IT personnel overtaking medical records and health information management tasks in IT related fields was posed to the Health Information Manager at the MoHCC, he stated that: "eHealth information and records management will always be the responsibility of the Health Information Management and Disease Surveillance Unit." He however stated that IT personnel will always be key in providing technical assistance including software design and configuration as a number of e-health systems acquired from other countries need to be tailored to meet local needs. The interview with the Health Information Manager pointed to the fact that custody of e-health information was now handled through the server located at the MoHCC head office and management of the server was a responsibility of IT specialists. The study, however, revealed that all Medical Records in the 5 hospitals did not have a say in system design, selection neither did they have e-records functional requirements that could be referred to in designing and selecting EHRS and any other e-health information and records management systems. These units were more of end users of systems.

Based on the findings presented above, it can be concluded that medical records management personnel had not passed over e-health information management to IT personnel, as they (medical records personnel) were capable and rightly positioned for e-health information management. Hospital D, was keeping custody of e-health information, whereas the remaining 4 hospitals, namely, A, B, C and E, were having the MoHCC handling the custody of e-health information. However, the data pointed to the fact that there was no archivist involved in eHealth as the long term preservation or custody of e-health information was now being handled by IT personnel.

Discussion of Findings

The inception of technology in records, information and archives management requires that the records and archives management community repositions itself in order to remain relevant. Furthermore, ICA (1997) postulated that .if e-records are to be preserved as archival electronic records, archival institutions would require positioning themselves at the conception stage, even before records are created. This study established that NAZ, being the authority in records management in the country, was not pro-actively involved in e-government initiatives like health informatics. Bhebhe (2015:112) added on that NAZ is yet to deal properly with e-records, meaning that those e-records produced by some government departments are not incorporated to the social memory of the nation. This study established that all electronic health information and records currently produced in the country without hard copy printouts made was likely not going to be archived. This was because some e-health information systems being used especially in private health care facilities were proprietary and faced challenges of interoperability and thus there was a problem of information silos. The inclusion of records and archives management professionals before system acquisition and design could have solved such a problem as these professionals have the urge to ensure the long term preservation of records and information and the preservation of the structure, context and content of records.

The MoHCC Draft Strategic Plan (2012- 2017) shows that the Ministry was facing challenges to do with the archiving of e-health information. Such a gesture suggested that there is an archiving gap that was existing and needed someone to take initiative and play the role of taking the lead in the long term preservation of e-records and information in the country. The Queensland State Archives (2015:11) further noted that challenges leading to the failure to preserve electronic records include the confusion and or lack of alignment between stakeholders, roles and responsibilities with respect to digital access and preservation, with a prevailing assumption that it is 'someone else's problem'. Such a statement tallies well with the situation in the healthcare system in Zimbabwe as there seems to be no one mindful of the long-term preservation of e-

records and information. At the time of conducting this study, the national archival institution was not involved in e-health initiatives and other e-government initiatives. Medical records personnel were not involved in the long term preservation of records and information in electronic platforms. The findings of this study showed that NAZ had not come out clearly and stated its position with regards to e-records management in Zimbabwe. Such a stance opened up the archiving of e-records to other professionals who have no records and archives management background especially IT experts.

McDonald (nd:5) stated that few records managers have ventured beyond the office to build relationships with those grappling with records issues in application systems, geomatics, statistical data, and other digital records-generating areas of organisations. This observation was in tandem with the findings of this study which showed that NAZ had not been involved in eHealth initiatives and any other e-records management initiatives in the country. Runardotter (2007) also highlighted that archivists are connected to paper-based records, which have low priority within the organizations and are therefore treated differently to digital information. The findings of this study concurred with this fact as NAZ was currently only involved in the management of paper-based medical and health records management and not participating in e-records management initiatives. This study further concluded that NAZ was not capacitated enough to manage e-records as it lacked the expertise, funds, infrastructure and human capital for management of e-records. NAZ had not yet come up with a strategy on how to manage e-records. Since NAZ was not capacitated to manage e-records, the health sector had resorted to handling its own archiving of e-health information by way of acquiring a dual server.

Sproull and Eisenberg (2003:2) emphasised that the consequence of either failure to institute a program or a significant delay in doing so would be the possible, indeed even likely, loss of an important part of the nation's history. The interview with the Health Information Manager pointed to the fact that the MoHCC was considering doing away with paper based health information systems like the T-5 and T3 forms. This, according to the Health Information Manager, would lead to a paperless health information management system in the form of DHIS2 and after that the dream was to move on to EHRs. In light of this, Ngulube (2012) was of the view that the laxity by NAZ can only mean that substantial amounts of information and records will be lost, and that this will continue unless action is taken in that regard, and the same sentiments were raised in the data collected in this study.

According to Millar (2004) the low profile of records and recordkeeping and the consequent lack of involvement of records professionals, and excessive focus on information technology (IT)-oriented approaches in e-records management is one challenge especially in the developing world. This was one challenge evident in this study where even though medical records units were responsible for e-health information management, they had no influence and say in e-health information systems creation and selection. These medical records units were not consulted prior to the acquisition of e-health information systems. Their input was on giving feedback to the head office after using e-health information systems. This study showed that hospitals and the MoHCC had not consulted NAZ in line with records and archives management issues in eHealth in the country. This study also noted that there was a general unawareness or misconceptions held by medical records personnel about the role and functions of NAZ as some medical records personnel viewed NAZ as just some warehouse or offsite storage for old discarded records and therefore could not make any meaningful contribution in eHealth. This meant that the roles of archival institutions were not understood and this might also explain why NAZ was not being consulted in eHealth initiatives and other e-government initiatives.

Records are key to the day to day functioning of hospitals, and without them hospitals can barely function. The importance of these records also places health records managers and health or medical records units at the heart of the hospitals' function. The common trend among all the 5 medical records units in this study was that even though their work was critical, they were not being given the credit and gratitude they deserved, and this translated to them not being prioritised as other departments in terms of budgeting and resource allocation. In one of the hospitals, respondents highlighted that they were even failing to transfer records to NAZ due to the fact that they did not have funds to acquire archival boxes required by NAZ. This finding was in line with what the NARA (2001) highlighted that recordkeeping and records management in general receive low priority as evidenced by lack of staff, budget resources, absence of up to date policies and procedures, lack of training and lack of accountability.

Leaving out national archival institutions out of e-records management initiatives has its own implications. Asogwa (2012) stated that some projects fail to succeed because governments neither assess the available information framework suitable for e-records management, nor consult the records managers to determine how the process of automation will not affect the role of records managers in providing reliable and authentic evidence. The Chief Archivist highlighted that leaving out NAZ in e-health initiatives in the country will create information gaps in health information and records in the future as information and records created in electronic systems currently will have had no one assigned to look into the preservation of the records. In one private hospital, respondents highlighted that they had a case where after migrating to a new e-health information management system, they discovered that it was not compatible with the old system and thus they could not import data from the old information system. These respondents stated that they had to re-type that information into the new system. Such developments in the health sector are capable of creating information silos which contribute to information gaps and loss of content, context and structure of records.

This study also established that NAZ was currently advising hospitals on paper health records management and not e-health information management. Mnjama (2013) in Sebina, Moahi and Bwalya (2013:5) highlighted that another weakness observed was the role of the archives advisory councils, many of which were virtually ineffective. This was the case in this study as it was established that Records Committee had not yet sat to deliberate on e-records management. Runardotter, Mörtberg, Mirijamdotter (2011) stated that cooperation between different occupational groups around digital preservation is almost non-existent, and archivists and IT-personnel cannot talk with each other, and even when they use the same words they mean different things. The term archiving meant different things to different people as was shown by the Health Information Manager who stated that archiving challenges stated in the country's E-Health Information Strategy (2012-2017) had been resolved by the rolling out of DHIS2 which is an open system and the dual server that was acquired by the MoHCC. However, to the archiving community, just having an open system and server technology is not an end to archiving in the digital environment.

Runardotter, Mörtberg, Mirijamdotter (2011) pointed to the fact that IT-personnel run their own race without concern for archiving, preservation and appraisal. McDonald (nd:5) was of the opinion that although records managers are technically the authority points for records management across the organization and are supposed to be exercising a leadership role, few seem to have any influence beyond the 'wild frontier' of the modern office. This observation reflected the situation unveiled in this study, where even though NAZ was expected to play a leadership role in e-records management, such was not the case. Barata (2004) highlighted that in 2002 a study in the UK concluded that local authority archives lacked resources and expertise in electronic records management as many interviewed archivists felt powerless, but were aware

that something had to be done; otherwise they risked losing evidential records in the future. The findings of this study also showed that there was an awareness of the need to do something about e-records management at the Bulawayo NAZ, yet the research participants from NAZ were not really sure of what they could do as NAZ. This therefore translated to the fact that archiving challenges faced in the country's health informatics initiatives were far from over as a long lasting archival solution had not yet been found.

Bwalya (2014) stated that many African archival institutions are poorly prepared for the management of e-records, and many institutions are turning to commercial data banks for the storage of their e-records. The current study revealed that NAZ did not have any repository, and computer servers inter alia that were dedicated to e-records management and this might be a sign that NAZ was far from committing itself to e-records management in the country. McDonald (nd: 5) stated that "records managers in many organizations tend not to be well placed to exercise a substantial role in the management of digital records, the de facto record of organizational business". Electronic records require a lot of investment in infrastructure and human resources, and thus it is also important that the capacity of archival institutions to manage electronic records be assessed before their commitment to this taxing role.

The findings of the study showed that NAZ had not yet conducted any e-records management awareness and or programming initiatives in the public sector and hospitals, and this was leading to the low visibility it was experiencing in the country's e-government initiatives. This study also revealed that medical records units were not being consulted prior to the purchasing or selection of e-health information systems. The study showed that IT personnel had not taken over health information management roles in e-health information management in the 5 hospitals. Medical records units were still responsible for e-health information management and IT specialists in these hospitals were only there for technical concerns like networking, repairing computers and assisting as and when required.

Recommendations

To NAZ, this study recommends that NAZ should be actively involved in the country's e-government initiatives like e-health at planning stage, before e-health systems are created or even purchased. Hofman (2012:8) also suggested that the National Archives should be involved right from the beginning, that is, at the planning and design of business processes, underlying information architectures, and supporting systems. The docility exhibited by NAZ has the potential of putting records created in electronic platforms at risk of loss and manipulation. The National Archives and Records Service of South Africa (2006:47) states that; y contacting the National Archives and Records Service beforehand, governmental bodies can ensure that they work together with the National Archives and Records Service to make certain that electronic records are created, maintained and preserved according to the National Archives and Records Service's requirements. This would also ensure that governmental bodies build records management requirements into their business processes so that they become part of the normal operation of the body. Runardotter, Mörtberg, Mirijamdotter (2011) further highlight that the use of IT raises the importance of taking measures in an earlier stage than paper, since it is not possible to organise digital material afterwards to get digital preservation to work, coordination and cooperation between different actors are needed.

It is recommended that NAZ, works together with other stakeholders in ensuring that proper archiving and records management is done for e-records. This recommendation is based on Macfarlane's (2000) utterance that national archival institutions cannot afford to work in isolation as they used to in the paper environment. It is also recommended to the MoHCC that

it consults NAZ and also includes it in its technical Committees as NAZ can provide the country with the necessary guidance on archival concerns. Premised on Corn's (2009) view, the researcher recommends that the MoHCC together with all health informatics stakeholders in the country should come up with solid archiving policies for e-health information and records. ICTs are very dynamic and thus the MoHCC cannot be expected to be always reacting to archiving challenges, but has to be proactive and think ahead. The study also recommends that NAZ establishes an e-records unit which will look into the management and coordination of e-records activities in the country. It is also recommended to NAZ that it sets up an e-records management technical Committee that will oversee and strategically plan and consult on e-records management issues. ICTs are being implemented in different hospitals and other government departments, therefore, NAZ cannot wait until the whole of the public sector has rolled out e-records.

It is recommended that NAZ also advises the health sector in the country on records and archives management issues in health informatics. This was buttressed by the fact that the Draft National E-health Strategy (2012-2017) raised concerns on archiving and interoperability in e-health information, and such statements are reflective of gaps that need advice from NAZ. Furthermore, the meaning of archiving differs and the research showed that merely having an open system and having a dual server amounted to archiving in the MoHCC. It is therefore recommended that NAZ take the lead and advise the MoHCC on archival issues as this research revealed that this is an area where the Ministry is lacking. The study also recommends that NAZ drafts e-records functional requirements that can be used by government ministries and departments in selecting e-records management systems. The study also recommends that NAZ carries out e-records management centred awareness campaigns which will go a long way in stamping its position in e-government initiatives. The study further recommends that Medical Records personnel be capacitated through trainings, workshops and other means necessary to be involved not as end users only but to make input that will be key to the selection and design of systems.

Conclusion

This paper has demonstrated how e-health initiatives are being implemented without adequate involvement or consultation with records management professionals in the health sector in Zimbabwe. While the consequences of this approach may not be felt right away, in the long run, this approach will have a negative impact on how information and records are managed in the future. Such an approach will at most lead to the use of systems which may not guarantee the long term preservation, access, retrieval and use of records and information in the future. Unless adequate measures are put in place to address this problem, e-health records generated from these systems may be lost or become inaccessible and unusable by future generations. The study therefore recommends that this trend must be reversed through consultation with all the major stakeholders. The study further recommends that the national archival institution step up and avail its services in e-records and information management.

References

American Health Information Management Association. 2004. AHIMA Workgroup on Electronic Health Records Management. The strategic importance of electronic health records management. *Journal of American Health Informatics Association (AHIMA)* 75(9). [Online]. Available WWW:

http://www.providersedge.com/ehdocs/ehr_articles/The_Strategic_Importance_of_EH Rs_Management.pdf (Accessed 23 January 2016).

Asogwa, B. E. 2012. The challenge of managing electronic records in developing countries: Implications for records managers in sub Saharan Africa. *Records Management Journal* 22(3): 198 – 211.

Barata, K. 2004. Archives in the digital age. Journal of the Society of Archivists 25(1): 63-70. [Online]. Available WWW: http://www.tandfonline.com/doi/abs (Accessed 23 January 2016)

Barron, S. and Manhas, S. 2001. Electronic health records (EHR) projects in Canada: Participation options for Canadian health librarians. Canadian Health Libraries Association 32. 137-143.

Bearman, D. 1994. Introduction in electronic evidence: Strategies for managing records in contemporary organisations. Pittsburgh: Archives and Museum Informatics.

Bhattacherjee, A. 2012. Social science research: Principles, methods, and practices. *Textbooks Collection.* Book 3. (Online) Available WWW: http://scholarcommons.usf.edu/oa_textbooks/3 (Accessed 22 January 2017).

Bhebhe, S. 2015. Contemporary diplomatics of the civil and deceased estate case files found at the national archives of Zimbabwe. *Records Management Journal* 25(1):107 –120.

Carcary, M. 2009. "The Research Audit Trial – Enhancing Trustworthiness in Qualitative Inquiry." The Electronic Journal of Business Research Methods 7(1):11 - 24a. [Online]. Available WWW: http://www.ejbrm.com (Accessed 14 March 2016).

Corn, M. 2009. Archiving the phenome: Clinical records deserve long term preservation. Journal of the American Medical Informatics Association 16(1):1-6. [Online]. Available WWW: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2605592/ (Accessed 23 January 2016)

Council of State Archives. 2013. The importance of state archives: Documenting government, promoting history and securing rights. New York: Council of State Archives.

Darke, P., Shanks, G. and Broadbent, M. 1998. "Successfully Completing Case Study Research: Combining Rigour, Relevance, and Pragmatism". *Information Systems Journal* 8(4): 273-289.

Degu, G. and Yigzaw, T. 2006. Research methodology. Lecture notes for health sciences students. [Online]. Available WWW: http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_ sciencestudents/ln_research_method_final.pdf (Accessed 22 February 2017).

Denscombe, M. 2007. *The good research guide: for small scale social research project.* 3rd Ed. Berkshire: Mc-Graw Hill Education.

Dollar, C. 1992. *Archival theory and information technologies: The impact on archival principles and methods.* Macerata: University of Macerata.

Eisenhardt, K. M. 1989. Building theories from case study research. *Academy of Management Review* 14(4): 532-550.

Elkin, P., Kuperman, G., McDonald, C. C., Middleton, B. and Tang, P. 2007. Personal communications obtained by contacting digital records experts in five medical centres with established EHRs. (Online). Available at: http://www.ncbi.nlm.nih.gov/pmc/articles (Accessed 13 January 2016)

Hannigan, K. 2000. National archives and electronic records in the European Union. [Online]. Available WWW: http://www.interpares.org/documents/interpares-symposium-2000.pdf. (Accessed 03 June 2016)

Haynes, C. 2007. Linking to knowledge based systems from the electronic record: The librarian's role. Journal of Hospital Librarianship 7(4): 121-129

International Council on Archives.1997. Guide for managing electronic records from an archival perspective: Committee on electronic records. Paris. International Council on Archives.

International Council on Archives. 1996. Electronic records management: A literature review. Paris: ICA. [Online]. Available WWW: http://www.ica.org/download.php?id=1629 (Accessed 16 June 2016)

IFHIMA. 2012. Education module for health record practice: Module 1- The health record. [Online]. Available WWW: http://www.ifhima.org/ed_modules/Updated%202012/Module1The%20Health%20Record.pdf (Accessed 16 June 2016)

International Records Management Trust. 1999. Managing public sector records: A study programme. London. IRMT.

Kothari, C. R. 2004. Research methodology: methods and techniques. 2nd Ed. New Delhi: Willey Eastern Limited.

Kemoni, H. N. 2007. Records management practices and public service delivery in Kenya. PhD Thesis, University of KwaZulu-Natal.

Krauss, S. E. 2005. Research paradigms and meaning making: A primer. *The Qualitative Report* 10(4): 758-770.

Mazikana, P. 2009. A missed opportunity: archival institutions and public sector reforms. *ESARBICA Journal* 28: 36-51.

McDonald, J. nd. The sky is falling! Or is it? Wither the records manager in the digital age? Roundtable. [Online]. Available WWW: http://www.nationaalarchief.nl/sites/default/files/docs (Accessed on 17 June 2015).

Millar, L. 2004. Authenticity of electronic records: a report prepared for UNESCO and the international council on archives. [Online]. Available WWW: www.ncd.matf.bg.ac.rs/standards/archivist.pdf (Accessed on 22 March 2015).

Ministry of Health and Child Welfare. 2012. Zimbabwe's Draft E-health Strategy 2012-2017. [Online]. Available WWW: http://www.who.int/goe/policies/countries/zwe_ehealth.pdf (Accessed 06 June 2016).

Mnjama, N. M. 2005. Archival landscape in Eastern and Southern Africa. *Library Management* 26(8/9):457-470.

Mutiti, N. 2001. The challenges of managing electronic records in the ESARBICA region. *ESARBICA Journal* 20(3): 57-61.

Nengomasha, C. T. 2009. A study of electronic records management in the Namibian public service in the context of e-governance. PhD Thesis: University of Namibia.

Ngulube, P. 2015. Qualitative data analysis and interpretation: systematic search for meaning, in Mathipa, E.R & Gumbo, M.T. (eds). *Addressing research challenges: making headway for developing researchers*. Mosala-MASEDI Publishers & Booksellers cc: Noordywk, pp. 131-156.

Ngulube, P. 2012. Ghosts in our machines: preserving public digital information for the sustenance of electronic government in sub-Saharan Africa. *Mousaion* 30(2): 128-136.

Ngulube, P. 2004. A double-edged sword: Challenges and opportunities offered by the digital age to the African information society. Paper presented at ProLISSA 2004. Proceedings of the 3rd biennial DISSAnet Conference, Pretoria, 28-29 October 2004 Pretoria: Infuse, pp. 21-40.

Patton, M. Q. 2002. *Qualitative research and evaluation methods*. (3rd Ed). Newbury Park: Sage.

Queensland State Archives. 2010. Digital Archiving Discussion Paper: Informing an approach to the long-term management and preservation of government digital records. [Online]. Available WWW: http://www.archives.qld.gov.au (Accessed on 3 January 2015).

Ramirez, M. L. 2011. Whose role is it anyway? A library practitioner's appraisal of the digital data deluge. The Information Association for the Information Age Bulletin, June-July 2011. [Online]. Available WWW: http://www.asis.org/Bulletin/Jun-11/JunJul11-Ramirez.pdf (Accessed on 12 January 2015).

Runardotter, M. 2007. Information technology, archives and archivists and long-term digital preservation. *Arkiv, samha¨ lle och forskning* 2: 26-41. [Online]. Available WWW: http://www.emeraldinsight.com/doi/full/ (Accessed on 12 January 2015).

Sebina, P. M. M., Moahi, K. and Bwalya, K. J. 2014. *Digital access and e-government: Perspectives from developing and emerging countries*. Hershey: Information Sciences Reference.

Shepherd, E., Stevenson, A. and Flinn, A. 2009. The impact of freedom of information on records management and record use in local government: A literature review. *Journal of the Society of Archivists* 30(2): 227-248.

Sproull, R. F. and Eisenberg, J. (Ed). 2003. *Building an electronic records archive at the National Archives and Records Administration: Recommendations for initial development.* Washington D. C: The National Academies Press.

Suna, T. 2011. Finnish National Archive of health information (KanTa): General concepts and information model. *Fujistu Scientific and Tech Journal* 47(1): 49-57. [Online]. Available WWW: http://www.fujitsu.com/ee/Images/paper15.pdf (Accessed 12 February 2016).

Thibodeau, K. 2002. Building the archives of the future: Advances in preserving electronic records at the National Archives and Records Administration. DLib Magazine 7(2). [Online]. Available WWW: http://www.dlib.org/dlib/february01/thibodeau/ozthibodeau.html (Accessed 12 February 2016)

Valerius, J. D. 2007. The electronic health record: What every information manager should know. *The Information Management Journal* [Online]. Available WWW: http://www.arma.org/bookstore/files/valerius.pdf (Accessed 12 February 2016)

Valtonen, M. R. 2007. Documentation in pre-trial investigation: A study of using the records continuum model as a records management tool. *Records Management Journal* 17(3):179-185.

Wamukoya, J. and Mutula, S. M. 2005. Electronic records management and governance in East and Southern Africa. *Malaysian Journal of Library and Information Science* 10(2): 67-83. [Online]. Available WWW: http://www.9icsts2014.um.edu.my/filebank/published_article/2005/331.pdf (Accessed 12 February 2016).

Wood, M. S. 2008. *Introduction to health sciences librarianship*. New York: Haworth Press.

Woodside, A. G. 2010. *Case study research: theory, methods, practice*. Bingley: Emerald Group Publishing.