Perspectives

Health records creation, storage and the concept of filtering: The Biblical and the Qur'anic perspectives

Rasaq Adetona Adio[1], Vincent E. Unegbu[2], Serifat Oluyemisi Adio[3], Tajuddeen Temitayo Adebayo[4], Ibrahim Taiwo Adeleke[5,6]

[1]Department of Health Information Management, Nasarawa State University, Keffi, Nigeria; [2]Department of Information Resources Management, Babcock University, Ilishan-Remo, Nigeria; [3]Department of Health Records, Wuse District Hospital, Abuja, Nigeria; [4]Department of Health Information Management, Federal Medical Centre, Owo, Nigeria; [5]Editor-in-Chief, International Journal of Health Records & Information Management; [6]Department of Health Records, Federal Medical Centre, Bida, Nigeria.
Corresponding author*: E-mail: *adiorasaq2015@gmail.com*

ABSTRACT

Background/Objectives: This paper examined Health Records Creation, Storage and the Concept of Filtering; the Bible and the Quran perspectives in order to establish similarities between them and health records keeping. The aim of the paper therefore is to produce biblical and Quranic evidences of records creation, storage and show whether there is concept of information filtering in the Bible and in Al-Qur[an. ***Methods/Design***: The meaning, importance and benefits of health records creation, storage and information filtering reflecting the opinions of some scholar,s who had worked on them were adequately reviewed and underscored in comparison with various relevant quotations from the Bible and Al-Qur'an. This is to establish the similarities between the Bible, the Quran and health records creation, storage and the concept of information filtering. ***Results***: In the final analysis, it was discovered in the Bible and Al-Qur'an that creation is of God. The same way we are creating records, storing and retrieving them today. The concept of information filtering, which health records managers are using to ensure confidentiality of patients' records and deny people unauthorized access to patient information also originated from the Bible and Al-Qur'an. The concept of information filtering was also evidenced.. ***Conclusion***: Finally, while making distinction between the believers and unbelievers, the Messenger of Allah (SAW) said, "That which differentiates us from the disbelievers and hypocrites is our performance of Salat. He who abandons it, becomes a disbeliever". It can therefore be concluded that health records creation, storage and the concept of information filtering actually originated from the Bible and Al-Quran in view of the relevant Biblical and Quranic verses perspectives highlighted in this paper.

Keywords: Health records creation, Health records storage, Concept of filtering, Health information management; Scriptural affirmation.

INTRODUCTION

Records creation, whether in health or other fields is an important aspect of human life and it is always an important activity in any organization. It is on this reason that records are not created without purpose and permission to create it. This is so because creation belongs to God Almighty as reflected in the Bible, Genesis chapter one verse one, which says "In the beginning, God created the heaven and the earth". Similarly in Al-Qur'an Chapter 7 verse 54, "Allah created the heavens and the earth, and all that is between them, in six days………". This means God created everything that can be found in the heaven and on the earth to serve specific purposes. The Ohio State University Library resource described records creation or receipt as the first stage of the records life cycle, the same way the Bible and Al-Qur'an stated that creation is the beginning of any existence and that the objectives of this stage are to:

[1] Create complete and accurate records that provide adequate information to document the organization, functions, policies, decisions, procedures, and essential transactions of the agency and that are designed to furnish the information necessary to protect the legal and financial rights of the Government and of persons directly affected by the Department's activities.

[2] Distinguish between record and non-record materials through the appropriate application of the definition of records to documentary material.

According to Business Dictionary Online, records creation is the production or reproduction of documented or recorded information. University of East Anglia in 2015 described records creation as information created, received and maintained as evidence or information by an organization or person, in pursuance of legal obligations or in the transaction of business and that comprises content, context and structure sufficient to provide evidence of the activity. The university was of the opinion that all records are information but not all information is a record. Health Records are records created and managed in healthcare institutions so as to keep track of the happenings and occurrence of events on patients.

Biblically, records were created by writing as could be seen in the book of Revelation Chapter 1 verse 19; "write the things which thou hast seen, and the things which are, and the things which shall be hereafter". Other evidences of record creation in the Bible are "Thus speaketh the Lord of Israel, saying, write thee all the words that I have spoken into thee in a book" (Jeremiah 30: 2). Similarly, the evidences of records creation and keeping in the Al-Qur'an could be seen in Chapter 45:29, where Allah says "And We have recorded everything in a Clear Book". Also, Allah said "and the record of deeds will be laid open, and you will see the wicked in fear of what is written in it. They will cry, woe to us! (Al-Qur'an 18:49). Importance of records keeping, writing and documentation in various contexts can also be seen in Al-Qur'an Chapter 2: 282; "O you who believed, when you contract a debt for a specified term, write it down…..". This is similar to the covenant of Joshua with the people of Israel in the book of Joshua Chapter 24 verse 26, that "And Joshua wrote these words in the book of the law of God and took a great stone, and set it up there under an oak, that was by the Sanctuary of the Lord" and also in Al-Qur'an Chapter 54:52-53; Allah says "And everything they have done is in the records, and every small and great thing is written down".

All of these are similar to when records are being created for patients and they are being asked for their bio-data and they are documented. Health record is an important tool used in healthcare delivery system to treat patients in order to identify the patient, produce evidence and types of care given as well as to know whether the outcome justify the treatment given. This is so for records created in the Bible and in the Al-Qur'an important and they serve as evidence of actions, activities and covenant made with or by the people.

Health records storage is concerned with the safe keeping of the records created so that it can be easily accessible and available, when the need arises. Making health records of patients available on demand is possible because of the unique identity attached to each record during creation. Various storage equipment such as shelves, cabinets and cupboard are used to keep record safe and unhampered. In the store or library, where records are stored or filed, they are arranged in   order that make it possible to retrieve only the selected health records and this can be likened to information filtering or blocking. Information filtering is the process by which only selected data or information are allowed to pass through or made accessible. It is the process of blocking access to certain information by unauthorized parties.

The patient identification number issued to patient, when health records are created is used to store the records for future references. This serves as a filter to block access from unauthorized users, who may want to infringe in the privacy of patients and breach the confidentiality of their records. This paper therefore focused on health records creation, health records storage and the concept of information filtering using relevant and appropriate biblical texts to know the perspective of the Bible in this context.

METHODS
Review of relevant literature and scriptural reading from Al-Qur'an and the Bible.

RESULTS & DISCUSSION

Health Records Creation: Biblical and Al-Qur'anic Perspectives

Health record is the records of patients created at the hospital that gives account of all events or encounters of the patients in the hospital written in chronological order and that can be made available for future care of the patients. Mogli defined health records as an orderly written report of patient's history, physical, laboratory findings, treatment and hospital course[11]. When complete, it should contain sufficient data to justify the diagnosis and also describe the result of the care rendered. Huffman described health records as a compilation of pertinent facts of a patient's life and health history, including past and present illnesses and treatments written by the healthcare professionals contributing to that patient's care[9].

The records must be compiled in a timely manner and contain sufficient data to identify the patient, support the diagnosis or reason for healthcare encounter, justify the treatment and accurately document the result. According to her, medical records and health records are often used interchangeably but there are differences between the two. Health record is broader than medical records. It is a single repository of all data on an individual's healthcare status, which include birth records, immunization records report of all physical investigations among others.

Health record is a confidential compilation of pertinent facts of an individual's health history, including all past and present medical conditions, illnesses and treatments, with emphasis on the specific events affecting the patient during episode of care. The purpose of complete and accurate patient record documentation is to foster quality and continuity of care. Health record therefore creates a means of communication between providers about health status, preventive health services, care planning, treatment and delivery of care. Looking at the importance of health record in patient care, there should be conscious and deliberate efforts put in place, while creating health records, so as to identify the record of individual patient and make it useful to him/her to continue enjoying care and receive the best possible care.

When creating health records, identification data such as surname, first name, date of birth, age, sex, address, next of kin, phone numbers and so on

are collected before personal identification number is allocated to identify the record. Similarly, the way records is created to give account of event that happened to patients in the hospital so also the records is created to give accounts of people in the Bible and the Al-Qur'an. For instance, in Genesis Chapter 2 verse 4, it was recorded that "these are the records of heaven and earth, concerning their creation at the time that the Lord God made the earth and the heaven" and equally the account of Prophet Yusuf's (Joseph) family and events that happened to them were narrated in Al-Qur'an chapter 12 verse 1:111

As health records contain information about patients so also, we have records in the Bible that contained information about people. This could be confirmed in Genesis chapter 5 verse1, where it was written that "these are the family records of descendants of Adam, on that day that God created man, He made him in the likeness of God", also in Genesis chapter 10 verse 1, it was recorded that "these are the family records of Noah's sons, Shem, Ham and Japheth. They also had sons after the flood". Al-Qur'an Chapter 3:33 identified the family of Adam, Noah and how the descendants of Abraham and Imran were placed above all mankind. These show that identification details and hospital's statistics about patients actually originated from the Bible in view of these Biblical and Al-Qur'anic quotations. During the creation of health records, patient identification details that will uniquely identify the patient should be collected, no matter the similarities of the identity, each patient should be uniquely identified, the way family names were used for the identification in the Bible and Al-Qur'an.

Lacovino posited that the degree of reliability of contents of a record depends on how much data or information captured to identify the persons involved during the creation of record[10]. This includes their credibility, their authority (their competencies) and the consent of the parties to the transaction. This means that for health record to be accurate, reliable and to serve its purpose, it should be well created. It is important to note that the record created without patient identification number is a lost record as it cannot be traced even when properly stored. Dick *et al.* described a patient's health record system as a set of components that form the mechanism by which patient health records are

created, used, stored and retrieved[4]. The earlier Biblical and Al-Qur'anic perspectives to records identity and reliability of contents will suffice in this regard to uphold these scholars' opinions.

Health Records Storage: the Biblical and Al-Qur'anic Perspectives

Record storage is an important aspect of life of every organization and institution especially in the health, legal professions as well as in civil service. In health, recording every activity or intervention that a patient receives has assisted with enhancing perioperative practice. Equally, it has played a key part in resolving legal and professional incidents that have occurred. Meanwhile, there are numerous national guidelines that uphold accurate record keeping as an intrinsic aspect to patient safety (Pirie, 2011). Similarly, it was recorded in the Bible that records are kept, in the book of Job Chapter 16 verse 19 it says "also now, behold my witness is in heaven and my record is on high". In the same vein, Joseph stored up so much grain like sand on the seashore in so much abundance that he stopped keeping records because it was proving to be impossible to measure how much they were gathering (Genesis 41:49). This was also supported by Al-Qur'an Chapter 22 verse 70 which states that "Dost thou not know that God knows all that occurs in heaven as well as on earth? All this, behold, is in (God's) record: verily, (to know) all this is easy for God.

Complete records have content, context, and structure. Content refers to the detailed and trustworthy information. Context refers to who created the record, when, how, and why, and the record's relationship to other records. Structure refers to the (physical) format and/or components of the record and how the contents are organized. Health records that are well created can only be retrieved to serve their future purposes if they are well stored. Storage plays important role in access to health records as effective and efficient storage of health records facilitates timely access, quick availability and prompt use of health records. The biblical perspective of this scenario is when King Josiah sent Shaphan the son of Azaliah, the son of Meshellam the scribe to the house of the Lord and to meet Hilkiah the high priest that he may sum the

silver and other things, which were brought into the house of the Lord, which keepers of the door have gathered of the people. After this, the Hilkiah the high priest looked for the book of law and retrieved it and told Shaphan the scribe that he had found the book of the law which is one of the items kept in the house of the Lord and Hilkiah gave the book to Shaphan and read it (2 Kings chapter 22 verse 1-8).

Similarly, Al-Qur'an Chapter 18: 49 said "And the record (of deeds) will be placed (open), and you will see the criminals fearful of that within it, and they will say, "Oh, woe to us! What is this book that leaves nothing small or great except that it has enumerated it?" And they will find what they did present (before them). And your Lord does injustice to no one". These Biblical and Al-Qur'anic texts showed that records were stored and retrieved in the Bible and Al-Qur'an, the same way we store health records and retrieve them, when needs arise. Pirie averred that the effectiveness of records systems depends on knowledge of what records are held, what information they contain, in what form they are made accessible, what value they have to the organization and how they relate to organizational functions[15]. He was of the opinion that without this knowledge, an organization including hospital will find it difficult to locate and retrieve information required for business purposes or to respond to an information request.

The concept of Filtering and Biblical and Al-Qur'anic Perspective

The concept of filtering is to separate good things from the bad ones and this is to focus on positive entities and move away from negative ones. Filter is the tool used in separating things or blocking the unwanted items. Adegoke and Adegoke and Bamidele citing Thomas (2000) described filter as a program that accepts a certain type of data input, transforms it in some manner and then outputs the transformed data in accordance with specified criteria[1]. The pattern for data passage has been designed so that only the data that matches or complied with the command that will be allowed to pass through, for example in information filtering, which is the focus of this paper, if the command "display" patients with malaria is used only patients with malaria will be displayed and the command "list" will only list specified data.

Likewise, the history of filtering can be traced to the Bible and we can say it actually originated from the Bible, this could be seen in the book of Matthew Chapter 7 verse 21, where Jesus said that "not everyone that saith unto me, Lord, Lord, shall enter into the kingdom of heaven; but he that doeth the will of my Father which is in heaven". Also, in the Book of Romans Chapter 12 verse 2, it was said "And be not conformed to this world: but be ye transformed by the renewing of your mind, that ye may prove what is that good, and acceptable, and perfect, will of God". Also, Jesus said in the Book of Revelation Chapter 20 verse 15 that "And whosoever was not found written in the book of life was cast into the lake of fire". Also distinction between clean and unclean thing in Leviticus chapter 11 verse 1-2 that "And the Lord spoke unto Moses and Aaron, saying unto them, speak unto the children of Israel, saying, these are the beasts which ye shall eat among all the beasts that are on the earth", Leviticus chapter 11 verses 35-38 "And everything where upon any part of their carcass falleth shall be unclean whether it be oven, or ranges for pots, they shall be broken down: for they are unclean, and shall be unclean to you.

In Al-Quran, the concept of information filtering was also got in the Quran Chapter 49: 6, where Allah was admonishing the believers thus: "O you believe, if a rebellious evil person comes to you with news (information), verify it, lest you harm people in ignorance". Other evidence of information filtering in Al-Qur'an are: Chapter 17: 36, says: And do not follow that of which you do not have knowledge", "And avoid the false speech" (Chapter 22:30) and "And they do not speak except what is good" (Chapter 25:72). Also, in Al-Qur'an 2:173 Allaah says "He only prohibits for you the eating of animals that die of themselves (without human interference), blood, the Meat of pigs, and animals dedicated to other than GOD. If one is forced (to eat these), without being malicious or deliberate, he incurs no sin". The Messenger of Allah (SAW), while making distinction between the believers and unbelievers, said, "That which differentiates us from the disbelievers and hypocrites is our performance of Salat (prayer). He who abandons it, becomes a disbeliever".

Similarly, areas of application of information filtering in health record management are hospital statistical information queries to pool specific patient data. Also, research requests to pool patients folders, using clinical coded data. Another application area is patients appointment scheduling for specified physicians, on a given day and time. Only the records of the patients that booked against particular date, day and time will be accessible and available that day. It is difficult for records of patients not on appointment to be available because retrieval list is prepared to capture only those patients on appointment. Information filtering is therefore, to ensure that useful and meaningful information requests is made accessible and available to the users. Information filtering is to census and safeguard the audience from unnecessary commotion arising from negative and unclean information such as fake news, unfounded rumour. It is the responsibility of the government to protect citizen from this kind of information that is capable of subjecting people into immoralities and crises so that society can be healthy and peaceful.

Encyclopedia of Information Science and Technology second edition (2009) defined Information filtering is the process of eliminating documents from document stream routed to a subscribed user based on the user's profile or the process that eliminates (filters out) part of a given information, leaving just what is believed to be useful[2]. A study averred that information filtering agents and collaborative filtering both attempt to alleviate information overload by identifying which items a user will find worthwhile and that information filtering (IF) focuses on the analysis of item content and the development of a personal user interest profile[13]. The aim of information filtering is to block obnoxious sites, which may influence the moral and encourage negative tendencies. Information filtering comprises of components that form system called information filtering system. According to Hanani *et al.* Hanani *et al. Descibed* an information filtering system as a system that removes redundant or unwanted information from an information stream using semi-automated or computerized methods prior to presentation to a human user[6]. It consists of several tools that help people find the most valuable information, so that the limited time you can dedicate to read, listen or view is correctly directed to the most interesting and valuable documents.

The Biblical and Al-Qur'anic perspective of information filtering was also underscored by Mueller in his work filtering your thinking, when he posited that filters can distort, make humorous effects, screen out unwanted items and dramatically change a picture[12]. There are also filters for cooking, which screen out unwanted items from your food, making dishes taste better. There are filters for cars, keeping the oil smooth through miles of burning and use. There are filters for your house, which keep your air cleaner. Therefore, Christians and Muslims also need filters as well to filter what they say, what they hear and what they see.. Most importantly, they must filter their thinking towards maintaining balanced life. This kind of filter has been described by God in Philippians chapter 4 verses 8, when Paul said *"finally, brethren, whatever is true, whatever is honorable, whatever is right, whatever is pure, whatever is lovely, whatever is of good repute, if there is any excellence and if anything, worthy of praise, dwell on these things."* Also, in (Quran 2:82) "And those who believe and do good will be the residents of Paradise. They will be there forever," and this implies that evil doers, who are unbelievers will be residents of hell fire. Jesus said while condemning the hypocrisy of Scribes and the Pharisees "woe to you, scribes and Pharisees, hypocrites! For you tithe mint and dill and cummin, and have neglected the weightier provisions of the law: justice and mercy and faithfulness; but these are the things you should have done without neglecting the others. "You blind guides, who strain out a gnat and swallow a camel! "woe to you, scribes and Pharisees, hypocrites! For you clean the outside of the cup and of the dish, but inside they are full of robbery and self-indulgence" (Matthew 23: 24-25).

In the same vein, Al-Qur'an 4:142 said surely the hypocrites strive to deceive Allaah, and He shall requite their deceit to them, and when they stand up to prayer, they stand up sluggishly; they do it only to be seen of men and do not remember Allaah save a little. The hypocrites indeed seek to deceive Allaah, but it is He who outwits them. Prophet Mohammad (SAW) also said "Among the signs of a hypocrite are three, even if he fasts and prays and claims to be a Muslim: when he speaks, he lies; when he gives a promise, he breaks it; and when he is trusted with an 'amana' (trust), he betrays" (Sahih al-Bukhari 33, Sahih Muslim 59). Al-Qur'an Chapter 18 verse 49 also talked about the records of

deeds: and then the records of their deeds shall be placed before them and you will see the guilty full of fear for what it contains, and will say "woe to us! what a record this is! It leaves nothing, big or small but encompass it". They will find their deeds confronting them. Your Lord wrong no one.

Nichola *et al*. posited that information filtering systems are designed for unstructured or semi structured data, as opposed to database applications, which use very structured data and that filtering also implies removal of data from an incoming stream rather than finding data in the stream; users see only the data that is extracted[14]. The implication of this is that information filtering system is designed to simplify the complexity of data and bring out the most useful aspect of the data/information. In their work, they noted that before the advent of the internet, there are already several methods of filtering information. for instance, governments may control and restrict the flow of information in a given country by means of formal or informal censorship. From this submission, it could be deduced that information filtering did not start with introduction of information technology, rather the emerging technology is used to reinforce and strengthen the concept.

CONCLUSION

Health records creation, storage and the concept of filtering: the Biblical and the Qur'anic perspectives indeed is quite revealing knowledge that need to be further explored. Health records management practice involves creation, storage and making them available according to established criteria, this invariably is known as information filtering which cannot be treated in isolation of Biblical and Qur'anic perspectives. It was discovered that all creations, health records inclusive are that of God Almighty. There are proved and convincing evidences abound in the Bible and the Qur'an. It can be concluded that health records creation, storage and the concept of information filtering derived their roots and actually originated from the Bible and Al-Qur'an.

REFERENCES

1. Adegoke O, Bamidele I. The Concept of Filter from a Biblical Perspective. *Library, Records and Information Science in the Bible.* 2016:50.Unegbu and Amanze; (Eds) Ilishan-remo, Ogun State, printed by Eze & Bros Prints
2. Encyclopedia of Information Science and Technology second edition (2009) available at https://www.igi-global.com/book/encyclopedia-information-science-technology-second/362, retrieved October 14th, 2019.
3. Google.com search available at http://www.himconnect.ca/patients/commonly-asked-questions/what-is-a-health-record retrieved on 14th October, 2019.
4. Dick RS, Steen EB, Detmer DE. The computer-Based Patient Records: An Essential Technology for Health care, Revised Edition, 1997. National Academy Press Washington DC.
5. Hadith: the sayings (traditions) of the Prophet Mohammed (SAW) .
6. Hanani U, Shapira B, Shoval EP. Information filtering: Overview of issues, research and systems. *User Modeling and User-Adapted Interaction*. 2021;11:203–259. Accessed at http://www.infoworld.com/d/developer-world/human-information-filter-813 on 6th October, 2019.
7. Holy Bible, the King James Version.
8. Al-Qur'an
9. Huffman EK.Medical Records Management, 1990 (9th Ed) Physicians' Record Company Berwyn, Illinois
10. Lacovino L. Record Keeping and Juridical Governance, 2020. Accessed, at http://www.dcc.ac.uk/resources/curation-lifecycle-model on October 4th, 2019
11. Mogli GD. Medical Records Organization and Management (2nd Ed), 2004. New Delhi, Jaypee Brothers Medical Publishers (P) Ltd.
12. Mueller C. Filter your Thinking and Stand Firm Part 7, 2017. Available at https://media.faith-bible.net/scripture/philippians/filter-your-thinking accessed on 13th October, 2019
13. Nathaniel G, Schafer B, Konstan JA, *et al.* Combining collaborative filtering with personal agents for better recommendations. *In proceedings of the National Conference on Artificial Intelligence,* 1999 (pp. 439-446|). AAAI. Available at https://experts.umn.edu.publications retrieved on 13th October, 2019.
14. Nichola ., Belkin W, Croft B. Information Filtering and Information Retrieval: Two Sides of the Same Coin, 1992. Accessed at http://www.infoworld.com/d/developer-world/human-information-filter-813 on 4th October 2019.
15. Pirie S. Documentation and Record Keeping, *Journal of Perioperative Practice.* 2011. doi:10.1177/175045891102100103.
16. Record creation. Businss Dictionary.com. Retrieved on October 2019 from https://www.businessdictionary.com/definition/record-creation.html.
17. The Ohio State University Libraries; Records Life Cycle: available at http://library.osu.edu>lifecycle accessed on 14th October, 2019.
18. University of East Anglia. Record Lifecycle: Creation, 2015. Accessed at https://portal.uea.ac.uk>record-lifecycle/creation on 6th October, 2019/

Authors Contribution:

ARA conceived of the study, initiated the design, participated in literature search, data abstraction and collection, analysis and coordination. UVE, ASO, ATT and AIT participated in the design, literature search, technical process, data abstraction, data analysis and coordination and reviewed the final manuscript.

ORCID iD
Ibrahim Taiwo Adeleke
https://orcid.org/0000-0001-9118-2089