Effect of Professional Behavior and Value Erosion on Electronic Health Record in Kaduna Metropolis, Kaduna State

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Abstract

Owing to the digital transformation around the world especially in the health sector, efforts have been exerted to improve the record keeping processes of hospitals, however, more needs to be done to ensure that the record keeping process is effective and secure. This study seeks to examine the effect of professional behaviour and value erosion on electronic health record in Kaduna metropolis. The population of the study comprised of the 225 doctors, nurses and record keeping personnels of the hospitals in Kaduna metropolis. The study employed the use of census; hence the entire population of the study were considered the unit of analysis. The study employed a descriptive survey design and structured questionnaires were used to collect the data from the respondents. Descriptive statistics and multiple regression analysis were used in analyzing the data. The study discovered that professional behaviour and value erosion have positive effect on electronic health record in Kaduna metropolis. The study therefore concluded that the reason why the professional beahviour has a positive effect on electronic health record keeping because professionals in the health sector understand the value of record keeping and how it can aid their performance. the study recommended amongst others.

Keywords: Professional behaviour, value erosion, electronic health record,
JEL Codes:

Introduction

Around the world, electronic health record has become the norm in many public and private organizations, health sector included. This is due to the importance of record keeping in effective organization and managing of activities conduct towards the goal of firm (Alzghaibi & Hutchings, 2022). Hospitals store records electronically to ensure that the records are handy for official references and efficient delivery of services to their clients. When the record of an individual is stored electronically, it makes it easier for the patient or client to be referred to other workstations within the premises to receive proper attention without moving around with physical files. This makes work easier for the health workers as well as the client. Records stored electronically are easy to retrieve and acted upon quickly thereby making the health workers more efficient and professional in their work (Mayer et al., 2020). There are different components that can promote the success of electronic record keeping, one of which is the level of professional behavior and value erosion in the health sector.

Professional behaviour is a key element when it comes to the discussion of record keeping in the

health sector (Patey et al., 2023). Owing to the increased number of professionals in the hospital setting, their professional behaviour towards electronic record keeping matters a lot since they are collectors and users of the information using electronic devices. Professionals in the hospitals include the doctors, nurses and the record keepers who contribute to the input of the data at the initial stage. In modern health systems, these professionals encourage the use of electronic records because it eases their work, however, not all professionals are excited about the electronic health record keeping due to their reluctance in acceptance of digitization in their work. Value erosion comes up when the professionals in the health sector do not believe in the value that the electronic record can bring to them professionally.

Value erosion deals with the gradual decline in the perceived value of a product or asset. In the health sector, it deals with views that health professionals have on electronic health record with the thought that it does not increase value to their work (Skeff et al., 2022).

The health sector is a vital component of the economy as it deals with the health of the people which is vital for economic growth. Though digitizing the health sector most especially the area of digital record keeping, most hospitals still struggle to keep records electronically (Akpa et al., 2021). According to Ayanlade, (2018), 50% of hospitals maintain an electronic system but do not efficiently use it to achieve the goal of the hospital. In other words, hospitals do not make use of electronic record keeping improving their efficiency, since most of the times such systems are ignored for traditional approaches.

Also looking at literatures in the area it is seen that most of the studies in the study area concentrated on other drivers of electronic record keeping such as digital transformation, with rare studies that have looked at the role of professional behaviour and value erosion on electronic record keeping. Most of the studies also concentrated on other countries with very few studies like Akpa et al., (2021); Azogu et al., (2019); Funmilola et al., (2015) which have looked at the role of other indicators on electronic record keeping.

Hence, this study tends to understand the extent to which professional behaviour and value erosion have on electronic record keeping in hospital in Kaduna metropolis.

The main objective of the study is to examine the effect of professional behaviour and value erosion on electronic health record in Kaduna metropolis. The hypotheses of the study were stated in null form.

H_{01}: Professional behaviour has no significant effect on electronic health record in Kaduna metropolis.

H_{02}: Value erosion has no significant effect on electronic health record in Kaduna metropolis.

The study will contribute to the health sector by providing the professionals with the required

information needed for improvement of the storage and usage of the health record. The study will also provide researchers interested in the study area with needed information to expand the study on.

The study is limited to hospitals within Kaduna metropolis, while concentrating on health professionals, such as doctors, nurses and health record keepers. The study also made use of quantitative approach and structured questionnaire.

Literature

Electronic Health Record

An electronic health record is a digital and comprehensive patient health record that includes a patient's medical history, diagnoses, treatments, medications, allergies, and other pertinent health information. It is designed to be accessible to authorized healthcare providers and allows for the secure sharing of patient data across different healthcare settings, facilitating coordinated and efficient patient care. An electronic medical record is a digital record of a patient's medical information and history maintained by a single healthcare provider or organization. It contains clinical data, such as patient demographics, progress notes, lab results, and radiology reports, and is used by healthcare professionals within a specific facility to document and manage patient care. A personal health record is an electronic system where individuals can maintain and manage their health information. It typically includes data on medical history, medications, allergies, immunizations, and can be maintained and updated by the patient themselves. While it is under the control of the patient, they may choose to share this information with healthcare providers to facilitate better care coordination.

Professional behaviour

Professional behavior in health workers refers to the conduct and demeanor exhibited by individuals working in healthcare settings that adhere to established standards, ethics, and values (Bowman et al., 2022). It encompasses qualities such as integrity, respect, empathy, confidentiality, and accountability in their interactions with patients, colleagues, and the healthcare system. Ethical conduct in healthcare professionals involves adhering to a set of moral principles and values while providing patient care. It includes respecting patient autonomy, informed consent, maintaining patient confidentiality, and upholding the principles of beneficence and non-maleficence, ensuring that the patient's best interests are paramount in decision-making and treatment.

Professionalism in healthcare encompasses a wide range of behaviors, including punctuality, effective communication, teamwork, and a commitment to lifelong learning and improvement (van Berkel et al., 2022). It involves displaying competence in one's field, maintaining a high level of clinical knowledge, and being responsive to the changing demands of the healthcare environment

while always prioritizing the welfare and safety of patients.

Value erosion

Value erosion in the context of the healthcare workplace typically refers to the gradual deterioration or loss of certain core values or principles that are essential for maintaining a high standard of care and professionalism. According to Skeff et al., (2022), value erosion in the health workplace refers to the progressive decline in the adherence to fundamental ethical and professional values among healthcare professionals and organizations. This may manifest as a decrease in patient-centered care, a lack of transparency, or a decline in the quality of services, ultimately compromising the integrity and trust within the healthcare system.

The erosion of ethical values in healthcare occurs when healthcare professionals or institutions begin to compromise on ethical standards and principles, such as integrity, honesty, and patient confidentiality. This can result in unethical behaviors, such as fraud, neglect of patient rights, or conflicts of interest, which can undermine the overall integrity of the healthcare system.

Value erosion in the healthcare workplace can also relate to the diminishing emphasis on patient-centered values, where the patient's well-being and preferences take a back seat to financial considerations or administrative burdens (Bowman et al., 2022). This erosion can lead to decreased patient satisfaction, lower quality of care, and a breakdown in the patient-provider relationship.

Empirical review

Van Berkel et al., (2022) examined the role of street level bureaucrats' performance through promoting professional behavior through human resource management using conceptual approach. The study made use of data collected from literatures which were analysed and the study discovered that street level bureaucrats performance can be improved though professional behaviour from human resource managers.

Tomas et al., (2021) examined the effect of undergraduate nursing students self-reported professional behaviour in Namibia. The study examined how professional behaviour of student nurses in Namibai can increase their performance. The study explored a sample of 100 nursing students. The data was collected with the aid of questionnaires and the study used descriptive statistics to analyse the collected information. The study discovered that professional behaviour could increase the performance of the nurse students in Namibia.

Patey et al., (2023) examined the health impact and prevalence of evidence behavior on health care professional behavior. Conceptual approach was adopted for the study and the information was used for the analysis. The study discovered that health impact and prevalence of evidence behavior influences health care professional beahviuor.

Looking at the studies, it is seen that most of the studies were conducted outside Nigeria with a

mixture of variables that are not in this study. Hence this study seeks to breach the gaps identified.

Methodology

The study adopts the descriptive survey design and a post-positivism paradigm. Hence the study employed a quantitative approach. The study makes use of primary data to source information on the independent and dependent variable. Questionnaires will be used to elicit the information from the respondents of the study. The population of the study comprises of the staffs of hospitals in Kaduna Metropolis. The total staff strength of the organization is 225. The population ranges from the doctors to the nurses and the health care record keepers. The study adopted a census for the population.

The study adopts the use of questionnaires to gather information about the respondents and also employed the use of descriptive statistics, correlation and regression.

Data analysis and Interpretation

The study was conducted on the effect of professional behaviour and value erosion. The study employed the use of primary source of data. The analysis of the study began with the reliability test which was done using the Cronbach alpha test for reliability. Table 1 then presents the findings.

Table 1: Reliability Test

Variable(s)	Alpha Coefficient	N of Items
PB	.962	6
VE	.983	6
HER	.955	7

Looking at table 1, it is seen that the instrument used had a total of 19 questions and each variables had 6 questions except for electronic health record (EHR) which had 7. Looking at the first variable, which is professional behaviour (PB), it is seen that it has 6 questions also and has an alpha of .962. This implies that the questions used in testing the variable is reliable. The second item in the questionnaire was value erosion (VE), it was discovered that the variable has an alpha of .983 and 6 questions. This also signifies that the variable has reliability. Hence it could be declared that the questionnaire used in the study is very reliable and is fit to test for the variables in the study. After the instrument test for reliability, the study went ahead to look at the descriptive statistics of the respondents. Table 2 therefore presents the age range of the respondents.

Table 2 Age of the Respondents

Age	Frequency	Percentage
30 and less	75	33.6
31 – 45	92	41.2
45 and more	56	25.1
Total	223	100.0

Table 2 presents the age of the respondents, and looking closely at the table it is seen that the respondents within the age range of 30 and less were 75 and they represented 33.6% of the response rate. The respondents with the age range of 31 – 45, were 92 and they represent 41.2% of the response rate. The respondents that fell within the age range of 45 and more happen to be 56 in number and they represented 25.1% of the response rate. The result of the age of respondents shows that the respondents within the age range of 31 – 45 happen to be the highest with a frequency of 86 and a percentage of 41.2%. After the age of the respondents, the study proceeded to understand the work division of the respondents. Table 3 therefore presents the result.

Table 3 Response on Job Profession of the employees

Cadre	Frequency	Percentage
Doctors	102	45.7
Nurses	50	22.4
HIMS	71	31.8
Total	223	100.0

Looking at table 3 it is discovered that there were more responses from the doctors of the hospitals because they had the highest frequency of 102 which represented 45.7% of the response rate. This was followed by the health record personnels (HIMS) which were 71 in number and had a percentage of 31.8%. The nurses had 50 response rate which represented 22.4% of the response rate. After the descriptive statistics, the study forged ahead to look at the correlation between the variables of the study. Table 4 therefore presented the correlation result.

Table 4: Correlation Summary

	PB	VE	EHR
PB	1		
VE	-.623	1	
	.000		
EHR	.752	-.697	**1**

	.000	.000

Table 4 therefore presents the correlation between the variables. The study looks at the relationship between the independent variables first then it would be followed by the relationship between the independent variable and the dependent variable. Looking at the table, it is discovered that professional (PB) has a negative Pearson r of -.623 and a p value of .000 with value erosion (VE). This result showed that there is an inverse relationship between professional behaviour and value erosion of medical practitioners. As their professional behaviour increases, it reduces the value erosion from the system.

In considering the relationship between the independent variables and the dependent variables, it was discovered that PB and electronic health record (EHR), have a Pearson r of .752 and a significant value of .000. This implies that PB and EHR has a positive and significant relationship. In order words, 1% increase in professional behaviour in the hospitals will lead to an increase in electronic health record usage with about 75%. VE and EHR had a Pearson r of -.697 and a significant value of .000. This implies that 1% increase in value erosion will lead to about 69% decrease in electronic health record usage and maintenance.

After the correlation presentation, the study went ahead to present the regression summary. The result is presented in table 5.

Table 5: Model Summary

R^2	Adj. R^2	Sig.	Std. Est of Error
.651	.643	.000	.33348

Looking at table 5, it is discovered that the developed model had an R square of .651, which implies that 65% of electronic health record in the hospitals is explained by professional behaviour and value erosion. 35% of electronic health record is therefore covered by the variables that were not captured in this study. The R square shows that the positive impact is a strong one as it is above .50. The adjusted R square was seen to be around .643, which shows that even when the model was adjusted for the individual variables, there was still an impact of about 64%.

The model that was developed was also found to be significant with a p-value of .000. The p-value was not above .5 which then made it significant. The model also presented the estimated error of the model which was found to be around .33348. The estimated error was not above .5 which signifies that there is a low estimated error. The low estimated error meant that there is no over flatting in the individual coefficients of the variables in the regression line. It was also important to see the individual impact that the independent variables will have on the dependent variable. This

was then presented in table 6.

Table 6: Coefficients of the Variables

Variable	Coefficient	Sig.	VIF
PB	.436	.000	2.567
VE	-.225	.000	2.092

Table 6 presented the coefficients of the independent variables on the dependent variable. PB was discovered to have a beta coefficient of .436 and a significant value of .000. This implies that there is a positive and significant impact on electronic record keeping. Looking at the beta coefficient, it will be seen that 1% increase in professional behaviour will impact about 43% or approximately 44% of electronic record in the hospitals. Value erosion was seen to have a beta coefficient of -.225 and a significant p-value of .000. This implies that there is a negative and significant impact between value erosion and electronic health record. It is further understood that an increase in the value erosion of the medical practitioners will lead to a decrease in the electronic health record by about 22%.

It was important to look at the multicollinearity test of the study. The variance inflation factor (VIF) was used to measure the level of collinearity in the variables. All the variables were seen to have VIFs that were not up to 5. Which implies that there was no problem of multicollinearity between the variables.

The study was conducted on the effect of professional behaviour and value erosion on electronic health record and the hypotheses of the study were all stated in null form. The study had three hypotheses which was tested using the p-value and coefficients from the regression.

Hypothesis one of the study states that there is no significant effect between professional behaviour and electronic health record.

H_{01}: Professional behaviour has no significant effect on electronic health record in Kaduna Metropolis.

The first hypothesis was stated that absolutely no influence exists between communication and employee performance, however, it was discovered that the relationship had a beta coefficient of .43 and a significant p-value. Based on the result, which was positive and also significant, the study therefore rejects the null hypothesis one. This finding goes in line with the finding of (Patey et al., 2023).

The second hypothesis of the study stated that there is no influence between value erosion and electronic health record.

H_{02}: Value erosion has no significant effect on electronic health record in Kaduna Metropolis.

The data on value erosion and electronic health record was discovered to have a negative beta coefficient of -.225 and a significant p-value of .000. This therefore implies that there is a negative and significant relationship between value erosion and electronic health record. Considering the finding, the study therefore rejects the second null hypothesis. This finding follows the finding of (Skeff et al., 2022).

Conclusion and recommendations

Based on the findings of the study, the following conclusions were therefore drawn. The study concluded that professional behaviour had a positive effect on electronic health record because when the health practitioners are professional in their dealings, they would understand the value that record will bring to them since it will increase their efficiency and reduce the time spent on trying to manually assess the previous records of a client or patient.

The study also concluded that value erosion had a negative effect because, when electronic health record is not seen as significant by some of the health practitioners, it will hinder the process of proper usage of the records hence making the system less efficient.

Hence, the following recommendations were proffered:

1. The management of the health facilities need to continue to increase the advocacy of professionalism in their work and stating how the digital transformation can make the system better. This can be done through seminars and weekly meetings.
2. The study also recommends that health practitioners need to be enlightened about the relevance of electronic health record and how it adds value to their work, this will ensure that they consider it as a useful resource and make use of it to improve efficiency thereby reducing the erosion of value.
3. The study also recommends that other researchers can introduce the role of leadership style as a mediator in the relationship to see whether it will give a different effect.

References

Akpa, P. O., Kwaghe, B. V., Ibeanu, C. N., & Onota, P. O. (2021). Fibrous Dysplasia: A Retrospective Review of Histologically Diagnosed Cases in a Tertiary Health Care Centre in Nigeria. *Journal of Cancer and Tumor International*. https://doi.org/10.9734/jcti/2021/v11i330153

Alzghaibi, H. A., & Hutchings, H. A. (2022). Exploring facilitators of the implementation of electronic health records in Saudi Arabia. *BMC Medical Informatics and Decision Making*, *22*(1). https://doi.org/10.1186/s12911-022-02072-5

Ayanlade, O. S. (2018). Electronic Medical Record System as a central ICT tool for quality healthcare services: Nigeria as a case study. *African Journal of Science, Technology, Innovation and*

Development, *10*(2). https://doi.org/10.1080/20421338.2017.1412609

Azogu, I., Norta, A., Papper, I., Longo, J., & Draheim, D. (2019). A framework for the adoption of blockchain technology in healthcare information management systems: A case study of Nigeria. *ACM International Conference Proceeding Series*, *Part F148155*. https://doi.org/10.1145/3326365.3326405

Bowman, A., Reid, D., Bobby Harreveld, R., & Lawson, C. (2022). Evaluation of post-simulation sonographer students' professional behaviour in the workplace. *Radiography*, *28*(4). https://doi.org/10.1016/j.radi.2022.06.010

Funmilola, A., Jinmisayo, A., & Ozichi, E. (2015). Development Of An Electronic Medical Record (EMR) System For A Typical Nigerian Hospital. *Journal of Multidisciplinary Engineering Science and Technology*, *2*(6).

Mayer, A. H., da Costa, C. A., & Righi, R. da R. (2020). Electronic health records in a Blockchain: A systematic review. *Health Informatics Journal*, *26*(2). https://doi.org/10.1177/1460458219866350

Patey, A. M., Fontaine, G., Francis, J. J., McCleary, N., Presseau, J., & Grimshaw, J. M. (2023). Healthcare professional behaviour: health impact, prevalence of evidence-based behaviours, correlates and interventions. *Psychology and Health*, *38*(6). https://doi.org/10.1080/08870446.2022.2100887

Skeff, K. M., Brown-Johnson, C. G., Asch, S. M., Zionts, D. L., Winget, M., & Kerem, Y. (2022). Professional Behavior and Value Erosion: A Qualitative Study of Physicians and the Electronic Health Record. *Journal of Healthcare Management*, *67*(5). https://doi.org/10.1097/JHM-D-21-00070

Tomas, N., Ndjamba, A. K., & Munangatire, T. (2021). Undergraduate nursing students' self-reported professional behaviour at the University of Namibia. *Health SA Gesondheid*, *26*. https://doi.org/10.4102/hsag.v26i0.1703

van Berkel, R., Penning de Vries, J., & Knies, E. (2022). Managing Street-Level Bureaucrats' Performance by Promoting Professional Behavior Through HRM. *Public Personnel Management*, *51*(2). https://doi.org/10.1177/00910260211046554