RELEVANCE OF HEALTH WORKERS COMPUTER SKILLS ON PATIENT CLINICAL DATA MANAGEMENT IN GENERAL HOSPITAL, CALABAR.

Eze, Eze Aji* .Edu, Theresa, Lukpata, Hippolatus, Itam, Winifred Iboh, Joan . Bassey, Rita. Nsa, Glory.

Department Of Health Information Management, Cross River State College of Health Tech. Calabar P.M.B 1324

The study focuses on the relevance of health workers computer skills on patient clinical data management in General Hospitals, Calabar. A contextual knowledge on this subject-matter was given, as well as research questions and hypothesis generated to guide the study, review of related literature and ideas of scholars relevant to the study was reviewed to further support the study. The research design adopted by the researcher for the study was a correlation research design and random sampling technique were used to get the target population for the study, being two hundred respondents consisting 114 male and 86 female staff across the departments in General Hospital, Calabar. A structured questionnaire was used to gather information from the respondents and these data were analysed and the result shows that Microsoft word skills, Microsoft excel skills, database management skills and Microsoft access skills of staffs significantly affect patient data management in General Hospital, Calabar. Hence, the conclusion of this research work was also built on this premise, and recommendations were given to better ascertain these concluded facts as well as improve upon the lapses that could hinder the quality and efficiency of patient data management in General Hospital, Calabar.

Keyword: Relevance, Health Workers, computer skills, patient Clinical data management, General Hospital, Calabar.

INTRODUCTION

Computer is an important tool in the management of health information because of the speed with which it processes information. It is the major information technology tool that has transformed information and data handling processes in all endeavours. It has been adjudged by both healthcare experts and consumers alike, as having critical roles to play in the transformation of healthcare services.

It has been reported that the deployment of information technology in healthcare management has provide mechanism for promoting greater reliability in healthcare quality. Computer now plays a vital role in packaging and delivery of health information in healthcare delivery. Similarly, the computer is visibly having the most historic influence on virtually all field of endeavour due to its dynamic and far- reaching communication system and the fact that information source therein are increasing exponentially.

Computer skills enables automated selection of relevant information and quality control, and it enables users to see what their peers or others with predefined relationship do.

In Cross river and other states in Nigeria , healthcare system is characterised with paper- based health information management systems and grossly inadequate Information Communication Technology Skilled health information managers. In spite of this, the global relevance and importance of computer for communication, information, retrieval and support for healthcare service delivery, training and research cannot be overstated. In the same context, accurate, promptly documented and regularly reviewed health information is essential to healthcare delivery system. This may not be possibly achieved without the use of computer in processing health information especially, in this hi- tech age.

The relevance of Computer skills on patient data management has an impact on many aspects of health care. The most important are accessibility to health care services by the populace, economical aspect and quality of care aspect. The main goal is to provide access for the citizen at any time and in any place. Computer skills application provides medical personnel with access to large range of up-t-to-date technological techniques especially in the regions where

manpower may not be available. The continuously rising costs are the main problem of the contemporary health service in many countries. These costs may not be acceptable both for developing and developed countries. Relevance of computer skills can decrease the costs of health care by decentralizing the care - enabling medical services at a lower level where they are cheaper, or by avoiding patient transport to the hospital when it is not necessary. The improvement of the quality of care has been demonstrated in several medical disciplines e.g. cardiology. Application of computer skills enhances the effectiveness of e-Health programmes through home monitoring and telecare. The patient data can be transmitted over the cellular phones to the medical centre and evaluated by the physician. Home monitoring is applied in many types of diseases such as cardiac failure, hypertension, and diabetes. The preliminary results show that in many patients the number of exacerbations and hospitalizations is decreased. The care is therefore improved and costs diminished. E-Health can cope with the deficit of medical staff in developing and the developed countries. Teleradiology is a good example. The images are transmitted to the location where radiologist on duty is available. ICT has an impact on education of both patients and medical staff. There are many sites aiming at prevention of civilization diseases (diabetes, hypertension, cardiac failure, cancer). They can support groups of patients suffering from the same disease (e.g. cancer patients). The effect of e-learning cannot be overestimated as far as medical education is concerned. There are many e-learning courses and videoconferences on variety of topics. The Medical Virtual Universities are established. The best model of learning for medical sciences is blended learning. It is a combination of traditional learning with e-learning. The contact with a real patient is a core of the learning process in medicine. The shift from medical services to prevention and health promotion can be observed. Computer skills and ICT applications in health care should adapt to the new situation.

Computers allow patients to grasp a visual perspective on their health. Radiographs, x-rays, and several other visual representations could aid in patient knowledge of their own health. These systems create a more advanced way of recording, analysing, and understanding a patient's situation. Without the advanced technologies that a computer creates, both patients and health care providers are not as informed as they could be with a computer's help. Along with visual representations, patients can use the Internet to help inform themselves of certain things going on in health care. Not only can users look up general information about their personal situation, but they can find answers to frequently asked questions for specific things that they are interested in finding information about. Application of computer skills provides an easier way to look up a patient's information if they ask for it. The alternative to that would be having to rummage through papers that could have gotten lost or misplaced. Clearly, that is not the ideal scenario. Patient portals make it easier for individuals and caregivers to address individual health and healthcare because they can enhance the quality and the frequency of health-related communications. Computers can help patients become more informed about certain prescribed drugs and treatments, as well. Patient knowledge is a very important thing and, without computers, patients would be much more ill-informed.

Through the use of computers in healthcare, patients are able to be more pro-active in their lifestyle choices. Using applications to track their daily activities and improve healthy decisions, computers help patients navigate their lives in a beneficial manner.

Effective patient data management is really hard to achieve in a large public hospital like the General hospital, Calabar. With numerous patient trouping in on a daily basis and different user department requiring patient data for treatment or reference or diagnosis. The large number of patient and their folders makes it hard to easily locate patient data timely as at when needed although health records officers try in their professional capacity to arrange these folders efficiently. In order to reduce the problem faced with patient data management, hospitals have incorporated the documentation of their patient data electronically and this also checks the issues of breach of confidentiality. Although e-documentation sure yields substantial positive results it doesn't come without its own problems which includes inadequate or no basic computer skills which is mostly possessed by the staffs of the hospital, insufficient supply of software and hardware facilities, poor funding in terms of maintenance of this computer facilities; also most of the staff of the hospital are not actually familiar with concept of computer skills and this poses as a core hindrance to efficient patient data management. A handful of the staff of most hospitals lack the basic computer skills of Microsoft word, access, excel, and data management which are quite vital to the functionality and efficiency of patient data management. Computer skills are therefore a prerequisite for effective patient data management and this is the major reason for this study.

OBJECTIVE OF THE STUDY

The objective of this study is to specifically.

i.   Assess the relevance of Microsoft word skills in patient data management in General hospital Calabar.
ii.   Examine the relationship between Microsoft excel skills and patient data management in General hospital Calabar.

iii. Investigate into the relevance of database management skills in the management of patient's data in General hospital Calabar.
iv. Find out whether Microsoft access skill helps in the management of patient's data.

RESEARCH HYPOTHESIS

The following hypotheses were raised to guide the study.

i. There is no significant relationship between Microsoft word skills and patients data management in General hospital Calabar.
ii. Microsoft excel skills does not significantly influence the management of patient data in General hospital Calabar.
iii. There is no significant relationship between database management skills and patients data management in General hospital Calabar.
iv. Microsoft access skills does not significantly relate to the management of patient data in General hospital Calabar.

LITERATURE REVIEW

Concept of computer skills

The Nigeria healthcare system is characterized with paper –based health information management system and inadequate IT- Skilled health information personnel. Nevertheless, the emerging digitalization and globalization has the potential to speed up the transformation of the current health care systems and revolutionize the provider –consumer relationship between the health care providers and patients.

Information technology is the heart of modern healthcare systems and services and can distribute information world-wide. National and international e-health initiatives are challenged by deep-rooted problems and lack of infrastructures like access to computers and appropriate skills to utilize the computer systems available. Many remote villages that lack easy access to hospitals and advanced medical facilities are now being educated through telemedicine and digitalized health information. This initiative is helping millions of citizens improve their daily lives (International Telecommunication Union, 2007).

In the health sector, advances in information/computer technology and computer skills in the last quarter of the twentieth century has led to the ability to more accurately profile individual health risk, to understand better basic physiologic and pathologic processes and diagnosis through new imaging and scanning technologies. Such technological development, however, demands an increased responsibility of practitioners, managers, and policy-makers to assess appropriateness of new technologies. (Butali et al, 2002).

Computer skills according to online Merriam-Webster dictionary (2017), are basic skills that are required to efficiently use a computer system and its software applications with a range of skills from fundamental levels skills to programming and advance problem solving.

Computer skills in most cases are often used in the context of computer literacy. Computer literacy is the ability to use computers and related technology efficiently, with a range of skills covering levels from elementary use to programming and advanced problem solving. Computer literacy can also refer to the comfort level someone has with using computer programs and other applications that are associated with computers. Another valuable component is to understand how computers work and operate. Computer literacy may be distinguished from computer programming which is design and coding of computer programs rather than familiarity and skill in their use.

As personal computers become common-place and they become more powerful, the concept of computer skills is moving beyond basic functionality to more powerful applications under the heading of multimedia skills or new skills.

It is frequently assumed that as computer and Internet access is common-place in the first world, everyone in those countries must have equal and ready access to this technology and how to use the skills effectively. There is, however, a significant digital divide in even the most technologically advanced and enabled countries, with digital haves and have-nots. Older workers who do not use the internet at home and are computer illiterate may be frozen out of the job market even for relatively unskilled jobs such as clerking in an auto parts store.

A consortium set up through joint participation from the Wireless Internet Institute, IBM, Intel, Microsoft and Ohio's One Community, is just one organization developed to address this. Their organizational mission in this is to provide a "comprehensive resource centre to inform, educate and share best practices among state and local government leaders, industry and institutional stakeholders on identifying and implementing sustainable market solutions to bridge the digital

divide in North America."

A variety of private sector non-profits and foundations also contribute to this, in addressing the needs of underserved communities. Per Scholars, for example run programs offering free and low cost computers to children and their families in underserved communities in the South Bronx, New York, Miami, Florida and in Columbus.

Nigeria is implementing the E-Health management information system (E-HMIS); this depicts computer application starting from entering patient records to the use telemedicine to educate healthcare providers on the cases that are beyond the capacity of Nigeria Hospitals. Though not much is known about the impact of computer skills and application on patient data management, and there are barely little published reports on the knowledge, utilization and factors affecting utilization of computer among health workers in Nigeria.

Computer skills and its relevance on patient data management

With rising costs and increasingly stretched resources, it is no surprise that the healthcare sector has become focused on strategies to improve the quality and efficiency of health services. Health care experts, policymakers, and consumers consider Health Information Technologies (HIT) and adequate manpower training/skills in relation to the efficient use this technology to be critical to transforming the healthcare sector (Institute of Medicine, 2000; 2001; FACCT, 2003; Asch *et al.*, 2004; Department of Health and Human Services, 2004; Epstein *et al.*, 2004; Smith, 2004). However, while the benefits of Information Systems/Technology may be clear in theory, introducing new systems/technology to healthcare has proven difficult and rates of use are limited (Ash *et al.*, 2003; Ash *et al.*, 2004; Valdes *et al.*, 2004). Central to these strategies to improve the quality and efficiency of health services is the implementation and the development of innovative systems, such as Health Information Systems (HIS), which support the collection, distribution and analysis of patient data. Indeed, while data quality is increasingly important to organizations across a variety of sectors, it is especially true in healthcare where cost pressures and the desire to improve patient care drive efforts to integrate and clean organizational data (Leitheiser, 2001).

Assessing data/information quality is not an exact science although various aspects of quality and information have been investigated to date (Kahn *et al.*, 2002). In fact, Wallis *et al.* (2007) argue that assessment criteria for data integrity and data quality will vary considerably by type of data and by scientific domain. However, decision-makers depend on quality data/information for effective operations and decision-making (Price and Shanks, 2004).

Using Information Technologies, but embracing a localized perspective, provides various degrees of intelligence towards generating diagnosis based on locally maintained patient data. However, as well as healthcare data being important to the individual patient, appropriate collection and analysis of multiple individual datasets can inform healthcare practice and promote the health of the local geographical population (Institute of Medicine, 2000; 2001; FACCT, 2003; Asch *et al.*, 2004; Department of Health and Human Services, 2004; Epstein *et al.*, 2004; Smith, 2004). Indeed, developing such systems raises a variety of issues, such as data modeling issues to begin with, as pointed out by Silverstone (2001). He argued that healthcare entities need to track information about actors involved in healthcare, specifically patients, and presented a number of data models relating to the way that the specific types of data that need to be captured and tracked should be organized. From our perspective we argue that patient information on 'medical conditions and physical characteristics', 'health care visits, delivery, episodes, symptoms and incidents', and 'diagnosis and delivery outcome' is not readily available to the medical practitioner community at the local level and this opens the door to Information System practitioners to address this issue and facilitate computerized data capture and analysis (information provision) in support of building a local practice-based repository of clinical patient data.

Szirbik *et al.* (2006) suggested that to better understand the resource use and population needs for health and social care services for the elderly, thorough Information Management (IM) and computer skills is needed. In fact, as the world population is ageing (O'Connor *et al.*, 2008; Gannon et al., 2007) the need for this greater understanding is immense, especially in the Republic of Ireland where the ageing population is set to place yet another burden on an already struggling health service. People aged 65 and over in the Republic of Ireland currently account for approximately 11% of the total population and this proportion is expected to increase over the next twenty years due to an increase in life expectancy; for example, it is expected that by 2031, there will be 1.04 million people aged 65 and above in the Republic of Ireland Gannon et al, (2007). As commented by Sim *et al.* (2001) systems that provide both patients and clinicians with valid, applicable, and useful information may result in care decisions that are more concordant with current recommendations, are better tailored to individual patients, and ultimately are associated with improved clinical outcomes. To achieve Information Management there is a need to define a standard set of data and analysis techniques/appropriate computer skills have to be developed and implemented. This problem of non-standardised data definitions has impacted on all types of organisations for several years and unfortunately still does today (example the emergence of the recent concept of Master Data Management). Interestingly, as can be observed, a degree of separation needs to exist between the physical hospital locations and the required data definitions needed for the effective delivery of patient-focused health services. Indeed, Szirbik *et al.* (2006) further comment that irrespective of large scale nationwide IM projects and medical staff training and development, smaller academic projects should help

establish models for data analysis, create adequate awareness on the importance of computer skills and provide tools for practitioners related to the area.

Microsoft word skills and its relevance on patient data management

In the modern organization of the 21st century, improved communication has made time and space less complex. It could be observed that with modern technologies in communication and word processing information in both hard and soft format can be transmitted and received with no barriers as a result information systems in organizations/hospitals are effective and efficient than ever. Smith, (2004); Ash *et al.*(2004). Thus the ability, timely acquisition, utilization, communication and retrieval of relevant and accurate information /data has become an important attribute for better management of patient data and enhanced quality of healthcare service delivery. Microsoft word skill is critically vital in the effectiveness and successful implementation and management of patient data. organization of all types and sizes including hospitals have recognized that the usage of computers and word processing software such Microsoft word in the work environment is important as it presents the tools to tackle unprecedented challenges and also helps the staff to acquire an inquiring and creative mind which aids to capitalize on the opportunities driven by the explosive growth of information/data, knowledge and technology. (Kumar, Rose and D'silva, 2008).Health care in Nigeria as in many other countries is confronted with growing demand for medical treatment and services, due to factors such as a graying population and higher standard for the quality of life. Health care has been an issue of growing importance for national government. Many national and regional health are plans have been developed in the past decades, in order to control the cost, quality and the availability of health care for all citizens. Application of electronic clinical information system (ECIS) which electronic/digital word processing is also a part of it has generated useful insight into the quality of data accuracy and health care provision in primary care settings. This is partly one of the adapted style and approach to data entry influenced by the design presented by the recent structure. They further emphasize, that there is a great need for improved education and protocols for consisting data entry in the (ECIS) and also subsequent follow up of patient clarification on the policy for duration and frequency treatment.Word processing programs offer a variety of features that may be useful to medical staff, depending on the department of use. For instance, one department may require the staff to type all medical reports and patient diagnosis while other may require the use of tables, graphs, and charts containing supporting data of a patient.

Microsoft excel skills and its relevance on patient data management

Microsoft excels as one of the most versatile and popular spreadsheet programs. It's popularly known to serve as an electronic pad for accountants but this is an underestimation of the usage of Microsoft Excel as its functions essentially across all sector of business including medical institutions. It can easily be used to perform simple as well as complex mathematical operations. Excel also provides the facility to convert the spreadsheet data into various charts like bar, pie, 2D, and 3D. When converted into charts, the spreadsheet data can easily be understood. With adequate training medical personnel and the appropriate usage of the skills gained for the such training medical personnel's can harness the enormous resources that the Microsoft Excel has to offer; this ranges from spreadsheet to complex analysis of patient data, storage, timely retrieval and easy transmission of this data to the required users department within the hospital without infringing on the confidentiality of such information. The Microsoft excel training program will ensure that the graduates of the programme develop relevant and saleable competencies that would enable the recipients to be self-employed and also create employment and become indispensable in their areas of specialization after graduation. (Wallis *et al.* (2007).

It is imperative to note that currently there is a high demand for skilled and technological trained workers. Regrettable, most medical school graduates acquire theoretical knowledge which does not match well with the demands of the work place. She further observed that there is acute shortage of trained personnel in the application of software, operating system, network communication, and local technicians to service and repair computer facilities. Okoli, Ohaegbulam and Oduma (2011) equally agreed that medical school graduates lack the required information technological skills and competencies required for the actual performance of the skills so learnt as a result of low practical content of such their curriculum.

Database management skills and its relevance on patient data management

Information and communication technology (ICT) is often used as an extended synonym for information technology. It is a more specific term that stresses the role of unified communications and the integration of communications. (Murray, 2014) It comprises of computing technology, the Internet and other accessories which enable users to access, store, transmit, and manipulate information. Cruickshank quoted in (Adeleke et al, 2015)established that peoples' attitude towards computer and computerization becomes more favourable as their experience of computers and computer

technologies increases. In line with this assertion, Fairley quoted in (Adeleke et al, 2015) opined that the rapid advances in user-friendly interfaces of the computer have lessened the need to know the intricacies of how the machines work. Similarly, the Internet is a global system of interconnected computer networks that uses the standard Internet protocol suite to serve billions of users worldwide. It shares its history with the development of electronic computers in the 1950's and was first introduced to the public by the University of California, Los Angeles. The increasing processing power of ICT especially, importable devices and database systems has led to the development and linking together of services that would have been hard to imagine only a few years back. Asangansi, et al (2008) computer as the major information technology tool combined with effective database management system has transformed information and data handlingprocesses in all fields of endeavors especially in the management of patient data in both private and public hospitals. Database management system has been describedas an invaluable tool to good healthcare information management especially, with the reported data quality problems paper-based systems. It is a panacea for improved quality and it has the potential to transform the current healthcare systems to the benefit of both the provider and consumer and for an improved public health. (Adeleke et al, 2015). Database management system/infrastructures are not vaccines, food or a drug. They therefore do nothing directly themselves to prevent or treat diseases or poverty. They are a tool for storage, retrieval and conveyinginformation. This may be directly to individuals such as patients/clients; or by sharing between healthcare professionals i.e. training and management, or as a form of policy directives. Database management system coupled with effective computer technology hasbeen adjudged by both healthcare experts and healthcare consumersas having critical roles to play in the transformationof healthcare services and the management of patient data. Generally, the field of medicine andmedical practice require the use of ICT for support in informationprocessing, decision making and records keeping. (Asangansi et al, 2008). In 2013, Wheatley reported that the deployment of informationtechnology supported by effective database management systemin healthcare management has providedtechnology promoting greater reliability in healthcare quality. Kale quoted in (Adeleke et al, 2015), established that most healthcare professionals in developing countries had inadequate access to information and that the little information available to them was often unreliable and irrelevant; this was partly caused by lack of proper and functional database management system the for management of patient data and also for archival purpose. Similarly, Dorsch, (2000) submitted that rural healthcare providers were constrained by stemming barriers in spite of the fact that they needed basic information like their colleagues in the urban centers.

Landon and London (2002), to enhance the work of medical practitioners in hospital/clinics it is widely recognized that database management system is essential for patient data managers/medical records personnel and, because most organization need information system for help companies extend their reach too far away location often new product and services reshape job and work flow and perhaps profoundly change the way they conduct business. Laboratory information system (LIS) is one of the integrated parts of information system which involve many different applications. Use of a LIS is a critical piece of a clinical information technology spectrum of system which contributed significantly to the overall care given to patients. Fielde (1994) quoted in Asabe, Oye, and Monday, (2013)., stated that transformation of medical practices is emerging not only as a result of the availability of these technology but as a deliberate attempt to address the image challenges facing the health care delivery. According to Abdullah, Gainers, and Lagier (2003), an Electronic Health Record (EHR) refers to an individual patient's medical record in digital format. Electronic health record system co-ordinate the storage and retrieval of individual record with aid of computer.
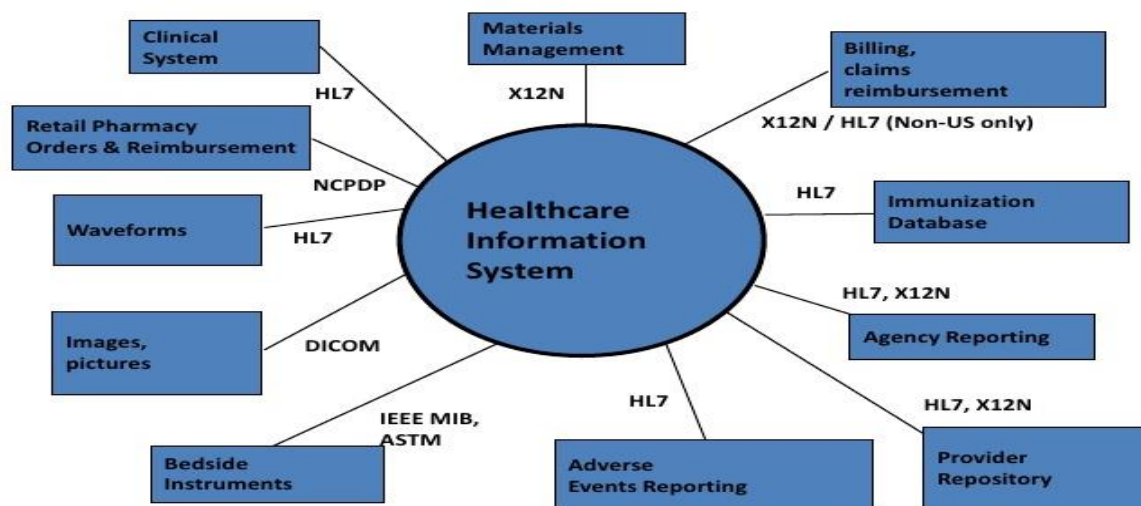

Figure 1.1 a Healthcare information system with each component Database (AbdulMalik S. (2010).

- **Computer management style**

By alignment of the impact information technology (IT), Henderson, J., & Venkraman, N. (1996) quoted in Asabe, Oye, and Monday, (2013), say that a hospital that moves from a level to another shows the changes in management information technology (MIT)in hospital management. Alignments start from the existing business organization and its needs, generating the supporting IT services. Impacts start from IT opportunities and generate changes to the overall business plan and the hospital processes. In that way, the software can be used to follow the developments in hospital overtime; obviously the program can be used to compare several operation of the hospital at a given moment.

- **Record and method/procedure**

Patient's record and procedure vary greatly according to patient data received and the extension of automation in processing data. These are some fundamental step which is common to patient record in all clinics and hospitals. According to Van der Vleuten, Swanson quoted in Asabe, Oye, and Monday, (2013), some of these steps taken at each treatment of patient and assessment in clinical procedure include:

— Assessment: To get the information and the assessment of patient's symptom and signs.
— Data entry: recording of data into a patient's record (which may be a complex electronic data written records results etc)
— Data retrieval: extracting data for interpretation.
— Information interpretation: governance of interpretation of individual patient data
— Utilization of existing knowledge and guidelines. Therefore, when these fields are put together they produce a medical record.

- **The old system of patient data documentation**

The procedure involved in the current system is that, when a patient visit the hospital for medication, the patient will first of all buy the identification card which contains name, and other relevant information needed, and card identification number. The patient will then waits for the card to be processed together with a file jacket that holds the card that has column for diagnosis made by physician, drugs prescribed, and date at the waiting room for the arrival of the card. When the file arrived, the patient joints the queue to see a doctor. In this current system, file cabinets are used for keeping individual patient card enclosed in a file. This system is so tedious in tracing a record files slow in processing of records, space occupied by the file time waiting while waiting for the patient file to be retrieve by the receptionist.

- **The new system**

This new system is design for medical practitioner/physician to keep track of all patient's medical record/information such as diagnosis, drug prescribed,admission and discharged, etc. the new system will take care of the long processes and tedium work involved in tracing and retrieving a patient's record in the old system in a nut shell this will improve the efficiency of the management in a daily work as it can provide required records on time.

- **System Specification**

For maximum and effective execution of the task by the new system, there are the hardware and software requirement.

Microsoft access skills and patient data management

Healthcare information systems have become a seemingly ubiquitous component of modern healthcare largely because of the electronic health record mandate resulting from the Guidelines and policies of regulating agencies. They are instrumental in the treatment of patients, hospital administration, regulatory compliance, population health, cost management, quality control, research, and other purposes. Therefore, the accuracy, timeliness, relevancy, validity, and integrity of the information are of utmost importance. Thus, the roles of health informatics and health information management professional and computer skills have had an increasing focus on health information technology.

    Redmond, (2003) opined In an era of digital technology, when automation of routine tasks drives productivity and information is traded at lightning speed, one industry still generates more than 60 million pages of paperwork a day. That may not sound like the business model of an industry that constantly redefines itself, making things once thought miraculous routine. But buried under all that paper is the U.S. healthcare sector and its key participants: doctors, nurses, drug researchers, insurance providers and, of course, patients. However, with the release of the new Microsoft Office

System, the prognosis for the U.S. healthcare industry's paperwork problem is optimistic. "Healthcare workers are the ultimate information workers," Redmond, (2003).

In Access 2007, enhanced macros included error-handling and support for temporary variables. Access 2007 also introduced embedded macros that are essentially properties of an object's event. This eliminated the need to store macros as individual objects. However, macros were limited in their functionality by a lack of programming loops and advanced coding logic until Access 2013. With significant further enhancements introduced in Access 2013, the capabilities of macros became fully comparable to VBA. They made feature rich web-based application deployments practical, via a greatly enhanced Microsoft SharePoint interface and tools, as well as on traditional Windows desktops.

In common with other products in the Microsoft Office suite, the other programming language used in Access is Microsoft VBA. It is similar to Visual Basic 6.0 (VB6) and code can be stored in modules, classes, and code behind forms and reports. To create a richer, more efficient and maintainable finished product with good error handling, most professional Access applications are developed using the VBA programming language rather than macros, except where web deployment is a business requirement.

METHODOLOGY
.
Design

The Correlational research design was adopted in the study; the design is appropriate in the study because it explores the key variables which critically assess the relevance of computer skills acquisition on the management of patient data.

Population of the study

The population of the study consisted of 480 staff according to the nominal roll.

Sample and sampling technique

The sample of the study consists of 200 staff of General hospital Calabar. The staffs were selected using simple random sampling technique. The simple random technique is ideal because it allow the respondents to be given an equal chance of being selected for the study. This is done through the use of paper cutting written "Yes"/ "No". Those who picked "Yes" were selected for the study and those who picked "No" were rejected.

Data collection Instruments

The research instrument adopted for the study was a set questionnaire consisting of 25 items questions. The questionnaire is divided into six sections; section A covers demographic data, while section B focuses on items relating to the variables of the study. The instrument were developed personally and administered to staff of General hospital to collect information for the study.

Reliability and validity of research instrument

Reliability refers to degree of consistency that an instrument demonstrates in measuring what is does. The reliability of the instrument for this study was the test-retest reliability which was used testing the consistency of response.
. Face validation of the instruments was carried out by the project supervisor who scrutinized and affirmed the suitability of the instruments.

Data collection procedures

In the data collection procedure 200 copies of the questionnaire were administered to the respondents and completed, representing 100% and were collected and analysed to facilitate a precise result of the investigation.

Method of data analysis

The data were analysed using Pearson Product Moment correlation statistics at 0.05 level of significance.

RESULTS & DISCUSSION

Hypothesis one

H_o = There is no significant relationship between Microsoft word skills and patients data management in General hospital Calabar.

Table 1

(N = 200)

VARIABLES	X	SD	r- calculated value
Microsoft word skills	3.08	.882	
			.3.55
Patient data management	3.07	.863	

*significant at .05 level, critical value = .195

Result from table .1 above divulges that the Pearson product moment coefficient analysis of the relationship between Microsoft word skills and Patient data management generated calculated-r of .355which was significant at .05 level; hence, the alternative hypothesis is accepted which explicitly states that There is a significant relationship between Microsoft word skills and patients data management in General hospital Calabar.

Hypothesis two

H_o = Microsoft excel skills does not significantly influence the management of patient data in General hospital Calabar.

Table .2

(N = 200)

VARIABLES	X	SD	r- calculated value
Microsoft excel skills	3.45	.624	
			. 973
Patient data management	3.07	.863	

*significant at .05 level, critical value = .195

Result from table 2. above divulges that the Pearson product moment coefficient analysis of the relationship between Microsoft excel skills and Patient data management generated calculated-r of .973 which was significant at .05 level; hence, the alternative hypothesis is accepted which states that Microsoft excel skili significantly influence the management of patient data in General hospital Calabar.

Hypothesis three

H_o = There is no significant relationship between database management skills and patients data management in General hospital Calabar.

Table .3

(N = 200)

VARIABLES	X	SD	r- calculated value
Database management skills	3.16	.805	
			.605
Patient data management	3.07	.863	

*significant at .05 level, critical value = .195

Result from table 3. above divulges that the Pearson product moment coefficient analysis of the relationship between Database management skills and Patient data management generated calculated-r of .605 which was significant at .05 level; hence, the alternative hypothesis is accepted which states that there is a significant relationship between database management skills and patients data management in General hospital Calabar.

9

Hypothesis four

H_o = Microsoft access skills does not significantly relate to the management of patient data in General hospital Calabar.

Table .4

(N = 200)

VARIABLES	$\overline{X}$	SD	r- calculated value
Microsoft access skills	3.10	.913	
			.490
Patient data management	3.07	.863	

*significant at .05 level, critical value = .195

Result from table .4 above shows that the Pearson product moment coefficient analysis of the relationship between Microsoft access skills and Patient data management generated calculated-r of .490 which was significant at .05 level; hence, the alternative hypothesis is accepted which overtly states that Microsoft access skills significantly relates to the management of patient data in General hospital Calabar.

DISCUSSION OF FINDINGS

Based on the findings of the study, it was shown in hypothesis one which states that there is a significant relationship between Microsoft word skills and patients data management in General hospital Calabar. This findings is supported by Smith, (2004); Ash *et al.*, (2004) who observed that with modern technologies in communication and word processing information in both hard and soft format can be transmitted and received with no barriers as a result information systems in organizations/hospitals are effective and efficient than ever and ensuring quality health delivery service.

   It was revealed from hypothesis two that Microsoft excels skills significantly influence the management of patient data in General hospital Calabar.

   This point of view is further advocated by Azih, (2011); Wallis *et al.* (2007), who asserted that Microsoft Excel has a lot to offer; this ranges from spreadsheet to complex analysis of patient data, storage, timely retrieval and easy transmission of this data to the required users department within the hospital without infringing on the confidentiality of such information.

   Findings from hypothesis three discovered that there is a significant relationship between database management skills and patients data management in General hospital Calabar.

   This finding is supported by Asangansi et al, (2008), who asserted that Database management system coupled with effective computer technology has been adjudged by both healthcare experts and healthcare consumers as having critical roles to play in the transformation of healthcare services and the management of patient data. Generally, the field of medicine and medical practice require the use of ICT for support in information processing, decision making and records keeping. Wheatley (2013), reported that the deployment of information technology supported by effective database management system in healthcare management has provided technology promoting greater reliability in healthcare quality.

   Findings from hypothesis four which indicated that Microsoft access skills significantly relates to the management of patient data in General hospital Calabar.

   This findings is in line with the assertion of Redmond, (2003), who divulged that The Microsoft Office Access System can help the healthcare industry to function more efficiently and cost-effectively, because the ever-increasing volume of healthcare information will be available anytime, anyplace and will be easier to manage and act on. In designing technology tools for the healthcare industry using the Microsoft Office access System, the goals is to connect people, information and business processes through enhanced tools for collaboration, effective health information management and productivity.

CONCLUSION

Upon on the findings and facts made in the course of this research, it is concluded that the Microsoft word skills, Microsoft excel skills, database management skills and Microsoft access skills affect the management of patient data efficiently in General Hospital, Calabar. Conclusively, it suffices to say that there is utmost need for the government, State ministry of health and the administration of General hospital, Calabar, to exuberantly make every effort to identify and proffer solution to the problems and shortcomings associated with fundamental computer skills in General hospital,

Calabar. As well, they should promote the enhancement of these skills that will aid positive results in the areas of patient data management and the actualization of the ultimate goal of effectively health care service delivery for the benefits of both the young and the old of our society.

RECOMMENDATIONS

1. That skills development trainings and workshops should be organized by the administration of the hospitals to encourage the acquisition and enhancement of computer skills by the staffs.
2. The hospitals should provide adequate software and hardware facilities to support proper handling and management of patient data management
3. The staffs of hospital are advised to acquire adequate fundamental computer skills such as Microsoft word, excel, access and data management to function effectively in their various departments.
4. there is need to organize continuing professional education, training and retraining in ICT for health information management professionals in order to assume their leadership roles in healthcare delivery in Nigeria.

REFERENCES

Abdullah, M.H Gainers, S.A and Lagier (2003) *International journal of systematic Educational medical* oxford press, London.

Adeleke I.. Erinle A, Ndana M., Anamah C., Ogundele A., Aliyu D. (2015). Health information technology in Nigeria: stakeholders' perspectives of nationwide implementations and meaningful use of the emerging technology in the most populous black nation. *American Journal of Health Research.* Special Issue: Health Information Technology in Developing Nations: Challenges and Prospects Health Information Technology. 2015; 3(1-1):17-24. doi:10.11648/j.ajhr.s.2015030101.13.

Asabe, S. A., Oye, N. and Monday Goji.(2013). Hospital patient database management System; a case study of general hospital north-bank makurdi- Nigeria. *international journal of advanced computer technology*, 2 (3), March-2013 (Volume-II, Issue-III)

Asangansi, A., AdejoroO. O., FarriO., MakindeO. (2008). Computer use among doctors in Africa: survey of trainees in a Nigerian teaching hospital. *Journal of Health Informatics in Developing Countries*. 2008; 2(1): 10-14.

Ash, J.S., Gorman, P.N., Seshadri, V. and Hersh, W.R. (2004) "Computerized physician order entry in U.S. hospitals: results of a 2002 survey", *Journal of the American Medical Informatics Association*, 11, pp.95-99.

Azih, N. (2011). The impact of office technology and management curriculum on the new business educationteacher. *Nigerian Journal of Curriculum Studies*, 18(3), 76-84.

Butali A, Adeyemo L, Akinshipo A, Fashina A, Savage K(2002). *Use of information and communication technology among dental students and registrars at the faculty of dental sciences*, university of Lagos Nigerian.J ClinPract. 2011;14

Dorsch J. L. (2000). *Information needs of rural health professionals:* a review of literature. Bull Med Libr Assoc. 2000; 88(4): 346-354.

Epstein, A.M., Lee, T.H. and Hamel, M.B. (2004) "Paying physicians for high-quality care", *New England Journal of Medicine*, 350, pp.406-10.

FACCT (2003) "Innovators and Visionaries: *Strategies for Creating a Person-Cantered Health System"*, FACCT: Foundation for Accountability, September 2003, Available From: www.markle.org/resources/facct/doclibFiles/documentFile_599.pdf (Accessed: 13th March 2006).

http://itknowledgeexchange.techtarget.com/modern-networkarchitecture/cloud-network-architecture-and-ict/. Accessed on: January 11, 2017.

Institute of Medicine (2000) "To Err Is Human: *Building a Safer Health System*", Washington, DC: National Academy Press.

International Telecommunication Union: E-health, (2007). http://www.itu.int/ITU-D/cyb/app/docs/e-Health_prefinal_15092008.pdf accessed on January 07, 2017.

Landon, K.C. and London, J.P (2002), *Management Information System*, Prectice- Hall, New Jersey

Leitheiser, R.L. (2001) "Data Quality in Health Care Data Warehouse Environments", in *Proceedings of the 34th Hawaii International Conference on System Sciences (HICSS)*.

Murray j. (2014).*Cloud network architecture and ICT*.(Information and communication technology). Available at:

O'Connor, K.A., O'Connor, M. and Moriarty, E. (2008) "Cork North Lee & Cork South Lee Local Health Areas: Local Falls

Okoli, B. E. Ohaegbulam, N.M. and Oduma, C.A.(2011). Re-engineering the business education curriculum forthe new teacher effectiveness in Nigeria. *Journal of Curriculum Studies*. 16(3), 42-47.

Smith, M.F. (2004)."E-Health: Roadmap for 21st Century Health Care Consumers", Organisation for Economic Co-operation and Development Forum, *Health of Nations*, Paris, France.

Szirbik, N.B., Pelletier, C. and Chaussalet, T. (2006) "Six methodological steps to build medical data warehouses for research", *International Journal of Medical Informatics*, 75, pp.683-691.

Wallis, J.C., Borgman, C.L., Mayernik, M.S., Pepe, A., Ramanathan, N. and Hansen, M. (2007) "*Know thy sensor: Trust, data quality, and data integrity in scientific digital libraries"*, in Proceedings of the 11th European Conference on data quality.