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FUNDING INFORMATION SYSTEMS IN NIGERIAN UNIVERSITY TEACHING HOSPITALS

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Abstract

The paper discusses funding of information systems in Nigerian University Teaching Hospitals in the face of increasing health challenges such as strange diseases like Ebola, Lassa fever, HIV/AIDs, Covid-19 and endemic persistent ones like malaria fever, dysentery, cholera etc affecting developing countries like Nigeria as a way to encourage routine evidence based medicine, a scientific medical best practice by doctors and other allied health practitioners that thrives on health information provided by information systems to fight disease. To do that the paper briefly examines the nature and types of information systems in Nigeria as well as sources for funds for information systems in university teaching hospitals. It further looks at the benefits of funding information systems in Nigerian university teaching hospitals and the problems associated with funding information systems as well as strategies for sustainable funding to encourage evidence based practice to reduce pressure on the few health practitioners and inadequate facilities in the health institutions. Some of the sustainable strategies include placing information systems on first line charge in funding, integrating same for assistance in government intervention programme such as TETFUND or any similar programme and concluded that the time to act on the proffered strategies is now through concerted and collaborative efforts.

Key Words: *Funding, Information systems, University Teaching hospitals, Nigeria*

Introduction

Nigerian University Teaching Hospitals like the rest in the world are responsible for handling complex and complicated health challenges. The hospitals have facilities, equipment and the personnel to address health issues brought or referred to them. By their mandate, university teaching hospitals conduct research, provide service and train medical students to become doctors. They also train interested and enlisted doctors to become specialist consultants using modern technology in accordance with best practices simultaneously. University teaching hospitals are therefore the apex hospitals in any region as well as academic centers where medicine is practice in the areas of research that investigate ailments, evolved ways to contain and manage them; train doctors and other allied health practitioners and provide health care services using modern technology to address complex and complicated health issues.

Quite so, health care practitioners including doctors in Nigerian University Teaching Hospitals like others elsewhere in the world are mandated to practice based on evidence (Oguntayo, 2009). Evidence is health information (Sackett, Rosenberg, Gray., Haynes, Richardson, 1996; Timmermans and Mauck, 2005). Evidence based medicine (for doctors) or Evidence based practice (EBP) or Evidence based Health care (EBHC) as applied to other allied health professions thrive on health information (evidence). Incidentally, Internet today offers the most reliable, vast evidence resources no single textbook, printed manual, journal, consultant etc. can offer for Evidence Based Medicine (EBM) and the related, promptly and easily. Brice & Gray (2004) revealed that health information is an enemy of disease if put to use. EBM uses health information for patient care, otherwise known as Evidence Based Medicine (EBM) or Evidence Based Practice (EBP) or Evidence Based Health Care (EBHC).This is an international best medical practice today that uses scientifically based health information for taking decision concerning patient care. This ensures large population care in an easy, quick and effective way thereby preventing mass deaths, avoidable mistakes as well as deaths especially when the use of Internet health information is involved. In this way, efficient and effective health care services are guaranteed promptly. Backlog of work associated with lack of health professionals, inadequate facilities among others in the Nigerian health sector that has led to avoidable mistakes and deaths in Nigerian university teaching hospitals leading to medical tourism (flight abroad for medical treatment), health complications, increasing mass deaths and patients avoiding health facilities are easily addressed.

Amidst the ailing health system in Nigeria, University Teaching Hospitals are still considered the best. They are better focused and more effective in tackling health issues brought before them and are the hope of the common man than the normal regular general hospitals at primary and secondary health care levels. They constitute the only public, functional and effective hospitals with the capacity to address the increasing health challenges in Nigerian society today expediently.

It is regrettable to note that perennial lack of current health information in information systems has made Nigerian University Teaching Hospitals to appear inefficient and ineffective in the discharge of their duties. Apparently this could be caused by ignorance and or lack of logistics. Whatever the case, this has prevented evidence based practice from being routinely practiced to a large extent. To continue in this way means courting for prolonged disaster of continuous mass deaths thereby allowing history to repeat itself like what happened in the 1980's when lack of medical information led to approximately 50 million deaths (Iroka, Anaeme & Uzoagba 2013). They further averred that two third of the people would have been saved if health information was available and accessible for use.

Information systems are parts of organizations or institutions which supply information to the organizations or institutions to achieve their organizational goals. E-Infinix (2020) defined information system as any data processing system, either manual or computerized. They are also defined as any telecommunications system whose primary function is to transmit and or display data. It therefore means that Information systems are data collecting, processing, transmission and communication systems. Today, however, most information systems especially those that are manually operated incorporate electronic/Internet resources side by side with print information sources to serve users. This combination is known as hybrid information systems. Anaeme (2013) admitted that information systems like the medical libraries incorporate digital/electronic components aimed at maintaining balance collection in order to remain relevant in the information age. He further averred in this regard that "the traditional keeping up to date with literature by selecting relevant journals and books; maintaining links with medical databases offered by MEDLINE, HINARI, JSTOR, MEDSTRIDE, having first and the largest medical library in CD and other e-library resources". Hybrid information system is identified by four strands according to Anaeme, (2013), namely:

1) Subject specific materials, expertly selected to be of particular relevance to the library clientele.
2) Collection of or online access to a broader range of contextual and

background material unlimited by subject and including Internet access.

3) Means of researching the existence and availability of all categories of source materials (printed or digital, whether or not held locally or not), e.g. bibliographic databases and library catalogues.
4) Support and training in information handling skills for users to enable them to use all the resources effectively.

These elements reflect the traditional features of a traditional library, translated into the digital environment. Aguolu & Aguolu (2002) asserted that in developing countries much of their scarce resources are allocated to the military, social services like health, government, education, housing, agriculture and transportation over information systems. As such, other areas like the libraries have become relics in some places for holding meetings, while their information resources and services have gradually become obsolete and unfit for utilitarian purposes. Internet facilities and services introduced are poorly maintained such that they lag in subscription and databases and in some cases are disconnected and remain disconnected without hope of reconnection and subscription to the databases due to inadequate funding. Funding is principal and crucial to any project and cannot be over emphasized in any venture. Funding according to Oxford (2010:609) is money for a particular purpose, the act of providing money for such a purpose. That means conscious and deliberate efforts in devoting money solely for a specific issue.

Nature and Types of Information Systems in Nigeria

Information systems are inherent part of organizations and institutions. Their establishment is to support the activities of parent institutions or organizations with information to fulfill their mandate in society. They are whatever the parent institution wants them to be, by paying them adequate attention in terms of funding, resources, staffing etc. Mngutyô (2011), Aguolu & Aguolu (2002) and Ochogwu (2007) have identified information systems in Nigerian society to include archives, information and documentation centres, mass media, information brokerage firms and libraries. Libraries are professionally organized collection of graphic and nongraphic materials for exploitation. There are different types established to satisfy the different information needs of society. They include public, academic, school, special and national; Archives are information sources that contain non-current information. Information and documentation centers are centers that document and disseminate information along discipline or subject lines; Mass media disseminate information in a declaratory manner and could be print (newspapers, magazines

etc) or non-print (TV, Radio etc) and information brokerage firms are organizations that broker information to members of the society for free.

Sources for Funds for Information Systems in Nigerian University Teaching Hospitals

Funding in Nigerian University Teaching Hospitals usually take the form of budgetary allocations. These are proposed estimates of money intended to be used on items during the year in a section or department in an organization or institution. They may also receive donations and gifts but such are far in between and may not be relevant to meet the information needs of target users. Funding may also take the form of exchange with other sister libraries such as medical libraries in College of Health Sciences. Sometimes it may involve interlibrary loan. This is a situation where one library loan another information resources under certain terms and conditions to be returned at a specified date. Despite these, budgetary allocations form the major source of funding and are often captured on paper for the library unit or department. They are approved after the estimates proposed by information specialists of the hospitals are successfully defended before the teaching hospital management team. But as usual they are hardly implemented even when request are made in the course of the year. The diversion of funds meant for information systems to other areas is indicative of the lack of value attached to information that is capable to move the overall university teaching hospital forward.

Benefits of Funding Information Systems in University Teaching Hospitals

The importance of funding information systems in Nigerian University Teaching Hospitals cannot be over emphasized. Some of them among others may include:

For Sustenance of Evidence Based Medicine(EBM)-Today Evidence Based Medicine or Evidence Based Practice(EBP) or Evidence Based Health Care (EBHC) is required of all health practitioners the world over (Oguntayo 2009). It is a medical practice that is based on evidence (health information) derived from research findings for patient care. It is an international best medical practice the world over. Funding information systems therefore means sustaining ebm.

Gives hope to humanity-Generally teaching hospitals among other hospitals in any land and clime remains the last hope of man as concerns health matters because of resources, facilities and specialists care at their disposal. They are the apex hospital in any land and the final arbiter on any issue. They handle complex

and complicated health challenges that are beyond primary and secondary health care centres. This explains why health issues are referred to them but they do not refer cases anywhere else except to other similar teaching hospitals with the facilities and specialists. They also act in accordance to best practices in using latest innovation, invention, discoveries derived from scientific findings in medical practice. Funding information systems in university teaching hospitals invariably means giving the people hope for the best medical care in the world.

It provide right health information to fight increasing rate of strange and endemic diseases. Within a space of less than ten years, the world has witnessed nothing less than four different strange diseases. The worst hits are developing countries that still have persistent endemic ones to grapple with. These strange and endemic diseases are on the increase. Constant health information flow to dispatch these health challenges promptly is required or else history is likely to repeat itself in developing countries such as Nigeria where mass deaths appear to be witnessed on continuous basis. But funding information systems in university teaching hospitals would mean equipping and empowering doctors and other medical practitioners with the right scientific health information to fight diseases.

It compliment and reduced pressure on health care practitioners-There are increasing health challenges today bedeviling Nigerian society, thereby putting considerable pressure on the inadequate health practitioners in Nigerian University Teaching Hospitals. These hospitals appear to be the only public functional hospitals taking the lead in the land that people could trust to attend to their health challenges. Quite so, instead of taking cases meant for primary and secondary health care centers to their respective centers, the people are rather seen channeling such health issues to university teaching hospitals. Because of this, the schedule of doctors and other health practitioners are crowded. But funding information systems in university teaching hospitals, it would mean complementing the short fall in health personnel that have been the bane of health system in Nigeria and encouraging evidence based practices. This ensures that increasing health challenges are easily disposed of by the few health practitioners. This is more especially with the use of Internet health information is employed.

For sustenance of Health Information provision-According to Brice& Gray (2004) health information is the enemy of disease if put to use or action at the point of need. It is capable of addressing seven major health care problems observable in every system namely: unknown variations in policy and practice; waste; errors;

poor quality clinical care; poor patients experience; the over enthusiastic adoption of interventions of low value and the failure to implement interventions of high value (Nwa for-orizu, 2014). It is obvious that health information is power for fighting disease. Funding information systems therefore means funding the availability, accessibility and sustainability of health information in university teaching hospitals to fight the many different endemic and strange diseases prevalence in society.

Lessens the cost of Evidence based Medicine (EBM) -It is becoming clear with each passing day that Nigerian governments at the federal, state and local levels are finding it increasingly difficult to fund and maintain their hospitals**.** Be that as it may, funding information systems in teaching hospitals is invariably making direct investment in the health system at little or no cost. Half of the cost is already met by funding health information while the balance is provided by the teaching hospitals which are EBM practice, which is their mandate. Moreover, doctors and other health practitioners are already under pressure the world over to adopt this medical practice (Akinbo, Odebiyi, Okunola, Aderoba 2008& Oguntayo, 2009). This becomes easy to operate with few health professionals while still maintaining the best medical practice as well as addressing increasing health challenges expediently with the use of computers.

Offers Health information for Routine EBM -Funding of health information system provide abundant health information for doctors and other medical practitioners to offer evidence based medicine, practice or health care to patients. Evidence based medicine thrives on health information that is housed in information system. With this patients are offered routine or continuous best medical practice.

Problems Associated with Funding Information Systems in Nigerian University Teaching Hospitals

In most cases in Nigeria, because information systems are misunderstood for what they are, funding by their parent institutions is a herculean task. Their funding appears to be meaningless to their parent institutions, as they see no relationship between their activities and information systems hence see no need to fund it. Though established by parent institutions just like other types of libraries in the area, the purpose is soon lost except for passing accreditations only. Nothing tangible happens until there is accreditation. Even in some cases what appears to happen during accreditations are make-shift arrangements for accreditations, after which the library returns to the usual status quo.

There is lack of value for information. This is not only a problem with information systems in Nigerian university teaching hospitals but also with Nigerian special libraries generally. This is seen in the neglect of the information systems in terms of structure, information resources, facilities, training and retraining of staff as well as staffing. Parent institutions do not care whether information is available or not, this is not to mention accessible. It is not regarded as any resource that is valuable to their activities.

There is lack of appreciation for library and information. According to Ochogwu (2007) "library profession lack political base for itself in comity of other professions". As a result the values of library and information have not been appreciated by Nigerians. Generally there is unperceived importance of library and information in Nigerian society, this has affected all types of libraries including information systems in university teaching hospitals. Their role is not discerned not to mention exploited to advance the course of parent institution to attract funding.

There is insufficient budgetary allocation. Budgetary allocation to information system is normally inadequate, even when it is known that it has to increase. Budget made thereafter are often slashed so that other areas can be taken care of. Even if the budget is maintained as proposed, they are diverted during implementation leaving the library with little or practically nothing to work with.

Strategies for Improving Sustainable Funding in Information Systems in University Teaching Hospitals

It is clear that anywhere information systems including libraries are found, it is to assist parent institutions with relevant information for developmental purposes(Mngutyô, 2011). Quite so, it is natural that funding should be easy and not an issue considering the importance of health information to parent institutions. Ironically and unfortunately, the major problem facing information systems in Nigerian institutions including university teaching hospitals is inadequate funding. In order to improve and sustain funding of information systems in university teaching hospitals, the following measures can be adopted:
Making funding information systems first line charge. Health they say is wealth. This is enough reason for any serious minded government to place her health institutions on first line charge funding while the institutions in turn should do the same for their information systems. This is to ensure the provision of evidence based medicine or practice or health care by health care practitioners and enable people in the community to adopt healthy life styles by the consumer health information services provided by the reason of the health information resources provided.

Integration of information systems in government intervention programme. Nigerian academic institutions such as universities, polytechnics, have accomplished a lot as a result of Tertiary Education Trust Fund (TETFUND) intervention in Nigeria. In the same vein, university teaching hospitals can be integrated in TETFUND together with their information systems or a similar programme can be organized for them and their information systems so that they can enjoy continuous funding. It should be noted that university teaching hospitals are also tertiary health institutions. They are academic health institutions in nature and are responsible for training medical students to become doctors and doctors to become specialist consultants on-the-job among other health practitioners that offer services and so should be allowed to enjoy TETFUND or any similar government intervention programme.

Given opportunities to introduce "for profit" oriented services. Another way of funding information systems in university teaching hospitals as well as to sustain it, is for information systems to be allowed to operate some services for a fee. Some of such services may include photocopying, reprographic, consultancy, computer training programmes, and bindery services. Indexing and abstracting services can also be offered to sister libraries and organizations or institutions with the financial resources to pay. The services can be offered in a section of the library or information system tag "commercials" so that there is no interference with the regular services the library is meant to provide to her parent institution.

Allowed to Solicit Gifts/Donationof information materials, ICT equipmentand software. Gifts/Donations are valuable sources of enriching a library's collection. It should be noted that it is sometimes impossible for information systems to afford all the materials needed for their operations on little or zero funding, hence the need to solicit for gifts and donations. Funding is not limited to cash alone but by extension to gifts/donations (Ode & Omakoro 2007). Quite so, the library can solicit for publications or information materials including facilities and equipment such as computer desktops, telecommunication system installation and accessories through gifts and donations. However this can be guided by a donors' list which donors can indicate the choice of items they want to donate or present as gifts to the health information system. Or the library can indicate those ones that are their top priority. Such gifts and donations can be duly acknowledged as community service of the donors and can be used later to reward them with honorary titles.

Allowed to Solicit for social responsibility. Health information systems like other institutions have a mandate to fulfill. Where parent institutions cannot adequately fund them, they should be allowed to independently solicit for funding from local and international institutions and organizations in their locality in the name of social responsibility though with the consent of their parent institution. Examples of such institutions include banks, companies, industries and other corporate organizations. These organizations and institutions have a social responsibility to the community where they are located. It is unfortunate that many have abdicated this responsibility. Health information systems in medical institutions such as university teaching hospitals can wake them up to this responsibility by soliciting for social responsibility to be fulfilled in their institution on the library. Grants from local and international institutions such as World Bank, World Health Organization, Non-governmental Organizations (NGOs) among others or even sister libraries in developed countries can be requested for in terms of materials, finances or training assistance.

Allowed to Offer Consultancy Services. Some managers of information systems in Nigerian University Teaching Hospitals possess the experience and qualifications to offer consultancy services. The possession of higher academic and professional qualifications coupled with the experience of these managers with their teams; place them in a position to offer consultancy services. These are information services to users that may not have the time to pore over documents to sieve for information for utilitarian purposes given their busy schedule for a fee. This may include literature search on subject(s) of interest, organizing same logically and providing results of search undertaken. Additionally, it may also take the form of organizing training workshop on advanced information search and use of Internet health information for medical practice as well as writing scientific health research reports among others.

Conclusion

There is no doubt that funding of information systems in Nigerian University Teaching Hospitals is imperative and would go a long way to addressing the alarming rate of both strange and endemic diseases prevalence in Nigeria and the world over expediently, especially with the use of Internet health information. This is however hindered by lack of value for information, lack of appreciation for library and information among others. Some strategies to improve and sustain funding of information systems in Nigerian University Teaching Hospitals in order to support evidence based medical practice is by

parent institution making funding information systems first line charge in their institutions, government integration of it in TETFUND or a similar project among others. The time to act is now through concerted and collaborative efforts.

Recommendations

Based on the conclusion above, the following recommendations have been proffered: Parent institutions should made to establish a policy that would place funding of information system on first line charge and parent institutions like teaching hospitals should be enlighten on the value of information in their affairs especially as it concerns evidence based medicine.

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