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Current Issues in Health Information and Librarians Roles for Effective Healthcare Delivery in Nigeria

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Abstract
This paper examines current trends in health sciences affecting health information generation, retrieval, and use, to promote new roles for the Health Sciences Librarians. It is based on literature review and documentary analyses. The impact of new trends in health sciences on healthcare providers and consumers has expanded the roles of health librarians. They now have e- health roles, clinical roles, outreach roles, consumer health roles, digital roles, and data management roles. They also have roles in systematic reviews, research translation, scholarly communication and continuing medical education. Taking up these roles as they unfold on the path of health information provision is pivotal to effective healthcare delivery in Nigeria.
Keywords: *Health information, medical library services, medical librarianship, Health Sciences Librarian, patient-centered care, effective healthcare delivery.*

1.1 Introduction

Based on the World Life expectancy.com data (2020), total life expectancy in Nigeria is 52.2 (Male 54.7, female 55.7). This places Nigeria at 178 out of 183 nations on the World Life Expectancy Rankings. Also Nigeria ranks first as the country with the highest number of deaths from influenza and pneumonia, and second with the highest number of deaths from livers disease, maternal conditions and hepatitis B per 100,000 population. Generally, Nigeria ranks high among the counties with high disease burdens and death rate per 100,000 population.

This is an obvious reflection of the overall poor health conditions in Nigeria, which has been attributed in part to poor healthcare delivery in the country. Availability, easy access and utilization of current health information hold the key to effective healthcare delivery. Livelihood in Nigeria would improve faster and millions of needles deaths avoided if healthcare is pivoted on best practices embedded in health information. It therefore becomes inevitable for Nigerian health professionals and consumers to make effective use of health information for a drastic drop from the World Health Organisation (WHO) scaring figures.

Some factors identified in health information for today's medical practice include evidence-based practice, rapid changes in health information and health information input overload. Others are patient-centered practice, consumer health information and e-health. These imposing factors and their related services are trending today. Both health practitioners and librarians are trying to catch-up with the demands of the changing trend especially as they are being fast-paced by technology. For librarians, the focus of the challenge lies in bridging the gap between research and practice through diligent relay of information. Librarians' roles are daily enhanced with new technologies for

faster and more efficient management of health information, just as e-health is enhancing medical practice.

These imply that librarians should be guided by the global need for health information to be evidence-based, accessible, authoritative, reliable, accurate and timely (Renwick, 2005). It is expected that adequate provision and use of health information will drastically reduce the rampant medical error in Nigeria today and gross consumer health illiteracy. Informed Librarians should in turn beget informed health practitioners and informed consumers.

This paper examines the concepts of effective healthcare delivery and evidence-based medicine. It also brings to fore issues of rapid changes in health information, health information overload, patient-centered practice, electronic health (e-health), and other current health information trends impacting on librarian's roles. This is with a view of paving way for optimal utilization of health information through library services for effective health care delivery in Nigeria.

2.1 Review of Related Literature

2.2 The Concept of Effective Healthcare Delivery

Effective health care essentially refers to care that is based on the use of systematically acquired evidence to determine whether an intervention produces better outcomes than alternatives – including the alternative of doing nothing. The intervention may be in the form of preventive service, diagnostic test or therapy (Institute of Medicine, 2001). To say that health care intervention is effective implies an evidence base. Evidence-based practice requires that those who give care consistently avoid both under use of effective care and overuse of ineffective care that is more likely to harm than help the patient (Chassin, 1998). According to the Institute of Medicine (2001) overuse refers to the provision of health services for which the potential risks out weights the potential benefits. Under use indicates that a health care service for which the potential benefits outweigh the potential risk was not provided. Misuse occurs when otherwise appropriate care is provided, but in a manner that does or could lead to avoidable complications. For the World Health Organization (2020) effective healthcare implies delivering health care that is adherent to an evidence base and results in improved health outcomes for individuals and communities, based on need. It is expected to embody some basic qualities of being efficient, effective, timely, safe, equitable and people- centred as explained below.

Efficient – delivering health care in a manner which maximizes resource use and avoids waste. Effective – Providing services based on scientific knowledge and evidence-based guidelines.

People-centred – delivering health care which takes into account the preferences and aspirations of individual service users and the cultures of their communities.

Equitable – delivering health care which does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location, or socioeconomic status.

Timely – Reducing delays in providing and receiving health care.

Safe – Delivering health care which minimizes risks and harm to service users. When these are in place patients will enjoy the care that is safe, reliable, responsive, integrated and available.

Effective healthcare is therefore achieved when practice is based on standardized quality. Quality is the extent to which health services increase the likelihood of desired outcomes and are consistent with current professional knowledge (Institute of Medicine 1990). These involve the synchronizing of resources and managerial

expertise based on available information on best practices. In this way, care is optimized and error minimized.

2.3 Evidence-based decision making in medical practice

The concept of evidence-based medicine informs current medical practice worldwide. Today, a globally accepted clinical practice is that which is based on 'evidence'. Evidence is health information or knowledge generated from scientific research. Evidence-based medicine as defined by Sackett, Rosenberg, Gray, Haynes & Richardson (1996), is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.

Evidence-based medicine is the idea that we must use the best available and valid scientific evidence in conjunction with patient values and preferences to select the most effective treatment options (Magdangal, 2015). This is based on the idea that current valid evidence should be used to support clinical decisions (Deshpande, Public over, Gee& Khan 2003). This can only be arrived at by the effective utilization of health information resources that embody the evidence. To achieve this according to Sackett, Richardson, Rosenberg & Haynes, (1996) & Cheng (2004) some key steps are involved. They include: formulating important and searchable questions from clinical problems, selecting sources and designing a search strategy, summarizing and critically appraising the evidence, applying it to patient healthcare, and evaluating the performance and impact. In all, evidence-based practice or medicine is an approach in which current, high-quality research evidence is integrated with practitioners' expertise and clients' preferences and values into the process of making clinical decisions, Guo, Bain &Willer (2008).

The law of evidence-based decision making according to the Committee on Quality of Health Care in America (2001) demands that patients should receive care based on the best available scientific knowledge and that care should not vary illogically from doctor to doctor or from place to place. Care may be fragmented, diminished or compromised and less evidence-based when timely access to a wide variety of health information sources is unavailable.

It is then imperative that health information resources embodying research literature should be captured, properly filtered, and made accessible to health professionals promptly (Guise, 2008). This will help check the gap between current landmark clinical trials and practice. Doctors can only make evidence-based decisions based on the most current information before them from the available print and electronic resources. In this context Brice and Gray (2004) concluded that:

Librarians can realize their potentials as knowledge mobilizers, ensuring that knowledge is available both for management decisions and clinical decisions. There is a need to get librarians closer to clinicians' decision- making and consultations, the key drivers of 21st- century healthcare (p.81)

2.4 Rapid Nature of Changes in Health Information

It has been observed that medical information is constantly changing. For example, what was an accepted therapy last month may not be the best therapy this month (Baker & Manbook, 2002). Medical information is dynamic and changes with changing research results. The best malaria drugs of 1990 are not the prescribed ones for today. Guise (2008) equally noted that as data collection and analysis proliferate, so do our understanding and knowledge of medicine. Medical principles known as "the truth" for centuries are now being challenged and

constantly rethought. This concept of a constant pattern of change of health information is best illustrated by a famous quote by Sydney Burwell – a medical educationist of the twentieth century when he said according to Pickering (1956): "My students are dismayed when I say to them: half of what you are taught as medical students will in 10 years have been shown to be wrong. And the trouble is, none of your teachers know which half" (p113)

This note still stands true today as new scientific discoveries will further challenge current knowledge of medicine. Researchers and doctors alike will continue to benefit in the pursuit of excellence in care from the continual strengthening of scientific methods and data collection. As the only true constant in history is change, successful businessmen have learned to accept it, and good visionary leaders are trained to identify revolutionary spikes along the waves of change that can act as potential checks, creating excitement and giving a competitive edge to their businesses (Guise; 2008).

In medicine, all necessary steps required for continuing on the road of change and advancement must be taken by information managers who are the librarians and users who are the health professionals. How else can the current complexity of health care as evidenced by the explosion of health information be checked, than by Librarians trapping health information resources along the waves of change and making them available for utilization by health professionals to ensure effective health care delivery?

3.1 Health Information Input Overload

The use of health information for effective healthcare delivery can be hampered by what is now commonly known as information overload (Davies,2007) or sometimes rightly regarded as information input overload (Miller, 1978). This was given rise by the fact that healthcare knowledge-base is being expanded by the yearly publication of thousands of health research, current drug information and electronic health services. Wilson (2001) sees information overload as a perception on the part of the individual that the flow of information associated with work tasks is greater than can be managed effectively, and a perception that overload in this sense creates a degree of stress for which his or her coping strategies are ineffective. For the doctors and other health professionals, information overload occurs when there are too much data to organize, synthesize, and draw conclusions from or act (Beasley, 2011). Bawden (1999) identified several factors that contribute to the perception of information overload to include:

- more diverse and increasing amounts of available information;
- effect of new information and communication technologies;
- changing nature of work with the new emphasis on interdisciplinary and collaborative work both of which require greater communication; and
- end users now search for information rather than an intermediary.

Another cause of information overload identified by White and Dorman (2000) is the reduction in the time that information stays in the communication channel due to the critical effect of new communication technologies. This is also regarded as the collapse of information float. The authors contend that more information is available, obviously because there is less time between a request and that request being fulfilled. Specifically, within the health care context, information overload has been attributed to a number of factors such as; the rising number of journals and guidelines to be read and digested (Haunt & Newman, 1997) and large amounts of

patient data (Zeng, Cimino, & Zou, 2002).

Stress and tension within the work environment, longer working hours, decrease in social life, tiredness, illness and degradation in personal relationships have been identified by Reuters (1996) as some of the effects of information overload. Information overload within the healthcare system negatively affects both health professionals and patients. Iselin (1989) describes this information overload effect as a fall in the quality of decision-making. According to Weed (1997) when faced with information overload clinicians often fell back on often imprecise clinical judgment. In their view, Mehta et al (2016) wrote that Clinicians are bombarded with information daily by social media, mainstream television news, e-mail, and print and online reports. They usually do not have much control over these information streams and thus are passive recipients. This implies that they get more noise than signal. Another effect of information overload is the possibility of clinical errors caused by little time to preview and process data (Zeng, 2002). The burden of these rests on the patients who suffer it all.

However, Reich & Rosenthal (2004) see librarians as having a pivotal role in managing the overloaded health information outputs. It is also proposed that the librarian is in a prime position to work with clinicians by reprocessing and rerouting information to others in the hospital community (Keeling & Lambert, 2000). Amanda & Graham (2004)regard the services of the librarian as very important as the use of electronic methods on their own to ease information overload can have the reverse effect. It is the job of Health Sciences Librarians to supply high-quality evidence-based information when and where health professionals need it.

3.2 Patient-centered Healthcare and Consumer Health Information Services

The normal practice of physician-centered care is gradually being overtaken by patient-centered healthcare practice, where effective care is measured by the extent of the patient's involvement in the entire process. The Institute of Medicine (2001) defined patient-centered care as "providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions". Rickert (2012) further explained patient-centered care as a method of care that relies upon effective communication, empathy, and a feeling of partnership between doctor and patient to improve patient care outcomes and satisfaction, to lessen patient symptoms, and to reduce unnecessary costs. This requires the use of certain skills and behaviours by doctors to improve communication with the patient and at the same time minimize the utilization of diagnostic testing, prescriptions, hospitalisations, and referrals. This type of care can be employed by physicians in any specialty, and it is effective across disease types. The concept of patient-centered care should flourish meaningfully where the patient (or consumer) is equipped with health information enough to make informed choices. This works together with the concept of consumer health information and health education.

Consumer health information means "any information that enables individuals to understand their health and make health-related decisions for themselves or their families"(Patrick, & Koss, 1995). Consumer health information includes, but is not limited to patients' health information needs. It is information on health and medical topics provided in response to requests from the general public, including patients and their families. In addition to information on the symptoms, diagnosis, and treatment of

disease, consumer health information encompasses information on health promotion, preventive medicine, the determinants of health, and accessing the health care system (MLA, 1996).

It is noteworthy that consumers are increasingly interested in getting information concerning their health, especially from the Internet. Some patients seek health information, and treatment options from the Internet even before consulting their health care providers. The Librarian's roles in consumer health information services and health education is an integral part of the processes. In this respect the Medical Library Association MLA (1996) suggests what the health librarian can do to include:

1. identifying available consumer health information and patient education materials for review and possible purchase.
2. selecting consumer health information and patient education materials for their organizations including books, magazines, audiovisuals, pamphlets, computer databases, CD-ROMs, and Internet resources.
3. building an authoritative collection of consumer health information and patient education materials in print and electronic form that meets the needs of the institution or community being served.
4. developing subject file collections on current topics of interest to consumers, and
5. maintaining a current collection of consumer health information and patient education materials which are routinely re-evaluated and revised.

3.3 Electronic Health (e-health)

World Health Organization(2020) defines e-health as the use of information and communication technologies (ICT) for health. It is a cost-effective and secure use of information and communication technologies in support of the health and health-related fields including healthcare, health surveillance and health education, knowledge and research. The European Commission (2020) defines and elaborates on e-health as tools and services using information and communication technologies that can improve prevention, diagnosis, treatment, monitoring and management. It can benefit the entire community by improving access to care and quality of care and by making the health sector more efficient. It also includes information and data sharing between patients and health service providers, hospitals, health professionals and health information networks; electronic health records; telemedicine services; portable patient-monitoring devices, operating room scheduling software, robotized surgery and blue-sky research on the virtual physiological human. The COVID-19 has drastically spiked the use of e-health in healthcare circles. Many hospitals, especially in major Nigerian cities, introduced e-health practices to reach their patients at home.

E-health can be in the form of mobile health, telemedicine, telehealth, electronic health and medical health records among others. Mobile health (mhealth) is the most widely used even in low and medium-income countries like Nigeria. Healthcare providers and patients are the major stakeholders in the new emerging e-health industry. Providers view e-health as an opportunity to improve efficiency, reduce administrative costs, facilitate communication, and enhance patient care (Kirshenbaum, 2002). Through e-health, patients have access to thousands of health care internet sites where they can gain unlimited health information.

However, the greatest barrier to e-health is the difficulty for consumers to find accurate and reliable information (Maloney et al., 2005). This is where the librarian comes in. Determining the quality of information

and credibility of the source is very vital to meeting the expected health outcomes. It is the role of the medical librarian not just to guide the providers and consumers to the right sources but also to promote e-health literacy among the populace.

3.4 Health Sciences Librarians' Roles in the new Health Information Landscape

The Health Sciences Librarian remains central in the health information chain for effective health care delivery. Emerging issues of evidence-based medicine, health information overload, electronic health, patient-centered healthcare, consumer health information services and e-health portend a set of new skills and modifications of traditional roles of the librarian. This is coupled with new approaches in medical education and healthcare services and delivery occasioned by the explosion of information and the application of information technology. These emerging trends have changed the trajectory of the Health Sciences Librarians' roles. To accommodate these trends, track and satisfy the information needs of the clientele, the health librarian assumes multiple roles as they arise. In a systematic review published in the Journal of the Medical Library Association by Cooper (2013) many of these roles were identified as:

a. clinical librarianship role
b. outreach role
c. consumer health roles
d. community engagement and health literacy roles
e. e-health role
f. continuing medical education role
g. grant development role
h. data management role
i. digital library role
j. metadata role
k. scholarly communication roles
l. research translation roles
m. instruction role
n. systematic review role

The nomenclatures arise from the content of the services offered or clientele served. These roles depict the direct involvement and experiences of health librarians. Here in Nigeria and probably other African countries, related literature is yet to capture some of these roles in action. This paper, therefore, provides a platform for proactivity on the part of Health librarians in Nigeria.

Conclusion

Medical librarianship is rapidly evolving with rapid advancement in information technology. The Nigerian Health Sciences Librarian should be alert to meet the demands of the new services as they emerge for effective healthcare delivery. These new roles are targeted to adequate provision of health information by the librarians which will sharpen the quality of care and minimize medical error.

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