



Perspectives

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National information policy and the Nigeria's National Health Information Infrastructure: implications on healthcare services delivery

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INTRODUCTION

Information policy is any law, regulation, rule, or practice (written or unwritten), that affects the creation, acquisition, organization, dissemination, and/or evaluation of information¹. Most often, information policy is discussed in terms of governmental legislation possibly because, information itself is often viewed as a national resource that substantially benefits a country in its social and economic growth^{1,2}. The concept of a national information policy became possible only because political leaders around the world came to recognize that, in fact, laws and regulations affecting information are actually matters of high policy of overarching strategic importance³. Information policy is indeed a broad concept. It covers any aspect of policy making at any organizational; local, national or international level that has impact on information flow whether electronic or any other format, and that the potential benefits are not all economic⁴.

The National Health Information Infrastructure (NHII) is an age-long concept, which began when health information management and health informatics professionals adopted and implemented computer-based health records⁵. This was dated back to 1991, in response to the recommendations of the Institute of Medicine (IOM)⁶. The purpose of which was to stem the tides of medical errors occasioned by the preponderance of paper-based health records and

to deliver complete health information to immediately on point-of-care to the teeming patients.⁵

The idea of information policy is to some extent rooted in larger claims about the existence and nature of a so-called information society⁷. Indeed, the concept of information society and knowledge society is drawing the attention of government to information policy, the aim of which is to gain competitive advantage internationally, through the use of IT in a creative and productive way⁴. Information society is a society where the creation, distribution, uses, integration and manipulation of information is significant to economic, political, and cultural activities. The term knowledge society refers to any society where knowledge is the primary production resource instead of capital⁴. The goals of any policy may vary widely according to the organization and in the context in which they are made. Broadly, policies are instituted in order to avoid some negative effects as noticeable in the organization, or to seek some positive benefits. Given the above scenario, the concept of policy is defined differently by different people. A typical policy has the following attributes; a scope, a mechanism and an action. Each rule defines a scope initiating the policies; a framework or structure which embodies the mechanism of the policy implementation and the action which is the

effects of the policy on national programs and events¹.

The classical narrow definition of information policy involves such issues as access to government information, but the earliest use of the phrase *information policy* by governments actually referred to propaganda efforts during World War I. During the 1970s and 1980s, national governments around the world played down the notion of developing comprehensive national information policies³. Such discussions marked a significant turning point in appreciation of the salience of information policy. Though information policy creates the conditions under which all other decision making, public discourse, and political activity take place, it was long considered low policy of relatively unimportant.

Although ultimately few governments put comprehensive single information policy packages in place, the shift in perspective indicated by relatively short-lived debates over national information policies was enduring and the intensity of information policy making has continued to increase worldwide³. National information policy will complement globalization with guidelines that allow the benefits of globalization without jeopardizing internal security and survival of the economy. In this regard, publishers, librarians, HIM professionals and other information providers will be able to know and understand how to package their products to meet local conditions and sensibilities. With a national policy, pirated and adulterated materials, the dumping of useless and toxic publishing materials such as ink, paper, and equipment and facilities will be checked⁸. Even, undue retention of patient's health records and breach of medical confidentiality will be put under check.

Among types of policies, information policy is unique for several reasons. First, it is a meta-policy, in that it affects virtually everything else in a world increasingly dominated by information and communication technologies. Other types of policy have a range of definable impacts, but information reaches everything. Second, many other areas of policy are dependent on information policy and those policy choices are framed by information policy choices⁹. Economic growth, political deliberations, technological

innovation, healthcare system, civic engagement, development, and urban planning, among much else, are driven in no small part by information policy decisions. Third, information policy governs a tremendous range of institutions, including not only those in which information is central to their existence, such as libraries, health systems, schools, archives, and museums, but also government agencies, corporations, and nonprofits, dictating the management, collection, sharing, and other aspects of their information usage. Fourth, information policy decisions create clear advantages and disadvantages across societies, with a huge range of groups and organizations directly affected by every information policy decision⁹.

The need for national information policies

Information policy provides an umbrella term for all laws, regulations, and doctrinal positions that deal with information, communication, and culture. More precisely, information policy is comprised of laws, regulations, and doctrinal positions – and other decision making and practices with society-wide constitutive effects – involving information creation, processing, flows, access, and use³. A major objective of having a national information policy is to ensure equal access to information for all¹⁰. Information resources are a huge investment and the role information plays in any organization is no longer doubted. Increasing awareness of vulnerabilities to information resources is reason for information security policies. Policies provide opportunities to recognize the importance of procedures and mechanisms to enhance information security.

Simultaneously, avenues by which information may be compromised have increased in manifold. To counter the threats and risks and assure confidentiality, availability, accessibility, integrity and authenticity of information, organizations draw up and set up information security policies¹¹. In earlier periods, information could reasonably be rationed on a need-to-know basis without much consequence, in the new information society however, access to information is a basic necessity for without it social learning is stunted. In this new context, information is not only a public good but it is also a public resource¹². It is to be noted that several factors such as lack of relevant information,

physical infrastructure, skills and mental ability to identify, access and use of information, distance, financial resources or disabilities can hinder access to essential information¹⁰.

Information and communication technology has become a subject of great importance especially in this present day society. Its importance cannot be overemphasized because, it has the ability to empower the society. During the last 20 years, the technologies have provided a wealth of new opportunities, with the rapid deployment of both the Internet and cellular telephony leading the way. These technologies have invaded every country that is willing to accept them. The most important differentiating factor now is policy. Policy makes the fundamental difference regarding how countries are able to take advantage of the technological opportunities available to them and exploit them for good¹³. Information security is a pressing issue of the present times and as such, information security policies are essential in the management of organizations. Many potentially damaging situations can be avoided or minimized by proactive planning and good management policies.

The main aspiration of information security policies is to achieve three main objectives, which include confidentiality, integrity and availability of information¹¹. Factors that hinder a national information policy are: lack of recognition of the relevance of information in development; insufficient financial resources; lack of people trained to apply for donor funds or develop policy; misappropriation of funds; insufficient databases of industrial, scientific and statistical information; poor understanding of user needs; and changes of personnel in policy making positions².

National information policies across the world

The European Commission is responsible for EU information policy, which is viewed as proactive, contributing to strategic goals, and an important part of the European economy. The 1994 Bangemann report outlined measures to consider for an information and communication infrastructure that would promote a global information society. It recommended an emphasis on education and training. The European Network on Information Literacy was established in 2001 to determine the extent to which information literacy is a national policy issue in European countries;

and to identify policies that relate to the integration of information literacy into university curricula². In its 2005 Spring European Council the European Countries called knowledge and innovation the engines of sustainable growth and stated that it is essential to build a fully inclusive Information Society, based on the widespread use of ICTs in public services, small and medium sized enterprises (SMEs) and households. Following this, the European Commission proposed a strategic framework in 2010 - European Information Society 2010, which laid out broad policy orientations. It promotes an open and competitive digital economy and emphasizes ICT as a driver of inclusion and quality of life¹⁴.

In the U.S., there is no central body of law or agency that coordinates information policy, so different organizations and agencies create policies that can be incompatible, redundant or conflicting. America's 2010 National Broadband Plan proposes recommendations rather than policies. Private companies are developing most of the infrastructure. On the long run, differences in legislation across states and between government agencies complicate the process². There is a growing body of policy documents and recommendations from outside of the government related to information and other literacy efforts. For instance, the American Library Association issued a foundational work in 1989 that described the importance of information literacy to all sectors of society. Consequently, the then President Obama issued a proclamation in 2009 that declared October as National Information Literacy Awareness Month, drawing attention to the need for an informed citizenry and the need to know how to use information effectively. Following this, former governors in 20 states and the Mayor of one city equally issued similar proclamations and as well, many educational accrediting organizations include information literacy as a standard².

In the same vein, Finland transformed into a knowledge economy during the 1990s driven by the ICT sector. It has one of the most open economies and it is a leading knowledge-based economy. This took place because of a strong educational system and institutions for the formation of national consensus. Programs in economic policy management and national strategy issues for leaders helped to conceptualize

and implement change. The Prime Minister chaired an Information Society Council that included key representatives of public administration, private sector enterprises, interest groups, and organizations. The merged National Archives and Office of Public Sector Information provide leadership for information policy for the government and the public sector. Other departments address developing citizens' skills, promoting media literacy and libraries, museums, and broadcasting².

In Malaysia, a clear national information policy cannot be traced. Initially, the country had only libraries to handle basic information. The scope of the library's role was however, confined to getting information, managing it, maintaining and disseminating information, appropriate to the roles outlined by UNESCO and enshrined in the library. The policy does not cover information on sociocultural and economic aspects, such as in the others outlined in the PGI. The limitations of the scope of the information policy for national information in Malaysia are not exhaustive. An informed and knowledgeable society cannot be established without a comprehensive integrated information policy¹⁵. Information policies are developing in countries in the Asia-Pacific region. The Philippines developed national ICT strategies for improving the quality of life through the creation of a more digitally inclusive society and use of ICT in governance. Laws related to ICTs benefit marginalized groups and promote political reform². These were part of broader development plans but are generally uncoordinated, unsustainable, and short-term. Nevertheless, there has been progress in supporting legislation, infrastructure, institutions, human capital, and public-private partnerships to promote the ICT industry². In Africa, Kenya does not have a national information policy, though the government considers it important to have access to information and to expertise for problem-solving and economic development². a good and effective health records⁷:

The Nigerian national information policies

A clear national information policy for Nigeria cannot be traced. Although the country gives priority to ICT for increased development to the country, it sidelines the role of the information professionals⁴. In the light of ICT emergence, the country has made remarkable efforts towards

developing an information infrastructure through which the nation can be mainstreamed into the information society. These efforts have started yielding dividends in the area of human capacity development, ICT diffusion and universal access to information. There is still however, a lot to be done in bridging the digital divide and providing adequate legal protection that can encourage Nigerians to use ICT so that the e-government, e-governance and e-health goals of the government can be realized¹⁰.

Babalola therefore suggested that the Nigerian government should encourage more private sector involvement in ICT capacity development and ICT provision in the country. Involve information professionals in formulation of information policies, expedite actions on passing the data protection bill into law and collaborate with other countries within and outside the African continent to formulate information policy that can guide regional and international exchanges and transactions¹⁰. In terms of telecommunications, the country has developed policy titled Year 2000 National Telecommunications Policy, implementation of which has resulted in number of telecom subscribers¹⁶. Iriwieri further calls on the Nigerian government to implement its new policy directions as telecommunication is a vital part of modern society.

In Nigeria, there is poor records management, which has caused serious impediments in several aspects of public sector. This is especially in the provision of patients' healthcare services¹⁷⁻¹⁹. In the healthcare context, sound and reliable information is the foundation of decision making across all health system building blocks. It is essential for health system policy development and implementation, governance and regulation, health research, human resources development, health education and training, service delivery and financing. The health information system provides the underpinnings for decision making and has four key functions: data generation, compilation, analysis and synthesis, and communication and use. The health information system collects data from the health sector and other relevant sectors, analyzes the data and ensures their overall quality, relevance and timeliness, and converts data into information for health-related decision-making.

The health information system is sometimes equated with monitoring and evaluation but, this is too reductionist a perspective²⁰. In addition to being essential for monitoring and evaluation, the information system also serves broader ends, providing an alert and early warning capability, supporting patient and health facility management, enabling planning, supporting and stimulating research, permitting health situation and trends analysis, supporting global reporting, and underpinning communication of health challenges to diverse users. Information is of little value if it is not available in formats that meet the needs of multiple users – policy-makers, planners, managers, healthcare providers, communities, individuals. Therefore, dissemination and communication are essential attributes of the health information system²⁰.

Developing national health information policy such as the National Health Information Infrastructure has the potential to transform healthcare in the country. It can help in improving healthcare quality, reducing healthcare costs, preventing medical errors, improving administrative efficiencies, reducing paperwork, and increasing access to affordable healthcare²¹. As part of the quest to improve the national data architecture, indicators and data sources in Nigeria, several efforts have been embarked upon. The National Health Facility Registry (NHFR) application to manage the Master Facility List and address shortcomings of previous effort has been developed. The Health Facility Registry will serve as the hub for linking several other health facility-based information systems that are being designed in the country. The NHFR homepage provides summary statistics of the health facility distribution in the country to the general population, while administrators can manage health facility records after authentication. In line with the provision of the HIS policy for the biennial review of the national indicator list, this process was commenced in 2016 and was recently completed²². In the same vein, there have been several attempts to develop a national health databank and as well, a uniform health data reporting in Nigeria but, this has not come to fruition²³.

Roles of HIM professionals in the development of National Health Information Infrastructure

Health information systems must be able to guide internal quality improvement efforts, help improve the coordination of care, advance evidence-based healthcare and support continued research and innovation²⁴. Generally, the HIM professionals and other information professionals have a big role to play in national development. In Nigeria, health data management stakeholders, including HIM professionals and other stakeholders, are attracting the courage and consistently wooing relevant stakeholders in the healthcare industry to ensuing NHII in the country²⁵. Traditionally, HIM professionals ensures the availability of the best information that is capable of improving the quality of healthcare²⁶. Their traditional job roles make them the right handlers and experts in health data management. They have key roles to play in ensuring effective implementation of the country's health information infrastructure policies.

To implement NHII successfully in Nigeria therefore, health facilities should adopt electronic health records, a digital health solution, which could facilitate community of practice through interoperability and bridge the digital divide in the healthcare system. Second, HIM professionals should assume their leadership roles, by providing health information systems training support for other healthcare providers¹⁹. This will help them take advantage of the numerous online information services for their professional and personal development. In addition to the aforementioned, Zeng *et al.* Identified the following as some of the responsibilities of HIM Professionals in NHII:

- i. Ensuring the security and protection of patient health information;
- ii. Improving healthcare quality through quality health data management;
- iii. Reducing medical errors and health disparities;
- iv. Advancing delivery of patient-centred medical care;
- v. Providing appropriate information to help guide medical decisions on point-of-care;
- vi. Reducing healthcare costs resulting from inefficiency and incomplete health information;
- vii. Using timely health information to promote early detection, prevention and management of chronic diseases;

- viii. Facilitating health and clinical research and healthcare quality;
- ix. Improving care coordination and information among hospitals, and other health facilities;
- x. Promoting a more effective marketplace, increased consumer choice and improved health outcomes; and
- xi. Improving public health activities and facilitating the early identification and rapid response to public health threats.

Summarily, there is no clear national health information policy in Nigeria just like it is obtainable in other developing nations like Malaysia and Kenya. There are however, discernible efforts at formulating institutional health information policies and efforts are ongoing to evolving a well-developed national health information infrastructure among health data management stakeholders in the country. In addition, Nigeria has not even recognized the roles information professionals can play in the formulation of policies to guide and guard health information use in the country. This is not in congruent with trends in developed nations like United States, United Kingdom and Finland, where information professionals are seen as useful partners in ensuring effective national policies on information infrastructure and use. The country has not also done very well in terms of national health information infrastructure as several attempts to have a national health databank has not yielded fruitful result. It is noteworthy to say that Nigeria is doing well in the development of policies on information and communication technologies and telecommunications, which has brought about tremendous gains to the nation.

CONCLUSION

National information policy is deep-rooted in many developed countries like the UK, the US, Finland and there are ongoing efforts in some up and coming countries like Malaysia. Likewise, there have been several efforts on the development of national information policy as well as national health information infrastructure in Nigeria, which has not attained national status in its real sense. This has hindered health data effectiveness in the country.

Recommendations:

1. The is need to direct efforts toward the development of relevant health information policies of national standards.
2. Relevant authorities should effectively implement the existing institutional policies.
3. This will enhance health information management processes and in effect, improve healthcare services delivery to the teeming Nigeria populace.

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Authors Contribution:

AIT conceived of the study, initiated its design, participated in data analysis and coordination and drafted the final manuscript. BM, NS, QBS and AOO participated in data analysis and coordination, and reviewed the final manuscript.

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