Health Security and Disease Prevention in Nigeria

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Abstract

Health security is one of the most recent strategies of global initiatives in health promotion. This idea prompted the need to find out what the concept is all about. The write up therefore examined, the definition of health security, the initiation, issues of security threats globally in the aspect of communicable diseases and most especially the non communicable diseases, efforts made by Nigeria in disease prevention, challenges encountered so far, especially in the implementation of the reviewed International Health Regulations (IHR), suggestion for a way forward. The need of carrying out elaborate review in the aspect of health security, and putting up Medical Intelligence Surveillance (MIS) in place, use of mobile technology (M- Health) as well as strengthening the Nigerian health system was emphasized in the conclusion.

Keywords
- Health security

- Bioterrorism

- World Health Organization

- International Health Regulations

- Disease control

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Introduction

In human life, there is absolute need for good health, and good health can be attained through health promotion and disease prevention. A recent development in the global health has been the way in which health issues are being framed in terms of security (Osain, 2011). Health by its definition focus on the physical, social, mental and spiritual aspects. It is worth mentioning that, just as one need security in other fields and aspect of life, there is need for health security. Security by definition means protection from risk or danger. Health security as a concept is one of the new strategies by international linkages to promote health globally, through alerting all countries of incidences of epidemic, pandemic and disasters. This paper intends to examine what constitute the nexus of health and security as well as the influence of health security on disease prevention in Nigeria.

Health Security

One of the drivers for the development of health security initiative is the awareness of the potential for fast moving epidemics to deliver shocks to the global economy; also, the threat of a lethal influenza pandemic has further accentuated the process of framing disease as a security issue.

Health issues occasionally intersect security issues. Health security has been viewed as an essential part of human security. Policy makers and health professionals, however, do not share a common definition of health security; therefore, health security has no universally agreed definition. Problems around the concept of health security occur at the intersection of several fields of disciplines, which do not share a common theoretical approach to academic methodology. The preamble of the 1946 constitution of the WHO refers to' happiness, harmonious relations and security of all peoples'. The consitution states that'the health of all peoples is fundamental to the attainment of peace and security'(WHO,2005a). Based on the above illustration, 'security' seems to refer to ' health and security'(the contribution that health makes to global security) rather than to health security (securing health itself) However there is no distinction between health and security (Aldis,2008).

WHO (2012) defined health security as the awareness of being secure that health is good and if not there are ways to obtain care to return to good health. It aims to guarantee minimum protection from diseases and unhealthy lifestyles; also as the provision and

maintenance of measures aimed at preserving and protecting the health of the population.

The concept of health security has evolved over time so that it encompasses many entities. According to health report of four multilateral organisation, (UN, WHO, Asia-Pacific Economic cooperation, and the European Union) produced eight categories of most significant to contemporary health security, allowing comparison of definitions. The categories are: emerging diseases, global infectious disease, deliberate release of chemical and biological materials, violence, conflicts and humanitarian emergencies, natural disasters and environmental change, chemical and radioactive accidents, food insecurity and poverty (Hardiman, 2003).

The term Health Security came into focus during the review of International Health Regulation (IHR) in 2005, and followed by tagging the theme of 2007 World Health Day to capture the concept, this brought the emergence of initiative called Global Health Security Initiative (GHIS), which is an international partnership created to strengthen global health preparedness and response for the threats of biological, chemical, radio-nuclear terrorism and pandemic Influenza. It was launched in November 2001 by the ministers/secretaries of Health of Canada, France, Germany, Italy, Japan, Mexico, United Kingdom, United States and the Health Commissioner of the European Union (WHO,2012). GHIS develops and implements activities through a group of senior officials and working Groups. Viz:

- Risk management and complications working group,

- Pandemic influenza working group,

- Chemical events working group,

- Global health security laboratory network group, and

- Radiological/ Nuclear threats working group (US Department of Health and Human Services, 2012).

When the world is collectively at risk, defence becomes a shared responsibility of all nations. The issue of health security came up as a theme of World Health Day 2007. In revising the International Health Regulations (IHR), the need arose for strengthening global public health security. The need for the revision was an agreement reached in the World Health Assembly (WHA) in 2005, because of the experience gained in the past 30 years. The agreement formed a global legal framework, which included, a commitment from WHO

and each member state to improve capacity for disease prevention, detection, and response. It provides standards for addressing national public health threats that have the potential to become global emergencies (Heymann, 2006).Some health issues or threats that prompted the global awakening included the following:

The 2003 outbreak of severe acute respiratory syndrome (SARS), preparedness for public health emergencies was propelled into worldwide consciousness. The spread of SRAS demonstrated to leaders how an infectious disease can rapidly cross borders and deliver health threats and economic blows (Heymann,2004). The emergence of the influenza A (H1N1) pandemic in April 2009 provided the first major stress test when IHR came into force in 2007. There is a recent detection of imported cases of traveller associated Lassa or yellow fever in Europe (WHO, 2006b). The current cholera epidemic in Zimbabwe (WHO, 2008b). The suspected paracetamol poisoning in Nigeria (BBC, 2008a).The issue of rejection of polio vaccine in Northern Nigeria in 2003.

The Indian ocean tsunami in 2004, killed 285,000 people and displacing millions more(BBC, 2004). In 2008, an earthquake in Sichuan injured millions (Wikipedia,

2013).Dumping of petro chemical waste caused outbreak of SARS, Avian influenza, and influenza in West Africa led to several deaths in 2006(WHO, 2007). The nuclear (H1N1) suggest that emerging diseases are serious reactor accident in Chernobyl, Ukraine; in 1986 was a threat to global security. The pandemic clearly shows the world that, in health matters, the world has become a single neighbourhood (Harvard School of Public Health, 2010).

The HIV/AIDS pandemic threatens global security as the continued high rates of AIDs-related illness and death in some of the world's poorest countries could impose unprecedented changes in their population age structures, stunt their economic development and retard their demographic transition(Population Action International, 2004).

In 2008, thousand of babies in China suffered acute kidney failure because of the use of melamine contaminated milk (WHO, 2012). Ebola outbreak in Uganda on August 2012.

Contributions of Health Security Initiative to Disease Prevention in Nigeria

Communicable Disease Prevention and Control.

When there is an outbreak and epidemic that do not recognise boundaries, also unverified and inaccurate information on outbreaks from media that elicit threat, diverting attention and funds, in Nigeria, the challenge is to develop or reinforce mechanisms to detect, verify and respond rapidly and effectively to unexpected outbreaks and epidemics. In this vein WHO supports the government, working with ministries, National Emergency Management Agency (NEMA) and other stake holders to strengthen the national communicable disease surveillance and response systems through existing surveillance structures in the states and local government areas (WHO,2012).

The disease surveillance units at all levels have put much effort in identifying and reporting of suspected incidences of diseases especially in the rural communities. Whenever these suspected cases are reported efforts are made to prevent the spreads. This effort is as a result of support given by the WHO in the prevention, control and eradication of communicable diseases over several years,

mainly for Guinea worm disease, human African trypanosomiasis, lymphatic filariasis, onchocerciasis, Schitosomiasis, and leprosy (WHO, 2007). Currently Nigeria is on the verge of eradicating Guinea worm. Many measures are in place with full commitment of stakeholder to eradicate polio completely in Nigeria. In the area of influenza, the WHO facilitates the work of a network of 127 national influenza centres throughout the world that regularly provide seasonal influenza viruses to one of four WHO collaborating centres on influenza where genetic characterization is conducted (Heymann, 2008).

Immunization programmes in all the states and local governments in Nigeria had been intensified to see that polio is completely eradicated. In the area of combating the HIV/ AIDS scourge much have been invested into voluntary counselling and testing, Prevention of mother to child transmission, Blood safety. Universal precaution and injection safety, post exposure prophylaxis, and condom knowledge and use. In the area of tuberculosis control, free drugs are provided and laboratory with equipment provided for diagnosis and prompt treatment of cases, Press release (2010) reported, "unprecedented achievement within the

complex arena of global health security will be unveiled in Zaria, Nigeria on June 14, 2010. The new approach deploys high containment laboratories directly to the region" by this it means there is a lab in Zaria to aid in diagnosis of cases. In the area of malaria, many strategies are in place, in which the supply of insecticide treated nets stands as the most recent.

In addition to the aforementioned procedures, the strengthening of National Health Information System is a very important factor in disease prevention measures. The National Emergency Management Agency (NEMA) is currently intervening in states affected by flood and disaster, by provision of relief materials and evacuation of victims in Nigeria (NEMA, 2012) .In the aspect of travelling in and out of the country measures are put in place, as vaccinations and medications are given to prevent diseases as one may be at risk at a destination. There is an ongoing airport pandemic preparedness plan, integral to the airport emergency plan, which is indeed a living document.

Non-Communicable Diseases Control
For many years much effort is on the prevention and control of communicable diseases, the aspect of non- communicable

diseases control seem to be neglected , yet most causes of death in recent times is from non- communicable diseases. Non-communicable disease is seen as a neglected component of global health comprising of chronic diseases like mental illness, diabetes, heart disease, cancer and injuries(International Institution and Global governance, 2012). These diseases were seen as diseases of affluence, because they reflect ill health resulting from improved living standards, today their prevalence is more globally. It has been reported that non communicable diseases account for 75% of annual fatalities, also NCD compete for resource allocated to prevalent infectious diseases ,the world health report 2001 had indicated that NCDs account for almost 60% of deaths and 46% of the global burden of disease, and based on current trends, by 2020, the diseases are expected to account for 73% of death, and 60% of the disease burden (Onwasigwe,2012). WHO (2008) reported that non communicable diseases are the leading cause of death globally, despite being the most. Oluwarotimi (2012) reported that" Non communicable diseases are some of the leading causes of death and disease in both developed and emerging economies alike, they dominate health care needs and expenditures in most developed as well as most low and middle

income countries, of the 57 million death globally, NCDs contribute to an estimated 36 million deaths every year, including 14 million people dying between the ages of 30 and 70". It has been stated that , the biggest increase in NCDs death globally in the next decade is expected in Africa, where they are likely to become the leading cause of death by 2030 (Marquez,2012).The first WHO global status report on non communicable disease listed Nigeria and other developing countries as the worst hit with deaths from non communicable diseases (Aregbeshola,2012). Equally, The Health Reform Foundation of Nigeria (HERFON) has warned of an impending epidemic of non communicable diseases in the country which will send five million Nigerians to the grave by 2015 if nothing is done to curb the menace (Anyane,2012). Added to the above was that the cost of NCDs in Nigeria from premature deaths arising from heart disease, stroke and diabetic will increase to 8 billion by 2015. As a result, the WHO is increasing efforts to target non-communicable diseases around the world, the governments of developing countries are charged with the responsibilities of safeguarding citizens' health, and international institutions helping in controlling the cross-border spread of disease and curbing dangers from non-communicable diseases. Much

effort have been put in place by the WHO through Global Strategy on Diet, Physical Activity, and Health, aimed at raising awareness and reducing the health risk factors associated with sedentary lifestyles and poor diet. There is also a focus on obesity and alcohol consumption by WHO , it has drafted a global strategy on harmful use of alcohol. The private sector also joined in responding to non- communicable epidemic. Companies like Pepsi and Nestle are making efforts to limit sugar, salt, trans-fats, and net calories in their food and drink products (Yach, 2012). There is a Framework Convention on Tobacco Control (FCTC), which was adopted under article 19 of the WHO constitution and came to force in 2005 and as 2010, had more than 170 state parties. The FCTC requires signatories to restrict the influence of the tobacco industry on national health policies and ensure that safeguards are in place to protect the public second hand smoke. Other provisions include banning advertising and ensuring clear health warnings on tobacco products (Fidler, 2003). There was a summit of non communicable diseases held in 2011 in New York to address the threats posed by NCDS in developing, low and middle income countries. The current health policy have concise statements on policies of health programmes such as ,

malaria, immunisation, population, reproductive health, , control of onchocerciasis, adolescent health etc. In an effort to combat NCDs, two United Nation agencies recently launched a new initiative called 'M-Health' to use mobile technology, particularly text messaging and applications, to help tackle non communicable illnesses (Oluwarotimi, 2012). This new initiative will initially run for a four year period and focus on prevention, treatment and enforcement to control non-communicable diseases and will build on current projects, existing health systems and platforms and will involve partnerships between governments, non-governmental organizations (NGOs) and the private sector. The initiative is currently being discussed in Dubai at International Telecommunication Union (ITU) Telecom World, 2012, where leaders and pioneers in the corporate, research and academic sectors are meeting with high-ranking policy makers and regulators, with the aim of sharing ideas on the future of global telecommunication (Fidler, 2003).Meanwhile, WHO is already using mobile devices to carry out surveillance of non-communicable diseases and their factors. For example, the Global Adult Tobacco Surveillance system has used mobile phones to capture data on tobacco use in 17 countries covering over half of the world's

population (Acharya, 2012).

Challenges of Health Security Initiative in Nigeria

Nigeria as one of the developing countries in Africa suffers the challenges of fully implementing the revised IHR that deals with global public health security. The obstacle of implementing the revised IHR in Africa are, multiple barriers to the establishment of surveillance systems, lack of political will and commitment to global public health, barriers to sharing public health information among countries, constrains imposed by donor agencies on funded projects (Tomori, 2008). Though much effort is made to combat disease problem in Nigeria, there are still challenges facing the health care system, which hinders the system from functioning well. Osain (2011) observed that, the Nigerian health system is poorly developed, as the existing surveillance system does not meet the modern standard. He also stated thus "To achieve success in health care in this modern era, a system well grounded in routine surveillance and medical intelligence as the backbone of the health sector is necessary, beside adequate management couple with strong leadership principles, p, 470". The Nigerian health care has suffered several down fall. HERFON in Osain (2011) reported that "Despite Nigeria's

strategic position in Africa, the country is greatly underserved in the health care sphere. Health facilities, personnel and medical equipments are inadequate in this country, especially in the rural areas. While various reforms have been put forward by the Nigerian government to address the wide ranging issues in the health care system, they are yet to be implemented at the states and local government area levels." It has been noticed that the health care system remains weak because of lack of coordination, fragmentation of services, dearth of resources, including drug and supplies, inadequate and decaying infrastructure, inequity in resources distribution, lack of clarity of roles and responsibilities among the different levels of government and deplorable quality of care (Nigeria National Health Conference in Osain, 2011). The major shortcoming of the Nigerian health care system is the absence of adequate Medical Intelligence Surveillance (MIS) system to tract disease outbreaks, mass chemical poisoning etc.

Cultural/ Religious Obstacles

This is also a challenge to the effort of global partnership in disease eradication. A case of rumour which led to the suspension of polio vaccination in Northern Nigeria in 2003, this led to the spread of the polio virus to Saudi Arabia, Yemen, and Indonesia and it returned to countries that had previously become polio free. This in effect caused the global partnership to spend an estimated sum of $500 million to stop polio re-infecting African countries (WHO, 2005 b). Other challenges according to Timori (2006) include:

- ineffective and unreliable national disease surveillance systems,

- inadequate political will and commitment to disease control and prevention,

- poor regional networking for disease reporting and response, and

- donor partner priorities that may be at variance with national priorities.

Surveillance Systems

In many African countries, major obstacles to an effective disease surveillance and control system include insufficient funding, inadequate staffing, inappropriate or insufficient training of existing personnel, and lack of appreciation of the cost-effectiveness of a reliable disease surveillance system in health care delivery. Public health laboratories that conduct infectious disease surveillance in Africa tend to be poorly staffed and often lack basic

equipment and supplies; few are able to communicate or receive epidemiological information or transport laboratory specimens in a timely way.

In many African countries, the infectious disease surveillance system functions vertically, having been established to monitor specific vaccine-preventable diseases such as poliomyelitis, cerebrospinal meningitis, cholera, or yellow fever. This ad hoc system of disease-specific surveillance programs has resulted in a lack of integration of disease surveillance and control, a disdain for developing and building local capacity, and a penchant for acquiring imported technologies. Indeed, it can be said that disease-specific surveillance programs have prevented the establishment of reliable and comprehensive national disease surveillance systems.

Vertical surveillance programs may employ disease-specific data collection tools, reporting formats, and surveillance guidelines for donor-targeted diseases, but these capacities are rarely used to monitor or control endemic diseases. At an operational level, it is the same person or team who performs all surveillance activities, leading to a duplication of efforts with increased workload for staff and inefficient utilization of available resources, or to the neglect of the

endemic diseases, as the staff or team focus on donor targeted diseases (these are diseases of priority importance in a donor country, which are often of low priority in the recipient country). For example, the United States may wish to provide greater support for studies on anthrax, monkeypox, and so forth—diseases with higher bioterrorism potential—than on measles, yellow fever, and cerebrospinal meningitis, diseases that still ravage and decimate populations in resource-constrained countries. Moreover, many vertical interventions for disease surveillance and control have not been sustained due to lack of appropriately trained local staff. Since most epidemics in Africa originate at the health district level, locally based, comprehensive disease surveillance—and the sense of ownership that goes along with it—would be optimal (Osain, 2011).

Political Will and Commitment
A general lack of political will and commitment to public health is evidenced by the inadequate consideration of and financial support for health issues by most African governments at all levels. The leadership of resource-constrained countries must appreciate that global health depends upon a commitment by each country to protect its

citizens from disease. Such a commitment is practiced in those developed countries in which citizens' welfare is a bedrock political issue (Lezine & Reed, 2007).

Networking

The impact of diseases, such as yellow fever and cholera, which are endemic in certain regions of the world, could be minimized if the countries in the region work together through networking and sharing of data and expertise. However, for reasons of territorial integrity and an absence of formal collaborative agreements, health officials may be reluctant to share information on priority communicable diseases with their counterparts in other countries WHO, 2002).

Regulatory Constraints

Donor agencies impose inflexible regulatory constraints that hamper maximum utilization of human and financial resources for integrating disease surveillance systems. In some resource-constrained countries, funds allocated for activities under a donor-funded tuberculosis project may not be applied for activities under, for example, an HIV/AIDS project, even if the outcome of such an activity will have mutual benefit for both projects. At the individual level, there is a dearth of highly qualified professionals in many resource-

constrained countries; therefore, the few available professionals must serve in other capacities, sometimes not directly related to their fields of expertise. The activities of such an individual employed under a donor-funded project are strictly limited to the confines of the donor project. For example, a virologist (who may be the only one in the country) employed under a donor-funded project dealing with measles may not be allowed to place his expertise at the service of his government during an epidemic of yellow fever (Green, 1987).

Recommendations / Way forward

If the revised IHR are to be successfully implemented in resource-limited countries, there will be a need to correct the misperception that the emphasis of the revised IHR is on the international spread of disease, while the issue of the burden of infectious diseases on the resource-constrained nations is of secondary priority.

The following efforts will help achieve that goal.

Emphasize Disease Prevention at the National Level

Equal emphasis must be placed upon the national and international spread of diseases. Growing up in Africa, the writer learnt that

keeping our individual compounds clean ensured the cleanliness of our entire village; so it must be with our "global village." Thus, the purpose and scope of the revisions to the IHR should be restated as follows:

- Prevent both the national and international spread of disease,

- Protect against both the national and international spread of disease,

- Control both the national and international spread of disease, and

- Provide a public health response to both the national and international spread of disease (emphasis added).

Build National Capacity for Disease Prevention

The practice of "dangling the carrot" of international resources for responding to a disease outbreak (e.g., vaccines, funding, and foreign expertise) as an incentive for reporting such an outbreak may undermine the determination of resource-constrained countries to develop, strengthen, and maintain national core surveillance and response capabilities. Moreover, it is far more efficient to contain disease outbreaks than to respond to full-blown epidemics. Therefore, greater consideration should be given to encouraging countries to develop capacity to report, detect, and investigate suspected infectious disease outbreaks and thus prevent sporadic cases (especially of known diseases) from escalating to epidemics, and more resources (training, supplies, funds, and foreign expertise) should be provided for establishing and maintaining disease surveillance systems at the national level.

Sustainable Surveillance: National Capacity-Building

The polio eradication initiative in Africa has enabled the establishment of a reliable acute flaccid paralysis (AFP) surveillance system, backed by an African region-wide laboratory network. The 16-member polio laboratory network, accessible to the 46 countries in the Africa WHO region, has provided timely and accurate results to national polio control programs. The success of the polio laboratory network has led to the establishment of other disease-specific laboratory networks and surveillance systems. Five additional laboratory networks (measles, yellow fever, and rubella; HIV/AIDS; paediatric bacterial meningitis; rotavirus; human papilloma virus) currently operate in the Africa region with minimal collaboration. These networks provide a foundation upon which comprehensive disease surveillance capacity

could be built to enable successful implementation of the IHR.

Surveillance systems will improve only if their importance to disease control is recognized and appreciated by the policy makers. Reliable disease surveillance can help to improve the prediction, early detection, and control of epidemics; inform the rational allocation of resources; and guide the monitoring and evaluation of health interventions. Building and maintaining robust, national, integrated disease surveillance and response (IDSR) systems for emerging zoonoses and other communicable diseases can considerably reduce morbidity, mortality, and disability associated with these diseases. Achieving this result will require:

- Management and application of surveillance data;

- Communication systems to effectively transmit surveillance data and epidemiological information;

- National, sub-regional, and regional laboratory networks and their capacity for involvement in IDSR activities;

- Epidemic early warning and rapid response systems, including the

preparation and implementation of national emergency preparedness and response plans;

- Training of health workers to participate in IDSR, including the integration of IDSR in training curricula and materials; and

Research (including operational research) to improve IDSR in resource-limited countries (Timori, 2008).

Conclusion

In today's global environment, most countries have similar challenges in keeping its population healthy and preventing the spread of diseases to other continents. This was demonstrated by SARS in 2003 , and the challenges posed by influenza pandemic in recent times, which called for global preparedness , even polio re-emergence in some countries , while HIV/AIDs continue to give threat to communities. The issue of health security is a welcome development in recent times as countries can benefit through improved national and international surveillance , improved system for rapid detection of and response to public health emergencies, standardized rules for evaluation, , control and resolution of urgent events , and the mechanism to increase

national and local public health security. Nevertheless, the success of global health initiative such as health security depends on the strong national health system with competent staff and well-equipped functional health facilities. There is a greater need to review more in the aspect of health security as well as strengthened the health system so as to achieve the aims of health strategies put in place for disease prevention. Several flaws seen in the health care system can be averted through adequate MIS, which is supposed to be the first line of approach to developing the Nigerian health care system. Though there is a long list of barrier which lie in the pattern of leadership, infrastructures, manpower challenges, clinical training, and standardized diagnostic equipments. Considering the importance of health security, there is need for revitalizing the health system and providing specific project design to enhance cooperation and efficiency.

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