DISEASE EPIDEMICS IN NIGERIA: ARE WE HELPLESS?

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BY

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PREAMBLE

I wish to commence on a note of gratitude. For inviting me to deliver this public lecture, I thank the President and Council of the Nigerian Academy of Science. I thank everyone here present for the desire to listen to me. In this venture, the talker and the listener are both important but the latter more so. Accordingly, I also thank the prospective listeners in advance, for their attention.

We are all lovers of liberty, I presume. The freedom of choice is one that certainly appeals to me. It was double joy for me when I learnt that the choice of today's lecture was mine to make thereby saving me from the risky venture of threading on unfamiliar terrain.

I chose to lecture the public on "Disease Epidemics" because they are the illnesses that are about the public and not about the individual, because they are far more costly to treat than the illness affecting the individual, because the toll they exert is enormous; and because they constitute a major responsibility of mine as the Chief Public Health Officer of Nigeria. And yet, there is a cheap means of managing them: Prevention.

I am also aware that the Nigerian Academy of Science has collaborated with us in many interventions on disease epidemics.

Many times, however, when we are unable to stop them from happening, it would seem that we are helpless. But are we really?

Mr. Chairman, Distinguished ladies and gentlemen, please join me in this boat of discovery.

What are we talking about?

A disease is any deviation from or an interruption of the normal structure or function of any part of the body, organ or system that is manifested by a characteristic set of symptoms and signs and whose aetiology, pathology and prognosis may be known or unknown.

An epidemic, on the other hand, is the occurrence of a disease in terms of the magnitude of persons affected in a given time and place that is clearly in excess of what is expected as normal. This definition implies that there might be a disease within a geographical boundary which will not qualify to be called an epidemic but which sudden increase far above the prevailing local context stimulates panic, high morbidity and mortality and definitive response from the health system. Such epidemics are usually from a common source. For instance, when we attend parties and all those who ate an infected food item or drank from the same water source came down with an illness. It could also be when infection spreads rapidly from one person to another as a result of contact, by air, droplets, ingestion or penetration of body tissues.

Malaria, as common as it is, and responsible for the highest morbidity and mortality cannot qualify to be called an epidemic because it is perennially transmitted and for which we have some degree of immunity especially in adults. It is said to be holoendemic. Some epidemics are so world-wide in distribution, cutting across several countries and indeed continents. Such are called Pandemics. Examples are HIV/AIDS and Influenza.

Why are we afraid of them?

The fear of God is the beginning of wisdom. The fear of disease epidemic ought to be the continuation of that wisdom.

The great mortality, morbidity and disability that follow a disease epidemic with grave socio-economic consequences are obvious and sufficient reasons to dread it.

Our previous battles with them

Disease epidemic has been occurring in human population right from the pre-stone age. Indeed, human history has recorded pestilence of diseases like plague, known as Black Death that spread through Europe in the 14th Century, influenza in Europe in 1914, cholera and typhus that occurred in the seventeen to early nineteen century, with devastating consequences on human population. In

Nigeria, notable among these were the epidemics of yaws in the twenties, small pox of the seventies and cholera also in the seventies.

Most of these outbreaks have resulted from environmental factors and negative human behaviour. For instance, the yaws epidemic in Nigeria in the twenties was sustained through poor sanitation, inadequate water supply and poor personal hygiene. In the same vein, small pox ravaged our general population especially those in the rural and urban areas causing death and skin disfiguration until aggressive environmental sanitation was embarked upon along with the discovery of effective vaccine. To date, Nigeria is still battling with series of disease outbreaks but the situation is not helpless.

The first recorded cases of cholera in Nigeria occurred in a village near Lagos, on 26th December, 1970 leading to an important epidemic of 22,931cases and 2945 deaths with a case fatality rate (CFR) of 12.8% during 1971[1]. In 1991, 59,478 cases and 7,654 deaths were reported. The CFR was 12.9% which remains the highest rate reported by the country to date. Cases started to be registered in January of that year and among the worst affected states were Kano, Akwa Ibom, Bauchi, Niger and Oyo. By September, the disease had spread to 19 of the then 21 States including the Federal Capital. (In 1991, Nigeria only had 21 States).

In 1995, with 59,134 cases and 4,508 deaths, the case fatality rate was 7.6%. In 2010, we were again challenged with massive cholera outbreak which ended with 46,782 cases, 1,841 deaths and a case fatality rate of 3.9%.

One will recall in recent times, the 1984-92 Yellow fever epidemic that affected one third of the States in the country as at that time. At the end of that epidemic alone, over 20, 000 cases with 5000 deaths and a case fatality rate of 25% were recorded, figures believed to be underestimated.

Similarly, in 2009 the country recorded her worst outbreak of cerebrospinal meningitis with 38, 586 cases and 2,172 deaths with a case fatality rate of 5.6%. Just last year, the country experienced a serious outbreak of Lassa fever which subsided with more than 1700 cases with 112 deaths and a case fatality rate of

6.6%. The first case of Lassa fever was reported in Nigeria in 1969. Since then there had been sporadic cases. Major outbreaks occurred in 2011 and 2012 with 1246 and 1723 cases respectively.

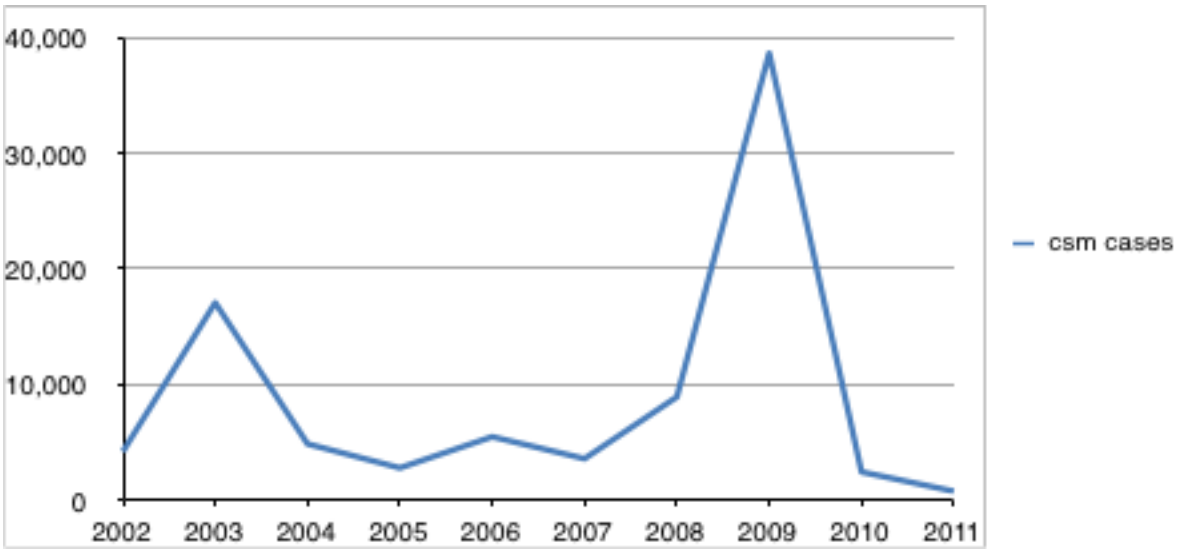
Indeed, as we are aware, disease outbreak often cause panic in the general population, lead to loss of lives and stretch our health system. The examples cited above have been restricted to communicable diseases. Non-communicable diseases are assuming an increasing importance in the national disease burden. Communicable diseases are diseases in which the causative agents can be passed easily from one person to another either directly or indirectly. They are the commonest causes of illness, death and disability among Nigerians. In Nigeria, as in other countries, the challenge is to develop or reinforce mechanisms to detect, verify and respond rapidly and effectively to unexpected outbreaks and epidemics.

Where are we now?

In recent times, tremendous gains have been made in the prevention and control of these diseases. I will illustrate this by discussing trends in some epidemic diseases in Nigeria and our efforts at mitigating impact. These diseases are Cerebro-spinal meningitis, Measles, Lassa Fever and HIV/AIDS, Guinea worm, poliomyelitis and Yellow fever.

The worst epidemic of CSM occurred in 2009, though there was a spike in 2003 as shown in the figure 1 below. Currently, we are entering the meningitis season.

Fig 1: Occurrence of Cerebrospinal Meningitis over ten year period: 2002-2011

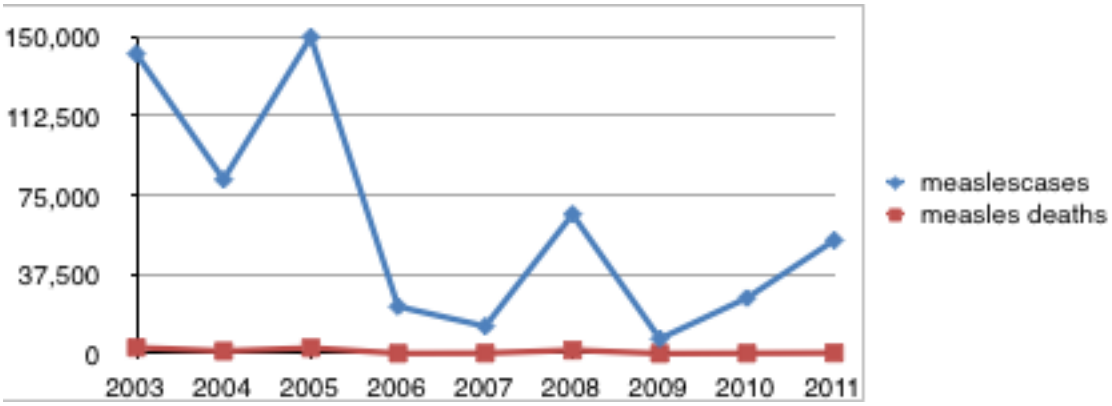


Source: Epidemiology Division, Federal Ministry of Health[2]

However, we are not expecting a major outbreak of Meningitis anymore. This is based on our adoption of a recent innovation which showed the effectiveness of conjugate over polysaccharide vaccine. The conjugate vaccine has been shown to be sensitive against A strain of Neissaria meningitides bacteria which is known to be responsible for 95% of meningitis infection in Nigeria. The use of the new vaccine started in December 2011 in Phase 1 States of Bauchi, Gombe, Jigawa, Katsina and Zamfara states. Roll out to Phase 2 states of Kano, Sokoto, Yobe and Borno was conducted in December 2012, while the last phase is expected to be conducted this year.

Measles is a vaccine preventable disease with severity in under- fives. Within the National Programme on Immunisation, the vaccine is given at 9 months. As shown in Fig 2, the peak of the epidemic occurred in 2005 with about 150,000 cases. Deaths from measles appear consistent over the years.

Fig 2: Trends in Measles outbreak in a ten year period

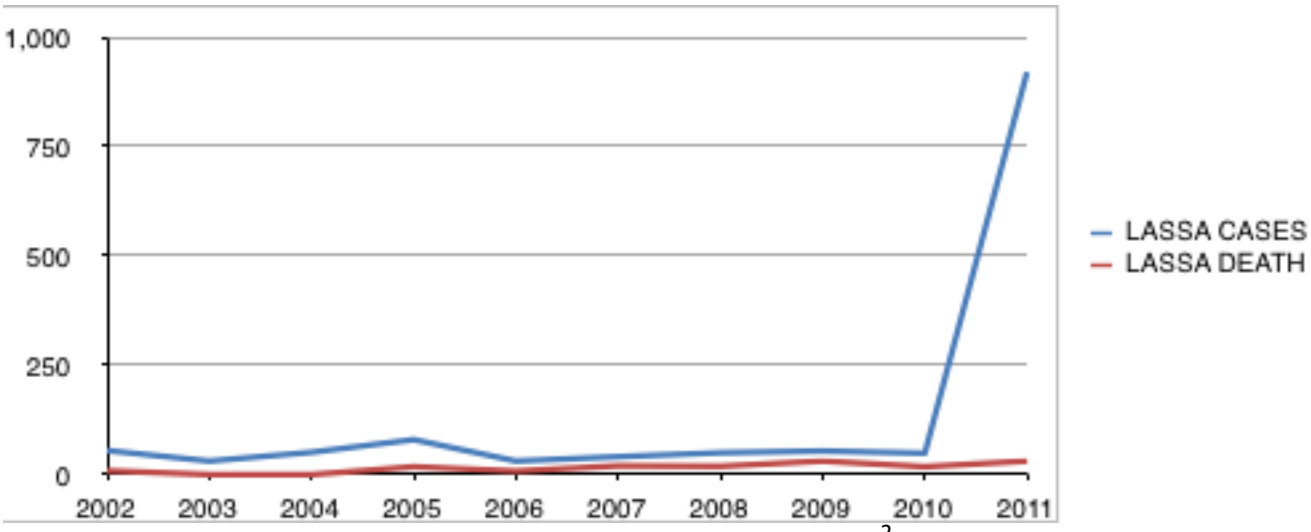


Source: Epidemiology Division, Federal Ministry of Health[3]

However, where evidence has shown that there has been the occurrence of the disease before 9 months especially during epidemics, a case is being considered for a two-dose policy for measles. This policy has been adopted in some countries with very clear major impact. Measles vaccination campaign is on-going as well as efforts to strengthen the routine immunization.

Figure 3 below suggests a low transmission of Lassa fever over the years. However, what is very alarming is the closeness of the number of cases and deaths which showed the high case fatality rate associated with Lassa fever. The sudden rise in the number of cases of Lassa fever in 2011 is a cause for concern.

Fig 3: Trends in Lassa fever epidemic over ten year period: 2002-2011



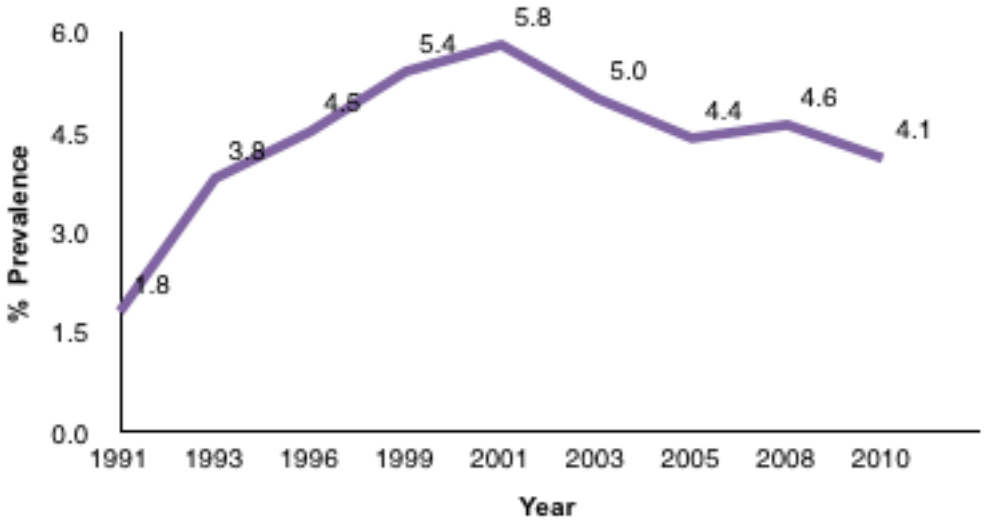
Source: Epidemiology Division, Federal Ministry of Health[2]

Climatic change and demographic pressure on the environment are all contributory to the increased incidence of Lassa fever. Furthermore, frequent internal strives contribute to migration of population into areas infested with rodents and other vectors.

Clinician sensitization for high index of suspicion, laboratory support and treatment is a necessary activity such that early presentation which usually resembles Malaria will call for detailed investigation. Preventive measures such as massive health promotion activities targeting our communities in local languages suggesting different alternative practices of drying foodstuff in the open that avoids consequent contamination by secretion from the vectors will be embarked upon with the collaboration of our counterparts in the Ministry of Agriculture. Environmental health activities with specific reference to pest control activities that ensure that rats do not invade our homes is another area of collaboration with Ministry of Agriculture currently being examined.

Fig 4 below shows the prevalence of HIV infection from 1991 to 2010. The prevalence was highest in 2001 and since then there has been progressive decline from the peak prevalence of 5.8% in 2001 to 4.1% by the end of 2010. An estimated 3.15 million Nigerians were living with HIV by the end of 2010 while there were 229, 480 HIV+ pregnant women (FMOH ANC Survey 2010).

Fig 4: National HIV Median Prevalence in Nigeria: 1991-2010



Source: FMOH ANC Sero prevalence survey 2010[3]

There is increased accessibility to Anti Retroviral Drugs (ARV). The Prevention of Mother to Child Transmission (PMTCT) programme is being scaled up. HIV Counseling and Testing (HCT) has received a boost with the establishment of more centres that are user friendly.

Guinea Worm

Indeed, there had not been a single case of guinea worm reported in the country in the past 4 years. Nigeria reported the last case of Guinea worm on November 11th 2008. We are on the verge of being WHO certified free of guinea worm disease. This feat was achieved in collaboration with Partners. In recognition of this, Nigeria was honoured on the 17th February 2011 in Atlanta USA by the Carter Centre for sustaining Guinea Worm Disease zero case status for 24

consecutive months. There has been strengthened surveillance, reporting and advocacy for the provision of safe water supply.

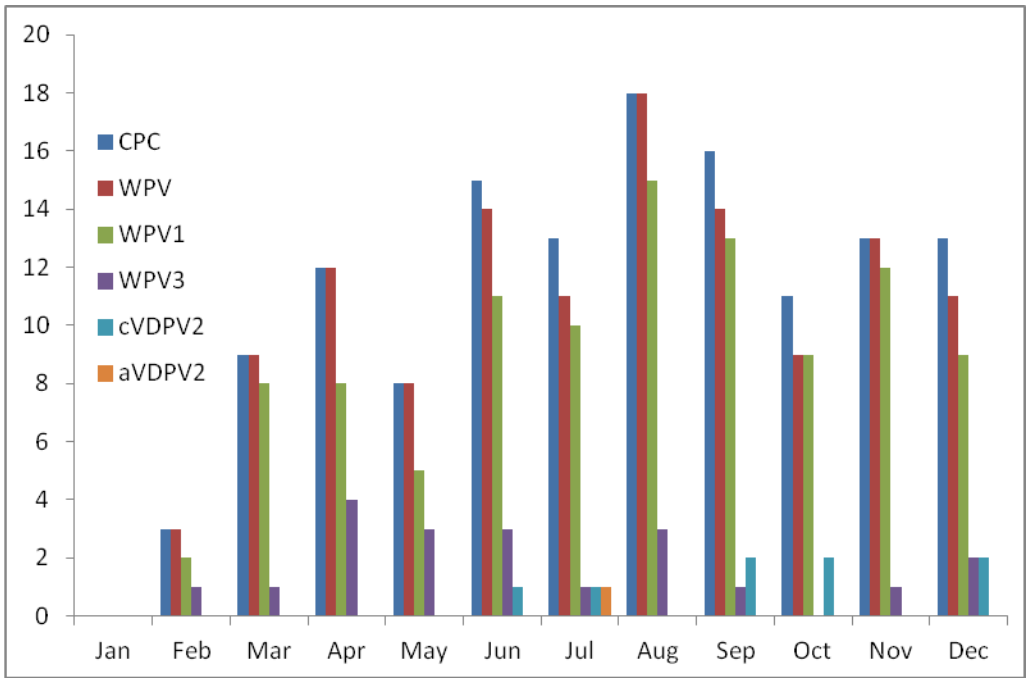
Yellow Fever

There was massive vaccination campaign of Yellow Fever in 1995 in addition to environmental control which helped greatly to reduce transmission. This year, we are embarking with the support of GAVI, on another mass vaccination campaign.

Polio

From the figure below, the number of WPV seemed to have peaked in August 2012 and since then there had been a diminishing trend.

Fig 5: Monthly distribution of WPV IN 2012



Source: FMOH weekly epidemiological report: January – December 2012[4]

There are several initiatives on-going . Apart from the National Immunisation Days, there are Supplementary Immunisation Days (SIDs) at both the LGAs and ward levels. In addition, there is the N-STOP Polio programme aimed at improving

micro-plans, reaching nomadic populations, missed populations and communities in hard to reach areas.

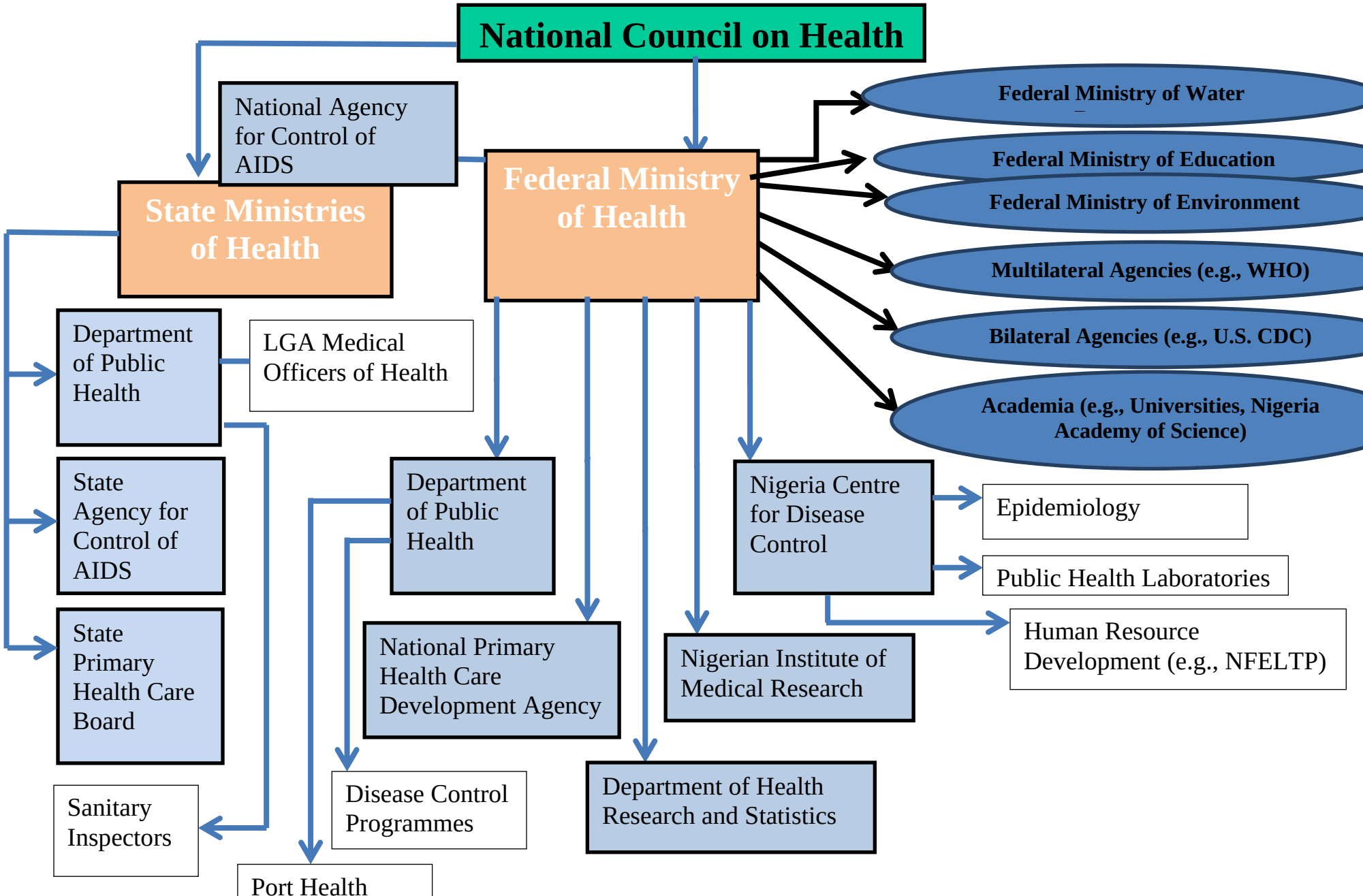
I have no doubt that our efforts at eradicating polio will eventually pay off with concerted efforts and coordination of partners**.**

What are we doing?

The approach to the management of disease epidemics involves having a proper governance policy in place, appropriate strategy in place, and a reliable and reproducible mechanism for intervening when they occur.

Below in Fig 6 is the governance structure.

Fig Governance structure:



Policy, Strategy and Interventions

Visiting the doctor when you are ill is good. Going to the doctor early in the illness is better. Not being ill and not having to visit the doctor is best. Prevention is better than cure. The core of managing infections rests on prevention. Preventive actions can be taken at different levels such as: Epidemic Intelligence, disease surveillance, immunization, biomedical research, information management, international and port health, environmental sanitation, provision of potable water and screening for disease.

Immunisation: Vaccines provide the direct way to prevent any disease in that once a vaccine has been administered, its action does not depend on any behavioural tendency or environmental factor for its efficacy. It is not only cost effective, it is unisectoral in that it does not call for the cooperation of multiple sectors. Since the discovery of vaccines, there has been less reliance on quarantine as a strategy for disease control. Quarantine is only necessary where the unimmunized who are vulnerable are exposed to diseases. Vaccine Preventable Diseases that are covered by the current national programme on immunization include Tuberculosis, Hepatitis B, Polio, Diptheria, Pertusis, Tetanus, Measles, Yellow Fever and Haemophilus Influenza. In the private sector, vaccine is available for Rotavirus for childhood diarrhoea and human papilloma virus for Cancer of the cervix.

Vaccines are expensive. However, since the emergence of Global Alliance for Vaccines and Immunisation (GAVI), their cost have been heavily subsidized with countries providing counterpart funding. This has made it possible for many developing countries to procure needed vaccines. Of course, GAVI depends on donors (countries, corporate organizations and philanthropists) to finance its activities. All vaccines under the national programme on immunization are provided by policy by the Federal Government and distributed to all public health facilities and some private facilities. However, because of the explosion of our target population, budgetary provision in recent times has been inadequate to cover counterpart funding.

Presently, we enjoy the support of development partners: countries such as the United States, Japan, Germany and Norway, multilateral organizations such as WHO, UNICEF and bilateral organisations such as DFID, JICA and the EU. Added to the cost of vaccine is the cost of maintaining cold chain and other operational costs such as remuneration of vaccinators and supervisors. Some private organizations have been quite supportive as far as immunization is concerned such as Rotary International, Bill and Melinda Gates Foundation. Under President Goodluck Jonathan, two important developments have taken place. The first is the doubling of federal funds available for routine polio immunization to the tune of N4.7 billion. The second is that under the direction of the Minister of Finance, all budgeted funds for routine immunization are released en bloc in the first quarter of the budget year. This later development has made it possible to avoid stock out of vaccines as we can order all of our routine vaccines requirement in time as vaccines are not procured off the shelf but by pre-order. In the case of polio, routine immunization is being implemented by periodic campaigns because of the urgency to eradicate polio from Nigeria. This urgency is necessary as other countries in the world are no longer endemic for Polio except Nigeria, Pakistan and Afghanistan.

Yellow fever vaccine is administered by routine immunization from nine months to eleven months of age. Because of International Health Regulations (IHR-2005), travelers from endemic countries who want to visit other countries with vectors are required to be vaccinated against Yellow Fever. However, when there is risk of impending epidemic it becomes necessary to have campaigns to immunize the general public. Accordingly, with the help of GAVI, Nigeria will in 2013 carry out Yellow Fever immunization campaign commencing with the high risk states which incidentally are the border states.

Under the administration of President Goodluck Ebele Jonathan, the following new vaccines were introduced: MenAfriVac which provides 10 years protection against Meningitis compared with the polysaccharide type which offers protection for 3 years only. Under him, the pentavalent vaccine was introduced which is for Diptheria , Pertusis, Tetanus, Hepatitis and Haemophilus Inluenza. We

are about introducing conjugate Pneumococcal vaccine which will protect against childhood pneumonia.

Integrated Disease Surveillance and Response (IDSR): The Integrated Disease Surveillance and Response (IDSR) is one of the strategies put in place by WHO to curtail outbreaks of diseases. Historically, Disease Surveillance and Notification (DSN) was introduced in Nigeria in 1988 following the Yellow Fever outbreak of 1986/87, which affected 10 out of the then 19 states of the federation. The 40 notifiable diseases were addressed by the system. However, the weak involvement of laboratories, existence of vertical surveillance system of various disease control programmes, etc associated with the DSN, necessitated the introduction of IDSR by WHO African Region in 1998 during the Regional Committee meeting in Harare[5]. The IDSR is a comprehensive strategy for strengthening Disease Surveillance and Response systems at the National, State, LGA, Health facility and the community, using an integrated approach. It is a tool that focuses on collection of data and using information generated to respond to public health issues and emphasizes the involvement of laboratory services in disease surveillance and epidemic response. In Nigeria, Non-communicable diseases have been incorporated into the IDSR eg. Hypertension, Coronary Heart Disease, Diabetes, Lead poisoning in Zamfara state and radiation in Plateau state.

The epidemic prone diseases in the IDSR[6] are:-

1. Cholera
2. Diarrhoea with blood (Shigella)
3. Measles
4. Meningitis
5. Viral hemorrhagic fever (Lassa)
6. Human influenza
7. Yellow fever

Manpower development

Now we have increased ability to detect and report diseases. More diseases are being detected promptly and we can now intervene earlier. In the training of manpower to do this, the Nigerian Field and Laboratory Training Programme (NFELTP) is regarded as one of the best in the world.

Biomedical Research

Biomedical Research is the conduct of rigorous study of specific disease and conditions (mental or physical) including detection, cause, prophylaxis, treatment and rehabilitation of persons for the purpose of improving health. A number of biomedical researches are on going in the Universities and Research institutions. The Nigerian Institute of Medical Research (NIMR) is mandated to conduct research into communicable and non-communicable diseases prevalent in the country, basic and operational research, develop human and infrastructural capacities and disseminate results of research in the country.

Environmental sanitation: No doubt sanitation is important in the transmission of some disease eg. Cholera which it transmitted by taking food or water contaminated with faecal matter. Studies have shown that the reduction of Cholera as a result of improvement in environmental sanitation reduces Polio transmission. Close to environmental sanitation is personal hygiene. Apart from enlightenment through the media, we are working with the Federal Ministry of Education at Federal level to ensure the return of Health Education in the curriculum of primary schools. Still talking of environmental health, the provision of safe and potable water for domestic uses is an important strategy in the provision of water borne disease such as Cholera and Typhoid. However, Environmental Health is not the sole responsibility of the Federal Government but States and LGAs are far more important stakeholders.

International Health Regulation (IHR)[7] and Port Health

Disease vectors do not need visa and do not respect international boundaries. Accordingly, cross border management of disease epidemics is very crucial. The gate keepers are Port Health Officials who man all entries be they airport, seaport

or land crosses and they ensure compliance with immunisation. At present, only Yellow fever is mandatory. Of course there is contemporary debate as to whether Polio should be included or not. The Public Health Division also monitors travelers coming in for signs of infections or contagious diseases that are endemic to the country and they have the constitutional powers to quarantine suspected cases.

Nigeria Centre for Diseases Control (NCDC)

This centre was established by the administration of President Goodluck Jonathan and presently it is semi-autonomous under the Federal Ministry of Health. It is envisaged that in the near future, it will become an autonomous agency under the supervision of the Federal Ministry of Health. Every re-organisation often engenders enemity for the promoter. This is the experience of the Minister. The opposition was much in the same manner as early Surgeons- General as heads of the US Public Health service were opposed to the establishment of the Department of Health. However, the NCDC has come to stay. It is supported by the US CDC. It is already admitted as a member of the International Association of National Public Health Institutes (IANPHI).

The main goals of NCDC are:-

- To create a healthy environment for all citizens in Nigeria.
- To be a responsive and transparent organization that will ensure effective surveillance and control of disease outbreaks.
- To improve the health sector emergency and pandemic preparedness for qualitative, effective and efficient public health interventions.
- To ensure that the public health sector services to conform with internationally acceptable standards

The Centre established seven new laboratories in LUTH, (Lagos) UMTH, (Maiduguri), UDUTH (Sokoto), UNTH (Enugu), UCH (Ibadan), UPTH (PortHarcourt) and AKTH (Kano) and presently upgrading them to be able to diagnose Viral

Haemorrhagic Fevers eg. Lassa Fever, Yellow fever and Dengue fever as well as Polio. Other laboratories under its control are Central Public Health Laboratory, Yaba and NCDC Reference Laboratory in Gaduwa, Abuja, presently under construction.

The Centre has established Early Warning Response System and Emergency Operating Centre as an added value to our Public Health system.

The Hon. Minister of Health has given the Centre mandate to focus on three priority disease of Lassa fever, Lead poisoning and Yellow fever. The centre conducts detailed investigation into outbreaks in the country. Examples are the rabies outbreak in Calabar in 2012, Lassa fever outbreaks in Ondo, Benue and Plateau currently, Cholera outbreak and Measles outbreak in Kebbi late last year. It is important that outbreaks are promptly reported by health facilities to the LGAs for immediate control.

National Health Insurance Scheme (NHIS)

One of the factors responsible for late presentation at our health facilities is the relative high cost of health care. National Health Account studies have shown that 68% of Nigerians access health care through out-of- pocket payments. This is inefficient, unreliable and unsustainable. The National Health Insurance Scheme (NHIS) was set up by Act 35 of 1999. The NHIS is a voluntary prepaid scheme. At present only Federal staff and public servants from three states – Bauchi, Cross River and Enugu- are covered in the formal sector.

Attempts at improving coverage, especially for the informal sector has been through the NHIS-MDG project which provides health insurance for pregnant women and children under five and is funded from the debt-relief fund; and the Community Based Social Health Insurance Scheme, flagged-off in December 2011, a contributory Scheme managed by community based mutual associations.

ANY HINDRANCES?

Whereas our Disease Surveillance and Notification (DSN) has been well articulated, certain elements of the system appear weak. This is the failure of prompt notification of diseases by health personnel at the Local Government and State levels to report to NCDC.

Related to this is the weak human capacity especially at the lower levels of the health system to diagnose and to manage cases when an epidemic becomes apparent. Sometimes when trained personnel are available, effective drugs may be lacking, creating a very helpless situation which vary from state to state

Funding has been inadequate. In prioritizing funding for disease surveillance, one major challenge is that political leaders often want to have tangible achievement that is self evident to impress the electorate. Of course, the outcome of disease surveillance is prompt detection and control of an impending disease epidemic which is often taken for granted and so authorities are often not commended and funding of such activities not appreciated.

Until the recent measles outbreak in Kebbi State in December, 2012, Nigeria was free from measles epidemic for 18months. This was as a result of the increased coverage of measles vaccination of the vulnerable population. At a time, coverage was as high as 83%. We are investigating the outbreak in Kebbi and we hope the findings will enable us to address the immediate cause of the outbreak.

Another challenge is the Cold chain because of the electric power supply. Now, we have procured solar powered refrigerators. Presently, with our national immunization programme, we have no challenge with cold chain except human lapses.

Problems with water supply and environmental sanitation: Presently, the Federal Ministry of Water Resources is involved with the construction of dams which are not only for water irrigation but serve as reservoir for the supply of water for domestic use. However, there is no way the Federal Ministry of Water Resources can generate water and distribute to every part of the country. It is a shared responsibility. Though many State governments are trying to provide water to the

villages, this is still a challenge as some states have not included it in their list of priorities.

Socio cultural practices and religious beliefs as in the case of polio still encourage disease outbreaks. Some are out of ignorance about cause of diseases, ignorance or refusal to practice good hygiene; cultural beliefs and practices; and patronage of quacks when the individual is ill.

The relative high cost of quality health care which tend to discourage patients from seeking early intervention at proper health facilities

Natural disasters pose their own problems e.g recent flooding where sources of water were polluted and victims having lost their shelters were more easily exposed to vectors coupled with the overcrowding associated with relief camps. The other effects of climate change have also posed their own challenges.

Lack of commitment on the part of some political actors at various tiers of government especially at the lower tiers is a challenge.

Security: Recent security challenges in various parts of Nigeria have also led to relocation of personnel involved in disease surveillance and have become a barrier to interventions when disease outbreaks occur.

CAN WE OVERCOME?

Yes we can. We overcame small pox and we have overcome Guinea Worm Disease. Though we are yet to receive our certification certificate, we have been guinea worm free for more than 40 months. Guinea worm certification Committee will visit Nigeria in June, 2013.

We can overcome polio because less endowed countries have overcome. Some states have been polio free for more than 3years.

We can overcome because even though we are still at risk of Yellow Fever, but the last known case of Yellow Fever was in 1995. We can overcome because the

important requirements to overcome are basic such as basic education, portable water, environmental sanitation and immunization.

However, for Nigeria no longer to expect outbreaks of Lassa fever, Cholera, Yellow fever, Measles and other diseases, we need to take certain actions in addition to what we have collectively done so far.

WHAT ELSE CAN WE DO?

From my earlier comments, it is obvious that a lot has been done in Nigeria to address the issue of disease epidemics. However, from the same comments, it is also obvious that a lot more needs to be done and they are doable.

Human resources: Probably, the most important is to build capacity for the human resources that must play a role in disease surveillance. I am proposing that we train more field epidemiologists on a cost sharing basis. Each year, if every state commits to producing 1 field epidemiologist per year at 50% of the cost and the 50% balance borne by the Federal government, the cost will be N2,000,000 per year for each of the states while the Federal government will pay the balance, amounting to 37 x N2,000,000.

Short course for 3 months: Disease Surveillance and Notification Officers (DSNOs) require 3 months for training at a cost of N480, 000. If this cost is also shared in the ratio of 50: 50, the states will bear N240,000 per trainee for the three months training.

Immunization: There are many reasons why we are unable to achieve immunization coverage in Nigeria. The principal reason is that whereas the National Primary Health Care Development Agency (NPHCDA) distributes the vaccines to the states depots. Many states fail to distribute to local government areas. We are now working on an accountability framework to check this. This involves publication in the media of state government defaulting so that the public will hold them accountable.

Information system: Along with the states, we are presently building an ICT platform and network to foster an electronic real time disease reporting

mechanism. However, funding has been a limiting factor in the endeavour and also the ability of the states to either engage personnel that are ICT compliant or to train existing personnel for substitute. The Federal Ministry of Health in 2012 distributed complete computer system to 153 local governments to ensure real time data reporting. More Local governments will benefit from this programme in 2013.

The National Health Act when it comes on stream will also help us to improve funding as there is provision for the establishment of the National Primary Health Care fund which will also include an emergency fund for the management of health emergencies including epidemics.

Ill health, poverty and ignorance: It has long been established that ill health, poverty and ignorance are linked in a vicious cycle. Therefore, wealth creation in the economy will also help in disease prevention and disease control. However, there is need to have a sustainable, predictable means of paying for health service and the ideals of Universal Health Coverage which includes universal health insurance. Presently, health insurance is voluntary in Nigeria and therefore depends on our ability to market and accept the various products advertised by the National Health Insurance Scheme which includes-social health insurance, community based health insurance programme and voluntary contributor health insurance programme. In addition, there are some private health insurance schemes. However, through a combination of constitutional provision and appropriate legislation, we could move from voluntary to compulsory social health insurance scheme.

Health education: There is also need to intensify current efforts at wider health education which in recent times has included the use of innovative approaches such as traditional institutions and faith based organizations. We also suggest that health education as a subject in primary and secondary schools should also include an end of course assessment.

Public health laboratories: Building of public health laboratories should not be left to the federal government alone. States can build one public health laboratories in each state which can be increased to one per senatorial zone. As

more of our private medical laboratories gain standard accreditation through the on- going laboratory quality improvement programme: Stepwise Laboratory Improvement Towards Accreditation (SLIPTA) by the Medical and Laboratory Science Council of Nigeria, there will always be room for public private partnership as well as increasing the number of laboratories participating in public health programmes.

Research: we must stop paying lip service to issues relating to research. Under my watch as Honourable Minister of Health, the Federal Ministry of Health has for the 2013 budget allotted more funds to research institutes under it. Furthermore, a recent meeting between Federal Ministry of Health and Federal Ministry of Education has led to the inclusion of our research institutes as beneficiaries of Tertiary Education Trust (TET) Fund. Of course, a lot needs to be done in the funding of our research institutions. Our researchers can also help themselves and the country by producing bankable proposals that can attract sponsorship from international research funding organizations such as National Institute of Health, USA. This is one area where the Nigerian Academy of Science with its global network and formidable stature can lend a hand.

NCDC: We are working hard towards the establishment of the Nigeria Centre for Disease Control (NCDC), as an autonomous parastatal of the Federal Ministry of Health. This is because for the NCDC to fully achieve the objectives for its establishment, it should be removed from the bureaucratic constraints of the civil service.

As part of its corporate social responsibility, the media should also contribute its quota by disseminating information on public health issues free of charge or at least heavily subsidized. A situation where they charge commercial rates for carrying public health information is condemnable and they may lose their moral right to criticize other stakeholders.

We are the first country to ever hold meeting with our neighbours on cross border health challenges. Nigeria and her neighbours need to recommit themselves to the protocol they established in 2010 for the control of cross border transmission of diseases.

The FMOH is establishing a call centre at the NCDC which will enable any citizen of Nigeria to report outbreak of diseases to NCDC. The numbers are toll free and we are going to work with National Communication Commission (NCC) and the mobile networks to reduce these numbers to three digits that will be easy to remember. The numbers are 08132007080, 08053189161, 08188194596, and two land lines 07098734356-7.

THE ESSENCE OF MY MESSAGE

Simply put, what we have discussed are the core elements of Public Health. Someone has defined Public Health as a collective response to the challenges of diseases. The key phrase is collective response. I therefore restate that Public Health is the responsibility of every one: all of us. Everyone has a role to play. You the public before me today, the ordinary citizen, the ordinary resident, the academia, the media, the civil society, all tiers of government, private sector, organized, formal and informal. Of course, it is the job of the federal government to provide leadership in this collective effort. This it must do and this we are doing. However, without the support of other stakeholders afore mentioned, we cannot achieve our goals.

We know what to do and what we have to do. There is no reason why we cannot do what we have to do.

We are not helpless.

I thank you for your attention.

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