Enhancing Public Health Disease Surveillance, Detection, Diagnosis and Containment Capability in Nigeria.

A paper presented to the Meeting of Experts of States Parties to the Biological Weapons Convention, Holding from 24th to 28th August, 2009, in Geneva, Switzerland.
Introduction

Epidemics have been among the most frightening and disruptive of natural disasters since the Middle Ages.
But scientific research has since illuminated the causes of many diseases and provided tools to control and eliminated them.
by the middle of the 20th century, many researchers regarded the diseases as a significantly diminished threat
However, explosive international travel and commerce have implicated human in the spread of diseases including SARS, Avian flu, Swine flu and drug-resistant malaria.
it is possible to travel between most places in the world in less time than the incubation period for many infectious diseases.
Travel has not only become increasingly rapid, but also more pervasive in once-remote areas that serve as both sources and sinks for emerging infectious diseases.
Consequently, it is now clear that the threat of epidemics and pandemics remains a current, and even urgent risk.
Recent outbreaks have underscored the essential role early detection systems play in mobilizing rapid response.
These pandemics have exposed glaring deficiencies in the world's disease-surveillance systems.
Because of the changing pattern of infectious disease threats, countries need to assess regularly the targets of their overall surveillance and response systems.
A key to successful defence against threat to public health, whether naturally occurring or deliberately caused, is:

- early detection
- identification
- monitoring of disease progression in a community.
Without these early detection systems, the consequences of outbreaks of infectious disease and human exposures to agents would take a much greater toll.
Presently most developed countries have some form of national surveillance system and the ability to detect all kinds of diseases
developing countries lack infrastructure or capacity to effectively manage situations involving highly pathogenic organisms
These countries, rely mostly on individuals who are not adequately equipped, to handle disease detection.
There is thus an urgent need to build or strengthen national and regional capacity particularly in developing countries where potential outbreak of infectious disease is high.
Nigeria like most developing countries suffer from inadequate infrastructure for proper diagnosis and treatment of disease.
most of the laboratories and public health centres in the country have only BSL-1 capacity
Even basic specialized equipment like the bio-safety cabinets and electric generators are lacking in some cases.
In 2000 the World Health Organization ranked the Nigerian health system in 187th place out of 191 countries evaluated.
PROBLEMS

1. Deterioration which occurred over the years
2. Demand for maintenance of the Primary health care system is enormous
3. Lack of infrastructure, skills and capacity
With 140 million people, 774 local government areas, vast area of land covering 923,768km sq and bordering Benin, Niger, Chad and Cameroun, it is almost impossible to adequately fund the Public Health System in Nigeria.
There is thus an urgent need for infrastructural development and capacity building in the Nigerian Public Health System.
Without this it will be difficult for the Nigerian Public Health system to meet up with the obligations of managing the current global threats of disease outbreaks and potential bioterrorism.
Nigeria on its part has made substantial progress towards enhancing the nation's capability to rapidly detect disease within our communities.
2008

Nigerian government in collaboration with the Centre for Disease control established the Field Epidemiology and Laboratory Training Program
Objectives

• Strengthen capacity to respond to emergencies
• Strengthen public health and Veterinary surveillance systems
• Strengthen laboratory participation in surveillance and field investigation
• Strengthen the linkage between public health and veterinary epidemiology
• Conduct research activities on priority public health problems
• Improve communications and networking within the country and throughout the region on public health issues.
Current activities of NAC&BWC

- National Policy on the movement of microorganisms – draft act
- Publication of a manual on Bio-safety
But much still needs to be done
Foot & Mouth Disease and
Avian Influenza Laboratories Complex
Quality Control Laboratories Complex
AVIAN INFLUENZA DIAGNOSTIC TEAM
Nigeria requires technical assistance and cooperation in the following areas:

1. Provision of Biosafety Level (BSL) 3 laboratory

- Presently non is available in Nigeria
2. Equipping the laboratory with facilities for the molecular diagnosis of highly pathogenic organisms
3. Capacity building in molecular biology, bioinformatics, proteomics, genomics, epidemiology and bio-safety
4. Training of Twenty Researchers/ Scientists and ten technologists/ technicians in various techniques
Nigeria remains proactive in efforts to ensure full realizations of the BWC objectives
Attaches particular importance to article X of the BWC which provides for Assistance and Technical cooperation to State Parties against biological weapons attack.
Finally, Nigeria is committed to working with the BWC to protect our national and global health
Nigeria looks forward to receiving assistance from the BWC at this meeting as we strive to protect Nigeria’s public health system from epidemics, terrorism and other public health emergencies.
Thank you for your Attention!