First Annual Report of the Nigeria Centre for Disease Control

(AUGUST 2016 – JULY 2017)

NCDC
NIGERIA CENTRE FOR DISEASE CONTROL

FEDERAL MINISTRY OF HEALTH
NIGERIA CENTRE FOR DISEASE CONTROL

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NIGERIA CENTRE FOR DISEASE CONTROL

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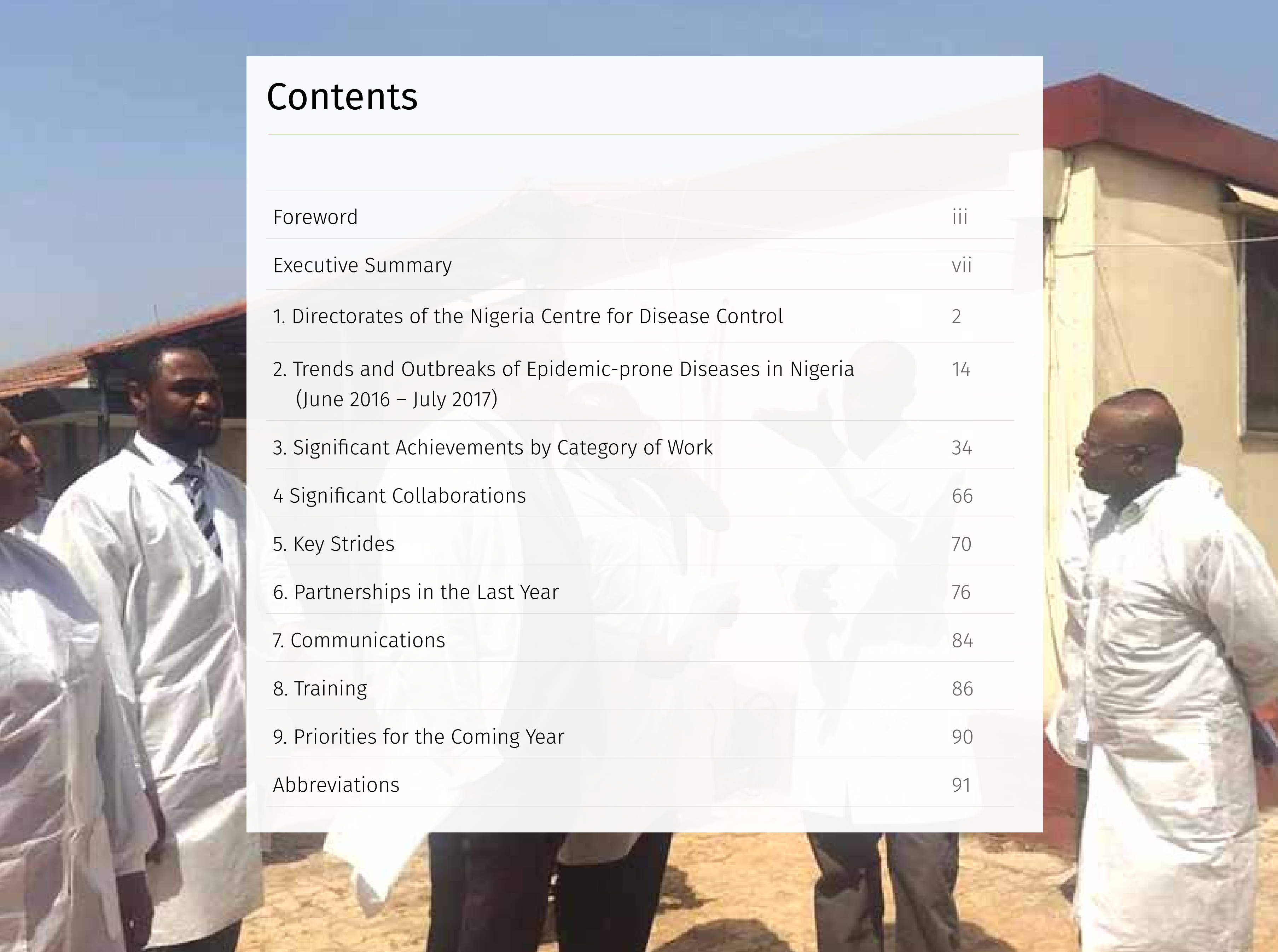


Contents

Foreword	iii
Executive Summary	vii
1. Directorates of the Nigeria Centre for Disease Control	2
2. Trends and Outbreaks of Epidemic-prone Diseases in Nigeria (June 2016 – July 2017)	14
3. Significant Achievements by Category of Work	34
4 Significant Collaborations	66
5. Key Strides	70
6. Partnerships in the Last Year	76
7. Communications	84
8. Training	86
9. Priorities for the Coming Year	90
Abbreviations	91

Foreword

About a year ago, on the 15th of August 2016, I assumed office as the National Coordinator/ Chief Executive Officer of the Nigeria Centre for Disease Control (NCDC), our national Public Health institute, following my appointment by His Excellency, President Muhammadu Buhari. This was an unexpected appointment which I nonetheless accepted with a huge sense of responsibility.

At NCDC, I found a small but excellent team, totally committed to our mandate of protecting the health of Nigerians, despite being stretched rather thin. Together, we identified gaps that needed to be filled and quickly got on with the task of building a strong national Public Health institute. This report provides details on the progress we have made together over the past year, from August 2016 to July 2017.

We have developed a shared vision and mission supported by a clear strategic plan and have worked across all sections of our core mandate of detecting, investigating, preventing and controlling diseases of national and international public health importance. We have also detailed and enhanced the administrative and other supportive roles as they pertain to the robust implementation of our strategy plan.

My reflections on our activities during the year under review have led me to the conclusion that despite the many successes we have recorded, there is still room for improvement. Lessons have been learned which can only improve our performance and impact. Our success has been achieved despite working within a context of constrained financial resources and historical skepticism of the potential for good work in a public parastatal.

Chikwe Ihekweazu

DR **CHIKWE IHEKWEAZU**
National Cordinator /Chief Executive Officer,
Nigeria Centre for Disease Control (NCDC)

Reactive Meningitis C vaccination campaign in Zamfara State during the 2016/2017 outbreak

I am eternally grateful for the commitment shown by the leadership of the Federal Ministry of Health- the Honourable Minister, the Minister of State and the Permanent Secretary, towards the development of a vibrant, modern and effective NCDC that is able to assure the country's health security.

My gratitude also goes to the Senate Committee on Primary Health Care and Communicable Diseases as well as the House Committee on Health for their help in steering this ship to better serve Nigerians.The increasing confidence, cooperation and support of many of our local and international stakeholders and partners has been instrumental in no small measure to the successes and progress we have achieved over the past year. Without them, our work would have been exponentially more difficult and my gratitude goes to them.

Our vision is to earn the confidence of Nigerians and the global community

in the NCDC as the body ready and able to protect the health of citizens through information-sharing, and timely response to health concerns in an inclusive manner. We stand ready to take on this task, working in partnership with the Nigerian people, while assuring of our resolve to strengthen our role and contribution towards improving public health in Nigeria as a veritable National public health institute.

Finally, I must extend my profound gratitude to the Team at the NCDC from the drivers to the directors. They are an incredible team, with who I am not only truly privileged to work with, but have also made this exciting journey easier by the expertise and dedication each member brings. It would have been impossible to attain this level of progress without the team spirit and support. Thank you for all the work you do. We are as always, #strongertogether! Let's keep pushing!

Advocacy visit to traditional rulers in Sokoto State during the 2016/2017 Meningitis outbreak

Supporting the oral cholera vaccination campaign in Borno State

Executive Summary

The Nigeria Centre for Disease Control (NCDC) was established in 2011 as a parastatal of the Federal Ministry of Health (FMoH) with the mandate to coordinate the public health response to communicable diseases, environmental hazards, health emergencies and other diseases of public health significance. The Bill for the formal establishment of the NCDC as a full parastatal of the Federal Government was approved by the Federal Executive Council on the 15th of March 2017 and is under legislative review at the National Assembly.

Upon my assumption of office, I met progress in different areas, notably the co-ordination of the response to the 2014 Ebola Virus Disease (EVD) outbreak in Nigeria, and provision of support to the Governments of Liberia and Sierra-Leone in terms of controlling their EVD outbreak

Dr Chikwe Ihekweazu
National Cordinator /CEO, NCDC

The NCDC Team- Members of staff of the Nigeria Centre for Disease Control

The history of the establishment of the NCDC dates back to 2007 when the 51st National Council on Health in Lagos endorsed its establishment. In 2011, the NCDC project was initiated via a Memo signed by the Permanent Secretary (FMoH) moving the Epidemiology Division of FMoH, the Avian Influenza project including its laboratories, and the Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP)[1] into a single institution to form the NCDC, which was then headed by its first Chief Executive Officer, Professor Abdulsalam Nasidi.

Upon my assumption of office, I met progress in different areas, notably the co-oordination of the response to the 2014 Ebola Virus Disease (EVD) outbreak in Nigeria, and provision of support to the Governments of Liberia and Sierra-Leone in terms of controlling their EVD outbreak. The NCDC had also responded to local outbreaks of Lassa fever, Cholera and Cerebrospinal Meningitis. The Centre at the time was in receipt of two grants from the United States Centers for Disease Control and Prevention (US CDC) for Influenza Surveillance and Global Health Security Agenda. A building had been identified to serve as the National Reference Laboratory,

1 *A two-year in-service training programme in applied epidemiology and public health laboratory practice, created to be a long-term programme within the Nigeria Centre for Disease Control (NCDC)/Federal Ministry of Health and the Federal Ministry of Agriculture and Rural Development. In collaboration with the University of Ibadan and Ahmadu Bello University in Zaria, it trains medical epidemiology residents, public health laboratory residents, and veterinary epidemiology residents for leadership positions at various levels of both the Ministries of Health and Agriculture through a combination of long-term field placements and didactic courses.*

OUR OFFICES ARE IN

2

CITIES IN NIGERIA:
ABUJA (2), LAGOS (1)

NCDC WORKS THROUGH

6

DIRECTORATES
(FOUR ARE TECHNICAL DIRECTORATES)

THE NCDC TEAM HAS

121

MEMBERS OF STAFF
(AS AT JULY 31, 2017).

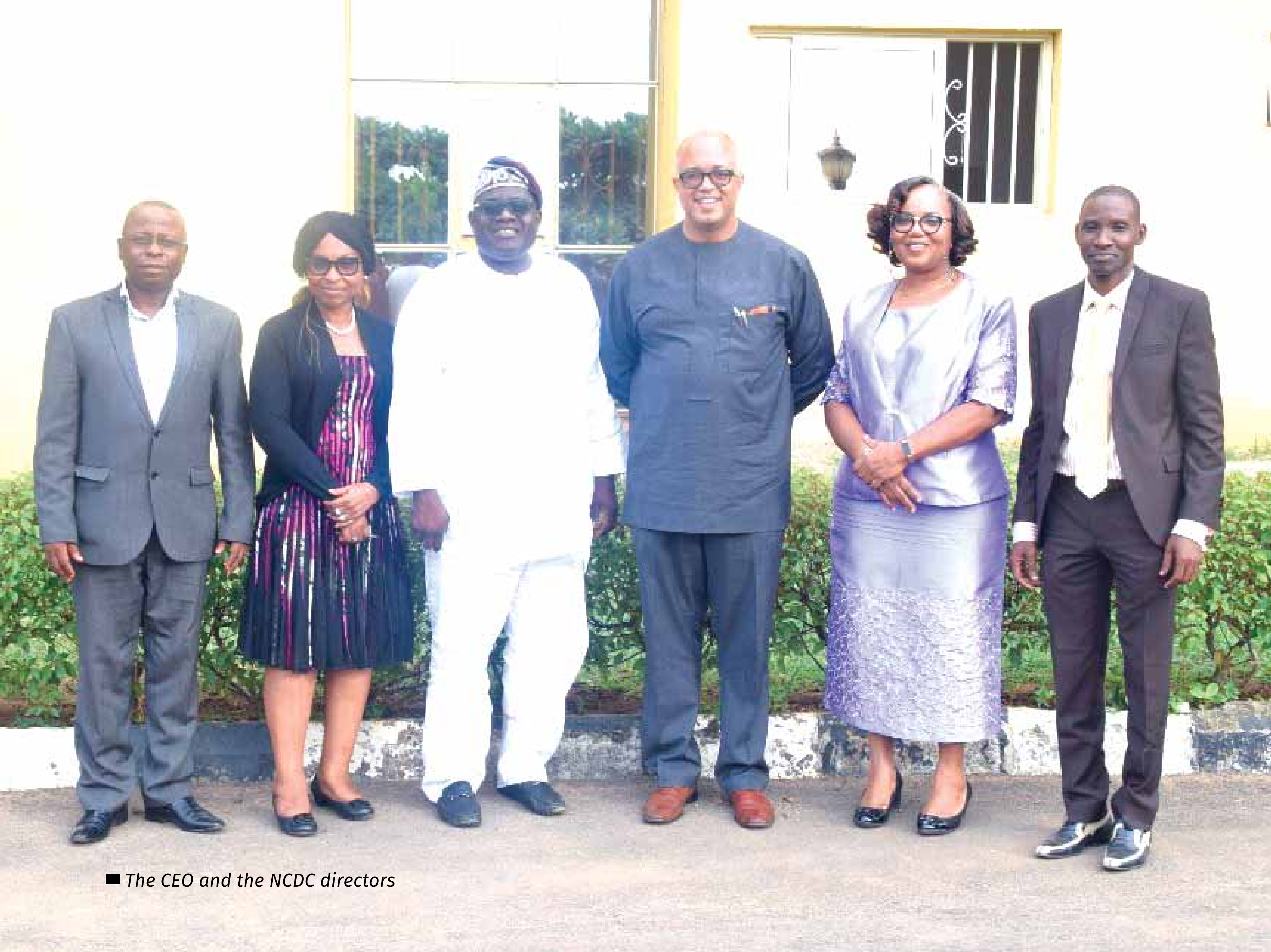
albeit not functional at the time.

The NCDC had also been selected by the ECOWAS Presidents to serve as the West African Regional Centre for Disease Control.

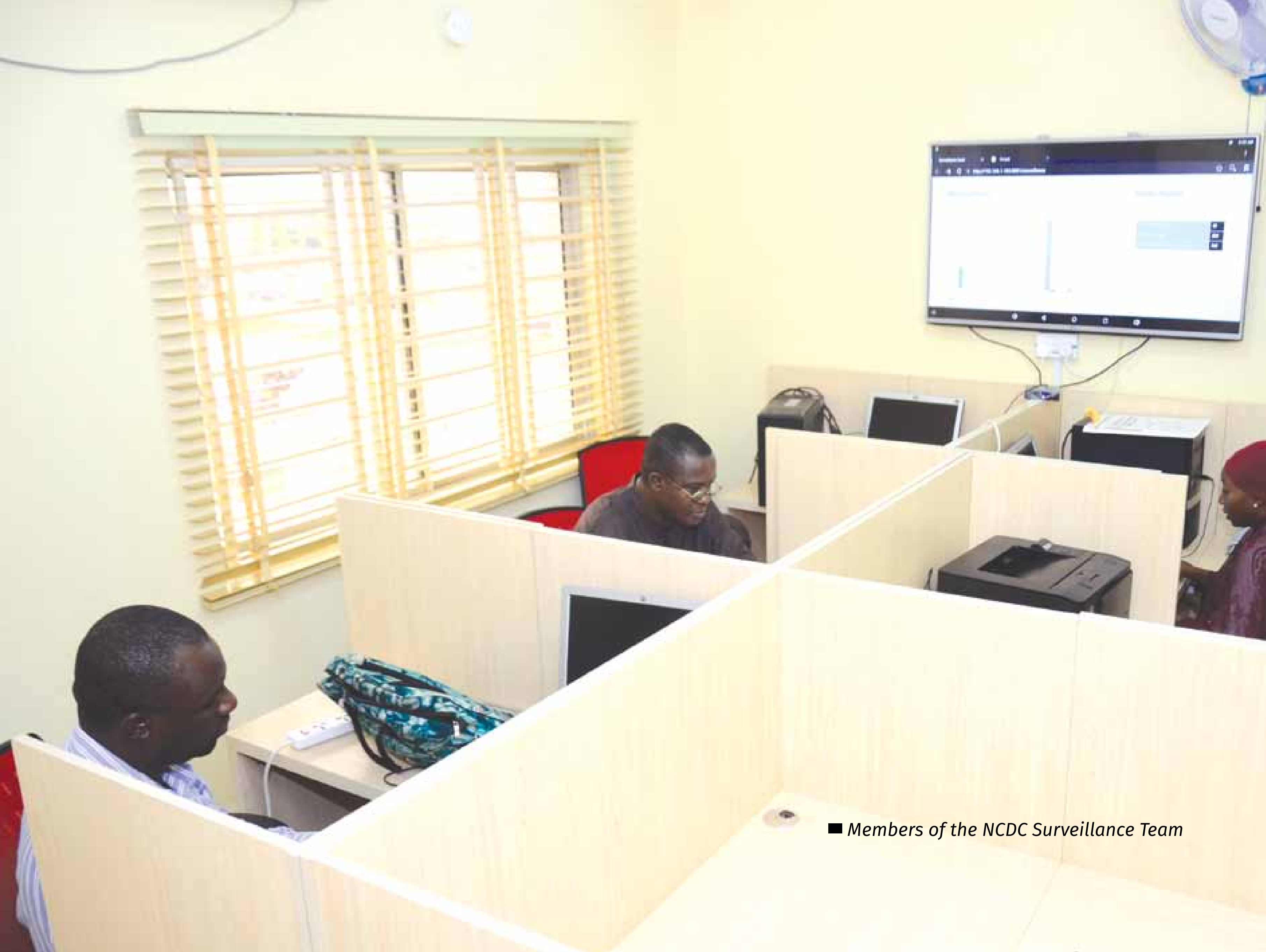
The Federal structure of Nigeria means that each of the 36 States and the Federal Capital Territory (FCT) has responsibility over their health systems including disease control activities. NCDC works at the state level, with state Epidemiologists and Disease Surveillance and Notification Officers (DSNOs) who primarily act as disease detectives at this level. The work we do at the NCDC would be impossible without the effective role played by State Epidemiologists. This therefore underscores the importance of every State Government giving their State Disease Control Team the required resources and support to enable them to protect their citizens. Diseases know no borders and any state in Nigeria can be affected by an outbreak.

With the absence of a ratified bill establishing the NCDC, the agency is currently unable to recruit directly and depends on recruitment done by the Civil Service to the Federal Ministry of Health and other Government agencies. It is however gratifying to note the work done from August 2016 to July 2017, placing the NCDC on a sound legal footing, which includes the approval of the Bill by the Federal Executive Council chaired by Mr President on the 15th of March 2017 and forwarded to the National Assembly for passage into law on the 19th of October 2017. We are hopeful that the process will be concluded as soon as possible.

The NCDC currently works through six directorates, four of which are technical. Each directorate is led by a Director who reports to the Chief Executive Officer (CEO), whilst the CEO reports to the Honourable Minister of Health who has oversight responsibilities for NCDC. The NCDC Team (which includes colleagues from the Central Public Health laboratory in Lagos) has grown from about 70 members of staff in August 2016, to 121 as at the end of July 2017. This is following deployment of colleagues from the FMoH, other government parastatals as well as other staff supported by our projects notably through the US Government.



The CEO and the NCDC directors



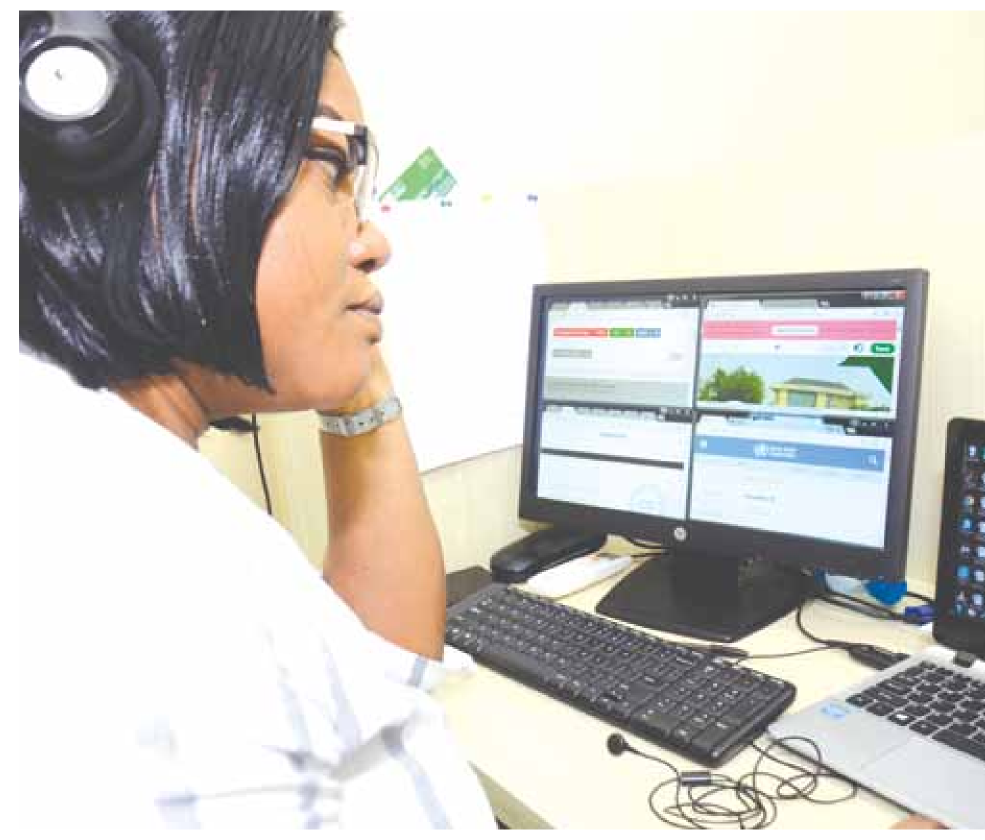
Members of the NCDC Surveillance Team

1. Directorates of the Nigeria Centre for Disease Control

1.1 Disease Surveillance and Epidemiology

This Directorate collects, collates and analyses data on priority diseases from the 36 States and FCT to detect outbreaks and inform policy. This is done through the Integrated Disease Surveillance and Response (IDSR) framework. The Team also implements the International Health Regulations (IHR 2005) cross-border coordination, verification, and notification, ensuring the health security of the country.

Led by a Director- Mrs Olubunmi Ojo, the Directorate has two Deputy Directors, two Medical Officers and five Scientific/Environmental Health Officers who work across various roles in disease surveillance and epidemiology. Three Epidemiologists from the US CDC through the African Field Epidemiology Network (AFENET) and the University of Maryland Baltimore (UMB) also work full-time with the Department. In addition, the US CDC has provided support through a Surveillance and Information system specialist, who works closely with the NCDC.



Daily bio-surveillance and monitoring at the NCDC Connect Centre

The NCDC Incident Coordination Centre

1.2 Health Emergency Preparedness and Response

The Directorate of Health Emergency Preparedness and Response is responsible for the management and mitigation of the impact of public health disasters and emergencies.

In previous years, the Directorate focused mainly on response activities, and has now also taken the lead on preparedness activities including the development of guidelines, checklists for disease preparedness to support States, as well as the stockpiling and prepositioning of medical and other supplies.

During the 2016/2017 Meningitis outbreak, the Directorate led the establishment of an Emergency Operations Centre (EOC) located at the NCDC Headquarters, which took responsibility for the coordination of Meningitis response activities across the country. The Directorate has also supported the rebuilding of the surveillance system and supported the response to disease outbreaks in the North-East of Nigeria.

The area of Health Emergency Preparedness and Response is one in which we have had limited but growing expertise. In the last one year, an NFELTP trained Epidemiologist joined the Directorate from the Department of Family Health at the FMOH, and a Pharmacist from the National Agency for Food and Drug Administration and Control (NAFDAC) was seconded to the NCDC. The US CDC has also supported the Centre with an Epidemiologist who works on a day-to-day basis with the Team. In total, there are eight people currently working in this Directorate.

Dr. John Oladejo who leads this Directorate was part of the US CDC Public Health Emergency Fellowship from July toNovember 2017. This has been an exciting opportunity for the Directorate in terms of strengthening of human resource capacity.

Stockpile of medical supplies used to support States during outbreaks

NCDC National Public Health Reference Laboratory, Gaduwa, Abuja

1.3 Public Health Laboratory Services

The Directorate of Public Health Laboratory Services manages the national and regional Reference Laboratories. It also coordinates the Central Public Health Laboratory (CPHL) in Lagos, a campus of the National Reference Laboratory and a WHO-designated Reference Laboratory for the diagnosis of Measles, Rubella, and Yellow Fever. The Directorate maintains and manages the network of NCDC collaborating laboratories which are spread across the six regions of the country.

The Public Health Laboratory Services Directorate provides reference diagnostic services for diseases of Public Health importance in the country including Viral Haemorrhagic Fevers (VHFs), Meningitis, Cholera, Measles, Yellow Fever, Rubella, Polio and others. It also coordinates the deployment of the mobile laboratory during outbreak response activities. The Team coordinates and manages the National Public Health Laboratory Basic Laboratory Information System (BLIS) for the country.

The Directorate is led by Dr Adebayo Adedeji who oversees all activities of the laboratory, supported by Mrs Nwando Mba who is the Director of the National Reference Laboratory. The Team also includes medical laboratory scientists, microbiologists and an epidemiologist, as well as administrative support staff.

Lassa fever diagnosis at the NCDC National Reference Laboratory, Gaduwa, Abuja

NCDC monthly Journal Club meeting (Third Wednesday in the month)

1.4 Prevention and Programmes Coordination

The Directorate of Prevention and Programmes Coordination develops health promotion and disease prevention plans which address priority endemic infectious diseases and non-communicable diseases. Led by Dr Joshua Obasanya, the Directorate conducts research to inform evidence-based policies and practice, with a view to making evidence-based practice the foundation of all NCDC programmes. The Team also works with other government agencies and partners to promote partnerships and collaborations, especially towards strengthening the One Health approach.

In April 2017, the Directorate coordinated the development of a National Antimicrobial Resistance (AMR) Situational Analysis and Action Plan, as well as the enrolment of laboratories into the Global Antimicrobial Resistance Surveillance System (GLASS). The Directorate has a small Team made up of an Epidemiologist and a Risk communication specialist.

Leading conversation with colleagues from the West African region.

Receiving guests at the NCDC Headquarters in Jabi, Abuja

1.5 Administration and Human Resource

The Directorate of Administration and Human Resources has the responsibility of ensuring the effective management of Human and Material resources of the Centre. The Directorate runs its activities under two sub-divisions; Human Resources and General Services.

The Human Resource Team is responsible for establishment matters such as recruitment /appointment, promotion, Training and staff welfare and discipline. The General services aspect carries out activities around management and maintenance of all the Centre's assets including; buildings, machines, vehicles and all equipment, as well as management of the NCDC's stores.

Administrative matters

Head of Accounts and Finance of the Nigeria Centre for Disease Control discusses with his colleague

1.6 Finance and Accounts

The Directorate of Finance and Accounts is charged with the responsibility of ensuring accountability, transparency, and probity in the course of providing financial and accounting services on behalf of the NCDC. These functions are carried out by the management of receipt, custody and disbursement of funds in accordance with the laid down extant rules; Financial Regulations (FR), Public Service Rules (PSR), and other Financial /Treasury circulars. The Department also ensures compliance to the established Accounting system, Standards and Controls as approved by the Accountant General of the Federation (AGF) in line with Federal Government Public Reforms and International best practices.

Led by a Chartered accountant- Mr. Matthew Umoh – the directorate has six members of staff responsible for various accounting procedures. To ensure accountability, the Legal, Procurement and Internal Audit sections of the agency are Units that report directly to the CEO.

Review of accounting books by the NCDC Head of Internal Audit

Outbreak response activities

2. Trends and Outbreaks of Epidemic-prone Diseases in Nigeria (June 2016 – July 2017)

Nigeria has adapted and domesticated the 2010 WHO Technical Guidelines for Integrated Disease Surveillance and Response (IDSR) in the African Region into the 2013 Technical Guidelines for Integrated Disease Surveillance and Response (IDSR) in Nigeria[1] . The country's guidelines identified 41 priority diseases, with five of these highlighted as epidemic prone diseases, namely Cholera, Measles, Cerebrospinal (Meningococcal) Meningitis, Viral haemorrhagic Fevers (Lassa Fever, Dengue) and Yellow Fever. Suspected cases of these five diseases are to be reported immediately through the IDSR system, from the Local Government, through the state, to the NCDC at the federal level.

This section focuses on the trends of these five diseases (as well as Polio) in the last year, reflecting on activities carried out to improve the disease preparedness, surveillance and response structure.

Disease Trends of some Priority Diseases

Over the last year, we have generallly seen an increase in reported cases of diseases such as Lassa fever and Cholera. While an in-depth study is required to have a better understanding of this trend, the reason may be linked to increased sensitivity of the surveillance system as a result of:

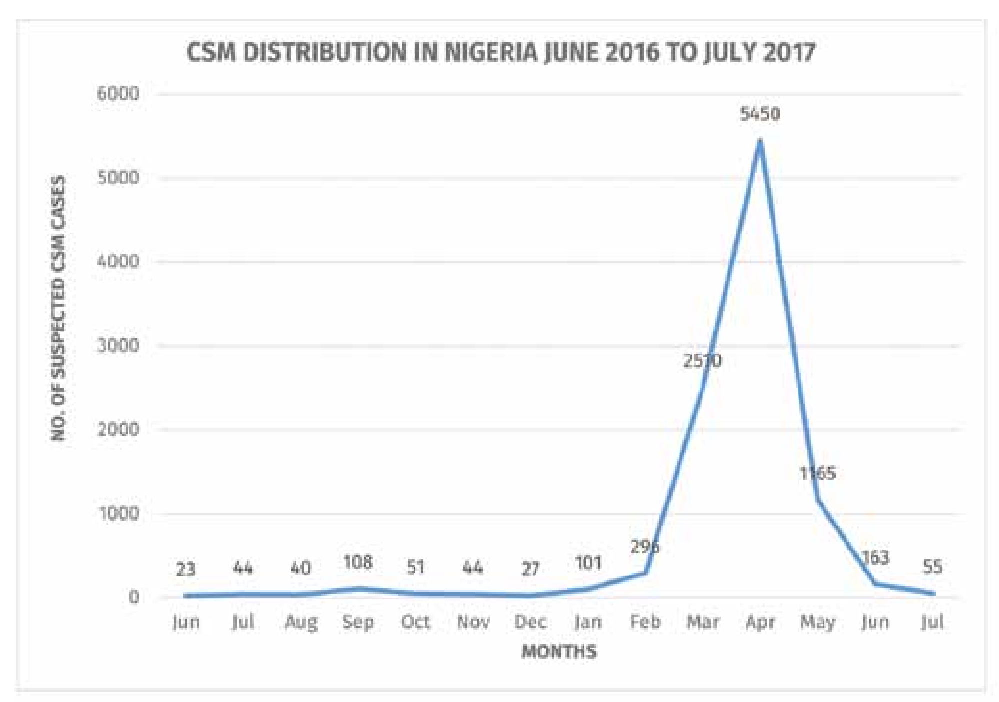
- the introduction of an event-based surveillance platform, *(See event-based surveillance section)*
- expansion of the mobile SMS-based IDSR reporting tool (mobile Strengthening Epidemic Response Systems -mSERS) and
- close and intensified communication and follow up with States

In the last year, the NCDC has also revamped its laboratory system, and is in the process of developing a network a collaborating laboratories in the six regions, to diagnose and to support improved surveillance and response. Finally, with intensive communication activities, more people have become aware of these diseases, enabling increased reporting to health facilities and ensuing notification of cases.

1 *http://ncdc.gov.ng/themes/common/docs/protocols/4_1476085948.pdf*

The NCDC Team with Field Epidemiology Residents supporting the Meningitis outbreak response in Sokoto State

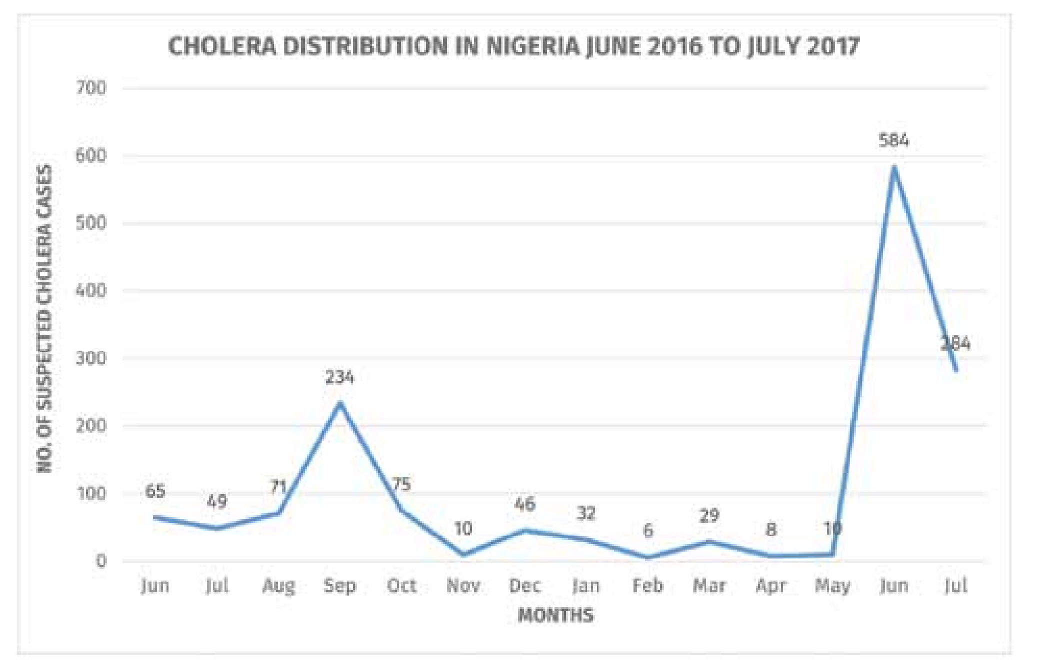
An analysis of the trend of **Cerebrospinal Meningitis (CSM)** shows that the number of suspected cases fluctuated between 23 and 108 per month between the months of June 2016 to January 2017. From January 2017, the numbers began to rise gradually, and in February 2017, the numbers were triple that seen in January 2017. An outbreak of CSM which began in Zamfara State in December 2016, was not reported through the IDSR routine reporting system until the end of January 2017, which was when NCDC's Rapid Response Teams (RRT) were deployed to support the states in reporting and other response activities. Thereafter, there was a dramatic increase in reported suspected cases which peaked at 5,450 cases in April 2017. This was followed by an initial sharp decline and subsequent gradual decline which culminated in 55 suspected cases in July 2017.



CSM Trend Graph

Supporting Cholera outbreak response activities in Kebbi State

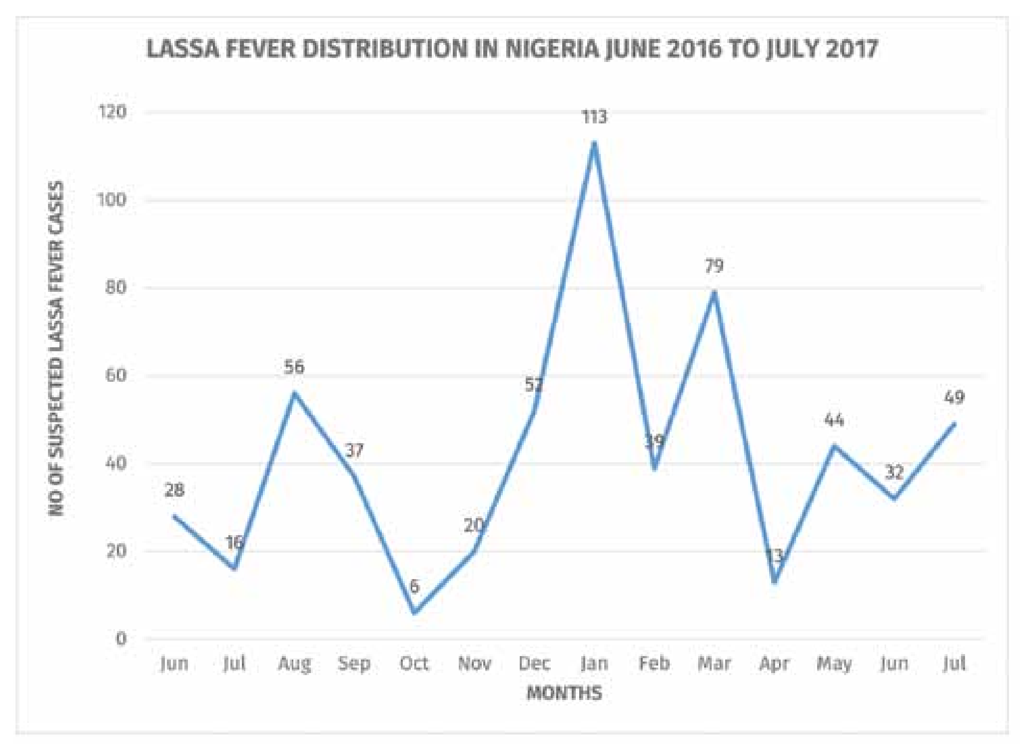
In June 2016, there were 65 suspected cases of **Cholera**. This gradually increased and peaked with a record of 234 cases in September 2016, following which the numbers gradually declined and fluctuated between 10 and 46 monthly from November 2016 to May 2017. In June 2017, the NCDC observed a sharp rise in suspected Cholera cases, increasing to 584 which was followed by a steep decline to 284 in July 2017. Nigeria usually experiences an increase in suspected Cholera cases during the rainy season, when floods occur with attendant increased risk of transmission., In May 2017 therefore, the NCDC held a Cholera preparedness meeting with State Epidemiologists from some of the States that had been worst hit by previous outbreaks of Cholera, as well as stakeholders from the Federal Ministries of Environment and Water Resources, the academia and parrtner agencies. A national preparedness plan was developed at this meeting, which guided the response to the 2017 outbreak of Cholera in the country.



Cholera Trend graph

The trend of suspected Lassa fever cases in Nigeria between June 2016 and July 2017 has been an undulating one, with steep increases and decreases in the numbers of suspected cases. The lowest number of cases (6) was recorded in October 2016, and the highest (113) in January, 2017. There were peaks in August 2016 as well as January, March and May of 2017. In previous years, suspected Lassa fever cases tended to occur mainly during the dry season. This year however, the trend did not show a similar pattern, but rather what may be an all year round reporting of suspected Lassa fever cases. Despite this however, a decrease in case fatality rate was recorded compared to previous years.

An Outbreak Review meeting was held in August 2017 in collaboration with the World Health Organisation (WHO) aimed at reviewing the 2016/2017 Lassa fever outbreak. The objective was to assess the country's preparedness and response to the outbreak with the view of identifying best practices, gaps and lessons learnt



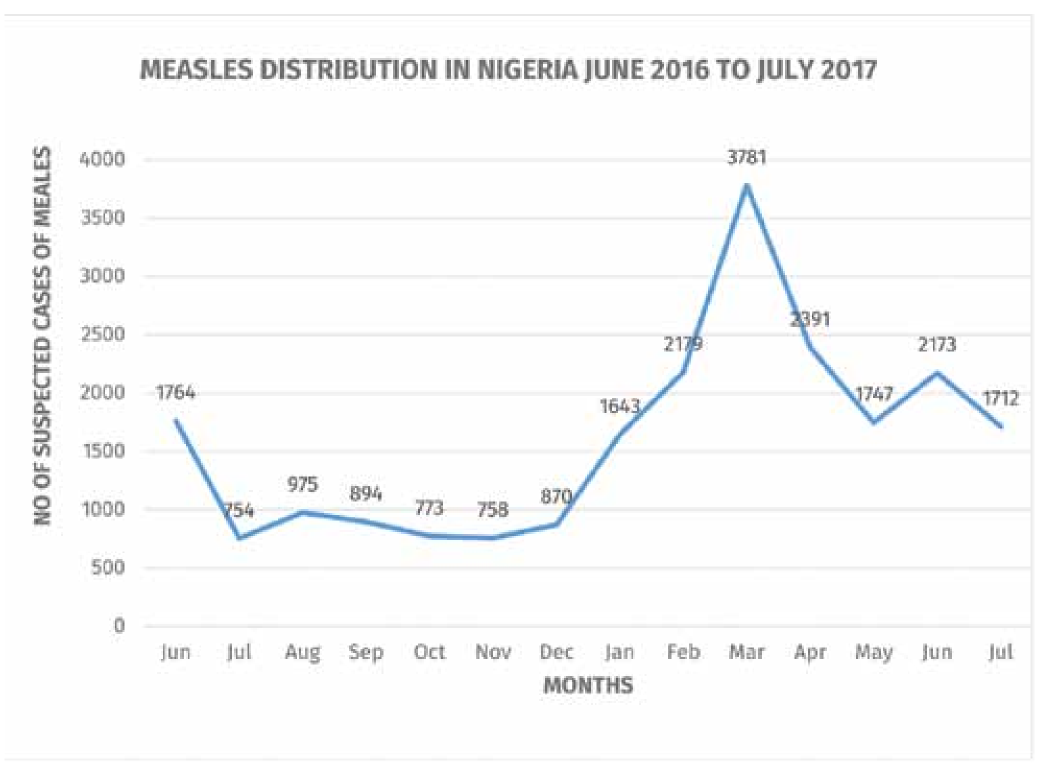
Lassa fever trend graph

With members of the National Lassa Fever Steering Committee, led by Professor Oyewale Tomori

in order to strengthen preparedness and response measures aimed at defining a better structured preparedness and response plan for Nigeria. A total of 100 stakeholders were in attendance, including state Epidemiologists and lead Case Management physicians of the 18 affected States, as well as members of the National Lassa fever control steering committee chaired by Professor Oyewale Tomori. Also in attendance were representatives from the Federal Ministries of Agriculture and Environment and partners. in Nigeria.

For every week since January 2017, a weekly situation report of Lassa fever in Nigeria has been published on the NCDC website.

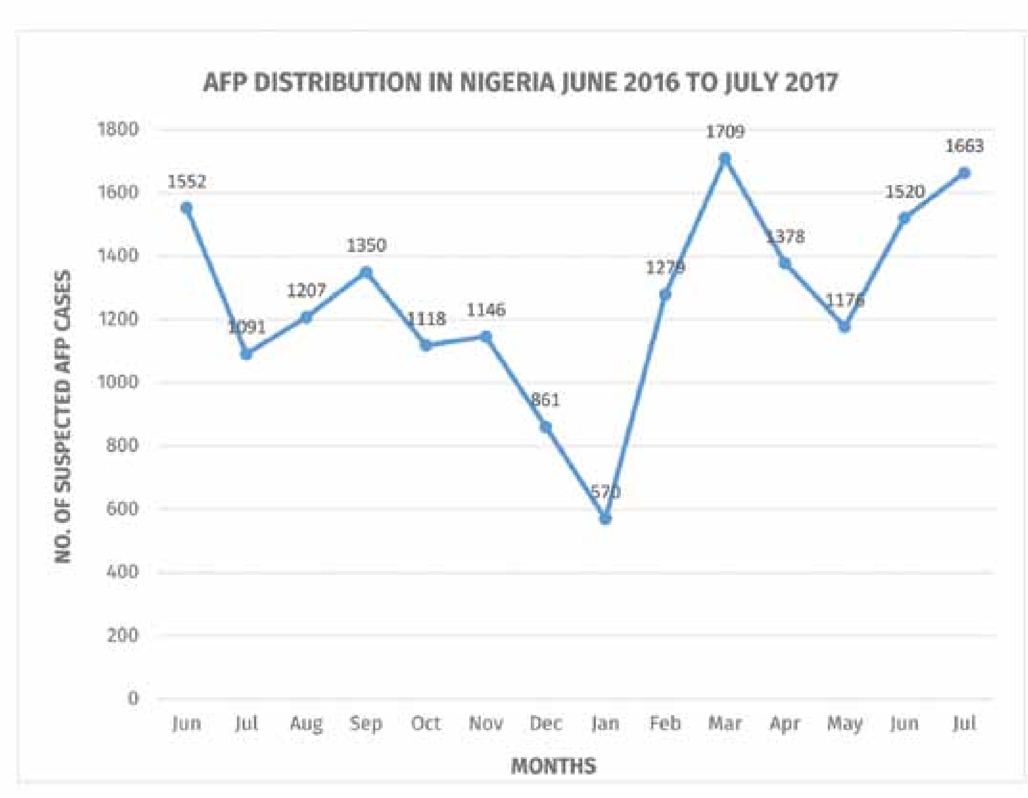
The number of suspected **Measles** cases started off in decline with the 1,764 suspected cases in June 2016, rapidly reducing to 754 in July 2016. There was no significant difference in figures for the next five months until December 2016 when the numbers began increasing gradually with a sharp rise in February to peak at 3,781 suspected cases in March 2017. The number of cases then began to decrease, though with a small peak in of 2,173 in June this year. As at July 2017, the number of suspected cases stood at 1,712. The measles surveillance system is the first system that has been formally evaluated. The aim of this evaluation was to review the system of reporting, identify gaps and solutions to improve the reporting of the disease.



Measles trend graph

Review of documents during the National Measles surveillance evaluation supported by WHO and US CDC

There was an initial decline in suspected cases of **Acute Flaccid Paralysis,** as the figures fell from 1,552 in June 2016 to 1,091 the next month. This was not sustained however as the cases gradually rose to 1,350 in September 2016. The decline that followed continued till January 2017 when the numbers again rose to 1,709 in March 2017. The following months witnessed a reduction in suspected cases between March and May but the number of suspected cases began to climb again and as at July 2017, the numbers stood at 1663. With a lot of strengthened efforts to eradicate Polio in Nigeria, there has been concerted collaboration by the government and agencies to ensure intense case finding across the country.



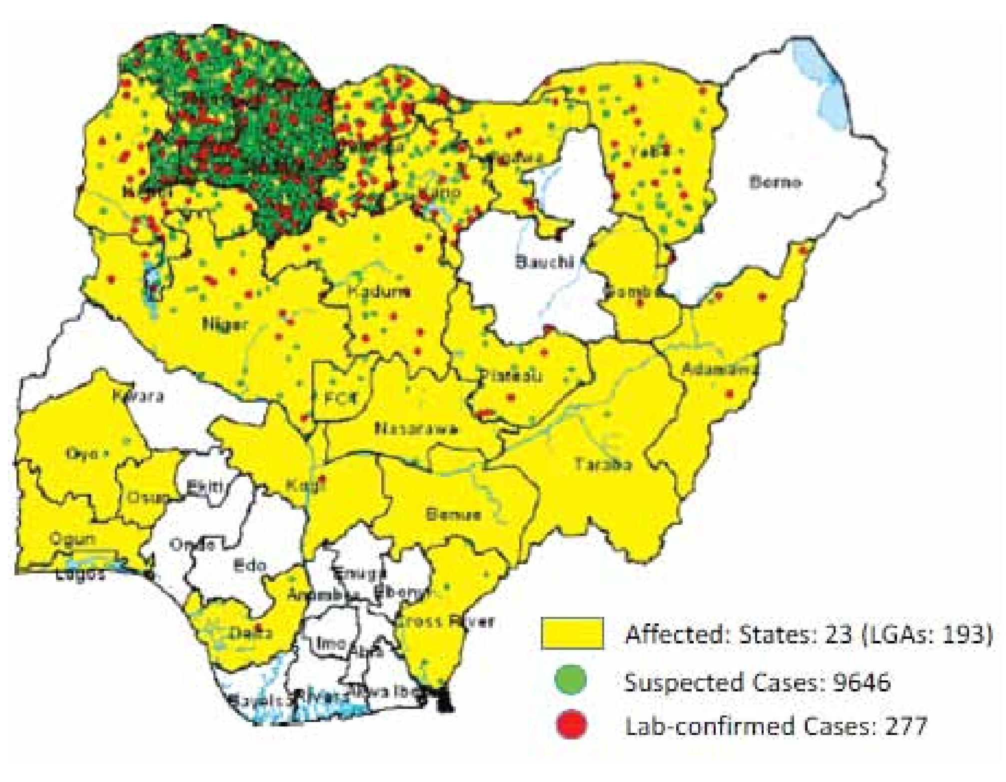
Acute Flaccid Paralysis, Trend Graph

Testing for Hepatitis E. at the National Reference Laboratory Gaduwa, Abuja

Disease Outbreaks

In the year under review, several large outbreaks were managed across the country i.e outbreaks of Cerebrospinal Meningitis, Lassa Fever, Cholera, and Hepatitis E.

The largest outbreak by far was that of Cerebrospinal Meningitis in the North of Nigeria, between December 2016 and June 2017. There were a total of 14,542 suspected cases of meningitis reported during the outbreak; 1,339 samples (9.2%) were laboratory tested; 562 (42%) were confirmed positive for *Neisseria meningitidis*, of which 370 (65.8%) were positive for serotype C. A total of 1,166 deaths were recorded. Approximately 2.2 million persons aged 2 – 29 years were vaccinated with Meningitis C-containing vaccines in states recording the highest number of cases – Zamfara, Sokoto, Yobe and Katsina States. NCDC led a

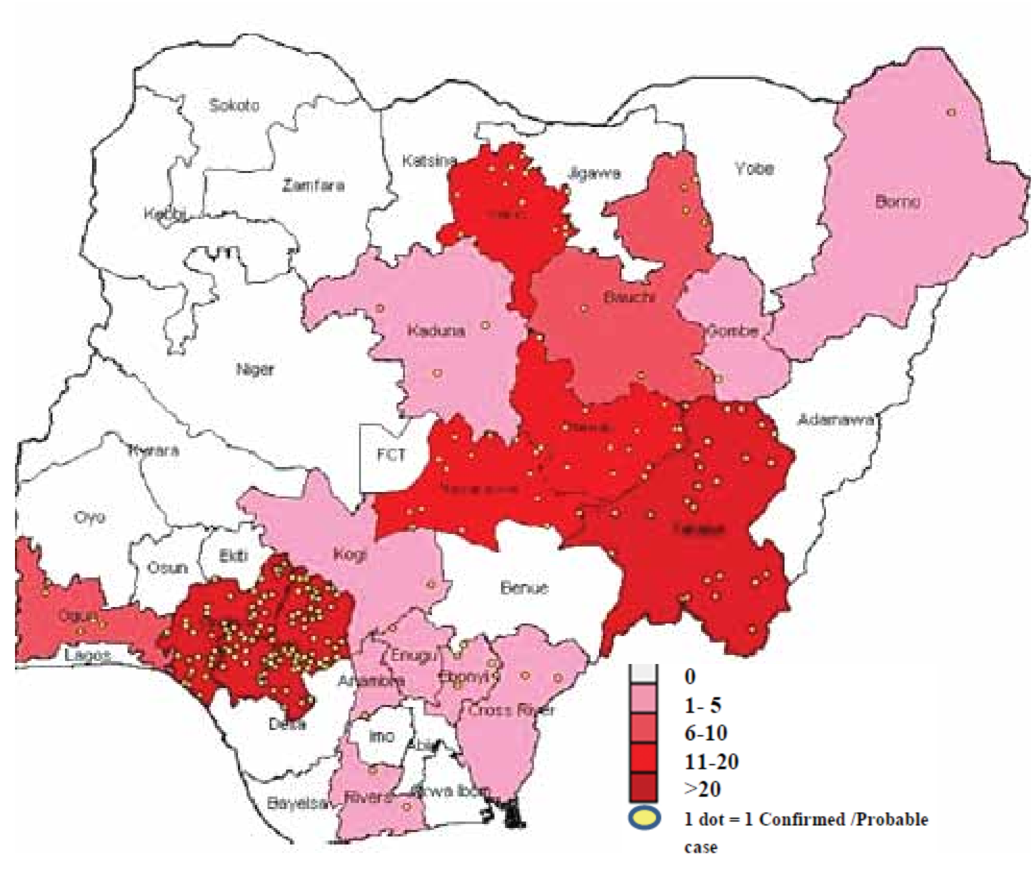


States with Lassa fever outbreak as at the end of July 2017

Children being vaccinated against Meningitis C in Kebbi State during the 2016/2017 outbreak

multi-partner team in the control of this outbreak, which was ultimately achieved, though not without the loss of over 1,000 lives. The sheer number of deaths has strengthened the NCDC's resolve to improve prevention and response capabilities working with partners and stakeholders, including the National Primary Healthcare Development Agency (NPHCDA), National Orientation Agency (NOA), National Youth Service Corps (NYSC), World Health Organisation (WHO), US CDC, United Nations International Children's Emergency Fund (UNICEF), Medical Research Council Gambia, Public Health England, Medecins Sans Frontiers (MSF), and the various States of the Federation

Since the onset of the Lassa Fever (LF) outbreak in December 2016, a total of 226 cases have been recorded as

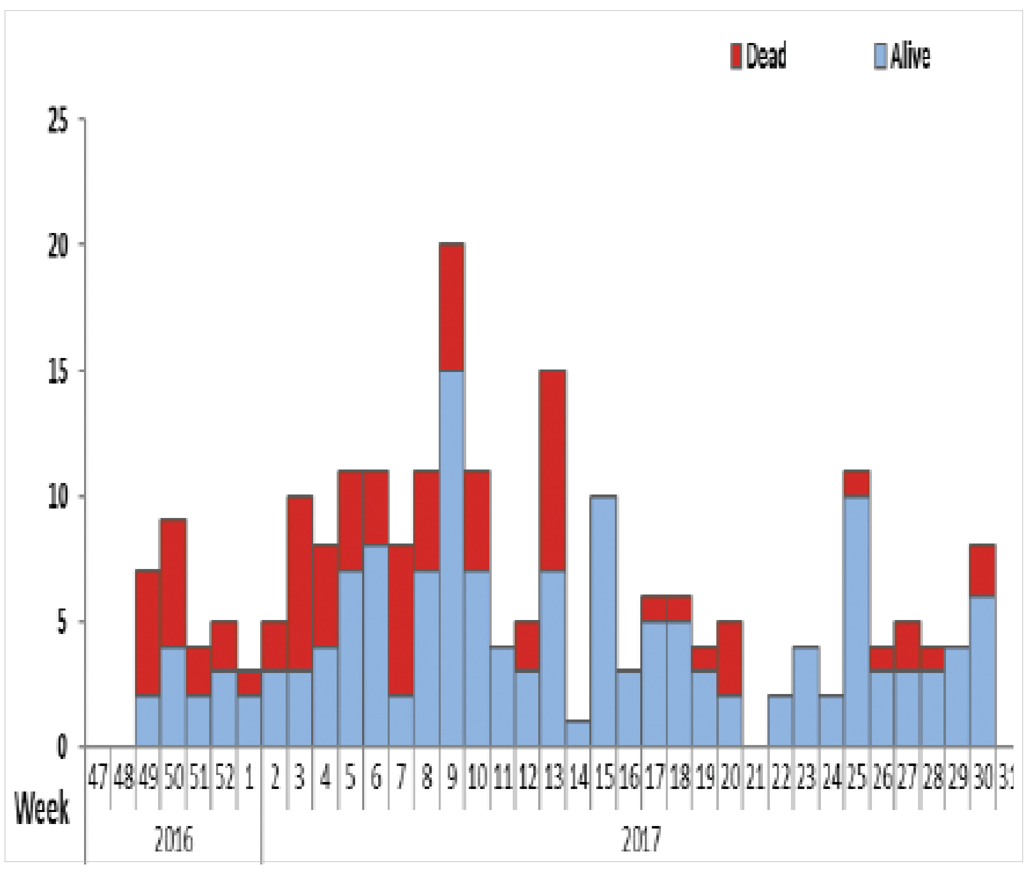


States with Lassa Fever outbreaks as at the end of July 2017

Participants at the Lassa Fever Outbreak Review Meeting supported by WHO

confirmed or probable as at the 28th of July 2017. Eighty deaths have been reported with 18 States (Ogun, Bauchi, Plateau, Ebonyi, Ondo, Edo, Taraba, Nasarawa, Rivers, Kaduna, Gombe, Cross-River, Borno, Kano, Kogi, Enugu Anambra and Lagos) having reported at least one confirmed case. The continuing reporting of cases even with the onset of the rainy season unlike in previous years, suggests either an evolving epidemiology of Lassa fever in the country or improved detection following intense public awareness campaigns that was initiated. Either way, the response to Lassa fever continued with a meeting held in August 2017 to agree new strategies for prevention and control.

Nigeria is endemic for Cholera having had confirmed Cholera outbreaks over the years. Risk factors for Cholera outbreaks which include



Epicurve of Lassa Fever as at end of July 2017

lack of potable water supply and poor sanitation, are present in many communities across the country. Recurring floods have also increased the risk in many States. As at the 28th of July 2017, three States, Kwara, Zamfara and Lagos had confirmed outbreaks of Cholera. A total of 1,978 suspected cases, 26 confirmed cases and 35 deaths were reported from the three States of Kwara, Zamfara and Lagos, while 3164 suspected cases were reported nationwide from 14 States. Kebbi and Kano States reported significant number of cases (877 and over 187 suspected cases respectively) and some deaths.

An outbreak of **Hepatitis E (HEV)** was reported in Diffa region of Niger Republic in January 2017. Following the declaration of HEV outbreak in neighbouring Niger Republic and Chad, the Borno State Ministry of

NIGERIA CENTRE FOR DISEASE CONTROL

Weekly Epidemiological Report

Preparing to respond to a Cholera Outbreak

Increasing awareness on Cholera through the Weekly Epidemiology Report

Health in partnership with the NCDC and WHO strengthened the routine IDSR system to particularly increase the case reporting rate for acute jaundice syndrome (AJS). At this point, a decision was made to test all samples collected for yellow fever surveillance for HEV to quickly report any importation of the disease.

The first suspected case of hepatitis E virus outbreak in Borno State was reported in Borno State in March 2017. The enhanced surveillance system was able to ensure early initiation of response acivities. The NCDC National Reference Laboratory played a key role in the confirmation of cases and by the end of July 2017, 42 confirmed cases had been reported.

NCDC Team supporting training on use of Cholera Rapid Diagnostic Test (RDT) kits in Kebbi State

Leadership of the Federal Ministry of Health, Federal Ministry of Agriculture, World Health Organisation in Nigeria, US CDC, NCDC and other stakeholders at Nigeria's JEE closing event in June 2017

3. Significant Achievements by Category of Work

Our Team has continued to grow in capacity and numbers. Our 2017- 2021 Strategy Plan has specific activities to guide us in achieving our overall vision and mission. The next section of this document describes our success across several areas in the last year. This further encourages the NCDC to build a stronger national public health institute for Nigeria.

3.1 Disease Surveilllance and Epidemiology

NEW DISEASE WORKING GROUPS ESTABLISHED

The vibrancy of the directorate of Surveillance and Epidemiology has been further enhanced by adding more disease-focused thinking to the work of the Centre. In this regard, specific Disease Working Groups have been constituted covering priority areas of Cholera, Cerebrospinal Meningitis, Viral Haemorrhagic Fevers (VHFs), Yellow fever, Measles, Influenza and AMR. Apart from guiding the preparedness and outbreak response activities of NCDC, the groups have also been tasked with the responsibility of assessing the disease burden and relevant changes in pathogenecity and drug resistance, leading and defining prevention, detection and response activities, developing guidelines and standard operating procedures and monitoring and ensuring their implementation, as well as seeking out new evidence relating to the disease areas to inform policy development.

The membership of each Group does not only cut across all directorates of the organisation, but also includes relevant partner organisations and each is overseen by the CEO of NCDC.

A JOINT EXTERNAL EVALUATION COMPLETED

In June 2017, Nigeria became one of 52 countries globally and the 15th in Africa to carry out a Joint External Evaluation (JEE) of its International Health Regulations (IHR 2005) capacities. The JEE process which is led by the WHO and other external partners, using a peer-review mechanism, was co-ordinated by the Surveillance and Epidemiology Directorate which also serves as the IHR desk for the country, ably

led by Mrs Olubunmi Ojo. The JEE provided an opportunity for Nigeria to identify the most urgent priorities and opportunities to strengthen our health security through a transparent process. It also brought together several internal partners with joint responsibilities on health security matters. The output from the assessment will help stakeholders across the relevant roles in Nigeria (i.e. prevention, detection, response, chemical/radiological emerceinces, Points of Entry etc.) to develop a plan which prioritises activities needed for improving the country's IHR capabilities as well as enhance its health security.

The report from the Joint External Evaluation is available on the website of the NCDC.

THE INTRODUCTION OF EVENT-BASED SURVEILLANCE (EBS)

In the last quarter of 2016, the NCDC initiated its first event-based surveillance system, supported by the US CDC through the University of Maryland Baltimore (UMB). The system mines unstructured information daily such as online discussions, newspaper articles, twitter chatter to provide local and near-real-time information on disease outbreaks (biological, rumour or social). This platform, named 'TatafoBIS' is used to generate data from various social media platforms in Nigeria. The EBS Team also uses Moderated / Manual searches to review and extract health-related events from local media sources such as newspaper dailies. A rumour log is maintained and daily categorised events are shared with the NCDC Technical Team for review and action as required.

Each significant rumour or event captured is forwarded to the Surveillance Directorate for further investigation and follow-up. Since the commencement of the use of the tool, a total of 24,711 events have been captured as at the end of July 2017; 39 of these were classified as Rumours (33 verified and confirmed as 'True', three as 'False' , and three 'Unverified' - cases of Leprosy, Food Poisoning/Deaths and Lymphatic Filarisis).

STRENGTHENING THE CONNECT CENTRE

With support from the University of Maryland Baltimore, the NCDC operates a Call Centre (Connect Centre) which handles queries via phone calls, SMS and social media platforms. The Connect Centre also collates, monitors and follows up on the 002 IDSR reporting (the IDSR immediate reporting form) of 17 (out of 36) states and 332 (out of 774) Local Government Areas, as well as other activities.

The Connect Centre operates between 8a.m. and 5p.m. daily from Monday-Friday and has two Surveillance Officers attached to provide technical support to the call handlers. Activities can be escalated to a 24-hour service as necessary.

Handling calls and queries at the NCDC Connect Centre

mSERS (MOBILE STRENGTHENING EPIDEMIC RESPONSE SYSTEMS)

Unlike many other countries, Nigeria still depends largely on paper-based and Excel reporting for disease surveillance. Over the last year, NCDC has made progress in digitising the country's surveillance architecture. The main digital platform being used is mSERS -a project supported by the US CDC through the University of Maryland Baltimore. The first phase of this project involves digital reporting of surveillance data from the local government level through the states to NCDC. The mSERS is a professional messaging platform that facilitates the exchange of weekly disease surveillance reports between all reporting levels: Local Government Area (LGA), state and national. The platform utilises telecommunication technology, the web and a corresponding relational database system with inbuilt analytics hosted on a central server at the NCDC.

Being one of NCDC's spring boards towards the complete digitiation of the IDSR system in Nigeria, the NCDC at the beginning of the year under review planned to expand the mSERS platform from two states (where it had been previously deployed) to 12 states. This target was exceeded as at August 2017, with the mSERS platform being deployed to 18 states in Nigeria. These are Bauchi, Ebonyi, Edo, Enugu, FCT, Gombe, Imo, Kaduna, Kano, Lagos, Nasarawa, Niger, Ondo, Osun, Plateau, Rivers, Sokoto and Zamfara states.

The deployment of this platform also includes the provision of android phones, airtime for internet, voice calls and SMS use, as well as reporting tools. So far, 380 Local Government District Surveillance and Notification Officers (DSNOs) have been trained on the use of the tool and further IDSR refresher training. Ninety-three state disease surveillance officers and members of state epidemiology departments and 7,192 health facilities across the 18 states have also been trained further on methods of IDSR reporting.

Working with our partners, the NCDC plans to complete the roll out of this platform across all the states of the country, thereby achieving digitisation of surveiallance in Nigeria.

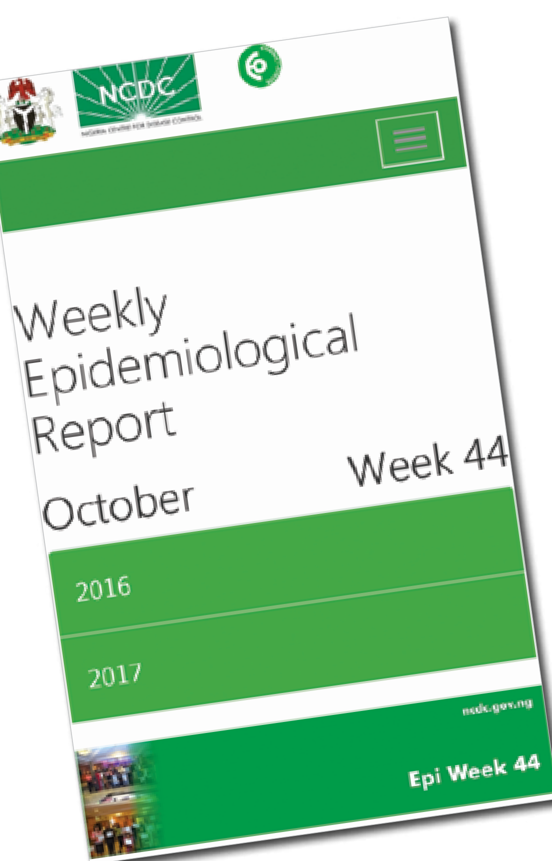
A MEASLES SURVEILLANCE EVALUATION

In recognition of the fact that some of the NCDC's surveillance activities were no longer fit for purpose, NCDC started an evaluation process that led to a transformation in surveillance activities for IDSR priority diseases. The first evaluation focused on Measles.

In July 2017, with support from the US CDC and WHO, the NCDC carried out an evaluation of the surveillance system for Measles, and assessed the burden of Measles, Rubella and Congenital Rubella Syndrome in Nigeria. The specific aims of the evaluation were to:

- develop a greater understanding of Measles and Rubella epidemiology in Nigeria
- adequately assess progress toward the Measles elimination goal
- assess the performance of the Measles and Rubella surveillance system in Nigeria
- identify potential areas in need of improvement and
- assess current Measles and Rubella laboratory performance based on articulated standards

The result of this evaluation will form a baseline to rebuild the Measles surveillance system in Nigeria and its contribution towards the goal of eliminating Measles in the country by 2020.



SHARING THE NATIONAL WEEKLY EPIDEMIOLOGY REPORT EVERY WEEK

The availability of timely data helps to describe what has happened, predict what will happen and determine what to do about it. In the past year, the NCDC has published its Weekly Epidemiology Report (WER) every Tuesday on the NCDC website ***http://www.ncdc.gov.ng/reports/weekly***, and distributed to a mailing list. The mailing list includes leadership and staff of FMoH, partners, state Epidemiologists and members of the public with an interest in the health sector. The Report is generated from reports sent weekly from the LGAs to the state Epidemiologists, and from the state Epidemiologists to the NCDC. Each version has an Editorial feature that focuses on specific topics on preventive and response measures for diseases and other public health events.

At the NCDC, we believe that it is by keeping the public informed that we can hold ourselves accountable for the work we do. Therefore, this WER is also published on all our Social Media pages and shared through our email list to state Epidemiologists and Disease Surveillance and Notification Officers (DSNOs).

POLIO OPEN DATA KIT (ODK) DATA HARMONISATION

Although Nigeria had a setback towards the end of 2016 in its polio eradication goals, the National Primary Healthcare Development Agency (NPHCDA) has continued to work hard to ensure this becomes a reality. The NCDC is a key partner in this process, with two colleagues from the Centre, engaging with the

Polio Emergency Operations Centre (EOC).

In 2016, the NCDC CEO was asked by the Honourable Minister of Health to lead a review of protocols to address government ownership, data governance and data management at the national and state Polio EOCs. This has been done and the increased accountability is now evident between the government and partners involved in Polio surveillance. In addition to this, data from the 10 states supported by the US CDC in case finding sent through the ODK tool are linked to the NCDC server. This process provides a greater level of understanding of areas being covered by Surveillance Officers with focus on Polio and other IDSR priority diseases.

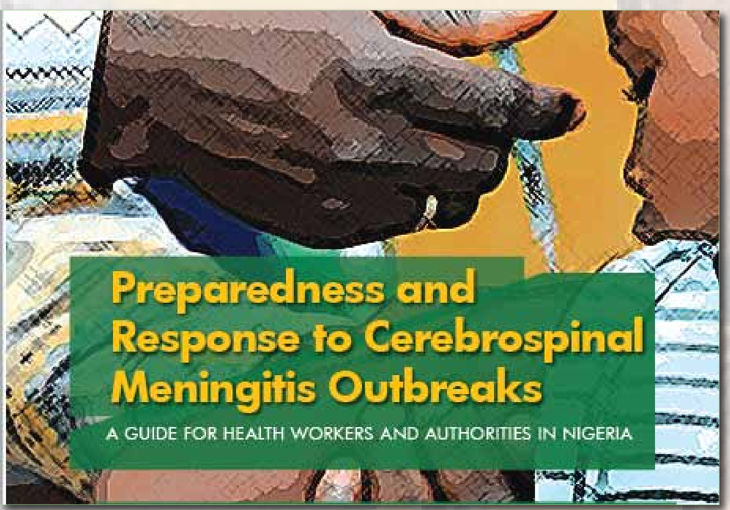
INCREASING RESOURCES FOR SURVEILLANCE IN THE STATES

The NCDC distributed 30 motorcycles to one LGA in each of 27 states selected across the country. The LGAs were selected based on their participation in the West African Regional Disease Surveillance (WARDS) project, and states with the highest percentage of timeliness in reporting in the previous years. The motorcycles were donations to the NCDC, from the World Health Organisation.

With support from the mSERS project, NCDC has provided 18 states with 479 android phones to support disease reporting. These states also receive airtime and data monthly, to support their work done, with over 12,000 IDSR reporting booklets distributed to them as well.

Presentation of Android phones to States that have deployed mSERS

National Guidelines on
Infection Prevention and Control of Viral Haemorrhagic Fevers



Monkeypox Outbreak Response
INTERIM NATIONAL GUIDELINES

Public Health Preparedness and Response to Acute Watery Diarrhoea Outbreaks in Nigeria
A GUIDE FOR HEALTH WORKERS AND AUTHORITIES

■ *Disease Guidelines developed*

3.2 HEALTH EMERGENCY PREPAREDNESS AND RESPONSE

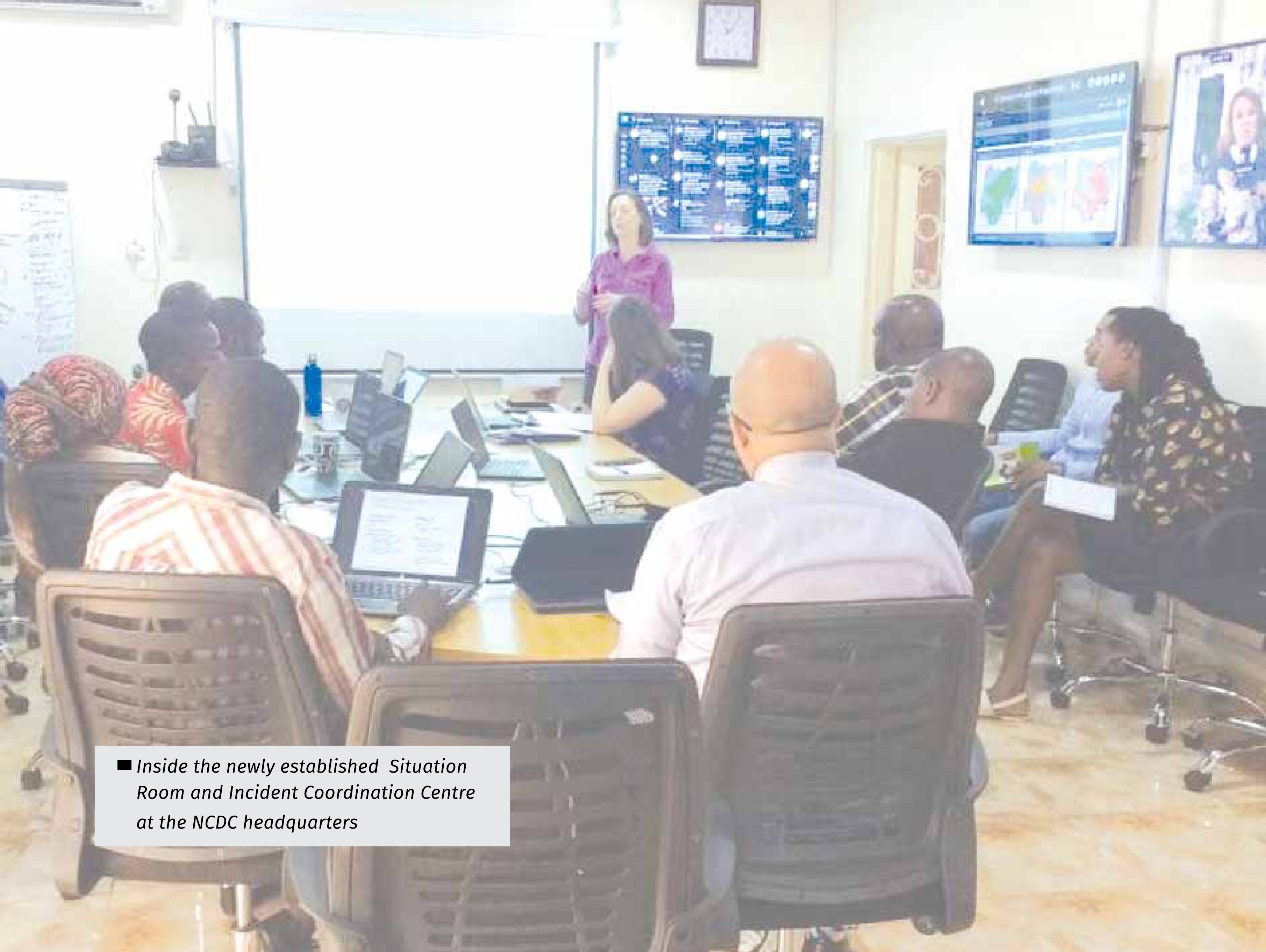
DEVELOPING DISEASE GUIDELINES

One area that professionals expect the most support from NCDC is in guidance and provision of guidelines. The NCDC has prioritised the development of guidelines to support its areas of work as well as the areas where support is expected of us. The NCDC has developed disease guidelines for **Monkeypox, VHFs, Cholera/Acute Watery Diarrhoea** and **Cerebrospinal Meningitis**. A Public Health Risk Assessment of Zika Virus in Nigeria and Interim Recommendations were also developed in anticipation of Zika cases in Nigeria. These guidelines provide details on prevention, management and response to relevant infectious diseases and outbreaks, to ensure harmonised and consistent action across the country. The guidelines which were developed with contribution from colleagues across various sectors includingW academia can be found on the NCDC website ***(http://www.ncdc.gov.ng/diseases/guidelines)***

An ***Interim National VHF Preparedness Guideline*** was utilised during the 2016/2017 Lassa Fever outbreak in the country. This has now been further reviewed and continues to be an invaluable resource.

Preparedness and Response Guidelines For Acute Watery Diarrhoea Outbreaks in Nigeria have also been developed which serve as guides ahead of the rainy season when there are more cases of these diseases.

NCDC is also in the process of developing an ***All Hazards Infectious Disease Outbreak Response Plan***.



Inside the newly established Situation Room and Incident Coordination Centre at the NCDC headquarters

DEVELOPING A NEW SITUATION ROOM AND INCIDENT COORDINATION CENTRE

A significant step was taken by the NCDC CEO on the 16th of September 2016, when a Situation Room was established at the NCDC's Headquarters. The Room is used to analyse all the significant data and information available to the NCDC, in order to make informed collective decisions in great public health tradition. The room is used for holding technical meetings including the newly established Weekly National Surveillance and Outbreak Review Meeting (NASORM), review outbreak reports, decide on preparedness and response activities etc. Weekly data from the states are always displayed on dashboards in the Situation Room, providing a snapshot view of disease trends across the country. It has become the most important room at the NCDC.

Using emergency centres to respond to Public Health outbreaks is a fairly new approach but one which has become accepted as the best way to respond to large outbreaks. During the 2016/2017 Meningitis outbreak in Nigeria, an Incident Management System (IMS) was initiated and an Emergency Operations Centre was activated at the NCDC Headquarters, using the Situation Room for this purpose. This room has been upgraded to include video conferencing facilities to support communication with states and partners.

Following lessons learnt from the 2016/2017 Meningitis outbreak, and the NCDC's subsequent response to concurrent outbreaks occuring in the country, an NCDC Incident Coordination Centre (ICC) was developed to enhance its operations. The ICC is tasked with the responsibility of working with the different departments and structures at the NCDC to implement daily intelligence gathering and risk analysis of Public Health events for identification of potential threats aimed at informing adequate counter-actions to forestall negative health consequences. The ICC which is located within the NCDC Headquarters, serves as the hub of alert and response operations combining information and communications technologies to inform decision-making for effective investigation and response activities. While response activities may be occasional in nature, the ICC maintains daily monitoring of events for situation awareness, alerts of public health events and highlighting of events that may require an active response.

Honourable Minister of Health, Executive Director of NPHCDA, Country Representative of WHO at the CSM Emergency Operations Centre (EOC) during the 2016/2017 outbreak

COORDINATING THE MENINGITIS OUTBREAK RESPONSE

During the 2016/2017 Meningitis outbreak in Nigeria and following initial investigations to determine the size and reach of the outbreak, the NCDC in collaboration with partner agencies, including the WHO, U.S. CDC, Africa Centers for Disease Control and Prevention (ACDC), UNICEF and AFENET activated the CSM EOC on March 8, 2017, which was led by the NCDC.

With an Incident Manager (Dr Oladejo, Head of Health Emergency Preparedness and Response at the NCDC) at the helm of affairs, the CSM EOC supported an IMS approach to the outbreak response. This included the coordination of outbreak control strategies and operations across the entire country, prioritising the most affected states. To facilitate local coordination of the response effort in the most affected settings, similar IMS were replicated in Sokoto and Zamfara, the two states at the epicentre of the outbreak. This was the first time NCDC was supporting the establishment of IMS structures at the state level.

Rapid Response Teams (RRTs) of epidemiologists and clinicians from the NCDC were also deployed to all states affected by the outbreak. Additional physicians, nursing and

High level advocacy to States for support towards outbreak response activities

laboratory technical staff teams were deployed from the national level to support case finding, management and reporting, especially from the more remote districts in the affected states. To ensure that potential cases were rapidly detected and investigated, intensified outbreak response preparation activities which included enhanced surveillance for suspected CSM cases were instituted across all states in the country. The NPHCDA led reactive vaccination campaigns in the most affected states.

An evaluation of the Meningitis response which was supported by WHO, was carried out in the two most affected states of Zamfara and Sokoto. This involved interviews of stakeholders involved in the response, as well as a review of documents and guidelines used during the response. The goal was to enable the identification of opportunities to strengthen future meningitis response activities. In addition to this, an outbreak review meeting was held in Sokoto on the 24th and 25th July 2017 to discuss lessons learnt in order to be better prepared for potential future outbreaks in line with our determination not to have a repeat of the 2017 outbreak.

Please refer to report on Meningitis outbreak for outbreak numbers)

STRENGTHENING THE LASSA FEVER RESPONSE

The NCDC Lassa fever response working group (LFWG) has led the response to the outbreak in the last year. The group is a multi-sectoral team with representatives from the Federal Ministries of Agriculture and Environment, and partners including WHO, CDC, UMB, AFENET and MSF.

In the 2016/17 Lassa fever (LF) outbreak season, onsite support was provided to seven states (Ogun, Ondo, Borno, Edo, Plateau, Nasarawa and Taraba) out of the 18 affected states. This included the deployment of RRTs to support outbreak investigation and response activities, while off-site

Lassa fever Rapid Response Team reviewing documents during outbreak in Plateau State

support was also provided to all the affected states.

Before the outbreak commenced, a preparedness checklist was sent to all states to ascertain their level of preparedness. A rapid assessment of LF Sample and Case Management Preparedness in 36 states and FCT was also conducted, whilst NCDC prepositioned LF response commodities (medicines and Personal Protective Equipment (PPEs) in all states between September – November 2016. Additional commodities (injectable and oral Ribavirin, complete PPEs, body bags, disposable gloves and hand sanitisers) were also distributed to some affected states including Edo, Bauchi, Ondo, Plateau, Cross-River, Kano, Nasarawa, FCT, Taraba as well as treatment centres at Irrua Specialist Teaching Hospital, Edo state and Federal Medical Centre, Owo. Laboratory reagents were supplied to the testing laboratories at the Lagos Univeristy Teaching Hospital, Irrua Specialist Teaching Hospital, as well as Univeristy College Hospitl Ibadan Virology unit.

The NCDC RRTs deployed to affected states supported the coordination of response activities, case management of patients and strengthening of Infection Prevention and Control (IPC) measures amongst healthcare workers. Clinicians were sensitised to develop a high index of suspicion. The RRTs deployed to Ogun, Ondo and Plateau states supported the set-up of VHF isolation units in these states.

Recognising the limitations of the existing surveillance architecture for a complex disease like Lassa fever, NCDC developed a new VHF case-based management database for effective in-depth VHF investigation, reporting and analysis.

Information Education and Communication (IEC) materials were deployed to states for onward dissemination to health facilities and frontline healthcare workers, whilst information was also disseminated via television, radio, newspapers and social media channels.

Lassa fever guidelines

In the last year, the LFWG developed guidelines to guide health workers in the prevention and control of VHF/LF including:

- National guidelines on Infection Prevention and Control (IPC) of VHF for Healthcare workers
- SOPs for Lassa Fever Case Management
- VHF Preparedness and Response Plan
- Quick Reference Guides for Healthcare Workers, Social Mobilisation Teams, LGA RRTs and Community Informants
- VHF case management job aid

Since the beginning of the outbreak, Weekly Situation Reports continued to be developed and shared with the National Surveillance and Outbreak Response Committee for prompt decisions and with other relevant stakeholders, while abridged versions are uploaded on the NCDC web site. Despite some pressure, we have been able to ensure accountability to the public through our weekly publication of the number of cases.

(Please refer to report on Lassa fever outbreak for outbreak numbers)

Responding to an outbreak of Cholera in Borno State

SUPPORTING THE NORTH EAST RESPONSE

The insurgency in the north east of the country has led to a humanitarian crisis with over two million people internally displaced. The influx of newly displaced populations has led to the establishment of new settlements. More than half of this population lack access to health services as most of the health facilities in the conflict affected LGAs are barely functional. Vaccination and other humanitarian services are limited to accessible areas, Internally Displaced Persons (IDP) camps and in "newly liberated areas". Many children are malnourished with attendant high child and maternal morbidity and mortality rates recorded .

With support from collaborating partners, AFENET and UMB, NCDC carried out surveillance and response activities in Borno state from 14th November to 16th December 2016. The Centre with support from the WHO, also worked to support the state in strengthening capacities for surveillance and response to disease outbreaks and health emergencies from 15th to 31st January 2017.

The methods adopted included advocacy visits, meetings, desk review of surveillance data, field visits, laboratory assessment, as well as training and support during outbreak investigation. The NCDC CEO who visited Maiduguri in June 2017 was not only encouraged by the level of commitment from the colleagues on ground, but also highlighted the ability to work displayed by colleagues despite the unfavorable environment, as remarkable. This enabled him to gain a better understanding of the local situation and NCDC has continued to utilise its experience in the last year, to further strengthen the Borno

At the Usmanu Danfodiyo University Teaching Hospital Laboratory, Sokoto State

surveillance system.

At the end of the series of training and similar activities, the IDSR structure was strengthened as the hub of all surveillance activities in the state with more partners becoming aware of and committed to the use of IDSR tools for improving surveillance. The skills for LGA staff to perform basic data analysis at this level were improved.

Overall, the surveillance and response system was strengthened with an attendant better coordination of all health emergency and intervention activities by all partners in the state.

NCDC has continued to work with the WHO to restore detection and response activities in North East Nigeria, with IDSR as the cornerstone.

INITIATING THE CHOLERA RESPONSE

The NCDC Cholera working group has led the response to the outbreak in the last year. The group has representatives from the Federal Ministries of Agriculture, Water Resources and Environment, WHO, US CDC, UMB, AFENET, UNICEF and MSF.

Prior to the beginning of the rainy season, a Cholera Preparedness meeting was held with representatives from the eight most affected states from previous reports, representatives from relevant ministries, partners and academia. A National Cholera Preparedness plan was developed at the end of the meeting.

During the Cholera outbreak, the NCDC provided onsite support to Borno, Kwara and Zamfara states through the deployment of Rapid Response Teams (RRTs) to support outbreak investigation and response activities. The states were also supported to establish EOCs to coordinate response activities.

Response activities in the affected states included contact tracing, chlorination of water sources, health education activities, training of laboratory staff in the use of Cholera RDTs etc. For the first time following series of deliberations, an oral Cholera vaccination (OCV) campaign was carried out in Nigeria, specifically in Borno state. The NCDC Team supported the development of the application for this process and its implementation.

PREPOSITIONING OF MEDICAL SUPPLIES

One key strategy deployed by the NCDC over the last year was the prepositioning of outbreak response materials across all the states in the country. The prepositioning and distribution of medicines, PPE, consumables, laboratory reagents and other medical supplies to states across the country has been a key part of the NCDC's work to ensure preparedness and to support response activities. These supplies are prepositioned based on risk

assessment that focusses on states with a higher risk of cases of specific diseases, and supplies are provided to augment the quantities provided by the states.

Prior to the beginning of the dry season in December 2016 when there is usually an outbreak of Lassa fever, the following medicines and supplies were prepositioned in all 36 states of the federation plus FCT:

- 40,360 ampoules of Ribavirin 200mg/2ml
- 6,700 ampoules of Ribavirin 100mg/ml
- 14,952 tablets of Ribavirin 100mg
- 7,618 pieces of Personnel Protective Equipment
- 30 bags of 1kg hypochlorite
- 28 sprayers
- 495 body bags
- 5003 bottles of hand sanitiser

Other medicines and supplies distributed to states and Federal medical institutions during the outbreak response in Nigeria from December to July 2017 included:

- 20,370 ampoules of Ribavirin 100mg/ml
- 800 tablets of Ribavirin 100mg,
- 1,664 pieces of Personnel Protective Equipment,
- 20,900 pairs of disposables gloves
- 1,470 pieces bottles of hand sanitiser
- 223 pairs of heavy duty gloves
- 4 sprayers
- 14 bags of 1kg Hypochlorite

During the Meningitis outbreak, the following medicines and consumables were distributed in support of affected states:

- 3000 vials of Ceftriaxone 1g and 1000 vials of 250mg
- 67 units of 1/25 Trans-Isolate (TI) media
- 450 Lumbar Puncture (LP) kits

During the Cholera outbreak, the following medicines and consumables were distributed ino support of affected states:

- 160 bottles of 1 litre Ringer Lactate
- 20 of Blue cannula, 20 pieces of Pink cannula, 20 pieces of Yellow cannula
- 10 buckets
- 20 packs of Tab Ciprofloxacin 500mg (1 by 10)

However, it is important to note that the prepositioning of these supplies to states remains a supportive measure as states are expected to take ownership and ensure regular supplies of these resources.

NCDC National Public Health Reference Laboratory, Gaduwa, Abuja

3.3 PUBLIC HEALTH LABORATORY SERVICES

OPERATIONALISATION OF THE NATIONAL PUBLIC HEALTH REFERENCE LABORATORY

One of the biggest challenges faced by NCDC over the years, has been the poor laboratory infrastructure that supports surveillance. The Honourable Minister of Health was very clear in his mandate to NCDC's CEO to operationalise the Centre's National Public Health Reference Laboratory (NPHRL) in Abuja by the end of the first half of 2017. The Meningitis outbreak in the country led to this process being fast tracked with the first ever test carried out at the NPHRL on the 13th of May 2017, with support from a Team from the Medical Research Council (MRC), Gambia. On the 1st of June 2017, the first Team meeting held at the NPHRL, signifying the complete transfer of laboratory activities from the Asokoro General Hospital Abuja, to the NPHRL. As at the end of July 2017, the NPHRL carried out molecular diagnosis of Meningitis, Avian Influenza, Cholera, VHFs and is also building its capacity to test for all other endemic prone diseases in Nigeria.

Since June 2017 when the first cohort of the Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP) was welcomed into the laboratory, the NPHRL continued to serve as the training facility for the programme, providing a unique space for training all the students and a room for faculty. The Residents were happy to be part of this history.

The Central Public Health Laboratory (CPHL), Yaba, Lagos is now a campus of the NPHRL providing diagnostics services for Yellow fever, Measles, Rubella, Tuberculosis and Hepatitis.

The visit of the CEO to the CPHL shortly after assumption of office revealed a laboratory that had sufferred a lot of neglect, resembling a forgotten island. A process of rehabilitation was subsequently commenced – firstly identifying old equipment and reagents that needed to be disposed of, then exploring options available for the laboratory including potential plans for accreditation, strengthened collaboration with the University of Lagos and Lagos state University, as well as a training assessment for members of staff. In the last year, NCDC's collaboration with the laboratory of the College of Medicine, Lagos University Teaching Hospital has grown. The process for accreditation of the laboratory hasstarted, whilst staff members of the CPHL have undergone capacity-

building training across different areas of the work they do-both within and outside Nigeria.

Rehabilitation of the CPHL campus will be one of the priorities for the the next year.

REDEVELOPING THE NETWORK OF COLLABORATING LABORATORIES

There has been a loose network of public health laboratories in Nigeria for many years. However, efforts put into strengthening the network have been limited in terms of enabling it to effectively serve as a real collaborative network. NCDC started a process of engagement in this process, building on the advice of the eminent Nigerian Virologist who has become a mentor – Professor Oyewale Tomori. The advice was to go slowly to build a network that will last.

Over the following months, the NCDC narrowed down its scope to an initial list of 10 laboratories which the Centre now works with. The laboratories, which fall into the following categories:

A. The NCDC National Reference Laboratories
   1) The National Reference Laboratory in Gaduwa Abuja
   2) The Central Public Health Laboratory in Lagos

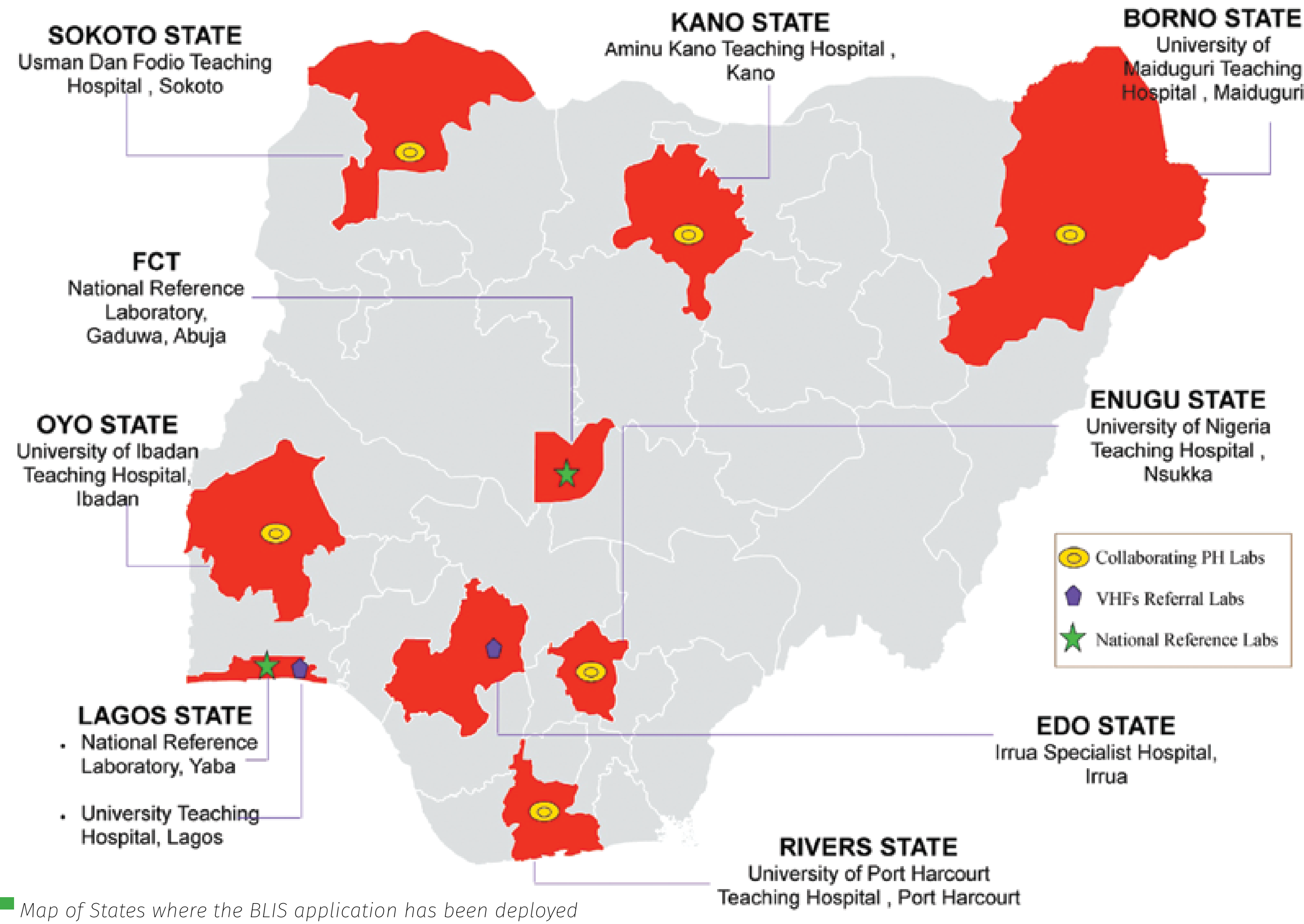
B. VHF Referral Laboratories
   3) Irrua Specialist Teaching Hospital
   4) The Lagos University Teaching Hospital Virology Laboratory

C. NCDC Collaborating Zonal Laboratories based at:
   5) University of Ibadan Teaching Hospital
   6) University of Port Harcourt Teaching Hospital
   7) University of Nigeria Teaching Hospital Enugu
   8) Usman Danfodiyo University Teaching Hospital Sokoto
   9) University of Maiduguri Teaching Hospital Maiduguri
   10) Aminu Kano University Teaching Hospital Kano

In December 2016, the Management Team of the NCDC agreed to constitute a National Public Health Reference Laboratory Network Committee, to support the agency in co-ordinating IDSR laboratory activities. The Group chaired by Professor Oyewale Tomori, is providing guidance to the NCDC on laboratory testing, tools for testing and reporting, integration of activities across the laboratories and defining Standard Operating Procedures across these facilities.

Supported by the Japan International Cooperation Agency (JICA) Nigeria, the NCDC began a process of assessing the current capacity and gaps in infrastructure, equipment, reagents and human resources at the NCDC's network of laboratories for molecular diagnosis of priority Public Health diseases. This will inform the development of a programme of rehabilitation and sustained services to support Public Health surveillance in Nigeria.

The NCDC mobile laboratory in use during the 2016/2017 Meningitis outbreak in Zamfara State



Map of States where the BLIS application has been deployed

ESTABLISHING A BASIC LABORATORY INFORMATION SYSTEM

Laboratory surveillance is no doubt an integral part of disease surveillance. Unfortunately, this has not been optimal over the years with resultant untimely laboratory report feedback negatively affecting outbreak response activities in a lot of cases.

As part of the NCDC's plans to develop a strong network of Public Health laboratories in Nigeria, the NCDC worked with the University of Maryland Baltimore (UMB) to deploy the Basic Laboratory Information System (BLIS). BLIS is a freeware web-based system that records, manages, and stores data for laboratories.

The deployment of this tool in the eight NCDC collaboratoring zonal laboratories ensures that the laboratories are connected and report weekly to the National Public Health Laboratory Response Network coordinated at the NCDC NPHRL. The facilities are further provided with laptops and data connection, while identified personnel are trained to ensure efficient use of the tool.

Although still in the early stage of its journey of accurately harmonising surveillance and laboratory data during outbreaks, NCDC has recorded a a significant amount of improvement in the last year. The data sent in through BLIS is reviewed weekly, at the NCDC National Surveillance and Outbreak Review Meeting (NASORM) and used for decision making.

■ *Launch of the Antimicrobial Resistance National Action Plan*

3.4 PREVENTION AND PROGRAMME CO-ORDINATION

The Directorate of Prevention and Programme Co-ordination despite being NCDC's youngest and smallest Directorate, still punches above its weight.

Following the development of the 2017-2021 Strategic Plan and subsequent deliberations, a unanimous decision was taken to transition the Department of Planning, Research and Statistics, to the Directorate of Prevention and Programme Co-ordination. At the time, the Director of the department, Dr Joshua Obasanya was supported by just one volunteer who had just completed his Residency Training in Public Health with the University College Hospital, Ibadan. The department has however grown since, and now includes two graduates of the NFELTP who work full-time with the NCDC and a Risk communications specialist.

LEADING THE ANTIMICROBIAL RESISTANCE RESPONSE FOR NIGERIA

AMR is one of the biggest threats to Public Health in the 21st century. WHO estimates that globally, 480 000 people develop multi-drug resistant Tuberculosis each year, and that drug resistance is starting to complicate the fight against HIV and Malaria, as well. NCDC immediately recognised the need for it to show leadership in this area, with the Minister of Health giving the Centre the mandate to address this challenge.

The NCDC consituted and convened the AMR Technical Working Group (TWG) led by Dr Joshua Obasanya with membership drawn from the Federal Ministries of Agriculture and Rural Development, Environment and Health and across other relevant Ministries, Departments and Agencies (MDAs), Academia, Private Sector, Non-governmental organisations and professional and regulatory bodies.

The three objectives of the AMR TWG were to:

- develop a National Situation Analysis Report
- develop and submit an AMR

National Action Plan prior to the World Health Assembly (WHA) in May 2017

- enroll Nigeria into the Global Antimicrobial Resistance Surveillance System (GLASS) for laboratories before the WHA.

Working under the leadership of the NCDC, the AMR TWG has achieved the three objectives as stated above. The National AMR Situation Analysis and National Action Plan were developed, using a "One Health approach". The NCDC has also enrolled Nigeria into GLASS and has completed the assessment of the first set of laboratories across the country that will participate in GLASS. The documents are available on the NCDC website – ***http://ncdc.gov.ng/diseases/guidelines***

One of the highlights on the agenda of the 2017 World Health Assembly (WHA) was the progress of member countries towards the Antimicrobial Resistance Surveillance. Nigeria made a commitment to the 71st UN General Assembly to take urgent action to increase awareness and set up an AMR Surveillance System.

DEVELOPING A RISK COMMUNICATION PLAN

Risk communication is something that was previously not given the deserved level of priority in a national Public Health institute. A Risk Communication Working Group was established at the NCDC in May 2017 consisting of members from the Federal Ministries of Health, Agriculture and Environment, partners including WHO, UNICEF, AFENET, Red Cross, as well as other members from the private sector. NCDC now has a growing bank of material that it uses for different diseases and situations and a group of colleagues that are committed to developing this further. The Risk Communication Working Group is in the process of developing a National Risk Communication All Hazard Plan to direct risk communication for priority diseases in Nigeria.

AN INNOVATIVE INTERNSHIP PROGRAMME AT NCDC

Empowering young people is the responsibility of every Nigerian organisation. Following the assumption of office of the CEO, the NCDC received a large number of CVs from young people seeking employment. Engagement with many of them revealed that many were not prepared for the work place. NCDC embarked on contributing to their development in terms of making them 'work-ready' through the establishment of an internship programme, which commenced in February 2017. The NCDC internship programme is a learning opportunity for postgraduate students in relevant fields from in and outside Nigeria.

Interested candidates apply online and are selected by a committee based on their resumes and letters of recommendation. The programme which has proven very competitive, is designed for a period of eight weeks only for each cohort. By the end of July 2017, two cohorts of 16 people had been absorbed in the NCDC Internship, with plans for one more cohort within the year.

During the eight week period, interns are placed on rotation across all directorates of the NCDC, participating in meetings, response activities and other roles. They also have weekly sessions on various aspects of the work the Centre NCDC does, including online classes.

Second cohort of NCDC Interns

Exhibition of the Nigerian Ebola response, at the US-CDC in Atlanta

4. Significant Collaborations

National Perspective

The Nigeria Centre for Disease Control being a parastatal under the FMoH, works closely with colleagues across other departments and agencies, under the guidance of the Honourable Minister of Health.

In 2016, the Federal Ministry of Health launched the Rapid Results Initiative (RRI) programme tagged "Better Health for All" with the aim of producing quick and visible impact that would affect the life of every Nigerian especially the poor and the most vulnerable in the society.

Recognising the importance of NCDC, the Honourable Minister of Health approved that Pillar Five, of the Seven Pillars of the RRI would be "Operationalising the Nigeria Centre for Disease Control". The initiative was designed to support the existence of at least one functional Public Health laboratory in each geopolitical region, as well as the Federal Capital Territory.

Equipment, reagents and minimal works/upgrade were provided to improve the functionality and safety at the laboratories. The sites included:

1. Aminu Kano Teaching Hospital, Kano
2. Lagos University Teaching Hospital
3. Irrua Specialist Hospital, Edo
4. Asokoro General Hospital, Abuja
5. NCDC National Public Health Reference Laboratory, Gaduwa, Abuja
6. Central Public Health Laboratory, Lagos

This project has led to an increase in laboratory diagnostic capacity during outbreaks in Nigeria, with the Irrua Specialist Teaching Hospital and the Lagos University Teaching Hospital leading the diagnosis of Lassa fever and other VHFs for the country, and the Central Public Health laboratory leading the diagnosis of Cholera and other bacterial diseases. The NCDC NPHRL is gradually taking shape as the hub of Public Health laboratories in Nigeria.

Nigeria's Honourable Minister of State for Health, Director General of WAHO, Director of ACDC and other colleagues at a Tripartite meeting held in June 2017

An African Regional Perspective

As most people are aware, the NCDC currently hosts the ECOWAS Regional Centre for Surveillance and Disease Control (RCSDC) supervised by the West African Health Organisation (WAHO). In January 2017, Nigeria was selected as the Regional Collaborating Centre (RCC) of the Africa Centres for Disease Control and Prevention (ACDC) for the West African region.

In June 2017, a meeting hosted by the ACDC and WAHO in Nigeria reached a consensus agreement for the ECOWAS-RCSDC and NCDC to be defined as two different and separate entities. A further consensus was reached for the ECOWAS-RCDC to act as the ACDC RCC for West Africa and for NCDC to act as the Nigerian National Coordinating Institution (NCI) for implementing the RCSDC activities in the country.

NCDC has continued to work with WAHO and ACDC to ensure regional health security, especially in West Africa. In addition to this, the Africa CDC provided technical support through epidemiologists deployed to Nigeria during the outbreak of CSM and Lassa fever.

In June 2017, NCDC while hosting the ACDC's RCC Site meeting, had the pleasure of welcoming colleagues from various Public Health institutes in Benin Republic, Burkina Faso, Cape Verde, Cote d'Ivoire, The Gambia, Ghana,Guinea, Mali, Liberia, Niger, Senegal and Togo.

Dr Chikwe Ihekweazu and Dr. Anne Schuchat (former Acting Director, US-CDC Atlanta) during Dr Chikwe's visit in July 2017

Global Perspective

A VISIT TO THE US CDC, ATLANTA

Following an invitation from the leadership of the US CDC, NCDC's CEO paid a visit to the US CDC Atlanta in July 2017, accompanied by Dr Patrick Nguku, a close colleague who leads the NFELTP/AFENET in Nigeria. The vist went over a full week of meetings across various departments of the institution, where the CEO was learning and advocating for more support for the institution's work in Nigeria. The US CDC has continued to provide strong support to a series of activities at the NCDC. Most critical to the NCDC is the significant investment in the NFELTP, for which the country remains very grateful. In addition to this is the US CDC's investment in the new National Public Health Reference Laboratory in Gaduwa, Abuja.

A NEW PARTNER- THE BILL AND MELINDA GATES FOUNDATION

NCDC also started a new relationship with the Bill and Melinda Gates Foundation. Our relationship with the Foundation is a young but fast growing one. In February 2017, NCDC's CEO was privileged to host Dr. Christopher Elias, President of Global Development at the Bill and Melinda Gates Foundation who has played a key part in the work towards Polio eradication in Nigeria.

NCDC's relationship with the Foundation continues to grow with significant support to our strategic activities.

Audience at the 2017 NCDC/ NFELTP Scientific Conference

5. Key Strides

NCDC/NFELTP Annual Scientific Conference

Research, science and learning are at the heart of what National Public Health Institutes do in shaping prevention and response activities, with conferences providing the perfect opportunity for this to happen. The NCDC and NFELTP jointly hosted their 2nd Annual Scientific Conference for Field Epidemiology in Nigeria, in July 2017, with the theme – 'Strengthening One Health through Field Epidemiology Training'. This year's conference had pre-conference meetings on One Health and Antimicrobial Resistance – two trending topics in global health. The One Health meeting brought together stakeholders from within and outside Nigeria (public and private sector as well as academia), to prioritise zoonotic diseases in Nigeria with the aim of kickstarting the development of the One Health platform in the country.

The NCDC/NFELTP Conference had over 2,000 participants including Residents and Graduates of the NFELTP and other stakeholders in the health sector. It was a successful conference which enabled delegates to share learning from scientific presentations as well as network freely and effectively. A series of keynote addresses which covered pertinent topics were well received, while the conference was closed by the Permanent Secretary of the FMoH who had some very complimentary words about the Conference and the hosts.

NCDC has decided to institutionalise the conference on an annual basis with the aim of make it the hub of scientific engagement on epidemiology.

The Long Awaited NCDC Bill

The NCDC has had a long birthing process. With the Bill establishing NCDC having undergone several iterations prior to the assumption of office of its CEO, the Honourable Minister of Health however soon assured of the approval of the Bill. The Minister further advised the CEO of his role of preparing the Bill for the consideration of the Federal Executive Council (FEC), which was finally approved in March 2017 by Mr President, His Excellency, Muhammadu Buhari. This Bill which has been forwarded to the National Assembly, is now set to be reviewed for passage.

Announcement of the approval of the NCDC Bill by the Federal Executive Council

NCDC

‘IDEA TO REALITY’

Launch of the NCDC 2017 – 2021 Strategy Plan

The NCDC Strategy Plan

There had been a number of prior aborted attempts at developing strategic plans for the NCDC, with three plans that were never implemented. This led to a concerted effort at renewing this process. Activities started in late 2016 to develop a 2017–2021 Strategic Plan, incorporating a new vision and mission to guide NCDC’s activities.

A robust 2017–2021 strategic plan has now been developed which creates a strong compelling vision for the NCDC, underpinned by clearly defined principles and supported by well-articulated implementation and delivery plans. A revised organogram was also developed and over the past year, activities from the implementation plan have been carried out with specific key performance indicators for monitoring and evaluation.

Financial Guidelines

To reduce the likelihood of any financial mishaps, NCDC developed a bespoke set of financial guidelines in January 2017, to include accounting, procurement and audit principles, travel policy and other internal control activities. These were based on National guidelines as approved by the Office of the Account General, Bureau of Public Procurment and Office of the Auditor General as foundation. This set of guidelines provides a robust basis of ensuring a systematic approach to all financial transactions, including the use of donor funds, with all financial and related activities of the NCDC now being are carried out based on these financial guidelines.

Human Resources

NCDC is a small parastatal, deeply in need of more people and expertise to fulfill our mandate of protecting the health of Nigerians. With the NCDC Bill still passing through the legistlative process, the Centre is unable to recruit directly the expertise that it needs to fully deliver on its mandate. NCDC has had to depend on its mother Ministry and other parastatals to lend it the support needed in this regard. In the year under review, four colleagues have been seconded or deployed from the FMoH and other parastatals to support the limited human resource capacity at the NCDC. Two of these are graduates of the NFELTP, so perfectly suited for Centre's work.

In addition, four NFELTP Graduates have also been deployed to work with the NCDC from the AFENET Nigeria Country Office. These colleagues work in the Surveillance, Laboratory and Emergency Response Directorates.

To support staff movement, a car pool system was developed, ensuring that all Directors have an official vehicle attached to them, whilst also having three extra vehicles available for pool services. The vehicles have a defined fueling system with fuel cards from TOTAL attached to each vehicle to ensure accountability and efficiency.

MEDECINS SANS FRONTIERES
DOCTORS WITHOUT BORDERS

Partners in the last year

6. Partnerships in the Last Year

Over the past year, there has been a palpable renewed interest in supporting the work of NCDC, mainly due to the clear vision and the rigour with which the NCDC has approached its work. This has been in recognition of the fact that the world is indeed a global village where diseases know no boundaries with no-one being safe unless collective responsibility is taken for health security. The NCDC has taken the time to develop partnerships to enable it build the capacity of its staff. Details of the most significant new partnerships are given below.

African Field Epidemiology Network (AFENET)

The Team at AFENET remains one of NCDC's strongest collaborators and biggest supporters. The NFELTP which is a programme jointly supported by the US CDC and AFENET remains one of Nigeria's best Public Health programmes, making a stronger integration between both organisations existential for both. This is also in keeping with the countries from which this model of training field epidemiologists has been adapted. NCDC has worked together with the leadership of NFELTP, to produce several graduates of the NFELTP now working in various capacities at the NCDC, with residents also fully involved in outbreak response activities.

So far, 374 residents have been recruited in the programme with 223 completing the two-years of hands-on training. Over 900 have been trained in the frontline three-months FETP in 13 states and the FCT covering 260 LGAs in all six geo-political zones. Residents have responded to

374
Number of NFELTP residents selected for advanced programme

223
Number of residents that have completed the two-years of NFELTP hands-on training

900
Number of NFELTP residents trained in the frontline 3-month FETP in 13 States and the FCT

300
Number of public health emergencies that NFELTP residents have responded to.

Dr. Chikwe Ihekweazu and Dr Patrick Nguku-Senior Resident Advisor of the NFELTP

over 300 public health emergencies including Viral Haemorrhagic Fevers outbreak like Ebola and Lassa fever. The residents are also involved in the national efforts aimed at eradicating Polio and strengthening routine childhood immunisation through the National Stop Transmission of Polio (NSTOP). The programme is also involved in supporting and sustaining disease surveillance systems for HIV, Malaria and other infectious and non-infectious diseases.

University Of Maryland Baltimore (UMB)

The University of Maryland Baltimore (UMB) is another key support system to the NCDC's success story. A recognition earlier on by the NCDC that its work and that of UMB (an agency supported by the US CDC to support NCDC's work) were progressing along nearly parallel systems led to improved engagement and collaboration between both Institutions, made easier by the remarkable leadership of Dr. Bola Gobir and Mrs Mercy Niyang at the UMB. With some members of staff from the UMB being fully embedded at the NCDC providing technical assistance, there has been great improvement in collaborative activities around improved surveillance, health emergency and response, as well as laboratory services.

UMB's excellent work has enabled the expansion of the digitalised disease reporting system (mSERS), and the development of a dashboard for a better view and analysis of weekly data received from the states. There has also been joint working in building and implementing the BLIS system for laboratory information. The UMB Team has been essential

in capacity building of colleagues at NCDC, working together for a stronger national Public Health institute.

Bill and Melinda Gates Foundation

Following the recent outbreak of Meningitis in Nigeria, the Bill and Melinda Gates Foundation has provided support to the NCDC to improve preparedness and response activities of the NCDC aimed at meningitis and other seasonal outbreaks in the country. This includes strengthening surveillance, logistics, laboratory services and other related activities at the national and state level.

Helmholtz Centre for Infection Research (HZI) / Gesellschaft für Internationale Zusammenarbeit (GIZ)

With support from the AFENET Nigeria Country Office, Helmholtz Centre for Infection Research (HZI) and Gesellschaft für Internationale Zusammenarbeit (GIZ), a new tool was developed called 'Surveillance Outbreak and Response Management System' (SORMAS). This has been deployed as a surveillance and response tool for Integrated Disease Surveillance and Response (IDSR) in two local government areas in Kano state, Nigeria. The tool will be used by LGA DSNOs to identify new cases of diseases, trace contacts, and ensure early reporting to the state and national level. This project commenced in September 2017.

Global Outbreak and Response Network (GOARN)

GOARN is a collaboration of existing institutions and networks, constantly alert and ready to respond. The network pools human and technical resources for rapid identification, confirmation and response to outbreaks of international importance. In July 2017, NCDC was officially included as a member of GOARN, with the opportunity to support outbreak response activities across the world.

Japan International Cooperation Agency (JICA)

NCDC is in the final process of signing an agreement with the Japanese Government through JICA to enhance technical, administrative and other support to our staff in line with international standard practices in the management of Public Health Institutes and

Dr Chikwe Ihekweazu with staff of the Tony Blair Institute for Governance

Laboratories. It will also develop a functional Bio-safety level three (BSL3) laboratory to conduct diagnoses and research for highly transmissible pathogens such as Ebola Virus at the National Public Health Reference Laboratory, Gaduwa, Abuja.

Public Health England (PHE)

PHE has started a project to strengthen international efforts to improve global health security, through action to increase compliance with the International Health Regulations at national and regional levels. Nigeria, through the NCDC, is one of the selected countries that will receive technical assistance from the UK Government through this project. The project will focus on strengthening Nigeria's Public Health system through providing technical expertise and input to build the system architecture necessary for effective delivery. The PHE Team visited in February and July 2017, to better understand the Nigerian health system, whilst also supporting the development of NCDC's National Health Emergency Preparedness and Response plan.

Robert Koch Institute

The MAURICE project (Manual on Universal and Outbreak Infection Prevention Control) is a joint project by the Nigeria Centre for Disease Control, and the German Robert Koch Institute, in collaboration with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and ECOWAS Regional Centre for Disease Control (RCDC). The project aims to improve patient safety during epidemic-prone outbreaks in Nigeria and plans to contribute to the update of the National Infection Prevention and Control Strategy and Policy documents.

Tony Blair Institute

The Tony Blair Institute has provided unique support to the NCDC, by ensuring the Centre has a strategy that guides the work

we do. The Institute has deployed a team that provides delivery support for the NCDC. Working with the Office of the CEO, they are helping to implement NCDC's five-year strategy plan that will improve its capacity to deliver on its mandate.

United States Agency for International Development (USAID)

MEASURE Evaluation Phase IV is a USAID-funded project being run by a consortium of five – University of North Carolina, ICF International, Palladium, Tulane University, John Snow Inc, and Management Sciences for Health. Through this project, USAID has embedded a Senior Technical Advisor (Surveillance) to the NCDC to support surveillance activities, while working with the National Tuberculosis and Leprosy Control Programme and other relevant stakeholders.

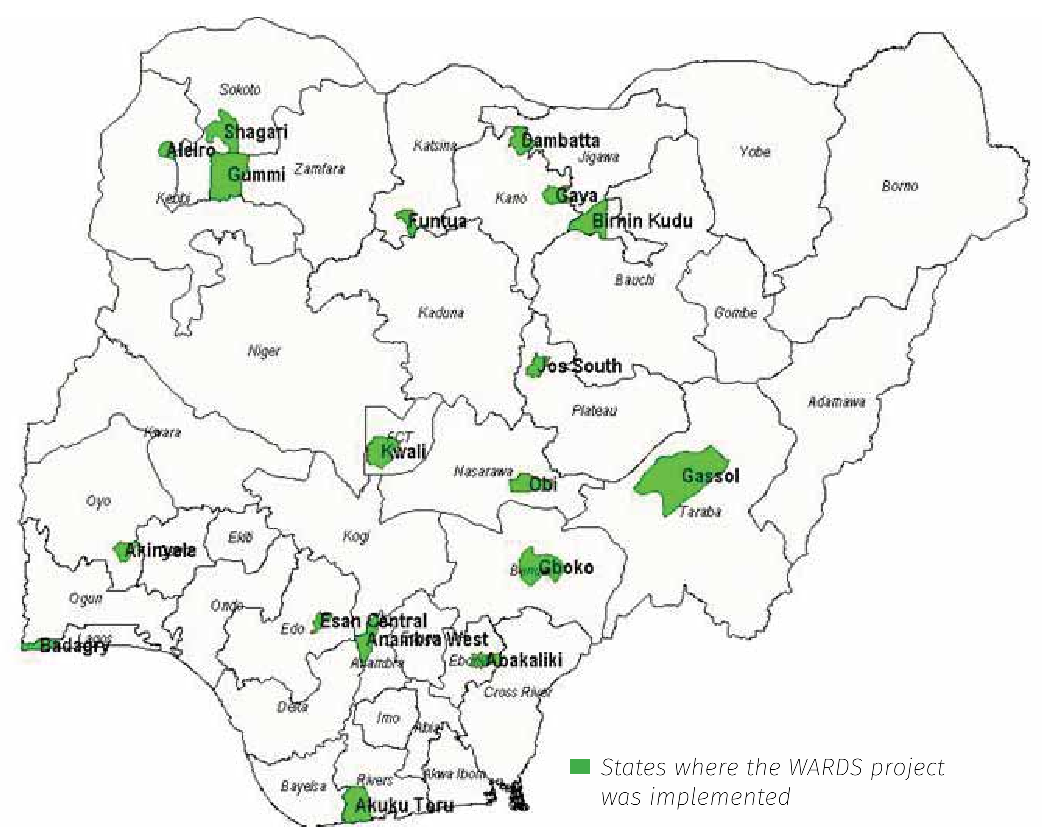
US CDC/IANPHI Project

Through the International Association of National Public Health Institutes (IANPHI), the US CDC is exploring with NCDC a proposed project which aims to help NCDC improve collection, transportation and testing of samples in the field, strengthen and expand its preparedness and emergency response capacity, and enhance risk communication capacity during outbreaks. At the end of the project period, it is envisioned that NCDC will be strengthened by being better equipped to respond to outbreaks, and coordinate emergency response activities in the country.

The West Africa Regional Disease Surveillance Capacity Strengthening Project (WARDS)

WARDS was concluded in June 2017. The project which was funded by the World Bank Africa Catalytic Growth Fund, implemented by WAHO began in 2014 with components for Regional Capacity strengthening, Strengthening Human Resources and Management Support. Eighteen LGAs were selected in 16 states

across the country. Centres for Epidemiological Surveillance (CES) were established in each of these LGAs, through the development of harmonised learning material to strengthen staff skills for disease surveillance and response. During the project, there was short-term and on the job training of frontline health workers at LGA level on field epidemiology. IT equipment including desktop computers, printers and UPS units were also provided to each CES.



States where the WARDS project was implemented

NTA Good Morning Nigeria 4-4-2017
@NTAGMN
CONTAINING THE MENINGI
8:13:08 AM
RGES PARENTS TO MONITOR ACTIVITIES OF THEIR
LIVE

7. Communications

The NCDC acknowledges that it cannot be held accountable by the public, if it does not ensure they are aware of the work it does. The Centre's social media platforms – *Twitter, Facebook* and *WhatsApp* have constantly been used to share risk communication messages, provide updates on the NCDC's activities, disseminating its *Weekly Epidemiology Report* and other details.

The NCDC has also been featured on television, radio and newspapers including interviews with *Voice of America*, British *Broadcasting Coporation (BBC) Radio*, *Voice of Nigeria, Radio Nigeria*, *CNBC*[1], *Nigerian Television Authority* (NTA), Channels Television, *Africa Independent Television (AIT)*, Punch, *Vanguard* and *Daily Trust* newspapers, and a host of others.

The NCDC website was developed and launched in September 2016 and has remained updated with disease situation reports during outbreaks, Weekly Epidemiology Reports, disease guidelines, monthly blogs from the Office of the CEO and other information.

Official email addresses were also set up for all members of staff, ensuring that communication within and outside the organisation is professional.

NCDC's *Twitter* followers have grown by over 100% in the last year, and stood at just over 4,000 in July 2017. Followers on *Facebook* increased by 269% with 7,312,881 impressions delivered.

1 *An American basic cable, internet and satellite business news television channel*

5,945

Followers on the *@NCDCgov Twitter* handle as at 12:42p.m., Nov 27, 2017

38,496

Number of likes on the *@NCDC.gov Facebook* page as at 12:42p.m., November 27, 2017

7.3 *million*

Number of *Facebook* impressions as at 12:42p.m., November 27, 2017

■ *Training opportunities for NCDC staff and State Epidemiologists, on emergency management*

8. Training

Staff development is key to workplace productivity. With growing partnerships, opportunities have been sought for members of staff of the NCDC to take part in a number of training activities between August 2016 and July 2017

NCDC's partnership with the Japanese International Cooperation Agency (JICA) includes a series of training opportunities that have been provided for NCDC staff across surveillance, laboratory and emergency response. Members of the NCDC Team have spent between one to three months in various Japenese cities being brought up to date on best practice across these areas, and have found the training rigorous, but fulfilling.

NCDC is also grateful to the US Government through the US-CDC, Association of Public Health Laboratories (APHL) and Walter Reed, for the opportunities provided for training members of the NCDC Team mostly in molecular diagnosis, microscopy and clinical chemistry. The NCDC Head of the Emergency Preparedness and Response Directorate participated in a Public Health Emergency Fellowship for three months at the US CDC campus in Atlanta, USA.

With support from the World Health Organisation (WHO), two NCDC laboratory scientists will spend eight weeks between October and December, at the Medical Research Council, Gambia, undergoing training in laboratory methods and practices as used by the MRC. The MRC provided huge support to NCDC during the 2016/2017 Meningitis outbreak.

NCDC will continue to to seek for opportunities to train and motivate its staff.

Dr John Oladejo undergoing Public Health Emergency Management (PHEM) Fellowship at US CDC, Atlanta

Mr Sebastian Yennan undergoing field epidemiology training organised by JICA in Tokyo Japan

S/N	TITLE OF TRAINING	SPONSORING ORGANIZATION	NAMES OF OFFICERS	DATE	VENUE
1	Improvement of clinical laboratory technology for infectious disease control	JICA	• Rahab Amaza	Sept 27 – Dec 3, 2016	Japan
2	Joint WAHO - CORDS Workshop on the Strengthening of National Coordinating Institutions and the Implementation of an Integrated Platform for Collection and Sharing of Health Information	WAHO	• Yashe Rimamdeyati	March 1 - 3, 2017	Accra, Ghana
3	Strengthening surveillance for seasonal and rapid response for pandemic influenza in the African Region	The CDC Influenza Division and WHO (HQ and AFRO) in collaboration with the Noguchi Memorial Institute for Medical Research (NMIMR) University of Ghana	• Idowu Olurundare • Mary Dooshima Indigeriyo-Kaan	April 3-7, 2017	Noguchi Memorial Institute for Medical Research (NMIMR) University of Ghana, Legon, Accra, Ghana.
4	Zika & Yellow Fever Diagnostics Workshop	Association of Public Health Laboratories (APHL)	• Akinpelu, Afolabi Muftau Atanda	April 24 – 28, 2017	Entebbe Uganda
5	Good Clinical Laboratory Practice Training	Walter Reed	• Eme Ekeng • Abdulateef Abdulrahim	April 25 -27, 2017	Lagos, Nigeria
6	The Use of the IAEA Genetic Sequencing Services for Member States	IAEA	• Rahab Mishara Amaza	May 1-12, 2017	Casablanca, Morocco
7	Malaria Microscopy	Walter Reed	• Temitope Johnson • Rita Ekene Osifo	May 1 -13, 2017	Lagos, Nigeria

S/N	TITLE OF TRAINING	SPONSORING ORGANIZATION	NAMES OF OFFICERS	DATE	VENUE
8	Biological Threat Readiness Leadership Training and Biosecurity Planning Workshop to be held in on	Sandia National Laboratories	• Nwando Mba • Emmanuel Agogo	May 15 – 19, 2017	Lagos, Nigeria
9	Grants management training funds for influenza and global health security grantees	The U.S Center for Disease Control and Prevention (CDC) in collaboration with the training programmes in Epidemiology and Public Health Interventions Network (TEPHINET)	• Mathew Umoh • Olanrewaju Badaru • Adedeji Adebayo	May 21 - 25, 2017	Dar es Salaam, Tanzania
10	Ending TB in the Era of Universal Health Coverage	JICA	• Kola Jinadu	May 24 – July 29, 2017	Japan
11	Clinical Chemistry and Quality Assurance	Walter Reed	• Ekwuazi Chinenye Augustina • Martins Olajide	June 5-9, 2017	Lagos, Nigeria
12	Public Health Emergency Management Fellowship opportunity	US CDC	• John Oladejo	July 10 – Nov 3, 2017	Atlanta, USA
13	Training on ePayment and eCollection for Public sector auditors	FG	• Jane Idon	April 27 – 28, 2017	Lagos, Nigeria
14	REMITA Training for Public sector accountants	CBN FG	• Okogwu Ikechukwu, Ntekim Bassey, Major Innocent, Iselobhor Michael, Danladi Usman and Balogun Mulikat	April 6 – 7, 2017 April 25 – 26, 2017	Lagos, Nigeria

■ *Africa Centres for Disease Control scientific meeting*

9. Priorities for the Coming Year

Though this last year has seen a lot of progress in the NCDC, there is however a recognition of gaps that still need addressing.. With the commitment to maintain the steady growth rate as has been outlined in this report, NCDC has also idetified the following priorities for the coming year:

Enhancing the **EOC/IMS system** at Federal level and **strengthening RRTs** at State level

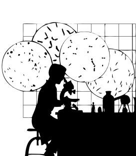
Developing and implementing an '**All Hazards' risk communication plan**

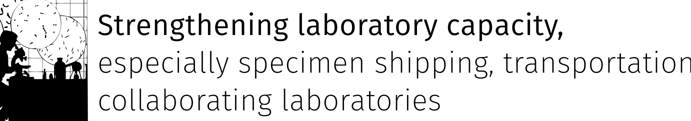
Strengthening **inter-sectoral collaboration** between human and animal health, the environmental sectors and security

Supportting the **effective take-off of activities of the ECOWAS Regional Centre for Surveillance and Disease Control/ ACDC Regional Collaborating Centre**

Building and **strengthening partnerships** nationally and globally

Legislative approval for the Bill establishing the NCDC





Strengthening laboratory capacity, especially specimen shipping, transportation, collaborating laboratories

Strengthening **disease surveillance** and response activities including **digitisation of the IDSR reporting** across all States

Implementation of the **National AMR Action Plan**

Scaling up, enhancing and sustaining the IDSR at all levels (National, State and LGA) – especially on risk assessment and response

Abbreviations

AJS	Acute Jaundice Syndrome
AWD	Acute Watery Diarrhoea
AFP	Acute Flaccid Paralysis
ACDC	Africa Centers for Disease Control and Prevention
AGF	Accountant General of the Federation
AFENET	Africa Field Epidemiology Network
AMR	Antimicrobial Resistance
AIT	Africa Independent Television
APHL	Association of Public Health Laboratories
BBC	British Broadcasting Cooperation
BLIS	Basic Laboratory Information System
CEO	Chief Executive Officer
CPHL	Central Public Health Laboratory
CES	Centres for Epidemiological Surveillance
DSNOs	Disease Surveillance and Notification Officers
EVD	Ebola Virus Disease
EOC	Emergency Operations Centre
EBS	Event Based Surveillance
FCT	Federal Capital Territory
FEC	Federal Executive Council
FMoH	Federal Ministry of Health
FR	Financial Regulations
GLASS	Global Antimicrobial Resistance Surveillance System
GHSA	Global Health Security Agenda
GOARN	Global Outbreak and Response Network
GIZ	Gesellschaft für Internationale Zusammenarbeit
RTA	Road Traffic Accident
HEPR	Health Emergency Preparedness and Response
HZI	Helmholtz Centre for Infection Research
HEV	Hepatitis E Virus
IHR	International Health Regulations
ICC	Incident Coordination Centre
IDSR	Disease Surveillance and Response
IANPHI	International Association of National Public Health Institutes
IPC	Infection Prevention and Control
IEC	Information Education and Communication
IDP	Internally Displaced Persons
JICA	Japan International Cooperation Agency
LF	Lassa fever

MAURICE	Manual on Universal and Outbreak Infection Prevention Control
MRC	Medical Research Council
MSF	Medecins Sans Frontiers
mSERS	Mobile Strengthening Epidemic Response Systems
MDAs	Ministries, Departments and Agencies
NASORM	National Surveillance and Outbreak Review Meeting
NPHRL	National Public Health Reference Laboratory
NCI	National Coordinating Institution
NSTOP	National Stop Transmission of Polio
NAFDAC	National Agency for Food and Drug Administration and Control
NAP	National Action Plan
NPHCDA	National Primary Healthcare Development Agency
NYSC	National Youth Service Corps
NCDC	Nigeria Centre for Disease Control
NTA	Nigeria Television Authourity
NFELTP	Nigeria Field Epidemiology and Laboratory Training Programme
OCV	Oral Cholera vaccination
ODK	Open Data Kit
PPEs	Personal Protective Equipment
PHE	Public Health England
PSR	Public Service Rules
RRT	Rapid Response Teams
RRI	Rapid Results Initiative
RCSDC	Regional Centre for Surveillance and Disease Control
SITAN	Situational Analysis
SORMAS	Surveillance Outbreak and Response Management System
TEPHINET	Training Programs in Epidemiology and Public Health Interventions Network
TBI	Tony Blair Institute
USAID	United States Agency for International Development
UMB	University of Maryland Baltimore
US CDC	CDC United States Centers for Disease Control and Prevention
UNICEF	United Nations International Children's Emergency Fund
VHFs	Viral Haemorrhagic Fevers
VON	Voice of Nigeria
WARDS	West African Regional Disease Surveillance
WAHO	West African Health Organisation
WHO	World Health Organisation
WHA	World Health Assembly

Notes

TheGuardian
Jonathan Declares National Emergency On Ebola

FEDERAL MINISTRY OF HEALTH - NIGERIA CENTRE FOR DISEASE CONTROL

FIRST ANNUAL REPORT OF THE NIGERIA CENTRE FOR DISEASE CONTROL (AUGUST 2016 – JULY 2017)

FEDERAL MINISTRY OF HEALTH
NIGERIA CENTRE FOR DISEASE CONTROL (NCDC)

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