NIGERIA CENTRE FOR DISEASE CONTROL
ANNUAL REPORT 2018
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ABOUT NCDC

NCDC VISION
A healthier and safer Nigeria through the prevention and control of diseases of public health importance

NCDC MISSION
To protect the health of Nigerians through evidence-based prevention, integrated disease surveillance and response activities, using a one health approach, guided by research and led by a skilled workforce

2011 YEAR OF ESTABLISHMENT

2018 NCDC BILL OF ESTABLISHMENT SIGNED INTO LAW

3 LOCATIONS
- Jabi, Abuja
- Gaduwa, Abuja
- Yaba, Lagos

6 DEPARTMENTS
- Public Health Laboratory Services
- Prevention and Programmes Coordination
- Health Emergency Preparedness and Response
- Surveillance and Epidemiology
- Finance and Accounts
- Administration and Human Resources

213 STAFF MEMBERS AS AT DECEMBER 2018

PROFILE
The Nigeria Centre for Disease Control is the country’s first public health agency with the mandate to protect the health of Nigerians, from the threat and occurrence of infectious diseases

ABOUT NCDC
The Nigeria Centre for Disease Control (NCDC) Annual Report for 2018 draws the curtain on the progress that has been made in health security in Nigeria, in the first administration of President Muhammadu Buhari.

Significant progress has been made in addressing the country’s health problems as demonstrated in this report, especially towards achievement of stronger health security- part of Sustainable Development Goal 3. We have put infectious disease prevention and control at a higher priority, improved coordination across partners working in this area, strengthened public health laboratory functions and emergency response. Importantly, the Government of Nigeria has shown strong political commitment for health by signing the Bill establishing the NCDC into an Act.

The 2018 programmes of the NCDC were based on the strategic priorities the agency identified in the NCDC 2017-2021 Strategy Plan. They were also fully aligned with the priorities of the National Health Strategic Development Plan. We are proud that the health sector of Nigeria is showing leadership in the coordination of other sectors involved in ensuring health security. This is especially evident in the development of the National Action Plan for Health Security developed by NCDC.

Despite the progress being made, there still remains challenges to be addressed to reach our goal of a healthy and safe Nigeria, free from the threat and occurrence of infectious disease outbreaks. The Federal Ministry of Health through NCDC as our agency will continue its efforts to address these together with its partners.

I would like to take this opportunity to express my sincere thanks and gratitude to all government counterparts, UN agencies especially the World Health Organisation and UNICEF, international partners and NCDC staff who have continuously worked throughout the year to record these achievements. We look forward to similar progress in the forthcoming years.

PROF. ISAAC F. ADEWOLE, FAS, FSPSP, FRCOG, DSc. (Hons)
Honourable Minister of Health
NCDC BILL TIMELINE

2007
Endorsed by 51st National Council of Health in Lagos

2010
Minister of Health, Prof Adenike Grange approves recommendation to establish NCDC and submits memo to the Fed. Exec. Council

2011
CDC project initiated via a Memo signed by the Permanent Secretary (FMOH) constituted by moving Epidemiology Division of FMOH, Avian Influenza project, and all the laboratories established by the project, and NFELTP

2015
NCDC selected as host of ECOWAS Regional CDC

2016
Bill establishing NCDC agreed by Federal Ministry of Health and Federal Ministry of Justice.

2017
Bill approved by Federal Executive Council. Sent to National Assembly

2018
Bill presented at public hearing

JANUARY 2018
Bill passed by Nigerian Senate

MARCH 2018
Bill passed by House of Representatives

JULY 2018
NCDC Act signed into law by President Muhammadu Buhari

NOVEMBER 2018
LEADERSHIP OF THE FEDERAL MINISTRY OF HEALTH

“Over the last two years, NCDC has focused on strengthening the health security of the country. We now have a fully operational National Reference Laboratory and we have established an Incident Coordination Centre, which serves as an Emergency Operations Centre during outbreaks.”

PROF. ISAAC FOLORUNSHO ADEWOLE
Honourable Minister of Health

“We are gathered to fulfill the promise of the Federal Republic of Nigeria to provide a befitting building for the #ECOWASRCSDC.”

DR. OSAGIE EhaniRe
Honourable Minister of State for Health
EXECUTIVE SUMMARY

“If you’re walking down the right path and you’re willing to keep walking, eventually you’ll make progress.” – Barack Obama

These words from former US President, Barack Obama continue to inspire us at the Nigeria Centre for Disease Control (NCDC) as we strengthen our efforts and capacity to protect the health of Nigerians.

In 2017, we restarted the process for the passage of the Bill establishing the NCDC. Our young parastatal had existed for about seven years, albeit without full legislative backing. In December 2018, the Bill was signed into an Act by the President of the Federal Republic of Nigeria. The political commitment from the Executive and Legislative arms of Government shows a recognition of the importance of the work we do, something we are extremely grateful for. The new Act provides us with a stronger backing to protect the health of all Nigerians.

Our new National Reference Laboratory is gradually taking its position as the hub of public health diagnosis in Nigeria. One of our biggest wins in the last year, has been revamping and strengthening this laboratory in Abuja and its sister campus in Lagos – the Central Public Health Laboratory. One of the biggest criticisms that we have received has been our inability to diagnose specific diseases in Nigeria and having to send samples to laboratories outside Nigeria. Currently, we have in-country capacity to test for all epidemic prone diseases in the country: Monkeypox, yellow fever, measles, cholera, Lassa fever and meningitis. We have also added the Virology Centre at the Federal Teaching Hospital Abakaliki – to our network of Viral Haemorrhagic Fever (VHF) laboratories.

Our work to strengthen diagnostic capacity would have been impossible without the support of our partners at the World Health Organisation (WHO), Public Health England (PHE) and the US Centers for Disease Control (US CDC). The National Reference Laboratory also served as the central laboratory for the Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) which was led by our sister agency, National Agency for the Control of AIDS (NACA). This is a remarkable example of collaboration to ensure government ownership and sustainability to strengthen health systems. But, there is still much work to be done, especially in getting the 2km stretch of road to the laboratory fully tarred.

When we began, we relied on paper and Excel based reporting for receiving most of our surveillance data from the states. In aligning with global best practice, Nigeria is joining the rest of the world to digitalise its operations. Relying on Excel was a difficult situation where sometimes, reports came in either very late or incomplete. In some cases, this affected response activities. To move forward, we began the digitisation of our surveillance system using a system called Surveillance and Outbreak Response Management System (SORMAS). With SORMAS, we have an application that provides case-based reporting for epidemic prone diseases. We have deployed this tool in all Local Government Areas in 11 states across the country. In addition to SORMAS, we use ‘Tatafo’ and SitAware; for incident management and event-based surveillance while Mobile Strengthening Epidemic Response Systems...
“Ultimately, we are building a strong national public health institute that can effectively protect the health of Nigerians.”

(mSers) is used for aggregate reporting. We are very grateful to our partners at the German HZI, PHE and University of Maryland, Baltimore for supporting the development and roll out of these tools. Many other national public health institutes have moved to digital tools for surveillance – and we are right up there with them.

Our emergency operations coordination has greatly improved. We now have a National Incident Coordination Centre (ICC) for coordinating outbreak preparedness and response activities in Nigeria at NCDC. With perseverance from our team at NCDC, we have also begun the roll out of state Public Health Emergency Operations Centres (PHEOC). As at the end of 2018, we had provided PHEOCs in 11 states. It has been an interesting learning process for us and we hope with this, states in Nigeria become better prepared and structured for outbreak response. We are grateful to the Bill & Melinda Gates Foundation for their support for this project.

We continue to aggressively build the workforce for health protection in Nigeria. Together with the Irrua Specialist Teaching Hospital, we trained over 500 health care workers across all the regions of Nigeria on the prevention, detection and control of Lassa fever.

At NCDC, we have started an aggressive research programme, supported by WHO to gain a better understanding of the drivers of the disease, which will help us improve our response.

There have been several other successes for us including our successful coordination of the antimicrobial resistance (AMR) response, the aggressive public health communications campaign we have begun, capacity building of the NCDC team and a greater responsibility and contribution to the global health space. Nigeria is now officially a member of the Global Health Security Agenda (GHSA) countries and the Global Outbreak and Response Network (GOARN). We have received incredible support from several partners, as we build more trust and confidence in our work.

There is no doubt that the last one year has been an extremely busy, but fulfilling one for us at NCDC. We hope you enjoy reading our annual report that covers activities from January – December 2018.

We recognise that we still have areas to improve on and continue working towards this. Ultimately, we are building a strong national public health institute that can effectively protect the health of Nigerians.

Chikwe Ihekweazu
DR CHIKWE IHEKWEAZU
Director General, Nigeria Centre for Disease Control
February 2019
HOW WE WORK
This department collects, collates and analyses data on priority diseases from the 36 states and FCT to detect outbreaks and inform policy. This is done primarily through the Integrated Disease Surveillance and Response (IDSR) strategy, an event based surveillance system. The team implements the International Health Regulation (IHR) cross-border coordination, verification, and notification, ensuring the health security of the country.

This department manages the national reference laboratories – the National Reference Laboratory (NRL) Abuja and Central Public Health Laboratory (CPHL) Lagos. The department maintains and manages the network of NCDC collaborating laboratories, spread across regions of the country.
HEALTH EMERGENCY PREPAREDNESS AND RESPONSE

This department is responsible for the mitigation of disasters and emergencies as well as the management of its impact. The team also leads or supports outbreak response activities, including the deployment of Rapid Response Teams (RRTs).

PREVENTION AND PROGRAMMES COORDINATION

This department develops health promotion and disease prevention plans which address priority endemic infectious diseases and public health threats. The department conducts research to inform policies and make evidence-based practice the foundation of all programmes.
How We Work

**Finance and Accounts**
This department is charged with the responsibility of ensuring accountability, transparency, and probity in the course of providing financial and accounting services on behalf of the agency.

**Ensures Accountability**

**Administration and Human Resources**
This department has the responsibility of ensuring smooth and effective management of human and material resources of the agency.

**Manages Human and Material Resources**

**Provides Financial and Accounting Services**
1.1 Technical Working Groups

The Technical Working Groups (TWGs) exist to provide focus on the prevention, detection, surveillance and monitoring of the six epidemic prone diseases and other priority public health issues.

The groups meet weekly, monitor trends of cases, develop and review guidelines, communication materials and other preparedness activities. During outbreaks, these groups are escalated to Emergency Operations Centres.
SUMMARY OF OUTBREAKS AND RAPID RESPONSE TEAM DEPLOYMENTS: JAN - DEC 2018
For nearly every week in 2018, NCDC had Rapid Response Teams (RRTs) deployed to support states. Between January and December 2018, the Nigeria Centre for Disease Control supported 21 states, in responding to various disease outbreaks. There were 51 deployments of RRTs to states.

Zamfara State had the highest number of outbreaks (5) supported by NCDC. Adamawa, Bauchi, Edo and Katsina states received support for 4 outbreaks each. For these outbreaks, NCDC RRTs deployed for three different diseases per state. The average number of days per deployment was 8.9 days with the number of days (range 3-28 days). Proportion of outbreaks investigated with at least one trained field epidemiologist was 84.4% (38 of 45).

The NCDC continues to provide support for infectious disease preparedness, surveillance and response in the North-East. This is part of the Federal Government’s efforts to rebuild the North-East following the insurgency and humanitarian crisis.
Map of Nigeria highlighting States where outbreaks occurred and were supported by NCDC in investigation and response

Current work location of trained field epidemiologists in Nigeria
Summary of outbreaks and rapid response team deployments: Jan - Dec 2018

Number of deployments per disease for Jan-Nov, 2018

TOTAL NUMBER OF DEPLOYMENTS FOR THE DIFFERENT DISEASES, 2018

- **CHOLERA**: 11
- **BOTULISM**: 3
- **FLOODING**: 1
- **MEASLES**: 1
- **YELLOW FEVER**: 8
- **CSM**: 8
- **LASSA FEVER**: 14

RRT deployment per disease area per month

Number of deployments per disease for Jan-Nov, 2018

<table>
<thead>
<tr>
<th>Month</th>
<th>Cholera</th>
<th>Botulism</th>
<th>Flooding</th>
<th>Measles</th>
<th>Yellow Fever</th>
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RRT deployment per disease area per month

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<th>Month</th>
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SIGNIFICANT ACCOMPLISHMENTS IN 2018
3.1 Department of Disease Surveillance and Epidemiology

Collects, collates and analyses data on priority diseases using the Integrated Disease Surveillance and Response (IDSR) strategy.
3.11 Launch of National Action Plan for Health Security (NAPHS)

Following the Joint External Evaluation (JEE) of International Health Regulations (IHR) in 2017, Nigeria developed a National Action Plan for Health Security (NAPHS). This was coordinated by NCDC as the IHR national focal point of Nigeria. The NAPHS was launched by the Honourable Minister of Health Professor Isaac Adewole, in December 2018. This framework is an important output from the Joint External Evaluation of IHR capacities in 2017, and will guide NCDC’s coordination of the multiple sectors responsible for health security activities.
3.12 Establishment of National Surveillance Technical Working Group

In 2018, a national surveillance Technical Working Group was established involving all the relevant stakeholders and partners. This includes vertical programmes across the Federal Ministry of Health as well as other national and international partners. This group will support NCDC’s vision to support disease control programmes in Nigeria with the relevant data for response activities in line with the NCDC Act, and ensure improved communication between the agency and other programmes.

3.13 Integrated Training for Surveillance Officers in Nigeria (ITSON)

In 2018, NCDC commenced a project to harmonise surveillance training modules delivered to surveillance officers at the Local Government and State levels in Nigeria. This includes modules from the frontline epidemiology programme, West African Regional Disease Surveillance (WARDS) programme, IDSR training, SORMAS training etc. The new ITSON programme also includes modules on infection prevention and control (IPC), Emergency Operations Centre (EOC) as well as digital surveillance activities.
3.14 Digital Surveillance Tool – Surveillance and Outbreak Review Management System (SORMAS)

SORMAS was adopted in 2017 in Nigeria, and has been fully deployed in 194 Local Government Areas (LGAs) in 11 States. It has also been deployed albeit not fully, in 17 other LGAs across five States. In 2018, an updated version was introduced.
3.15 Launch of SITAware

With support from Public Health England, a SITAware tool was introduced. The tool is used as an incident logging system developed for early real time reporting and notification of outbreaks among NCDC staff.

3.16 One Health Strategy Plan

The One Health strategy plan was finalised with input and collaboration across the agency and with relevant stakeholders. This was supported by the Global Implementation Solutions in the US. The One Health strategy plan defines the role of various partners—especially in the health, animal health and environmental sectors – in the prevention, detection and control of infectious diseases in Nigeria.
3.17 Animal Surveillance for Zoonotic Diseases

For the first time, in collaboration with the US CDC and counterparts at the Federal Ministry of Agriculture and Rural Development, we began rodent and small animal trapping. The goal was to understand the epidemiology of the monkeypox virus in animals in Cross River and Edo States. Results are currently being analysed to inform our response. Samples collected will also be tested for the Lassa fever virus. When Nigeria recorded its first case of monkeypox after 40 years in 2017, there was sparse evidence on the disease reservoir. This activity is part of the approach by NCDC to improve knowledge of the disease and guide control activities.
3.2 Department of Laboratory Services

The Department leads the diagnosis of public health diseases in Nigeria through the National Reference Laboratory (NRL) and network of public health laboratories.

71 MEMBERS OF STAFF
3.21 Progress of the National Reference Laboratory

May 13, 2017
First test of Cerebrospinal Meningitis took place with the support of a personnel from Medical Research Council (MRC), The Gambia.

June 1, 2017
The first general team meeting held at the NRL Gaduwa. This marked the complete transfer of NTRL activities from Asokoro District Hospital, Abuja to the permanent location at Durumi III, Gaduwa.

July 30, 2017
Molecular diagnoses of meningitis, Avian Influenza, Cholera, Viral Haemorrhagic Fevers (VHFs).

Currently
Tests mostly for measles, rubella, yellow fever, monkeypox, cholera, Lassa fever and meningitis at NRL.
3.22 Central Laboratory for National HIV/AIDS Indicator and Impact Survey (NAIIS)

The National Reference Laboratory was selected to serve as the central laboratory for Nigeria’s largest HIV/AIDS indicator survey. This requires the testing of samples from satellite laboratories across the country, and storage of these samples in a large biorepository. The Nigerian government has shown exemplary leadership of this survey, through the strong collaboration between the National Agency for the Control of AIDS (NACA) and NCDC.
3.23 Infrastructure Improvement

The Central Public Health Laboratory, a campus of the National Reference Laboratory was renovated and wears a new look in its central location in Yaba, Lagos. The laboratory continues to lead on measles, yellow fever, meningitis and cholera diagnosis for the Southern region of the country.

Before and After: CPHL, Yaba Lagos

Part of the road leading to the National Reference Laboratory was repaired for ease of movement.

Before and After: Gaduwa Road, Abuja
3.24 Network of Public Health Laboratories

Across the country, the network of public health laboratories has been strengthened and better defined for epidemic prone diseases. These laboratories have been supported with reagents, supplies and training opportunities to ensure a strong system and link with the National Reference Laboratory. A Memorandum of Understanding (MOU) was signed among the Lassa fever laboratories. This has largely been supported by the World Health Organization (WHO) and Resolve To Save Lives (RTSL).
## NCDC Laboratory Network

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<tr>
<th>NAME</th>
<th>STATE</th>
<th>CLUSTER</th>
<th>REF ID</th>
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<tbody>
<tr>
<td><strong>NCDC National Reference Laboratory (NRL), Gaduwa, Abuja</strong></td>
<td>FCT</td>
<td>Yellow Fever/Measles/Rubella, CSM/Cholera, Lassa/VHF, Influenza, Monkeypox</td>
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<td>AMR</td>
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<td><strong>National Hospital, Abuja</strong></td>
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<td><strong>Yusuf Dantsoho Hospital, Kaduna</strong></td>
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<td><strong>Maitama District Hospital, Abuja</strong></td>
<td>FCT</td>
<td>Yellow Fever/Measles, Rubella</td>
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<tr>
<td><strong>Cross River General Hospital, Calabar</strong></td>
<td>Cross River</td>
<td>CSM/Cholera</td>
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<tr>
<td><strong>Plateau General Hospital, Jos</strong></td>
<td>Plateau</td>
<td>CSM/Cholera</td>
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<tr>
<td><strong>Abubakar Tafawa Balewa Teaching Hospital, Bauchi</strong></td>
<td>Bauchi</td>
<td>CSM/Cholera</td>
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</table>
## SIGNIFICANT ACCOMPLISHMENTS IN 2018

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATE</th>
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<tbody>
<tr>
<td>21 Infectious Disease Hospital, Kano</td>
<td>Kano</td>
<td>CSM/Cholera</td>
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<tr>
<td>22 Yusuf Dantsoho Hospital, Kaduna</td>
<td>Kaduna</td>
<td>CSM/Cholera</td>
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<td>23 State Public Health Laboratory, Katsina</td>
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<td>24 University of Maiduguri Teaching Hospital, Maiduguri</td>
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<td>25 General Hospital, Damaturu</td>
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<td>26 Ahmad Sani Yariman Bakura Specialist Hospital, Gusau</td>
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<td>27 Public Health Laboratory, Sokoto</td>
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<td>28 General Hospital, Lafia</td>
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<td>29 General Hospital, Ilorin</td>
<td>Kwara</td>
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<tr>
<td>30 General Hospital, Yola</td>
<td>Adamawa</td>
<td>CSM/Cholera</td>
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<td>31 State Specialist Hospital, Jalingo</td>
<td>Taraba</td>
<td>CSM/Cholera</td>
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<td>32 General Hospital, Minna</td>
<td>Niger</td>
<td>CSM/Cholera</td>
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<td>33 Federal Medical Centre, Makurdi</td>
<td>Benue</td>
<td>CSM/Cholera</td>
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<td>34 Rasheed Shekoni Specialist Hospital, Dutse</td>
<td>Jigawa</td>
<td>CSM/Cholera</td>
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<td>36 Sir Yahaya Memorial Hospital, Birnin Kebbi</td>
<td>Kebbi</td>
<td>CSM/Cholera</td>
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<tr>
<td>37 Nnamdi Azikiwe University Teaching Hospital, Nnewi (Sentinel Site)</td>
<td>Anambra</td>
<td>Influenza</td>
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<tr>
<td>38 Lagos State University Teaching Hospital (LASUTH), Ikeja (Sentinel Site)</td>
<td>Lagos</td>
<td>Influenza</td>
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<tr>
<td>39 Aminu Kano Teaching Hospital, Kano (Sentinel Site)</td>
<td>Kano</td>
<td>Influenza</td>
<td>6</td>
</tr>
<tr>
<td>40 Asokoro District Hospital, Abuja (Sentinel Site)</td>
<td>FCT</td>
<td>Influenza</td>
<td>22</td>
</tr>
<tr>
<td>41 University of Nigeria Teaching Hospital (UNTH), Enugu</td>
<td>Enugu</td>
<td>Yellow Fever/Measles/ Rubella</td>
<td>29</td>
</tr>
</tbody>
</table>
### 3.25 New Sample Transportation System

In April 2018, NCDC introduced a new sample transportation system. This ensures rapid movement of samples from state capitals through a private courier system, to public health laboratories working with NCDC. In 2018, nearly 1,000 samples were transported across the country. This has improved the time-lag between collection of samples, transfer, testing and results which has an impact on response activities.

**Turn around time between sample collection and testing of Lassa fever samples received at NRL Abuja during the 2018 outbreak**

![Histogram showing the percentage distribution of sample turnaround times](image-url)
3.3 Department of Health Emergency Preparedness and Response

Manages Preparedness, Response, Supply chain and Logistics functions of the agency.
3.31 Establishment of State Public Health Emergency Operations Centres (PHEOCs)

In 2018, with support from the Bill & Melinda Gates foundation and the West African Health Organization (WAHO), NCDC began a project to establish state level PHEOCs. This has now been completed in 11 states.
3.32 Simulation Exercises

For the first time, NCDC conducted simulation exercises as part of preparedness functions. With support from WAHO, a large simulation exercise on yellow fever was held in Lagos State. With support from Public Health England and WHO, two simulation exercises were carried out to test the recently developed Infectious Diseases Outbreak Preparedness and Response plan and operations of the state EOCs.
3.33 Rapid Response Team Development and Strengthening

The Department led the development of a national rapid response training manual to guide the deployment of RRTs. Two groups of national RRTs were also trained.
3.34 Establishment of National First Responders Team (N-FIRST)

Leveraging on the lessons learnt from the 2014 Ebola outbreak in Nigeria, NCDC established a National First Responders Team (N-FIRST) in 2018. This team is expected to be on alert and ready for deployment, in the event of a highly pathogenic infectious disease outbreak such as Ebola. They include medical doctors, pathologists, laboratory scientists and other professionals. In addition to the establishment of the N-First, there were training opportunities within and outside Nigeria. This is similar to the Emergency Medical Team (EMT) concept as introduced by WHO.

Nigeria’s N-FIRST

N-FIRST in training at the Infectious Disease Hospital, Yaba
3.35 Medical Countermeasures (MCM) Plan

With support from the United States Centers for Disease Control and working closely with relevant stakeholders from Ministries, Departments and Agencies (MDAs) of the Government of Nigeria, NCDC coordinated the development of a national Medical Countermeasures (MCM) plan for the country. This plan guides the deployment of medical countermeasures during public health emergencies and disasters, as well as the role of the various government agencies with this responsibility.
3.4 Department of Prevention and Programmes Coordination

Develops health promotion and disease prevention plans which address priority endemic infectious diseases

26 MEMBERS OF STAFF
3.41 Antimicrobial Resistance (AMR) Surveillance and Awareness

The NCDC continues to lead the surveillance of AMR in Nigeria. NCDC led the commemoration of the 2018 World Antibiotics Awareness Week in Nigeria. This included an awareness walk, spelling bee competition for secondary schools, an AMR policy dialogue, as well as television and radio appearances.

The NCDC set up a national One Health coordination mechanism for AMR surveillance; held two national AMR-TWG meetings and enrolled laboratories in the global External Quality Assurance (EQA). Nigeria submitted AMR data to the Global surveillance system for the first time.
3.42 New National Risk Communications Working Group

A multi-sectoral risk communication technical working group was formed. The group conducted a situation analysis and developed an all hazards risk communications plan to support communications during public health crises.

Risk Communications activities
3.43 New Research, Training and Knowledge Management (RTKM) Unit

In line with the NCDC strategy, the department has activated a new knowledge management and learning unit for the agency. The aim is to build a critical mass of trained NCDC staff, epidemiologists and health workforce in the country. The unit will also support the conduct of research needed to inform evidence-based policies and practice.
3.44 Improvement of Infection Prevention Control (IPC) Measures

Working with the Robert Koch Institut (RKI), we began a project to improve IPC outcomes in health facilities. Through the project, a national technical working group for IPC was created, a harmonised national manual was developed and frontline health care workers were also trained.
3.5 Department of Administration and Human Resources

Public health administration professionals manage all aspects of the public health organisation, which includes the oversight of budgets, programs, staff among many others.
3.51 Recruitment of New Staff

In the year under review, the Department of Administration managed the intake of some new members of staff into the agency, following approval from the Office of the Head of Service. The increase in staff strength to 231 will enable the agency to continue working towards the delivery of its mandate.

All members of staff are also now included in the Integrated Payroll and Personnel Information System (IPPIS) of the Government of Nigeria.
3.52 Infrastructure Development

Well planned and adequate infrastructure is important in the delivery of our functions. The agency acquired new vehicles, completed the renovation of the Central Public Health Laboratory (CPHL) and the road leading to the National Reference Laboratory (NRL) in Gadauwa.

New vehicles

Renovation works at CPHL, Yaba Lagos

Road works at NRL Gadauwa Road, Abuja
3.53 Staff Welfare

All work and no play! The Department organised the establishment of a sports club and cooperative society for members of staff.

NCDC at Walk-the-Talk event organised by WHO
3.54 Staff Vaccination Exercise

In 2018, we began a programme to provide all staff with the vaccines required to protect them against infectious diseases. All staff in our Lagos and Abuja campuses were vaccinated against meningitis and yellow fever.
NEW PROJECTS IN 2018
NEW PROJECTS IN 2018

**REDISSE**
A $90m credit by the World Bank to address systemic weaknesses within the human and animal health sectors. Implemented in collaboration with Federal Ministry of Agriculture.

**States Public Health Emergency Operations Centre Establishment**
Focused on establishing state level EOCs and training state staff on incident management capacities and its utilisation. Implemented with support from the Bill & Melinda Gates Foundation.

**MAURICE Project**
Focused on developing a training manual and implementing training activities to improve infection prevention and control (IPC) among healthcare workers in Nigeria. Implemented in two states with support from Robert Koch Institute.

**IHR Strengthening**
Focused on strengthening emergency preparedness, resilience and response, enhancing national surveillance systems and public health laboratory networks. Implemented with support from Public Health England.

**Alliance for Epidemic Preparedness and Response (A4EPR)**
Innovative platform for private sector engagement, by the Private Sector Health Alliance of Nigeria (PHN) and NCDC. Launched by Honourable Minister of Health.
PARTNERSHIPS
5.1 New Partnerships

**CEPI**
Supporting innovations for Lassa fever response

**UK PUBLIC HEALTH RAPID SUPPORT TEAM (UK-PHRST)**
Supporting outbreak response activities

**RESOLVE TO SAVE LIVES**
Supporting institutional development including implementation of National Action Plan for Health Security (NAPHS) and Regional Disease Surveillance Systems Enhancement (REDISSE) Project.

**PRIVATE SECTOR HEALTH ALLIANCE OF NIGERIA**
Supporting collaborations with the private sector for health security
5.2 Existing Partnerships for Global Health Security

**World Health Organisation (WHO)**
In Nigeria, WHO works very closely with NCDC as the national public health institute. During outbreaks, staff from WHO initiate a joint response with NCDC. In addition, WHO supports strengthening of in-country capacity across pillars of emergency response, laboratory capacity and disease surveillance.

**Africa Centres for Disease Control and Prevention (Africa CDC)**
Nigeria is the West African regional hub of the Africa CDC. The Africa CDC in its coordination role continues to support organisational development and support to other West African countries Nigeria through NCDC. In 2018, ACDC supported the response to Lassa fever and monkeypox outbreaks.

**West African Health Organisation (WAHO)**
Nigeria is the host of the West Africa Regional Centre for Surveillance and Disease Control (RCSDC) coordinated by WAHO. In 2018, WAHO supported the response to outbreaks of yellow fever and Lassa fever, organised a large scale simulation exercise in Lagos State and other institutional support.

**Centers for Disease Control and Prevention (CDC)**
When the NCDC was established in 2011, it was modelled after the US CDC. Seven years after, the US CDC continues to provide strong support to the growth of the agency. In addition to support for programmes and projects, US CDC Global Health Programme country office staff work closely with the NCDC headquarters in Abuja.

**African Field Epidemiology Network (AFENET)**
AFENET works closely with NCDC, especially in the delivery of the Nigerian Field Epidemiology and Laboratory Training Programme (NFELTP). In addition, several NCDC/AFENET collaborations have led to the successful delivery of programmes in Nigeria.

**Bill & Melinda Gates Foundation**
The Bill & Melinda Gates foundation supports NCDC in its institution strengthening and development process. Through the foundation’s support, NCDC began a project to develop a strategy plan, drive implementation of leadership management and development courses for staff etc. In addition, the foundation supported the response to CSM and Lassa fever outbreaks.
Japan International Cooperation Agency (JICA)
The Government of Japan through JICA is supporting Nigeria through NCDC, in establishing a Biosafety Level 3 laboratory, as well as strengthening the network of public health laboratories.

ProHealth International
With support from the US CDC, Pro Health works primarily with the Port Health Services, but also with NCDC to strengthen surveillance at the borders in Nigeria.

Public Health England (PHE)
In 2018, the Government of Nigeria signed a Memorandum of Understanding with the Government of the United Kingdom. This programme to be implemented between the national public health institutes of both countries (NCDC and PHE) will focus on strengthening capacity across laboratory services, health emergency preparedness and response, surveillance and epidemiology.

Robert Koch Institut (RKI)
In supporting each other, NCDC works with national public health institutes include the German RKI, to implement health security programmes. The RKI supports Antimicrobial Resistance (AMR) and infection prevention control (IPC) activities implemented by NCDC.

Resolve to Save Lives
This relatively new non-governmental organisation in the United States of America, has supported programme management and implementation strengthening in Nigeria. RESOLVE played a key role in supporting the development of Nigeria’s NAPHS and has three members of staff embedded in NCDC to support large projects such as REDISSE.

United Nations Children’s Fund (UNICEF)
Within its mandate, UNICEF supports NCDC in developing and implementing risk communications strategies for disease outbreaks and public health emergencies.

University of Maryland Baltimore (UMB)
The UMB is a close partner of NCDC, supporting activities across surveillance strengthening and capacity development. Members of staff of UMB work very closely with NCDC including in the response to outbreaks.
International Association of National Public Health Institutes (IANPHI)
NCDC is a member of IANPHI, providing a framework of collaboration among national public health institutes. IANPHI has supported NCDC through grants for capacity development in emergency response, risk communications and sample transportation manual development.

Tony Blair Institute (TBI)
Supported by the Gates Foundation, the Tony Blair Institute (TBI) has three staff working within NCDC Headquarters. They support roles around strategy implementation, communications and partnerships.

5.3 National Partnerships

Federal Ministry of Health (FMoH)
Parent Ministry

National Primary Health Care Development Agency (NPHCDA)
Collaboration for vaccine preventable diseases.

National AIDS Control Agency (NACA)
Collaboration in the delivery of Nigeria AIDS Indicator and Impact Survey.

Federal Ministry of Agriculture and Rural Development (FMARD)
Collaboration in the preparedness for and response to zoonotic diseases and Antimicrobial Resistance surveillance.

Federal Ministry of Environment (FMEnv)
Collaboration in response to Lassa fever, cholera and Antimicrobial Resistance surveillance.

5.4 Other National Partnerships

Nigerian Institute of Medical Research (NIMR)

Nigerian Institute for Pharmaceutical Research and Development (NIPRD)

Ministry of Defence Health Implementation Programme
BUILDING A WORKFORCE FOR HEALTH SECURITY
6.1 Staff Training

- **2 STAFF**
  - Measles/serology Diagnosis
  - Location: Atlanta, UNITED STATES
  - Sponsor: US CDC

- **2 STAFF**
  - Biological Safety Training
  - Location: UNITED STATES
  - Sponsor: US DTRA

- **2 STAFF**
  - Virology Laboratory Training
  - Location: UNITED KINGDOM
  - Sponsor: PHE

- **2 STAFF**
  - Antimicrobial Response
  - Location: GERMANY
  - Sponsor: RKI

- **2 STAFF**
  - Molecular Diagnosis Pathogen Determination Techniques
  - Location: CHINA
  - Sponsor: China CDC

- **2 STAFF**
  - Biomedical Engineering
  - Location: JAPAN
  - Sponsor: JICA

- **1 STAFF**
  - Regional Risk Communication and Emergency Communication Training
  - Location: Dakar, SENEGAL
  - Sponsor: WHO

- **1 STAFF**
  - Noma Surveillance and Management
  - Location: Abuja, NIGERIA
  - Sponsor: MSF

- **1 STAFF**
  - IPC Training Workshop
  - Location: Lagos, NIGERIA
  - Sponsor: RKI

- **2 STAFF**
  - Global Outbreak Response Training
  - Location: Brazzaville, CONGO
  - Sponsor: WHO & PHE

- **10 STAFF**
  - Rapid Response Team Training
  - Location: UGANDA
  - Sponsor: WHO

- **1 STAFF**
  - Biosafety Twinning
  - Location: Zanzibar, TANZANIA
  - Sponsor: US DTRA
6.2 Nigeria Field Epidemiology and Training Programme (NFELTP)

- Began in 2008
- 270 Graduates since establishment
- 2 Cohorts in training
- 1,100 Surveillance officers trained in frontline epidemiology in Nigeria
- 10 Graduates working as state epidemiologists
- 20 Graduates working in NCDC
- 430 Residents admitted since establishment
- 10 Years of existence
- 2018 Gained global accreditation
- 8 Cohorts graduated

NFELTP
6.3 National Training of Health Workers on Lassa Fever Management and Response

- 253 Participants were trained
- 60 Physicians
- 40 Health Educators
- 44 Nurses
- 28 Epidemiologists
- 44 Laboratory Scientists
- 39 Surveillance Officers

Joint Collaboration Between NCDC and IRRUA Specialist Teaching Hospital
RESEARCH AND DEVELOPMENT AT NCDC
7.1 NCDC Research Activities

Research papers published in 2018

- **Improving epidemiological response: lessons learnt from successive outbreaks in Nigeria**
  
  Authors: Assad Hassan, Muhammad Balogun, Mahmood Dalhat, Chikwe Ihekweazu

- **Use of the staged development tool for assessing, planning, and measuring progress in the development of national public health institutes**
  
  Authors: Ezra J. Barzilay, Henry Vandi, Sue Binder, Ifeyinwa Udo, Martha L. Ospina, Chikwe Ihekweazu, and Shelly Bratton

- **Two cases of monkeypox imported to the United Kingdom, September 2018**
  

- **Meningococcus serogroup C clonal complex ST-10217 outbreak in Zamfara State, Northern Nigeria**
  
• **Metagenomic sequencing at the epicenter of the Nigeria 2018 Lassa fever outbreak.** *Science.* December 2018

• **Notes from the Field: Responding to an outbreak of monkeypox using the One Health approach – Nigeria, 2017–2018**
  Authors: Womi-Eteng Eteng, MSc; Anna Mandra, DVM; Jeff Doty; Adesola Yinka-Ogunleye, DDS; Sola Aruna, MD; Mary G. Reynolds, PhD; Andrea M. McCollum, PhD; Whitni Davidson, MPH; Kimberly Wilkins; Muhammad Saleh, MPH; Oladipupo Ipadeola, MSc; Lamin Manneh; Uchenna Anebonam, MPH; Zainab Abdulkareem, DVM; Nma Okoli, DVM; Jeremiah Agenyi; Chioma Dan-Nwafor, MPH; Ibrahim Mahmodu, MPH; Chikwe Ihekweazu, MD

• **Time delays in the response to the Neisseria meningitidis serogroup C outbreak in Nigeria – 2017**
  Authors: Assad Hassan, G. U. Mustapha, Bola B. Lawal, Aliyu M. Na’uzo, Raji Ismail, Eteng Womi-Eteng Oboma, Oyeronke Oyebanji, Jeremiah Agenyi, Chima Thomas, Muhammad Shakir Balogun, Mahmood M. Dalhat, Patrick Nguku, Chikwe Ihekweazu

• **Re-emergence of Human Monkeypox in Nigeria, 2017**
  Authors: Adesola Yinka-Ogunleye Comments to Author, Olusola Aruna, Dimie Ogoina, Neni Aworabhi, Womi Eteng, Sikiru Badaru, Amina Mohammed, Jeremiah Agenyi, E.N. Etebu, Tamuno-Wari Numbere, Adolphe Ndoreraha, Eduard Nkunzimana, Yahyah Disu, Mahmood Dalhat, Patrick Nguku, Abdulaziz Mohammed, Muhammad Saleh, Andrea M. McCollum, Kimberly Wilkins, Ousmane Faye, Amadou Sall, Christian Happi, Nwando Mba, Olubumi Ojo, and Chikwe Ihekweazu

• **Genomic characterisation of human monkeypox virus in Nigeria (IP Dakar) January 16, 2018**
  Authors: Ousmane Faye, Catherine B Pratt, Martin Faye, Gamou Fall, Joseph A Chitty, Moussa M Diagne, Michael R Wiley, Adesola F Yinka-Ogunleye, Sola Aruna, Ebitimitula N Etebu, Neni Aworabhi, Dimie Ogoina, Wari Numbere, Nwando Mba, Gustavo Palacios, Amadou A Sall, Chikwe Ihekweazu
7.2 NCDC Journal Club

- Quarterly meetings to discuss trending infectious disease research issues.

7.3 National Surveillance and Outbreak Review Meeting (NaSORM)

- Takes place every Thursday at NCDC Situation Room to review outbreak response, surveillance data and define interventions.
7.4 National Lassa Fever Research Consortium

Virology Centre, Federal Teaching Hospital Abakaliki, Ebonyi State, Nigeria

African Field Epidemiology Network, Abuja office, Nigeria

The London School of Hygiene & Tropical Medicine, Camden, London, UK

African Centre of Excellence for Genomics of Infectious Diseases, Redeemers University, Ede, Osun State, Nigeria

Nigeria Centre for Disease Control, Abuja, FCT, Nigeria

Rodent Study Group on Lassa fever, Natural History Museum, Obafemi Awolowo University, Ile- Ife, Osun State, Nigeria

Irrua Lassa Fever Research & Treatment Centre, Irrua Specialist Teaching Hospital, Edo State, Nigeria

Infection Control Centre, Federal Medical Centre, Owo, Ondo State, Nigeria

Bernard Nocht Institute, Virology Department, Hamburg, Germany

LASSA FEVER RESEARCH CONSORTIUM
MEMORANDUM OF UNDERSTANDING SIGNED 15TH JANUARY, 2019
MAJOR EVENTS/ACTIVITIES IN 2018
8.1 The Bill for an Act to establish the Nigeria Centre for Disease Control signed by President Muhammadu Buhari – November 2018
8.2 Launch of the National Action Plan for Health Security by Honourable Minister of Health – December 2018
8.3 Visit of the WHO Director General to Nigeria Centre for Disease Control – April 2018
8.4 Diplomatic Visit to the NCDC National Reference Laboratory Gaduwa, Abuja by the Canadian High Commissioner, Christopher Thornley – March 2018
8.5 Diplomatic Visit to the NCDC Administrative Headquarters, Abuja by US Ambassador to Nigeria, Stuart Symington – September 2018
8.6 Launch of the Alliance for Epidemic Preparedness and Response by Honourable Minister and Minister of State for Health – August 2018
8.7 NCDC/NFELTP Annual Conference and 10th Anniversary of NFELTP – November 2018
OUR ONLINE PRESENCE

- info@ncdc.gov.ng
- @ncdcgov
- www.facebook.com/ncdcgov
- ncdc.gov.ng
- Nigeria Centre for Disease Control NCDC
9.1 New Twitter Followers

9.2 Number of Twitter Followers in 2018
9.3 Number of Facebook Likes in 2018

38,864
Total number of page likes at the end of 2018

448
New page likes during 2018 for
www.facebook.com/ncdcgov

9.4 Connect-centre Surveillance Query Channels in 2018

Connect Centre

63.1% Phone calls

31.9% WhatsApp

5% SMS

1,149 queries

366 WhatsApp

58 SMS

728 Phone calls
9.5 Event Based Surveillance – Top Trending Diseases

- Lassa Fever: 10,485
- HIV/AIDS: 7,263
- Ebola: 7,263
- Malaria: 4,047
- Cholera: 3,872
- Polio: 2,893
- Other Diseases: 3,932

Total Trending Diseases: 81

9.6 Event Based Surveillance – Top Trending Rumours

- Verified and Confirmed True: 71
- False: 5
- Discarded: 8

Total Detected Rumours: 81
9.7 Social and Media Events for Public Health Surveillance

**IN NUMBERS**

- **9** Epidemic Prone Diseases (EPDS) Tрендed in 2018
- **10,485** Hits for Lassa Fever as the top trending Epidemic Prone Disease (EPD) in 2018
- **3** Poisonous Substance/Soothe Cases (Osun, Delta and Rivers) investigated and verified
- **2,384** Hits from Abuja, the top trending location for Event Based Surveillance in 2018
- **39** Diseases/Conditions hits captured in the trends
- **29,681** Posts on Twitter as it emerged the top trending social media source for Event Based Surveillance in 2018
5 PRIORITIES FOR THE NEXT ONE YEAR
1. FULLY OPERATIONALISED campuses of National Reference Laboratory and network of public health laboratories

2. NETWORKED State public health emergency operations centres across Nigeria

3. WELL-ALIGNED AND SKILLED surveillance officers at state and Local government level in Nigeria

4. FULLY ADOPTED digital surveillance tool across the country

5. COMPETENT AND TRUSTED workforce at the Nigeria Centre for Disease Control
# ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>A4EPR</td>
<td>Alliance for Epidemic Preparedness and Response</td>
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<tr>
<td>ACDC</td>
<td>Africa Centres for Disease Control</td>
</tr>
<tr>
<td>AFENET</td>
<td>African Field Epidemiology Network</td>
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<tr>
<td>AMR</td>
<td>Anti-microbial Resistance</td>
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<td>BNITM</td>
<td>Bernhard Nocht Institute for Tropical Medicine</td>
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<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
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<tr>
<td>CPHL</td>
<td>Central Public Health Laboratory</td>
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<td>CSM</td>
<td>Cerebrospinal Meningitis</td>
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<td>EMT</td>
<td>Emergency Medical Team</td>
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<tr>
<td>EOCs</td>
<td>Emergency Operation Centres</td>
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<tr>
<td>EQA</td>
<td>External Quality Assurance</td>
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<tr>
<td>GHSA</td>
<td>Global Health Security Agenda</td>
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<tr>
<td>GOARN</td>
<td>Global Outbreak and Response Network</td>
</tr>
<tr>
<td>ICC</td>
<td>Incident Coordination Centre</td>
</tr>
<tr>
<td>IDSR</td>
<td>Integrated Disease Surveillance and Response</td>
</tr>
<tr>
<td>IHR</td>
<td>International Health Regulations</td>
</tr>
<tr>
<td>IPC</td>
<td>Infection, Prevention and Control</td>
</tr>
<tr>
<td>IPPIS</td>
<td>Integrated Payroll and Personnel Information System</td>
</tr>
<tr>
<td>ITSON</td>
<td>Integrated Training for Surveillance Officers in Nigeria</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<tr>
<td>JEE</td>
<td>Joint External Evaluation</td>
</tr>
<tr>
<td>LASUTH</td>
<td>Lagos State University Teaching Hospital</td>
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<tr>
<td>LUTH</td>
<td>Lagos University Teaching Hospital</td>
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<tr>
<td>MCM</td>
<td>Medical Countermeasures</td>
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<tr>
<td>MDAs</td>
<td>Ministries, Departments and Agencies</td>
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<tr>
<td>MRC</td>
<td>Medical Research Council</td>
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<tr>
<td>N-FIRST</td>
<td>National First Responders Team</td>
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<tr>
<td>NACA</td>
<td>National Agency for the Control of AIDS</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>NAIIS</td>
<td>Nigeria HIV/AIDS Indicator and Impact Survey</td>
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<tr>
<td>NAPHS</td>
<td>National Action Plan for Health Security</td>
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<tr>
<td>NaSORM</td>
<td>National Surveillance and Outbreak Review Meetings</td>
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<tr>
<td>NCDC</td>
<td>Nigeria Centre for Disease Control</td>
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<tr>
<td>NFELTP</td>
<td>National Field Epidemiology Training Program</td>
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<tr>
<td>NRL</td>
<td>National Reference Laboratory</td>
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<tr>
<td>PHE</td>
<td>Public Health England</td>
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<tr>
<td>PHEOCs</td>
<td>Public Health Emergency Operation Centers</td>
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<tr>
<td>PHN</td>
<td>Private Sector Health Alliance in Nigeria</td>
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<tr>
<td>REDISSE</td>
<td>Regional Disease Surveillance Systems Enhancement</td>
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<tr>
<td>RKI</td>
<td>Robert Koch Institute</td>
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<tr>
<td>RRTs</td>
<td>Rapid Response Teams</td>
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<tr>
<td>RTKM</td>
<td>Research, Training and Knowledge Management</td>
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<tr>
<td>SORMAS</td>
<td>Surveillance and Outbreak Review Management System</td>
</tr>
<tr>
<td>TWGs</td>
<td>Technical Working Groups</td>
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<tr>
<td>UK-PHRST</td>
<td>UK Public Health Rapid Support Team</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<tr>
<td>UNTH</td>
<td>University of Nigeria Teaching Hospital</td>
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<tr>
<td>VHF</td>
<td>Viral Haemorrhagic Fever</td>
</tr>
<tr>
<td>WARDS</td>
<td>West African Regional Disease Surveillance</td>
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<tr>
<td>WAHO</td>
<td>West African Health Organisation</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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</table>
NCDC Annual Report Team
Oyeronke Oyebanji
Jeremiah Agenyi
Tijesu Ojumu
Abiodun Egwuenu
Oyeladun Okunromade
Anthony Ahumibe
Olaolu Aderinola
Akinwumi Akintan

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