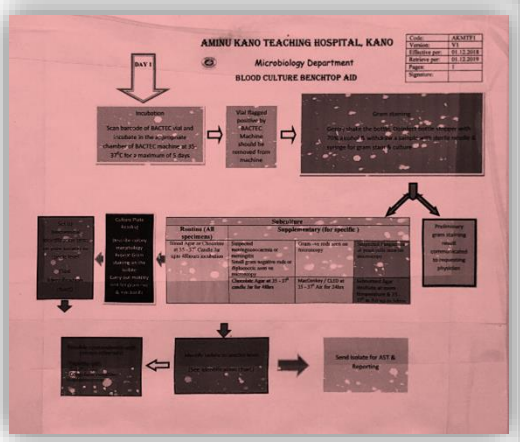
A REPORT OF THE ASSESSMENT OF FOODBORNE DISEASE SURVEILLANCE AND RESPONSE SYSTEM

Nigeria

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Produced by: **Federal Ministry of Health – Food Safety & Quality Programme**



A Report of the Assessment of Foodborne Disease Surveillance and Response System in Nigeria 2021

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ABBREVIATIONS

DVPCS	Department of Veterinary and Pest Control Services
EHORECON	Environmental Health Officers Registration Council of Nigeria
EHOs	Environmental Health Officers
FBDs	Foodborne Diseases
FCT	Federal Capital Territory
FDA	Federal Department of Agriculture
FDF	Federal Department of Fisheries
FDS	Food and Drug Services
FGD	Focus Group Discussion
FMARD	Federal Ministry of Agriculture and Rural Development
FMITI	Federal Ministry of Industry, Trade, and Investment
FMOH	Federal Ministry of Health
FPIS	Federal Produce Inspection Service
GHP	Good Hygiene Practice
GMP	Good Manufacturing Practice
IDSR	Infectious Disease Surveillance and Response
IHS	International Health Regulations
INFOSAN	International Food Safety Authorities Network
KII	Key Informant Interview
KSMANR	Kano State Ministry of Agriculture and Natural Resources
KSMOH	Kano State Ministry of Health
LGA	Local Government Area
LGAC	Local Government Area Council
MDAs	Ministries, Departments and Agencies
NADIS	National Animal Disease Information Service
NAQS	Nigeria Agricultural Quarantine Service
NAFDAC	National Agency for Food Administration and Control
NBS	National Bureau of Statistics
NCDC	Nigeria Centre for Disease Control
NESREA	National Environmental Standard and Regulations
NFSMC	National Food Safety Management Committee
NGO	Non-Governmental Organisation
NPFSIS	National Policy on Food Safety and its Implementation Strategy
NPHCDA	National Primary HealthCare Development Agency
NVIR	National Veterinary Research Institute
SORMAS	Surveillance Outbreak Response Management & Analysis System
WHO	World Health Organization

EXECUTIVE SUMMARY

A nationwide assessment and review of the Foodborne Disease Surveillance and Response System in Nigeria was initiated by the Federal Ministry of Health (FMOH) in collaboration with the National Food Safety Management Committee (NFSMC) and partners, to evaluate the strength, weaknesses and gaps and make recommendations that will lead to improved public health through reducing the existing magnitude of the burden of foodborne diseases in the country. This review was also initiated as part of the requirements from the World Health Organization (WHO) benchmarks for International Health Regulations (IHR) Capacities, 2019[1]. This report summarises the findings from consultations with key stakeholders and field assessment of critical stakeholders involved in the development and implementation of foodborne disease surveillance and response activities at the Federal and State levels of government. The assessment was undertaken from October 2020 to April 2021.

METHODOLOGY

Pre-Assessment Workshop.

A pre-assessment workshop was conducted for the technical team to facilitate discussions and agreements on the priorities and objectives of the review; further sensitise members on the multi-disease approach to surveillance; to agree on the list of likely national priority diseases; and to discuss and adapt the assessment protocols and plans. A one-day pre-test was conducted in Abuja and the assessment tools[2] were finalised and adapted including the conclusion of travel arrangements to assessment sites.

Focused Group Discussions (FGDs) with Senior Officials of relevant MDAs and Health Facilities

The approach at each selected location was to have an initial FGD meeting(s) with senior officials of the selected MDAs and health facilities to introduce the objectives of the assessment, obtain their views on the status of the implementation of foodborne disease surveillance and response system in place, and obtain insights on its strengths, weaknesses, gaps, and similar deficiencies[3].

Key Informant Interviews (KII) with designated head of relevant sections of Health Facilities

Key Informant Interviews (KII) were conducted with desk officers in the relevant clinical departments as well as hospital records, laboratory sections of health facilities, and public health

[1] 9789241515429-eng.pdf (who.int)
[2] Assessment tools are available in the annexes of this report
[3] Full list of visited MDAs and health facilities are available in the annexes of this report

laboratories to obtain information/data on cases of foodborne diseases reported and confirmed at the facility. The views and insights from respondents were collated and analysed.

Assessment of facilities of relevant Institutions.

The performance of the selected institutions and organisations were assessed and evaluated based on criteria adapted from the Protocol for the Assessment of National Communicable Disease Surveillance and Response System developed by the WHO. Asokoro District Hospital, Abuja, FCT was used to pre-test the survey instruments. A total of 22 institutions comprising of 9 health facilities and 13 Federal and State relevant MDAs were assessed. Relevant data needed to achieve the objectives of the assessment study were collected, collated, and analysed.

SUMMARY OF FINDINGS

Adequacy of Relevant Federal and State MDAs to Implement Foodborne Disease Surveillance Programs and Activities

1. Over 95% of the relevant MDA cannot systematically collect, collate, and analyse data on foodborne and zoonotic diseases, food contaminants, and disseminate same to relevant stakeholders for necessary actions to be taken.
2. No MDA currently have standard case definitions for Nigeria's priority foodborne diseases including their registration.
3. Over 90% of MDA are yet to develop or use written manuals/SOPs including standard reporting forms dedicated to collecting and collating foodborne disease incidences and outbreaks.
4. MDAs currently lack the standard system and capacity to respond to cases of foodborne disease incidences and outbreaks within 48 hours of notification.
5. Over 90% of relevant MDAs cannot currently publish periodic health and surveillance information including bulletins to disseminate information on foodborne diseases and food contamination on a regular and sustainable basis.
6. Over 95% of laboratory facilities including its personnel cannot investigate, detect and verify foodborne diseases, and food contaminants including animal and plant disease-causing pests.
7. Existing training facilities for surveillance and response activities are poor and mostly achieved through on-the-job training. Specific training of personnel on Foodborne Disease Surveillance and Response Activities are nearly absent.
8. Availability of resources for effective surveillance systems in place to detect and monitor foodborne diseases, zoonotic diseases including animal disease-causing pests and food

contamination is grossly inadequate or near absent. Where this is available, it is mostly donor driven.

Adequacy of Selected Private, Federal and State Hospital Facilities to Carryout Foodborne Disease Surveillance and Response Programs and Activities

1. No hospital facilities currently undertake the systematic collection, collation, and analysis of data on foodborne diseases and associated food contaminants; including their dissemination to relevant stakeholders to enable necessary actions to be taken.
2. Absence of standard case definition and priority foodborne diseases.
3. Over 95% of the hospital facilities are yet to develop or use standard protocols for the collection and collation of foodborne disease incidences and outbreaks. Only IDSR forms are currently in use.
4. Hospital facilities are yet to develop or put in place standard systems that can respond to foodborne disease incidences and outbreaks within 48 hours of notification.
5. Existing hospital facilities to engage in production and dissemination of health and surveillance information including bulletins on foodborne diseases and food contaminations regularly to relevant stakeholders and the reading public.
6. Over 95% of laboratory facilities in hospitals currently lack the needed infrastructure and personnel to adequately investigate and analyse FBD cases including generation and dissemination of relevant reports.
7. Existing training facilities on surveillance and response activities are inadequate. Specific training of personnel on Foodborne Disease Surveillance and Response Activities are not of priority.
8. Availability of resources for effective surveillance systems to detect and monitor foodborne diseases, and food contaminations is grossly inadequate or absent. Where this is available, it is mostly donor driven.

RECOMMENDATIONS

For Federal MDAs and Health Facilities

1. Strengthen the existing capacity of relevant MDAs and healthcare facilities across the country to systematically collect, collate, analyse, and report data on priority foodborne and zoonotic diseases, food contaminants and related food safety hazards to facilitate timely recognition of existing and emerging foodborne diseases through a well-developed national surveillance network.
2. Develop an official priority list of foodborne diseases in the country for inclusion in routine disease surveillance reporting system in NCDC.

3. Develop official case definitions and management protocols for priority foodborne diseases to guide medical professionals in providing notifications on these diseases in a harmonised and systematic manner.
4. Develop and ensure the functionality of the INFOSAN Emergency Contact Point and Focal Points in MDAs to rapidly assess foodborne events in collaboration with State/LGA food safety focal person(s), epidemiological surveillance officer(s).
5. Develop and disseminate a country response procedure/plan to address food safety emergencies to include:
    a. Data reporting protocols for all priority foodborne diseases and foodborne hazards;
    b. An updated list of contact laboratories;
    c. Questionnaires for priority foodborne pathogens and hazards;
    d. Model press releases; and
    e. Food recall and withdrawal notice.
6. Urgently develop and disseminate standard case definitions for diseases caused by the following contaminants: Salmonella typhi and paratyphi, Escherichia coli, Ascaris lumbricoides Clostridium botulinum, Clostridium perfringens, Listeria monocytogenes, Campylobacter, Brucella, Campylobacter, natural toxins in food, Arsenic, and mycotoxins.
7. Leverage the well-established disease surveillance and notification system in the Nigeria Centre for Disease Control (NCDC) to provide for regular data collection and collation to measure the burden of foodborne diseases and provide the needed priority areas for the prevention and control of FBDs.
8. Federal Ministry of Agriculture and Rural Development in collaboration with the Health Sector MDAs to identify priorities FBDs of animal origin.
9. Integrate the Surveillance Outbreak Response Management & Analysis System (SORMAS) and National Animal Disease Information Service (NADIS) platforms to ensure that foodborne diseases of animal origin identified in the animal sector are easily linked together to ensure a more efficient and harmonised surveillance, response and management of FBDs that is in line with the OneHealth concept.
10. Strengthen national capacity to link identified pathogens in food along the food chain to human diseases using appropriate risk assessment techniques.
11. Upgrade national capacity and infrastructure of the laboratory including laboratory staff to monitor, detect, collate, evaluate, and respond to the emergence of antimicrobial resistance to foodborne pathogens.

12. Develop training and capacity building programs for relevant personnel charged with the responsibility of engaging in FBD surveillance and Response Activities at the national level.
13. Develop and implement a prioritised action plan based on the assessment findings.
14. Conduct a nationwide estimate of the health, economic and trade burden of foodborne disease.

For State MDAs and Health Facilities

1. Build the capacity of Disease and Surveillance Notification officers (DSNOs) to identify and investigate FBDs
2. Identify and empower State Food Safety Focal Person(s) in collaboration with State/LGA epidemiological surveillance officer(s) to rapidly assess foodborne events and report to the INFOSAN Emergency Contact Point and Focal Points at the Federal level.
3. State Ministries of Health in collaboration with relevant MDAs are requested to urgently provide standard case definitions for diseases caused by the following contaminants: Salmonella typhi and paratyphi, Escherichia coli, Ascaris lumbricoides, Clostridium botulinum, Clostridium perfringens, Listeria monocytogenes, Campylobacter, Brucella, Campylobacter, natural toxins in food, Arsenic, and mycotoxins
4. Build State capacity and infrastructure of laboratory and laboratory personnel to collect and transport appropriate specimens to a laboratory during foodborne outbreaks to identify the aetiological agent.
5. Develop training and capacity building programs for relevant personnel charged with the responsibility of engaging in FBD surveillance and response activities at State and LGA levels.
6. Build the capacity of clinicians, medical records officers and hospital laboratory technicians in case management, documentation, and reporting of FBDs.

Conclusion

The existing Foodborne Disease Surveillance and Response System in place in Nigeria is not fit for purpose and is unable to meet the requirements of WHO benchmarks for International Health Regulations (IHR). For the System to be effective, Foodborne disease surveillance and the food safety monitoring system across the entire food chain from farm to the table must be integrated and synergised. It is also imperative that strong leadership backed by political commitment, collaboration, and coordination of activities of relevant agencies at the Federal, State and Local Government levels are of paramount importance to ensure the existing FBD surveillance and Response System in place in the country is strengthened and enhanced.

INTRODUCTION

Foodborne Diseases (FBDs) are illnesses caused by the consumption of food contaminated with pathogenic bacteria, viruses, parasites, or toxic chemicals. FBDs are generally characterized by a wide spectrum of acute or chronic syndromes with mild to severe health consequences. FBDs are important causes of morbidity, mortality, and a significant impediment to socioeconomic development in less developed countries. Although FBDs are diverse and varied widely with regards to types, their causative agents and their severity to human health. Food can be contaminated at any stage along the food chain and hence, effective surveillance on foodborne, zoonotic diseases, and monitoring of food contaminants will greatly assist in establishing reliable data including providing an enabling environment for evidence-based evaluation of priorities for the prevention and control, and reduction of uncertainties in mitigating strategies.

Unsafe food constitutes a significant route for transmitting diseases to humans. For example, the World Health Organization (WHO)[4] reported in 2012, that 600 million cases of foodborne illnesses occurred globally which resulted in 420,000 deaths annually. Similarly, the African regional share of this burden was estimated at 91 million with 137,000 deaths annually, making the region the world's highest per capita incidence of foodborne illness[5]. According to WHO studies of the global burden of foodborne diseases, 31 food hazards including bacteria, viruses, protozoa, helminths, and toxic chemicals have been identified[6]. Although clinical symptoms of FBDs mostly manifest as gastrointestinal disorders, others with more serious consequences include kidney and liver failure, brain and neurological disorders, and cancer.

Nigeria is typically agrarian with nearly 70% of its population living and carrying out their livelihood in rural areas. With a highly fragmented food supply system, food production, processing, and marketing activities in the country remain essentially informal. Given the high level of poor food handling practices across the entire food chain from farm to table, rising cases, and outbreaks of FBDs arising from the consumption of contaminated and or adulterated foods are being reported[7]. However, FBDs are yet to be fully integrated with the Country's Surveillance Outbreak Response Management & Analysis System (SORMAS). In view of this, incidence, and outbreaks of FBDs are poorly documented by relevant agencies across each level of government in the country. This scenario has led to poor public understanding and awareness of the significance is FBDs to public health and food trade. This has also limited and or impeded policymakers to

[4] World Health Organization: Manual for integrated foodborne disease in the World Health African Region. WHO Regional Office for Africa. Brazzaville. 2012

[5] World Health Organization: Strengthening Surveillance and Response to foodborne Diseases. World Health Organization. 2017

[6] Food and Agricultural Organization and World Health Organization: Foodborne Disease Monitoring and Surveillance Systems. FAO/WHO Regional Conference on Food Safety for Asia and Pacific. Malaysia. 2004

[7] Khawaja R, Khan AS. Food Safety in Developing Countries: An Ignored Public Health Issue. *EC Nutrition.* 2019: 14.12. p. 01-05

provide sufficient resources and support for effective prevention and control of foodborne diseases and minimize their socioeconomic impact on the citizenry.

Effective national foodborne disease surveillance and response system is significant in many ways. It assists in the assessment of the burden of foodborne diseases at various levels of government and communities and contributes to the identification of public health priorities assists the nation to prevent, detect, and control outbreaks; and identify emerging food safety issues[8]. In line with these, and in pursuant to its commitment to the implementation of the National Policy on Food Safety and Its Implementation Strategy Document, the Federal Ministry of Health (FMOH) and her Partners, undertook an assessment study of the existing National Foodborne Disease Surveillance and Reporting System being implemented in the country, to evaluate its strength, weaknesses and gaps and make recommendations that will lead to improved public health and reduce the existing burden of foodborne diseases in the country.

[8] Ezrigwe J. Much Ado About Food Safety: Implications in Nigeria. Afe Babalola University *J. of Sustainable Development Law and Policy*. 2018: Vol. 9

OBJECTIVES

The specific objectives for this assessment study are to evaluate the capacity of existing Foodborne Disease and Response System in the country and to:

1. Identify priority foodborne diseases in the country and estimate the magnitude of its burden;
2. Identify priority food safety hazards and recommend suitable and effective control measures;
3. Generate timely and accurate epidemiological data that can be used for food safety risk analysis and ensure prompt dissemination to critical stakeholders to ensure safe food supplies;
4. Identify strengths, weaknesses, and gaps in performing the core and support functions of foodborne disease surveillance including an estimate of the resources needed for effective implementation; and
5. Enable the development of a prioritized action plan, based on the assessment findings.

METHODOLOGY

The assessment was conducted by a 12-man technical team made up of nominated representatives from relevant institutions and organizations performing core and support functions for foodborne disease surveillance and response in the Country. The Technical Team consisted of a National Consultant and nominated representatives from the Federal Ministries of Health (FMOH), Federal Ministry of Agriculture and Rural Development (FMARD), National Agency for Food Control and Administration (NAFDAC), Nigeria Centre for Disease Control (NCDC) and National Bureau of Statistics (NBS).

The assessment was conducted in two randomly selected LGAs (1 Urban and 1 Rural) of the FCT, Kano, Oyo, and Akwa Ibom States from 4th October to 30th April 2021. The Asokoro District Hospital, Abuja, FCT was used to pre-test the survey instruments.

PRE-ASSESSMENT TRAINING WORKSHOP

A pre-assessment workshop was conducted for the technical team to facilitate discussions and agreements on surveillance priorities and objectives. It was also to further sensitise members on the multi-disease approach to surveillance, agree on the list of national priority diseases and discuss and adapt the assessment protocols and plans. A one-day pre-test was conducted in Abuja and the assessment tools were finalised and adapted including the conclusion of travel and logistical arrangements to assessment sites.

FIELD ASSESSMENT

The performance of the selected institutions and organisations were assessed and evaluated based on criteria adapted from the Protocol for the Assessment of National Communicable Disease Surveillance and Response System developed by the WHO. Asokoro District Hospital, Abuja, FCT was used to pre-test the survey instruments. A total of 22 institutions comprising of 9 hospitals facilities and 13 Federal and State relevant MDAs were assessed. Relevant data needed to achieve the objectives of the assessment study were collected, collated, and analysed.

FOCUSED GROUP DISCUSSIONS (FGDS) WITH SENIOR OFFICIALS OF RELEVANT MDAS AND HEALTH FACILITIES

The approach at each selected location was to have an initial FGD meeting(s) with senior officials of the selected MDAs and health facilities to introduce the objectives of the assessment, obtain

their views on the status of the implementation of foodborne disease surveillance and response system in place, and obtain insights on its strengths, weaknesses, gaps, and similar deficiencies[9]

KEY INFORMANT INTERVIEWS (KII) WITH RELEVANT DESK OFFICERS

Key Informant Interviews were conducted with desk officers in the Hospital Records, Laboratory sections of health facilities, and public health laboratories to obtain information and data on cases of foodborne diseases reported and investigated at the facility using the appropriate tool(s). The views and insights from respondents were collated and analysed.

[9] Full list of visited MDAs and health facilities are available in the annexes of this report

SUMMARY OF KEY FINDINGS.

FEDERAL MINISTRIES, DEPARTMENTS AND AGENCIES (MDAs)

Food and Drug Services, FMOH. Abuja

1. **Responses to Assessment Criteria**
    a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available
    b. **Availability of Case Definition for priority FBDs:** Not Available
    c. **Facilities for confirmation of suspected cases of FBDs**: Not Available
    d. **System for Data Reporting and Analyses**: Not Available
    e. **System for Response and Feedback**: Not Available
    f. **Investigating Laboratory Facilities**: Not Available
    g. **Training Facilities**: Not Available
    h. **Availability of Resources**: Poor
2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**
    a. Absence of system in place to determine, identify and confirm existing priority FBDs in the country and their causative agent(s).
    b. Absence of Case Definition of existing priority FBDs;
    c. Absence of confirmed list of priority FBDs in the country.
    d. Lack/Poor system for data collection, collation, analysis and reports on incidence and outbreaks of foodborne Diseases.
    e. Lack of system in place to monitor and ensure prompt and effective response and feedback including supervisory activities on outbreaks of FBDs.
    f. Poor funding support for FBD surveillance and related activities

Nigeria Centre for Disease Control (NCDC), Abuja

1. **Responses to Assessment Criteria**
    a. **Existence of manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Excellent facilities for identification and confirmation of priority infectious diseases and their causative agents, but FBD cases are not adequately addressed.

b. **Availability of Case Definition for priority FBDs:** Priority list of FBDs and related Diseases include Cholera, Lassa fever, Yellow Fever, Diarrheal, and Hepatitis B were available[10].

c. **Facilities for confirmation of suspected cases of FBDs:** Facilities for priority Infectious Disease Confirmation is available and functional, but only Cholera and Typhoid are FBD cases.

d. **Systems for Data Reporting:** Data Reporting in line with the IDSR System is available and operational nationwide.

e. **System for Response and Feedback:** Available and operational nationwide in line with IDSR Protocols.

f. **Investigating Laboratory Facilities:** Laboratory Facilities for suspected priority infectious diseases are available and operating in selected sites nationwide.

g. **Training Facilities:** Existing training facilities and programs for infectious disease surveillance and response activities are adequate and operational.

h. **Availability of Resources**: Resources to implement surveillance and response programs and activities are generally available but requires further improvement.

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases.**

a. Inadequate capacity for timely and coordinated inter-sectoral response to foodborne disease incidences and outbreaks.

b. Absence of focal desk to deal with cases and outbreaks of foodborne diseases including cases of FBI preparedness, surveillance, and response.

c. Present IDSR system does not adequately address foodborne diseases and surveillance, monitoring of contaminants in the food chain, outbreak/ emergency investigation including response at central, state and LGA levels.

d. Existing laboratory infrastructure, equipment and expertise for food safety is skewed against FBDs and related food safety issues.

e. Lack of accurate data on priority foodborne hazards, foodborne illnesses, and their impact on public health in Nigeria

[10] Preparedness and Response to Acute Watery Diarrhoea Outbreaks, 2017; National Technical Guidelines for Integrated Disease Surveillance and Response, 2019

f. The NCDC is yet to establish an effective relationship with the National Food Safety Management Committee (NFSMC) in addressing food safety as a growing public health issue.

Medical Laboratory Science Council of Nigeria (MLSCN)

1. **Responses to Assessment Criteria**
   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.
   b. **Availability of Case Definition for priority FBDs:** Not available.
   c. **Facilities in place for confirmation of suspected cases of FBDs**: Not Available
   d. **Systems for Data Reporting**: Not Available
   e. **Systems for Response and Feedback**: Not Available
   f. **Investigating Laboratory Facilities**: FBD Cases are not effectively addressed.
   g. **Training Facilities**: Poor training programs and activities for FBDs.
   h. **Availability of Resources**: Poor.
2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**
   a. Absence of system in place to determine, identify and confirm existing priority FBDs in the country and their causative agent(s).
   b. Absence of Case Definition of existing priority FBDs.
   c. Absence of confirmed list of priority FBDs in the country.
   d. Lack/Poor system for data collection, collation, analysis and reports on incidence and outbreaks of foodborne Diseases.
   e. Lack of systems in place to monitor and ensure prompt and effective response and feedback including supervisory activities on outbreaks of FBDs.

National Primary Health Care Development Agency (NPHCDA)

1. **Responses to Assessment Criteria**
   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.
   b. **Availability of Case Definition of existing priority FBDs**: Not available.
   c. **Facilities for confirmation of suspected cases of FBDs**: Not Available
   d. **Systems for Data Reporting**: Not Available

e. **Systems for Response, Feedback & Supervision Systems**: Not Available

f. **Investigating Laboratory Facilities**: FBD Cases are not effectively addressed.

g. **Training Facilities**: Poor training programs and activities for FBDs.

h. **Availability of Resources**: Poor.

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. Absence of system in place to determine, identify and confirm existing priority FBDs in the country and their causative agent(s).

b. Absence of Case Definition of existing priority FBDs.

c. Absence of confirmed list of priority FBDs in the country.

d. Lack/Poor system for data collection, collation, analysis and reports on incidence and outbreaks of foodborne Diseases.

e. Lack of system in place to monitor and ensure prompt and effective response and feedback including supervisory activities on outbreaks of FBDs.

Environmental Health Officers Registration Council of Nigeria (EHORECON)

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.

b. **Availability of Case Definition of existing priority FBDs**: Not available.

c. **Facilities for confirmation of suspected cases of FBDs**: Not Available

d. **Systems for Data Reporting**: Not Available

e. **Systems for Response and Feedback**: Not Available

f. **Investigating Laboratory Facilities**: FBD Cases are not effectively addressed.

g. **Training Facilities**: Poor training programs and activities for FBDs.

h. **Availability of Resources**: Poor.

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. Absence of system in place to determine, identify and confirm existing priority FBDs in the country and their causative agent(s).

b. Absence of Case Definition of existing priority FBDs:

c. Absence of confirmed list of priority FBDs in the country.

d. Lack/Poor system for data collection, collation, analysis and reports on incidence and outbreaks of foodborne Diseases.

e. Lack of systems in place to monitor and ensure prompt and effective response and feedback including supervisory activities on outbreaks of FBDs.

National Agency for Food and Drug Control and Administration (NAFDAC), Abuja and Lagos

1. **Responses to Assessment Criteria**

   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Excellent facility for identification and confirmation of:

      i. Bacterial food-borne diseases arising *Salmonella, Clostridium, Campylobacter and Escherichia;*

      ii. Mycotoxins such as aflatoxin, Ochratoxins and fumonisin;

      iii. Toxic metals in food and water;

      iv. Toxic pesticides on stored food commodities such as beans and grains.

   b. **Availability of Case Definition of existing priority FBDs**. Not Available.

   c. **Facilities for confirmation of suspected cases of FBDs**: A system for identification of food safety hazards associated with FBDs is available and functional.

   d. **Systems for Data Reporting**: System for data collection, collation, analysis and reports on pathogenic bacteria, viruses, parasites, or chemical toxins and related food safety hazards associated with priority FBDs is available and functional.

   e. **Systems for Response and Feedback**: Available and functional.

   f. **Investigating Laboratory Facilities**: Dedicated microbiological and chemical laboratories for various investigations are available and operating in selected locations nationwide.

   g. **Existing Training Facilities**: Training for disease surveillance and response activities are available and operational.

   h. **Availability of Resources**: Resources to implement surveillance and response programs and activities are generally available but requires further improvement.

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. Inadequate capacity for timely and coordinated inter-sectoral response to foodborne disease incidences and outbreaks. However, NAFDAC houses the Emergency Contact Point for INFOSAN.

b. Present surveillance system does not adequately address foodborne disease surveillance, monitoring of contaminants in the food chain, and outbreak/ emergency investigation and response at central, state and LGA levels.

c. Existing laboratory infrastructure, equipment and expertise for food safety is weak and requires immediate strengthening.

d. Lack of accurate data on priority foodborne hazards, foodborne illnesses, and their impact on public health in Nigeria

e. Risk profiling of common food staple foods is not available.

Department of Veterinary and Pest Control Services (DVPCS). FMARD, Abuja

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Available but needed to be strengthened.

b. **Availability of Case Definition of existing priority FBDs**: Available but weak. However, the list of routinely identified zoonotic diseases include:

i. Influenzas: (Avian, Swine);

ii. Ebola;

iii. Anthrax;

iv. Tuberculosis;

v. Lassa fever, Q-fever, and Right Valley Fever;

vi. *Escherichia coli* O157, Brucellosis, Botulism, *Salmonella* infection;

vii. Trichinosis and Cysticercosis.

c. **Facilities for confirmation of suspected cases of FBDs**: The system for confirming zoonotic diseases is available and operational but has very weak enforcement.

d. **Systems for Data Reporting**: Available but with limited scope and coverage.

e. **Systems for Response and Feedback**: Available but limited in scope and coverage. The National Animal Disease Information Service (NADIS) platform is available but yet to be fully functional.

f. **Investigating Laboratory Facilities**: Available with inadequate facilities including personnel. However, veterinary laboratory facilities were not investigated.

g. **Existing Training Facilities**: Available and operational but requires upgrading.

h. **Availability of Resources**: Very Poor

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. Poor awareness creation among critical stakeholders on zoonosis, antimicrobial drugs, and its impact on food safety.

b. Weak regulatory control system to assure food from animal origin is free from animal pathogens that that can be transmitted to humans.

c. Weak regulatory control system to assure best practices in the use of veterinary drugs including controlling veterinary residues in animal-derived foods in line with global standards.

d. Absence of multi-sectoral collaboration and interdisciplinary partnerships to ensure effective mitigation of the impact of endemic and emerging zoonotic diseases of food safety significance.

e. The paucity of reliable and accurate data on the magnitude of the burden of diseases associated with animal-derived foods in the country.

f. Rising cases of antimicrobial resistance to multiple antibiotics for both animal and human foods and lack of laboratory capacity to investigate their impact on incidence and outbreaks of foodborne diseases.

g. Weak surveillance system to identify, collates, analyse, and disseminate information/data on incidence and outbreaks of zoonotic diseases between the various levels of government.

h. Inadequate laboratory infrastructure, equipment and expertise for food safety including AMR control activities.

i. Absence of institutional framework for collation, analyses, and dissemination of reports of activities between the Ministry of Agriculture, the Ministry of Health and other key stakeholders

j. Poor enforcement mechanism of an extant regulatory framework to control usage of antimicrobials in animals in line with global best practices.

Federal Department of Agriculture (FDA), FMARD, Abuja

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards** Not Available.

b. **Availability of Case Definition of existing priority FBDs**: Not Available

c. **Facilities for confirmation of suspected cases of FBDs**: Not Available

d. **Systems Data Reporting**: Available but limited in scope and coverage.

e. **Systems for Response, Feedback & Supervision**: Not Available

f. **Investigating Laboratory Facilities**: Not Available

g. **Existing Training Facilities**: Available but weak

h. **Availability of Resources**: Poor

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. Lack of institutional framework for adequate awareness creation programs for critical stakeholders regarding plant diseases and disease-causing pests and their implications to human health.

b. Weak institutional arrangement for the training of farmers and related stakeholders on global best practices associated with the use of agrochemicals such as pesticides and fertilizers.

c. Weak enforcement of extant food safety legislation associated with the safety of fresh produce, especially ensuring that fruits and vegetables are free from microbial pathogens, natural and added toxic chemicals.

d. Absence of surveillance and response system to identify, investigate, collate and disseminate relevant information on endemic and emerging plant diseases and pests.

e. Rising reported cases of abuse of pesticides resulting in excessive pesticide residues in fresh and processed foods for local and international markets.

f. Absence of an institutional coordinating mechanism among stakeholders at various levels of government leading to poor information sharing of surveillance data, reports and reports on laboratory specimens to ensure quick and effective interventions.

g. Inadequate manpower with competencies in science-based regulatory activities.

h. Poor funding for operational and capital projects leading to inadequate physical facilities and equipment

The Department of Fisheries and Aquaculture (FDF), FMARD

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Available but needs strengthening. Most encountered bacteria include Salmonella, Shigella and Listeria

b. **Availability of Case Definition of existing priority FBDs and related Diseases**: Available but requires strengthening.

c. **Facilities for confirmation of suspected cases of FBDs and related Diseases**: Not Available

d. **System of Data Reporting**: Available but weak in scope and coverage

e. **System for Response, Feedback & Supervision**: Not Available

f. **Investigating Laboratory Facilities**: Available but relevant personnel with prerequisite qualifications and skills are inadequate.

g. **Existing Training Facilities**: Poor

h. **Availability of Resources**: Poor

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. Absence of an effective disease surveillance and response system associated with fisheries, aquaculture, and related products nationwide.

b. Inadequate facilities to identify, collate, analyse, and disseminate information/data on incidence and outbreaks of diseases associated with fisheries and aquaculture at LGA, States and Federal levels of government.

c. Absence of institutional framework for preparing and disseminating periodic reports of laboratory findings to critical stakeholders for prompt and effective intervention and response.

d. Poor facilities and equipment for routine regulatory enforcement activities including personnel with competencies in science-based inspection, laboratory and other regulatory activities.

The Nigeria Agricultural Quarantine Service (NAQS), FMARD, Abuja

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards: Available but needs strengthening. Most encountered hazards include animal pests, zoonotic diseases. plants and fisheries pathogenic pest and their toxins**

b. **Availability of Case Definition of existing priority FBDs: Available but requires strengthening.**

c. **Facilities for confirmation of suspected cases of FBDs: Not Available**

d. **System for Data Reporting: Available but weak in scope and coverage**

e. **System for Response, Feedback & Supervision:** Not Available

f. **Investigating Laboratory Facilities**: Inadequate facilities and personnel

g. **Existing Training Facilities**: Available but relevant personnel with prerequisite qualifications and skills are inadequate.

h. **Availability of Resources**: Poor

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. Inadequate personnel with competencies in science-based preventive food safety control measures including enforcement of extant phytosanitary measures,

b. Inadequate funding for operational and capital projects including physical facilities such as laboratory equipment and skills for pest and disease control.

c. Obsolete legislation relating to plant, animal, and fishery health.

d. Weak animal and plant disease surveillance and response system including inadequate facilities to detect, analyse, collate, and disseminate regular reports of laboratory and related investigations to key stakeholders for timely and effective interventions.

e. Absence of framework to identify priority food hazards including their links to existing and emerging foodborne diseases.

STATE MINISTRIES DEPARTMENTS AND AGENCIES (MDAS)

Kano State Ministry of Agriculture and Natural Resources (KSMANR), Kano

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Available but needs strengthening. Common zoonotic diseases identified include Bovine Tuberculosis, Rift Valley Fever and Rabbit Haemorrhagic Fever.

b. **Availability of Case Definition of existing priority FBDs**: There were recently confirmed cases of Bovine Tuberculosis, Rift Valley Fever and Rabbit Haemorrhagic Fever among livestock in the State.

c. **Facilities for confirmation of suspected cases of FBDs**: Not Available

d. **Systems for Data Reporting**: Available and includes:

i. Monthly Report Form for Surveillance for reportable zoonotic diseases as listed in the Emergency Preparedness Plan of the Federal Ministry of Agriculture & Rural Development.

ii. Wildlife Disease Report Form

e. **Systems for Response, Feedback**: Available and includes:

i. The Avian Influenza (AI) response structure,

ii. Vaccination campaigns on Rabies

iii. Vaccination of animals against FBDs of animal origin is not undertaken.

iv. Surveillance and response across the LGAs and preparation of reports.

v. Availability of a Veterinary officer (s) from the Federal Ministry of Agriculture in the State to ensure smooth coordination of surveillance activities.

vi. Early preparation and dissemination of reports and feedback

f. **Investigating Laboratory Facilities**: Available, and includes collecting specimens routinely during outbreaks, and if the need arises, transport them to National Veterinary Research Institute (NVRI) in Jos for further testing.

g. **Existing Training Facilities**: Available but requires upgrading-

i. Field officers are trained up to a Master of Science (MSc.) level

ii. The continuous Personal Development (CPD) system is enforced yearly through attendance at seminars/workshops.

h. **Availability of Resources**: Poor, mostly foreign donor-based

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. The Reporting forms are mainly for zoonotic diseases and do not focus on foodborne illnesses of animal origin. However, the State is open to a redesigned form to include priority Foodborne Diseases of animal origin.

b. Vaccination campaigns are limited to control rabies but not FBDs of animal origin.

c. The current reporting system is basically manual and still paper based.

d. Funding for laboratory, logistics and other resources are generally provided by Partners through dedicated Projects such as the REDISSE Project.

Kano State Ministry of Health (KNSMOH), Kano

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.

b. **Availability of Case Definition of existing priority FBDs**: Not Available

c. **Facilities in place for confirmation of suspected cases of FBDs**: Not Available

d. **Systems for Data Reporting:** Available and includes

   i. Emergency preparedness and response in line with NCDC guidelines on IDSR System.

   ii. Periodic reports based on the adopted NCDC Manual for diseases surveillance.

   iii. Specimen collections to State public health laboratories or to NCDC reference laboratory when necessary.

e. **Systems for Response and Feedback**: Available but weak in scope and coverage.

f. **Investigating Laboratory Facilities**: Not Available.

g. **Training Facilities**: Training on surveillance on diseases of public health significance are conducted for all relevant staff through an on-the-job training scheme, but formal training is achieved through personal funds.

h. **Availability of Resources**: Poor, mostly foreign donor-based

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. The incidence of FBDs is not generally considered a priority and are not captured in infectious disease surveillance programs and activities.

b. There is no specific manual for surveillance at the State, but the NCDC manual for surveillance is adopted.

c. SMOH do not get feedback bulletin/reports from NCDC as at when due.

d. Absence of forms/manuals dedicated for routine surveillance of FBDs.

e. Lack of government support funds for disease surveillance programs and activities.

f. Most of the resources needed are provided by development partners.

g. Funds for consumables for routine surveillance activities are inadequate or not available.

Akwa Ibom State Ministry of Health, Uyo

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.

b. **Availability of Case Definition of existing priority FBDs**: Not Available

c. **Facilities for confirmation of suspected cases of FBDs**: Not Available

d. **Systems for Data Reporting**: Available and includes:

   i. Devising and implementing disease surveillance and response activities in line with NCDC guidelines on IDSR System.

   ii. Completion and dissemination of adopted Adoption and comp specific NCDC Manual for surveillance

   iii. Specimen collections to State public health laboratories or to NCDC reference laboratory when necessary.

e. **Systems for Response and Feedback**: Available but poorly implemented.

f. **Investigating Laboratory Facilities**: Not Available

g. **Training Facilities**: Training on surveillance on diseases of public health significance are conducted for all relevant staff through on-the-job training scheme, but formal training is achieved through personal funds,

h. **Availability of Resources**: Poor, mostly foreign donor-based

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases:**

   a. FBDs are not generally considered a priority and are not captured in routine/periodic disease surveillance programs and activities.

   b. Absence of manual on FBI surveillance and reporting activities.

   c. No Case definition for priority FBDs in the State

   d. Absence of effective system for data collection, collation, analysis, and reporting for FBD incidences and outbreaks.

   e. Inadequate diagnosis and absence of FBI surveillance and Response Activities

   f. Inadequate funds to carry out routine disease surveillance activities

   g. The state health officials have no FBI training and so could not step down the FBI knowledge to another state MDAs.

Oyo State Ministry of Health

1. **Responses to Assessment Criteria**

   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.

   b. **System for Disease Confirmation**: Not Available

c. **Availability of Foodborne Disease case Definition**: Not Available

d. **Systems for Data Reporting**: Available and includes:

   i. The NCDC manual for surveillance, which allows for surveillance of Cholera and Typhoid are in place.

   ii. The Head of the disease surveillance unit at the SMOH is the focal person for all infectious disease surveillance activities.

   iii. Surveillance data is forwarded daily, weekly and monthly using the appropriate IDSR form, reporting only priority diseases listed in the IDSR forms.

   iv. Reports on disease surveillance are disseminated via email or electronically to NCDC and other stakeholders.

   v. The most-reported FBD is Cholera.

   vi. Cases of FBDs arising from pesticide residue and formaldehyde (formalin) are occasionally reported.

e. **Systems for Response and Feedback**: Available and includes:

   i. Epidemic Preparedness and Response (EPR) Committee is in place to assure quick response to notification of reported outbreak FBI within 24 hrs.

   ii. Vaccination campaigns were undertaken with the vaccines in the National Coverage.

   iii. Suitable feedback report platform for targeted diseases from the SMOH to LGAs to provide daily, weekly, and monthly feedback is available and operational.

   iv. The SMOH provides supportive supervision during Cholera Outbreaks in affected LGAs.

   v. The State have emergency provides stock for outbreaks and response, but only stocks for Cholera Outbreaks are available in respect of FBDs.

f. **Investigating Laboratory Facilities**: Available and includes specimen collections to public health laboratories in the State.

g. **Training facilities**: Available and include:

   i. Regular/annual training of relevant personnel on surveillance on diseases of public health significance are conducted for all relevant staff.

   ii. Basic/routine epidemic surveillance and response.

   iii. The respondent is the focal person and the heed of disease surveillance at the SMOH.

h. **Availability of Resources**: Average- mostly foreign donor-based

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases:**
    a. Absence of Facility/system to identify and confirm priority FBDs and their causative agent(s).
    b. Lacks suitable system and medium to effectively transport specimens to designated places.
    c. Absence of specific manual for surveillance of Foodborne illnesses within and outside the State.
    d. Vaccination campaigns for FBI related outbreaks (such as Hepatitis A, Cholera, Typhoid, Rotavirus) are NOT part of the national vaccine coverage.
    e. Resources for surveillance activities are generally inadequate and limited.

HOSPITAL FACILITIES

University College Hospital, Ibadan

1. **Responses to Assessment Criteria**
    a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.
    b. **System for Disease Confirmation**: Available but cases of FBDs are seldom undertaken.
    c. **Availability of Foodborne Disease Case definitions**: Only Diarrhoea Cases.
    d. **Systems for Data Reporting**: Available and includes both manual and electronic platforms.
    e. **Systems for Response and Feedback**: Available and includes
        i. Provides occasionally feedback to communities using media such as TV and radio.
        ii. Provides routine supervision on the collection of surveillance data to relevant employees of Ibadan North LGA.
    f. **Investigating Laboratory Facilities**: Available and functional but lacks chemical laboratory facilities to investigate chemical food poisoning cases.
    g. **Training facilities**: Available and includes:
        i. Training of Healthcare officers on case management for typhoid, cholera, and other routine/notifiable diseases.
        ii. Post basic training, as part of the routine residency training of medical officers, are regularly conducted.

h. **Availability of Resources**: Inadequate especially for logistical, communication and data management activities.

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**:

   a. Lack system to determine, identify and confirm priority FBDs and associated food safety hazards.

   b. Absence of facilities to confirm cases of FBDs.

   c. Case Definition for FBDs is limited only to only Diarrhoea cases.

   d. Lack programs and activities for formal sensitization/feedback on FBDs to communities.

   e. There is no formal training specifically for FBDs.

   f. Absence of chemical laboratory facilities to investigate chemical food poisoning cases.

University of Abuja Teaching Hospital, Gwagwalada, Abuja.

1. **Responses to Assessment Criteria**

   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Available but only the following FBD cases have been identified:

      i. Diarrhoea syndrome is caused by bacteria pathogens including *Salmonella typhi, Salmonella paratyphi, Shigella, and Escherichia coli*

      ii. Diarrhoea syndrome is caused by parasitic parasites (worms) including *Balantidium coli, Entamoeba histolitica/coli, Trichuris trichiura, Ascaris lumbricoides, Clonorchis sinensis, Taenia solium, Clonorchis sinensis, and Strongyloides* spp.

   b. **Availability of Foodborne Disease Case Definition**: Available but only for diarrhoea syndromes.

   c. **Systems for Data Reporting**: Available and includes both manual and electronic platforms.

   d. **Systems for Response and Feedback**: Available but does not cover FBD cases.

   e. **Investigating Laboratory Facilities**: Available and functional but does not include investigation of food poisoning cases.

   f. **Training facilities**: Available and includes:

      i. Training of Healthcare officers on case management for typhoid, cholera, and other routine/notifiable diseases.

ii. Post basic training, as part of the routine residency training of medical officers, are conducted.

g. **Availability of Resources**: Inadequacy of logistics, communication, and data management equipment

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**:

a. Absence of specialized system to investigate FBD syndromes and associated food safety hazards.

b. Inadequate laboratory facilities to investigate and confirm food hazards associated with food safety.

c. Case Definition for FBDs is available only for Diarrhoea and Typhoid syndromes.

d. Inadequate programs and activities to create awareness and feedback on FBDs to patients.

e. Poor formal training of personnel on cases and outbreaks FBDs.

f. Absence of chemical laboratory facilities to investigate chemical food poisoning cases.

Holifield Specialist Hospital, Eket, Akwa Ibom State

1. **Responses to Assessment Criteria**

a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.

b. **Availability of System for Foodborne Disease Confirmation**: Not Available

c. **Availability of Foodborne Disease Case Definition**: Not Available. Only case definitions for IDSR, which are diarrhoea and cholera.

d. **Systems for Data Reporting**: Available. IDSR format is adopted and in use.

e. **Systems for Response and Feedback**: Available but weak enforcement.

f. **Investigating Laboratory Facilities**: Available and functional but does not include investigation of food poisoning cases.

g. **Training facilities**: Not Available

h. **Availability of Resources**: Inadequate

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**:

a. Lack system to determine, identify and confirm priority FBDs and associated food safety hazards.

b. Absence of facilities to confirm cases of FBDs.

c. FBDs are not considered significant public health concerns.

d. Lack of programs and activities for formal sensitization/feedback on FBDs to patients and communities.

e. There is no formal training specifically for FBDs.

f. Lack of facilities to disseminate test results of existing notifiable diseases to relevant organizations.

g. Absence of chemical laboratory facilities to investigate chemical food poisoning cases.

University Teaching Hospital, Uyo. (UUTH).

1. **Responses to Assessment Criteria**

   a. **System in place to determine, identify and confirm priority FBDs and associated food safety hazards (s)**: Not Available.

   b. **Availability of Foodborne Disease Confirmation**: Not Available

   c. **Availability of Foodborne Disease Case Definition**: Available and includes confirmed cases of Dysentery, Watery Diarrhoea, Cancer, Gastroenteritis and Kidney Disease.

   d. **Systems for Data Reporting**: Available and includes both manual and electronic platforms.

   e. **Response, Feedback & Supervision Systems**: Available but does not adequately cover FBD cases.

   f. **Investigating Laboratory Facilities**: Available and functional.

   g. **Training facilities**: Available and includes:

      i. Training of Healthcare officers on case management for typhoid, cholera, and other routine/notifiable diseases.

      ii. Post basic training, as part of the routine residency training of medical officers, are conducted.

   h. **Availability of Resources**: Inadequacy of logistics, communication, and data management equipment

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**:

   a. Absence of facilities to determine, identify and confirm priority FBDs and associated food safety hazards.

b. Increasing concerns are associated with rising cases of cancer, kidney failure and gastroenteritis among the citizenries.

c. The existing epidemic preparedness/responses protocol does not cover cases of FBDs.

d. The existing feedback mechanism lacks programs and activities for formal sensitization/feedback on FBDs to communities.

e. There is no formal training on FBD and related illnesses.

f. Existing laboratory reports do not adequately address cases of FBDs, and related food poisoning cases are grossly underreported.

Federal Medical Centre, Jabi, Abuja.

1. **Responses to Assessment Criteria**

   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.

   b. **Foodborne Disease Confirmation**: Not Available

   c. **Availability of Foodborne Disease Case Definition**: Not Available

   d. **Systems for Data Reporting**: Available and functional. Implemented by completing Routing Monthly Notification Form (IDSR003).

   e. **Systems for Response and Feedback**: Not Available.

   f. **Investigating Laboratory Facilities**: Available and functional but does not cover investigations on food poisoning cases.

   g. **Training facilities**: Available and includes:

      i. Training of Healthcare officers on case management for typhoid, cholera, and other routine/notifiable diseases.

      ii. Post basic training, as part of the routine residency training of medical officers, are conducted.

   h. **Availability of Resources**: Inadequacy of logistics, communication, and data management equipment.

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**:

   a. Lack system to determine, identify and confirm priority FBDs and associated food safety hazards.

   b. Lack of facilities to investigate and confirm cases of FBDs.

c. Lack programs and activities for formal sensitisation/feedback on FBDs to communities.

d. There is no formal training for FBD and related illnesses.

e. Lack of data on FBD prevalence due to the absence of facilities to investigate FBDs and relate food poisoning and cases.

Asokoro General Hospital, Abuja

1. **Responses to Assessment Criteria**

   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Available but only the following FBD cases have been identified:

      i. Diarrhoea syndrome caused by bacterial pathogens.

      ii. Diarrhoea syndrome caused by parasitic parasites (worms).

   b. **System for Foodborne Disease Confirmation**: Not Available

   c. **Availability of Foodborne Disease Case Definition**: Available and includes confirmed cases of Dysentery, Watery Diarrhoea, Cancer, Gastroenteritis and Kidney Damage.

   d. **Systems for Data Reporting**: Available and includes completion and transmission of Routing Monthly Notification Form (IDSR003) to relevant stakeholders.

   e. **Systems for Response and Feedback**: Available but does not adequately cover FBD cases.

   f. **Investigating Laboratory Facilities**: Available and functional. It involves the investigation of existing notifiable diseases but does not include the investigation of food poisoning cases.

   g. **Training facilities**: Available and includes:

      i. Training of Healthcare officers on case management for typhoid, cholera, and other routine/notifiable diseases.

      ii. Post basic training, as part of the routine residency training of medical officers, are conducted.

   h. **Availability of Resources**: Inadequacy of logistics, communication, and data management equipment

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

a. Absence of a system/facility to determine, identify and confirm priority FBDs and associated food safety hazards.

b. Lack programs and activities for sensitization/feedback on FBDs to communities.

c. Absence of formal training programs on surveillance and response for FBD and related illnesses.

d. Lack of reliable data on the prevalence and magnitude of FBD burden on the citizenry.

Aminu Kano Teaching Hospital (AKTH), Kano

1. **Responses to Assessment Criteria**

   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.

   b. **System for Foodborne Disease Confirmation**: Not Available

   c. **Availability of Foodborne Disease Case Definition**: Available and includes confirmed cases of Dysentery, Watery Diarrhoea, Cancer, Gastroenteritis and Kidney Damage.

   d. **Systems for Data Reporting**: Available and includes completion and transmission of Routing Monthly Notification Form (IDSR003) to relevant stakeholders.

   e. **Systems for Response and Feedback**: Available but does not adequately cover FBD cases.

   f. **Investigating Laboratory Facilities**: Available and functional. It involves the investigation of existing notifiable diseases. The laboratory activities do not currently include the investigation into food poisoning cases.

   g. **Training facilities**: Available and includes:

      i. Training of Healthcare officers on case management for typhoid, cholera, and other routine/notifiable diseases.

      ii. Post basic training, as part of the routine residency training of medical officers, are conducted.

   h. **Availability of Resources**: Inadequacy of logistics, communication and data management equipment

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

   a. Lack system to determine, identify and confirm priority FBDs and associated food safety hazards.

   b. Lack of facilities to investigate and confirm cases of FBDs.

c. Lack programs and activities for formal sensitisation/feedback on FBDs to communities.

d. There is no formal training for FBD and related illnesses.

e. Lack of data on FBD prevalence due to the absence of facilities to investigate FBDs and relate food poisoning and cases.

Jikowyi Medical Centre, Abuja

1. Responses to Assessment Criteria

   a. **Existence of Manual to determine, identify and confirm priority FBDs and associated food safety hazards**: Not Available.

   b. **System for Foodborne Disease Confirmation**: Not Available

   c. **Availability of Foodborne Disease Case Definition**: Available and includes confirmed cases of Dysentery, Watery Diarrhoea, Cancer, Gastroenteritis and Kidney Damage.

   d. **Systems for Data Reporting**: Available and includes completion and transmission of Health Facility Level Routing Monthly Notification Form (IDSR003) to relevant stakeholders.

   e. **Systems for Response and Feedback & Supervision**: Available but does not adequately cover FBD cases.

   f. **Investigating Laboratory Facilities**: Available and functional. It involves the investigation of existing notifiable diseases. The laboratory activities currently do not include the investigation of food poisoning cases.

   g. **Training facilities**: Available and includes:

      i. Training of Healthcare officers on case management for typhoid, cholera, and other routine/notifiable diseases.

      ii. Post basic training as part of the residency training of medical officers.

   h. **Availability of Resources**: Inadequacy of logistics, communication, and data management equipment

2. **Deficiencies and gaps associated with implementing FBD Surveillance and related Diseases**

   a. Lack system to determine, identify and confirm priority FBDs and associated food safety hazards.

   b. Lack of facilities to investigate and confirm cases of FBDs.

c. Lack programs and activities for formal sensitization/feedback on FBDs to communities.

d. There is no formal training for FBD and related illnesses.

e. Lack of data on FBD prevalence due to the absence of facilities to investigate FBDs and relate food poisoning and cases.

DISCUSSIONS OF FINDINGS AND RECOMMENDATIONS

ADEQUACY OF RELEVANT FEDERAL AND STATE MDAS TO CARRYOUT FOODBORNE DISEASE SURVEILLANCE ACTIVITIES

Summary of findings and analysis of the assessment of relevant Departments and Agencies of Federal and State Ministries of Health and Agriculture in the selected locations are provided in Table1 and Figure 1 below respectively.

Table 1: Adequacy of relevant Federal and State MDAs to carryout FBD surveillance and response activities

Existing Facilities of Relevant Institutions Assessed	Number of Institutions where the facility is Not Available	Number of Institutions where Facility is Available but Not Operational	Number of Institutions where Facility is Available and Operational
System to determine, identify and confirm priority FBDs and associated food safety hazards	11	1	2
System for Foodborne Disease Confirmation	10	4	0
Foodborne Disease Case Definition	11	1	2
Data Reporting Systems	9	4	1
Response, Feedback and Supervision Systems	10	2	2
Investigating Laboratory Facilities	8	4	2
Training facilities	6	6	2
Availability of Resources	2	12	0

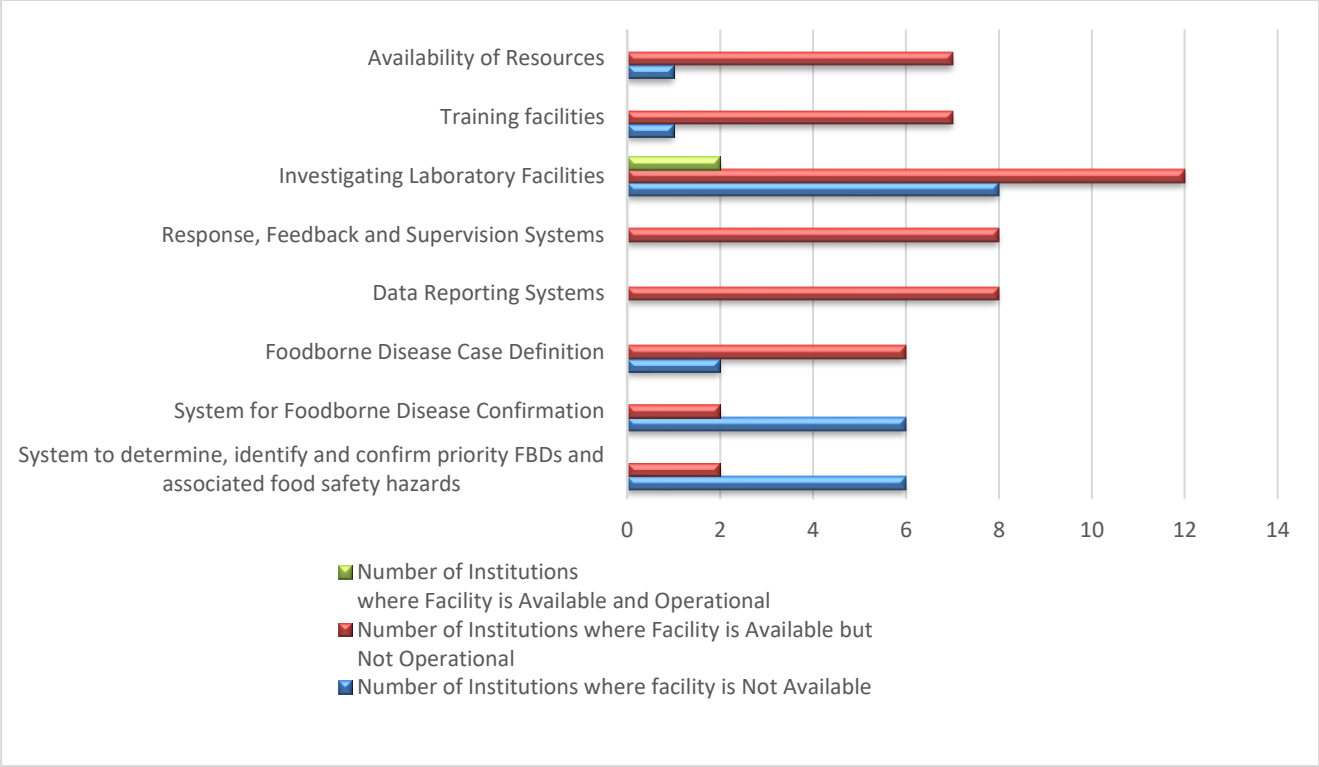


Figure 1: Adequacy of Federal and State MDAs to undertake FBD Surveillance and Response Activities

It can be seen from the above that:

1. Only 2% of the relevant Departments and Agencies could systematically collect, collate, and analyse data on foodborne and zoonotic diseases and associated food contaminants; including their dissemination to relevant stakeholders to enable necessary actions to be taken.
2. No Departments/Agencies currently have officially standardized case definitions of Nigeria's priority foodborne and zoonotic diseases including their registration.
3. Over 90% of departments/agencies are yet to develop or use adequate and standardised reporting forms dedicated to collect and collate foodborne disease incidences and outbreaks.
4. No departments/agencies currently have a standardised system and capacity to respond to cases of foodborne disease incidences and outbreaks within 48 hours of notification.
5. No departments/agencies currently can publish periodic health and surveillance information including bulletins produced to disseminate information on foodborne diseases and food contamination regularly.

6. Over 95% of laboratory facilities including laboratory personnel cannot adequately investigate, carry out tests, prepare and disseminate reports on food contaminations, foodborne and zoonotic diseases.
7. Existing training facilities for surveillance and response activities are poor and mostly carried out through on-the-job training. Specific training of personnel on Foodborne Disease Surveillance and Response Activities are nearly absent.
8. Availability of resources for effective surveillance systems in place to detect and monitor foodborne diseases, zoonotic diseases including animal disease-causing pests and food contamination is grossly inadequate or absent. Where this is available, it is mostly donor driven.

Adequacy of Selected Private, Federal and State Hospital Facilities to Carryout Foodborne Disease Surveillance and Response Programs and Activities

Summary of findings and analysis of the assessment of selected hospital facilities in the targeted locations are provided in Table 3 and Figure 3 below respectively.

Table 2: Adequacy of Hospital facilities to carryout Foodborne surveillance and response activities

Assessment Criteria	Number of Institutions where the facility is Not Available	Number of Institutions where Facility is Available but Not Operational	Number of Institutions where Facility is Available and Operational
System to determine, identify and confirm priority FBDs and associated food safety hazards	6	2	0
System for Foodborne Disease Confirmation	6	2	0
Foodborne Disease Case Definition	2	6	0
Data Reporting Systems	0	8	0
Response, Feedback and Supervision Systems	0	8	0
Investigating Laboratory Facilities	0	8	0
Training facilities	1	7	0
Availability of Resources	1	7	0

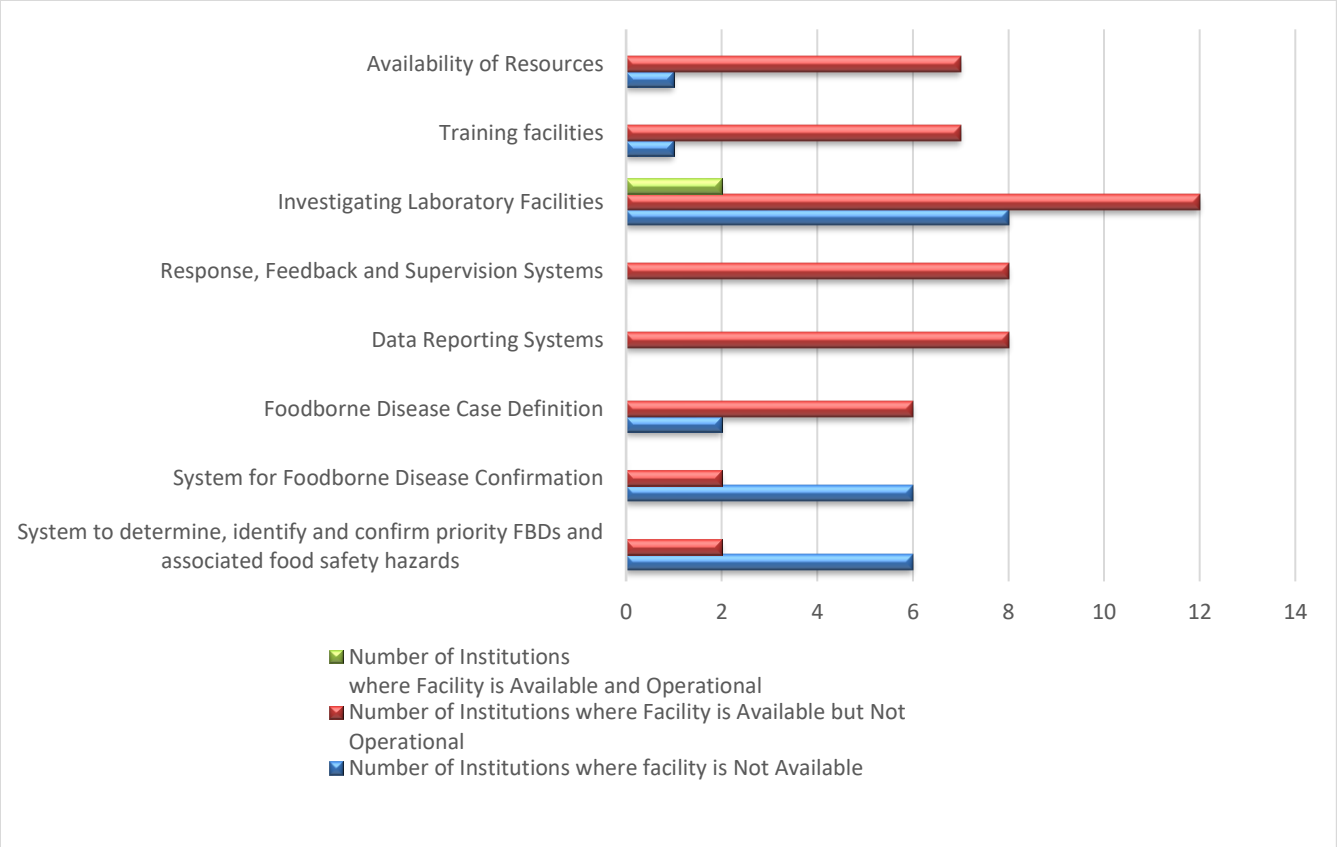


Figure 2: Adequacy of Selected Private, Federal and State Hospital Facilities to Carryout Foodborne Disease Surveillance and Response Programs and Activities

It can be seen from the above that:

1. All hospital facilities could systematically collect, collate, and analyse data on foodborne diseases and associated food contaminants; including their dissemination to relevant stakeholders to enable necessary actions to be taken;
2. Absence of officially standardised case definitions of Nigeria's priority foodborne and diseases including their registration in all hospital facilities;
3. Over 95% of hospital facilities are yet to develop or use standardized reporting forms dedicated to collect and collate foodborne disease incidences and outbreaks. Only IDSR Forms are currently in use;
4. Hospital facilities are yet to develop standard systems in place and the needed capacity to respond to cases of foodborne disease incidences and outbreaks within 48 hours of notification;
5. Lack of initiatives of Hospitals to publish periodic health and surveillance information including bulletins specifically dedicated to disseminating information on foodborne

diseases and food contaminations regularly to relevant stakeholders and the reading public;

6. Over 95% of laboratory facilities in hospitals currently lack personnel to adequate investigate, carry out tests, prepare and disseminate reports on food contaminations, and foodborne;
7. Existing training facilities on surveillance and response activities are inadequate and mostly carried out through on-the-job training. Specific training of personnel on Foodborne Disease Surveillance and Response Activities are not of priority; and
8. Availability of resources for effective surveillance systems in place to detect and monitor foodborne diseases, and food contaminations is grossly inadequate or absent. Where this is available, it is mostly donor driven.

Breakdown of Confirmed cases of FBDs in Health Care Facilities

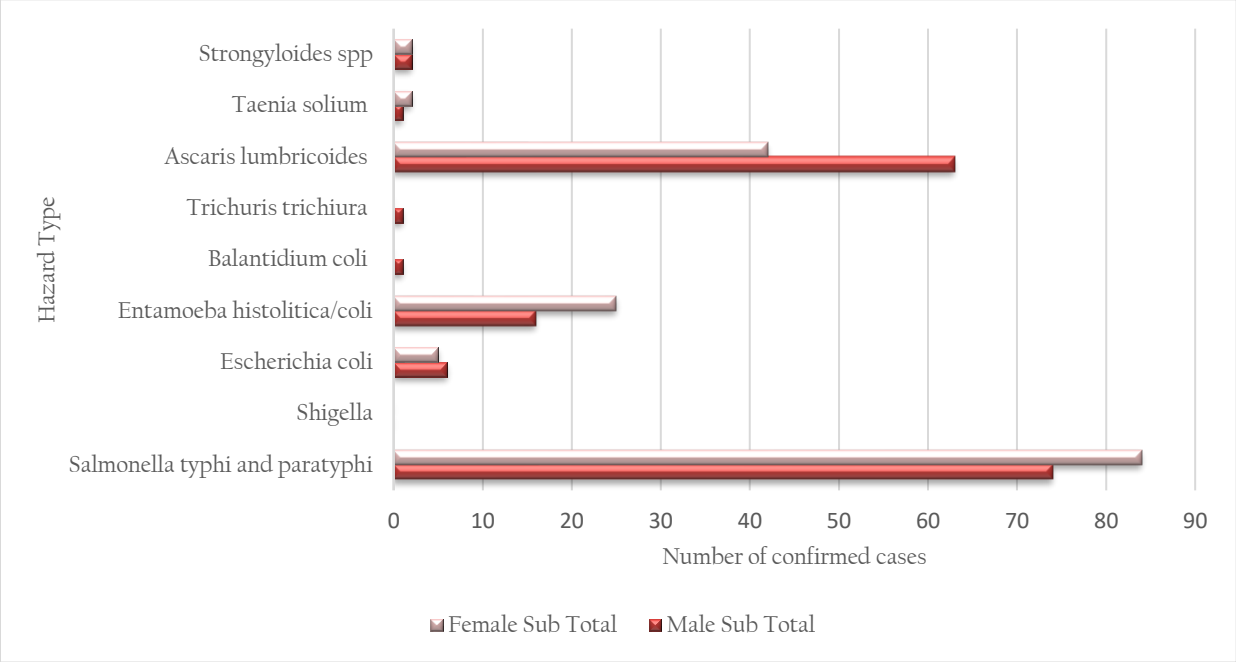


Figure 3: 3rd Quarter 2020 Confirmed FBDs in FMC Jabi, Abuja

The breakdown of confirmed cases of foodborne diseases from Federal Medical Centre, Abuja, in Figure 3 above, mimics results gotten from other health facilities visited and it showed the following:

1. That cases of diarrhoea (with or without blood) are the most common cases referred to the laboratory for analysis and confirmation.

2. That serious underdiagnosis of foodborne diseases, although not unexpected, shows the failure of the health sector to capture cases that do not seek medical care and when medical care is sort, confirmatory tests are not done to ascertain the likely pathogen due to poor healthcare/laboratory capacity and healthcare-seeking behaviours.
3. That due to inability of patients to afford the fees for laboratory tests, most diagnosis of foodborne diseases were not confirmed at laboratory level, thereby reducing the case count.
4. That recorded cases in health facilities are based on the notifiable diseases in the IDSR forms in health facilities. Most facilities did not record and/or report cases because it was not expedient to do so.
5. That *Salmonella typhi* and *paratyphi* are the most identified foodborne pathogen followed closely by *Ascaris lumbricoides*.
6. That FBDs caused by chemical and heavy metal poisoning were not reported or highlighted despite unconfirmed cases noted during the KII.
7. That the private health facilities visited mostly do not record and/or report cases of FBDs to the State and/or LGA Disease Surveillance and Notification Officer (DSNO).

With the paucity of data, there is a great need to estimate the burden of FBDs even when there is low case confirmation rate. Several studies have pustulated various ways to estimate the incidence foodborne diseases. None more recent than the WHO's 2021 publication on "estimating the burden of foodborne diseases: a practical handbook for countries". The document showed that confirmed cases are just the tip of the iceberg – as seen in figure 4 – and emphasises the need for all countries to invest in the proper estimation of the burden of FBDs to ensure that commensurate policy decisions are made to ensure profound reduction in the burden of FBDs in Nigeria.

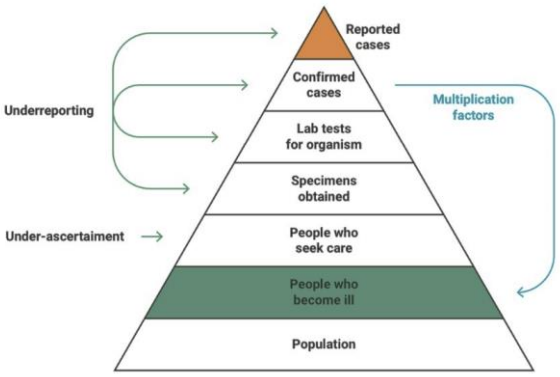


Figure 4: The foodborne diseases surveillance pyramid[11]

[11] Estimating the burden of foodborne diseases: a practical handbook for countries, WHO 2021

RECOMMENDATIONS

FOR FEDERAL MDAS AND HEALTH FACILITIES

1. Strengthen the existing capacity of relevant MDAs and healthcare facilities across the country to systematically collect, collate, analyse, and report data on priority foodborne and zoonotic diseases, food contaminants and related food safety hazards to facilitate timely recognition of existing and emerging foodborne diseases through a well-developed national surveillance network.
2. Develop an official priority list of foodborne diseases in the country for inclusion in routine disease surveillance reporting system in NCDC.
3. Develop official case definitions and management protocols for priority foodborne diseases to guide medical professionals in providing notifications on these diseases in a harmonised and systematic manner.
4. Develop and ensure the functionality of the INFOSAN Emergency Contact Point and Focal Points in MDAs to rapidly assess foodborne events in collaboration with State/LGA food safety focal person(s), epidemiological surveillance officer(s).
5. Develop and disseminate a country response procedure/plan to address food safety emergencies to include:
    a. Data reporting protocols for all priority foodborne diseases and foodborne hazards;
    b. An updated list of contact laboratories;
    c. Questionnaires for priority foodborne pathogens and hazards;
    d. Model press releases; and
    e. Food recall and withdrawal notice.
6. Urgently develop and disseminate standard case definitions for diseases caused by the following contaminants: *Salmonella typhi and paratyphi*, *Escherichia coli*, *Ascaris lumbricoides Clostridium botulinum*, *Clostridium perfringens*, *Listeria monocytogenes*, *Campylobacter*, *Brucella*, *Campylobacter*, natural toxins in food, Arsenic, and mycotoxins.
7. Leverage the well-established disease surveillance and notification system in the Nigeria Centre for Disease Control (NCDC) to provide for regular data collection and collation to measure the burden of foodborne diseases and provide the needed priority areas for the prevention and control of FBDs.
8. Federal Ministry of Agriculture and Rural Development in collaboration with the Health Sector MDAs to identify priorities FBDs of animal origin.

9. Integrate the Surveillance Outbreak Response Management & Analysis System (SORMAS) and National Animal Disease Information Service (NADIS) platforms to ensure that foodborne diseases of animal origin identified in the animal sector are easily linked together to ensure a more efficient and harmonised surveillance, response and management of FBDs that is in line with the OneHealth concept.
10. Strengthen national capacity to link identified pathogens in food along the food chain to human diseases using appropriate risk assessment techniques.
11. Upgrade national capacity and infrastructure of the laboratory including laboratory staff to monitor, detect, collate, evaluate, and respond to the emergence of antimicrobial resistance to foodborne pathogens.
12. Develop training and capacity building programs for relevant personnel charged with the responsibility of engaging in FBD surveillance and Response Activities at the national level.
13. Develop and implement a prioritised action plan based on the assessment findings.
14. Conduct a nationwide estimate of the health, economic and trade burden of foodborne disease.

FOR STATE MDAS AND HEALTH FACILITIES

1. Build the capacity of Disease and Surveillance Notification officers (DSNOs) to identify and investigate FBDs
2. Identify and empower State Food Safety Focal Person(s) in collaboration with State/LGA epidemiological surveillance officer(s) to rapidly assess foodborne events and report to the INFOSAN Emergency Contact Point and Focal Points at the Federal level.
3. State Ministries of Health in collaboration with relevant MDAs are requested to urgently provide standard case definitions for diseases caused by the following contaminants: *Salmonella typhi* and *paratyphi*, *Escherichia coli*, *Ascaris lumbricoides*, *Clostridium botulinum*, *Clostridium perfringens*, *Listeria monocytogenes*, *Campylobacter*, *Brucella*, *Campylobacter*, natural toxins in food, Arsenic, and mycotoxins
4. Build State capacity and infrastructure of laboratory and laboratory personnel to collect and transport appropriate specimens to a laboratory during foodborne outbreaks to identify the aetiological agent.
5. Develop training and capacity building programs for relevant personnel charged with the responsibility of engaging in FBD surveillance and response activities at State and LGA levels.
6. Build the capacity of clinicians, medical records officers and hospital laboratory technicians in case management, documentation, and reporting of FBDs.

CONCLUSION

Foodborne Diseases are an important national public health problem with a significant impact on its economy and food trade. Since most cases and outbreaks of FBDs are often underreported the true value and dimension of the burden of FBDs in Nigeria is unknown. The absence of reliable data on cases FBDs and food contaminants has further impeded the public understanding and awareness of its public health significance, even though recent cases and outbreaks have attracted public attention, policymakers are yet to develop and implement adequate measures to address existing and emerging food safety issues.

The existing Foodborne Disease Surveillance and Response System in place in Nigeria are not fit for purpose and are unable to provide the needed information to assure the estimation of a reliable burden of foodborne diseases and rapid detection and response to outbreaks. For the system to be effective, the surveillance FBDs must be integrated with food monitoring data across the entire food chain from farm to table. It is also imperative that strong leadership backed by political commitment, collaboration, and coordination of activities of relevant agencies at the Federal, State and Local Government levels are of paramount importance to ensure the existing FBD surveillance and Response System in place in the country is strengthened and enhanced.

ANNEXES

LIST OF ASSESSMENT SITES

S/N	ORGANISATION/FACILITY	LOCATION
	HEALTHCARE FACILITY	
1	Asokoro District Hospital, FCT	FCT
2	University of Abuja Teaching Hospital, Gwagwalada, FCT	FCT
3	Federal Medical Centre, Jabi, FCT	FCT
4	Jikowyi Medical Centre, Jikowyi, FCT	FCT
5	University of Uyo Teaching Hospital	Akwa-Ibom State
6	Holifield Specialist Hospital	Akwa-Ibom State
7	Aminu Kano University Teaching Hospital	Kano State
8	Standard Specialist Hospital	Kano State
9	University College Hospital, Ibadan	Oyo State
	FEDERAL AND STATE MDAs	
10	Federal Ministry of Health (FMOH)	FCT
11	Nigeria Agriculture Quarantine Service (NAQS)	FCT
12	National Environment Management Authority (NEMA)	FCT
13	National Primary Health Care Development Agency (NPHCDA)	FCT
14	Federal Ministry of Agriculture and Rural Development (FMARD)	FCT
15	Medical Lab Science Council of Nigeria (MLSCN)	FCT
16	Environmental Health Officers Registration Council of Nigeria (EHORECON)	FCT
17	Nigeria Centre for Disease Control (NCDC)	FCT
18	National Agency for Food & Drug Administration & Control (NAFDAC)	FCT
19	Oyo State Ministry of Health	Oyo State
20	Akwa-Ibom State Ministry of Health	Akwa-Ibom State
21	Kano State Ministry of Health	Kano State
22	Kano State Ministry of Agriculture and Natural Resources	Kano State

QUESTIONNAIRE/CHECKLIST FOR FEDERAL MINISTRIES, DEPARTMENTS, AND AGENCIES (MDAS)

Name of Organisation: .....

Address of Organisation: .....

State/LGA: .....

Role of Organisation (Regulatory/Policy Making etc.): .....

Category (Federal/Zonal/State): .....

Date of visit: ..... Duration of visit: .....

Assessment Team ID: ..... Interviewer ID: .....

Contact Persons:

S/n	Name	Designation	Phone number	Email address
1				
2				
3				
4				
5				

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
		GENERAL		
1.	Is there a legal requirement mandating surveillance of any FBI/FBD?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, kindly list the diseases	
2	Is there a national manual developed for FBI/FBD surveillance?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. When it was last updated, 2. Current diseases included, 3. Current case definitions, 4. Existing framework for surveillance and control, 5. Whether integrated or different for each disease	
		CASE DEFINITION AND REGISTRATION		
3	Are there standard case definitions for the country's priority diseases?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Seek/request for an official list.	
4	Is any of such priority diseases food borne?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Observe the standard cas definition for (each priorit disease)	
		DATA REPORTING		
5	Is your MDA responsible for designing and providing surveillance forms to the health facilities in the States?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If No, Name the responsible Organisation(s). 2. If Yes, has there been shortage of the appropriate surveillance forms at any time during the last 6 months.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
6	Does the number of reports in the last 3 months compare to expected number?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. % of reports per week submitted compared to the expected. 2. % of reports per month submitted compared to the expected.	
7	Does the MDA share surveillance data with the WHO/FAO/OIE/IPPC/CODEX and other MDAs?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. Request for the list of the MDAs. 2. How often does this occur? 3. What is the mode of reporting i.e. Mail, email, Fax, Radio, Telephone Software, etc.	
OUTBREAK INVESTIGATION				
8	Has there been suspected FBI/FBD outbreaks in the past one year?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If yes, request a list of FBI/FBD outbreaks. 2. What are the causative diseases? 3. Of the number of outbreaks, how many were investigated? 4. Number of outbreaks in which risk factors were looked for. 5. Number of outbreaks in which findings were used for action. 6. Observe reports and take copies if possible	
EXTENT OF PREPAREDNESS FOR EPIDEMIC PRONE FOODBORNE ILLNESS (FBI/FBD/FBD)				
9	Is there a written national plan for FBI/FBD epidemic preparedness and response	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Sight available plans.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
10	Existence of emergency stocks of FBI/FBD related drugs, vaccines, and supplies at all times in past 1 year	Yes☐ No☐ N/A☐ Don't Know☐	Request for records/evidence of supply.	
11	Has the organisation experienced shortage of drugs, vaccines or supplies during the most recent FBI/FBD event (or outbreak)?	Yes☐ No☐ N/A☐ Don't Know☐		
12	Is there a budget line for FBI/FBD epidemic response?	Yes☐ No☐ N/A☐ Don't Know☐	Is the budget line funded? Request for evidence	
13	Is there an FBI/FBD/FBD event management committee in existence within your organisation?	Yes☐ No☐ N/A☐ Don't Know☐	Request for evidence (minutes, reports etc.)	
14	Does the organisation have a rapid response team for FBI/FBD events?	Yes☐ No☐ N/A☐ Don't Know☐	Request for evidence (minutes, reports etc.)	
	RESPONSE TO EPIDEMICS			
15	Did your MDA respond within 48 hours of notification of most recently reported FBI/FBD/FBD outbreak?	Yes☐ No☐ N/A☐ Don't Know☐	Observe written reports with trend and intervention.	
16	Does your MDA monitor FBI/FBD/FBD related mass vaccination campaign coverage evaluations?	Yes☐ No☐ N/A☐ Don't Know☐	Observe report to confirm check for coverage by age group, logistics and costing.	
17	Has the FBI/FBD/FBD epidemic management committee within your organisation evaluated its preparedness and response activities during the past one year?	Yes☐ No☐ N/A☐ Don't Know☐	Observe written report to confirm.	
	FEEDBACK SYSTEM			

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
18	Does your MDA have the capacity for publication of health and surveillance information?	Yes☐ No☐ N/A☐ Don't Know☐	1. Is there an editorial board? 2. Is there an editor? 3. Is there an annual budget?	
19	Did your MDA produce any feedback bulletin or reports in the last year?	Yes☐ No☐ N/A☐ Don't Know☐	1. How many were produced in the last one year. 2. Observe the presence of a report or bulletin that is regularly produced to disseminate surveillance data.	
		SUPERVISION		
20	Do you conduct routine supervisory visits on FBI/FBD/FBD at National & sub-national levels?	Yes☐ No☐ N/A☐ Don't Know☐	1. Names of organisations visited. 2. How many supervisory visits have you made in the last 6 months? 3. If No, what are the most unusual reasons for not making all required supervisory visits?	
		TRAINING		
21	Have you been trained in FBI/FBD surveillance?	Yes☐ No☐ N/A☐ Don't Know☐	Look for reports of training.	
22	Has other personnel been trained in FBI/FBD surveillance?	Yes☐ No☐ N/A☐ Don't Know☐	1. Request for the report of the training. 2. What is the percentage of personnel trained?	
23	Have you received any post-basic training in FBI/FBD surveillance?	Yes☐ No☐ N/A☐ Don't Know☐	To specify when, where, how long, by whom?	
24	Have you received any post-basic training in FBI/FBD epidemic management?	Yes☐ No☐ N/A☐ Don't Know☐	To specify when, where, how long, by whom?	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
25	Do your MDA have an existing training program?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Request for relevant training materials.	
		SURVEILLANCE SYSTEM		
26	Is there a focal unit for FBI/FBD related surveillance at your MDA?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Observe organogram of MDA to confirm.	
27	Is there an FBI/FBD related surveillance focal person at your MDA?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	To request for suitable evidence. Name the person.	
28	Are there opportunities for integration of FBI/FBD related surveillance activities and functions?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Look out for minutes of meetings etc.	
		RESOURCES		
29	Do the facilities have any of the following? 1. Logistics i. Electricity ii. Bicycles iii. Motorcycles iv. Vehicles v. PPEs 2. Data management i. Stationeries ii. Calculators iii. Computers iv. Printers v. Statistical packages vi. Communication gadgets vii. Internet facilities 3. Communication i. Telephone service ii. Fax			

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
	iii. CB radio iv. Computers that have modems v. Information education and communication materials vi. Posters vii. Megaphones viii. Flipcharts or Image box ix. VCR and TV set x. Generators xi. Screens xii. Projectors (Movie) xiii. Others 4. Hygiene and sanitation materials i. Potable water ii. Spray pumps iii. Disinfectants iv. Protection materials			

QUESTIONNAIRE/CHECKLIST FOR STATE MINISTRIES, DEPARTMENTS, AND AGENCIES (MDAS)

Name of Organisation: .....

Address of Organisation: .....

State/LGA: .....

Role of Organisation (Regulatory/Policy Making etc.): .....

Category (Federal/Zonal/State): .....

Date of visit: ..... Duration of visit: .....

Assessment Team ID: ..... Interviewer ID: .....

Contact Persons:

S/n	Name	Designation	Phone number	Email address
1				
2				
3				
4				
5				

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
		CASE CONFIRMATION		
1.	Is there a national/state manual for surveillance of FBI/FBD at this site?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, request to sight the manual for confirmation. 2. When it was last updated, 3. Current diseases included 4. Existing framework for surveillance and control, 5. Whether integrated or different for each disease	
2	Does the State have guidelines for specimen collection, handling, and transportation?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Sight and assure availability of guidelines/provisions for specimen collection, handling, and transportation.	
3	Does the State have the capacity to transport specimens to a higher-level laboratory?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Ascertain the means and evidence of previous deliveries if any.	
		DATA REPORTING SYSTEM		
4	Do you have provision for reporting FBI/FBD data in your facility?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Sight FBI/FBD reporting forms, software etc.	
5	Have you lacked FBI/FBD data reporting forms recommended for the country at any time during the last 6 months?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, give reasons.	
6	Have you received WEEKLY FBI/FBD reports from health facilities in the last 3 months?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of WEEKLY reports received in this period compared to expected number 2. Sighting of the report.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
7	Have you received MONTHLY FBI/FBD reports from health facilities in the last 3 months?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of MONTHLY reports received in this period compared to expected number. 2. Sighting of the report.	
8	Have you prepared and submitted WEEKLY FBI/FBD reports from health facilities in the last 3 months to Federal MDAs?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of WEEKLY reports prepared and submitted to Federal MDAs within this period. 2. Sighting of the report.	
9	Have you prepared and submitted MONTHLY FBI/FBD reports from health facilities in the last 3 months to Federal MDAs?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of MONTHLY reports prepared and submitted to Federal MDAs within this period. 2. Sighting of the report.	
10	How are the FBI/FBD reports submitted to Federal MDAs?		1. Mail, Email, Fax, Telephone, Radio, Electronic, Software etc. 2. Sight instances where platform was used.	
11	Are there challenges you have been encountering in reporting FBI/FBD?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, name them.	
12	Are there ways that the existing reporting system can be improved?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, name them.	
INVESTIGATION OF OUTBREAKS				
13	Are there suspected FBI/FBD outbreaks in the past one year?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, verify the number of suspected outbreaks.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
14	Has the State ever investigated a suspected FBI/FBD outbreak?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, verify evidence If No, ask why.	
15	Has the State ever sought for risk factors associated with FBI/FBD outbreaks?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, sight and peruse th resultant report for the ris factors.	
16	Has the State ever used the data for action, e.g. containing outbreak or improving surveillance?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, observe the final repor of outbreak investigations.	
	EPIDEMIC PREPAREDNESS			
17	Does the State have a written plan for FBI/FBD epidemic preparedness and response?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, sight and assure the availability of the plan.	
18	Does the State have stock for emergency FBI/FBD outbreak response in the past 1 year?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, verify stock records.	
19	Has the State experienced shortage of FBI/FBD related drugs, vaccines or supplies during the most recent FBI/FBD epidemic (or outbreak)?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, how was it addressed.	
20	Is there a budget line or access to funds for FBI/FBD epidemic/outbreak response?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, sight and authenticate budget line.	
21	Does the State have an FBI/FBD epidemic/outbreak management committee?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, observe minutes (or report) of meetings of FBI/FBD epidemic management committee.	
22	Does the State have a rapid response team for FBI/FBD epidemics/outbreaks?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, sight available report(s)/evidence.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
		RESPONSES		
23	Has the State implemented prevention and control measures based on local data for at least one reportable FBI/FBD?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, sight availabl report(s)/evidence.	
24	Has the State responded within 48 hours of notification of recently reported FBI/FBD outbreak/epidemic?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, observe from writte reports/documents.	
25	Has the State ever performed mass FBI/FBD related vaccination campaigns? e.g. Hepatitis A, Cholera, Typhoid, Rotavirus etc.	Yes☐ No☐ N/A☐ Don't Know☐	If yes, request for availabl report/other documents.	
26	Has the State ever indicated percentage FBI/FBD related vaccination coverage?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, note percentage vaccin coverage.	
27	Has the preparedness and response activities of the FBI/FBD epidemic management committee been evaluated in the past one year?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, observe written report to confirm	
		FEEDBACK		
28	Has your State rendered feedback reports to LGAs on FBI/FBD in the last one year?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, observe the availability of a written report.	
29	Has your State received feedback bulletin(s) or reports from the Federal MDAs on FBI/FBD in the last one year?	Yes☐ No☐ N/A☐ Don't Know☐	If Yes, observe at least 1 report.	
		SUPERVISION		
30	Has your State been supervised for FBI/FBD surveillance and/or response in the last 6 months?	Yes☐ No☐ N/A☐ Don't Know☐	1. If Yes, how many times? 2. Observe supervision report or any evidence of supervision in last 6 months. Compare number	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
			with that given by Federal MDAs. 3. Observe supervision report or any evidence submitted to Federal MDAs for appropriate review of surveillance practices	
31	Has your State made any supervisory visits for FBI/FBD surveillance and/or response in the last 6 months?	Yes☐ No☐ N/A☐ Don't Know☐	Request for a list of the most usual reasons for not making all required supervisory visits	
	TRAINING			
32	Have you been trained in FBI/FBD surveillance and epidemic management?	Yes☐ No☐ N/A☐ Don't Know☐	To specify when, where, hov long, by whom?	
33	Has other personnel(s) in the State been trained in FBI/FBD surveillance and epidemic management?	Yes☐ No☐ N/A☐ Don't Know☐	1. If Yes, request for report of training. 2. What is the percentage of personnel trained?	
34	Have you received any post-basic training in FBI/FBD surveillance and epidemic management?	Yes☐ No☐ N/A☐ Don't Know☐	To specify when, where, hov long, by whom?	
	SURVEILLANCE COORDINATION			
35	Is there a focal unit for FBI/FBD related surveillance at your MDA?	Yes☐ No☐ N/A☐ Don't Know☐	Observe organogram of MDA to confirm.	
36	Is there an FBI/FBD related surveillance focal person at your MDA?	Yes☐ No☐ N/A☐ Don't Know☐	1. To request for suitable evidence. 2. Name the person.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
37	Are there opportunities for integration of FBI/FBD related surveillance activities and functions?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Look out for minutes o meetings etc.	
	LEVEL OF SATISFACTION WITH SURVEILLANCE SYSTEM			
38	Are you satisfied with the FBI/FBD surveillance system?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Request for how the system can be improved.	
39	Are there opportunities for integration of FBI/FBD surveillance activities and functions?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Look out for core activities training, supervisior guidelines, resources etc.	
	RESOURCES			
40	Do the facilities have any of the following? 5. Logistics i. Electricity ii. Bicycles iii. Motorcycles iv. Vehicles v. PPEs 6. Data management i. Stationeries ii. Calculators iii. Computers iv. Printers v. Statistical packages vi. Communication gadgets vii. Internet facilities 7. Communication i. Telephone service ii. Fax iii. CB radio iv. Computers that have modems			

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS/REMARKS
	v. Information education and communication materials vi. Posters vii. Megaphones viii. Flipcharts or Image box ix. VCR and TV set x. Generators xi. Screens xii. Projectors (Movie) xiii. Others 8. Hygiene and sanitation materials i. Potable water ii. Spray pumps iii. Disinfectants iv. Protection materials			

QUESTIONNAIRE/CHECKLIST FOR HEALTHCARE FACILITIES

Name of Facility: .....

Address of Facility: .....

State/LGA: .....

Facility Type (Public/Private): .....

Category (Primary/Secondary/Tertiary): .....

Date of visit: ..... Duration of visit: .....

Assessment Team ID: ..... Interviewer ID: .....

Contact Persons:

S/n	Name	Designation	Phone number	Email address
1				
2				
3				
4				
5				

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS
		CASE DETECTION AND REGISTRATION		
1.	Is there a Standard manual (SOP) for surveillance of FBI/FBD at this site?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, observe for a national/state surveillance manual.	
2	Is there a Case definition for any FBI/FBD at this site? E.g. Diarrhoea, Bloody Diarrhoea etc.	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, how many. 2. If Yes, observe the respondent correctly diagnosing one of the country's priority diseases using a standard case definition. 3. Select one of the priority diseases in the facility's clinical register and ask how they diagnosed it — interviewer should have the standard case definition from Federal MDAs.	
		CASE CONFIRMATION		
3	Does the facility have the capacity to collect; Sputum, Blood, Stool and/or CSF?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, observe the presence of materials required to collect; Sputum, Blood, Stool and/or CSF.	
4	Does the facility have the capacity to handle specimens until shipment?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, observe availability of functional cold chain at health facility.	
5	Does the facility have the capacity to ship specimens to higher level laboratory?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, observe availability of transport media for stool at health facility.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS
			2. Observe availability of packing materials for shipment of specimens at health facility.	
		DATA REPORTING		
6	Have you received MONTHLY FBI/FBD reports from health facilities in the last 3 months?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of MONTHLY reports received in this period compared to expected number. 2. Sighting of the report.	
7	Have you prepared and submitted WEEKLY FBI/FBD reports from health facilities in the last 3 months to State/Federal MDAs?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of WEEKLY reports prepared and submitted to State/Federal MDAs within this period. 2. Sighting of the report.	
8	Have you prepared and submitted MONTHLY FBI/FBD reports from health facilities in the last 3 months to State/Federal MDAs?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of MONTHLY reports prepared and submitted to State/Federal MDAs within this period. 2. Sighting of the report.	
9	How are the FBI/FBD reports submitted to State/Federal MDAs?		1. Mail, Email, Fax, Telephone, Radio, Electronic, Software etc. 2. Sight instances where platform was used.	
10	Are there challenges you have been encountering in reporting FBI/FBD?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, name them.	
11	Are there ways that the existing reporting system can be improved?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, name them.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS
12	Have you received MONTHLY FBI/FBD reports from health facilities in the last 3 months?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of MONTHLY reports received in this period compared to expected number. 2. Sighting of the report.	
13	Have you prepared and submitted WEEKLY FBI/FBD reports from health facilities in the last 3 months to State/Federal MDAs?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of WEEKLY reports prepared and submitted to State/Federal MDAs within this period. 2. Sighting of the report.	
14	Have you prepared and submitted MONTHLY FBI/FBD reports from health facilities in the last 3 months to State/Federal MDAs?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, give number of MONTHLY reports prepared and submitted to State/Federal MDAs within this period. 2. Sighting of the report.	
	EPIDEMIC PREPAREDNESS			
15	Is there a written case management protocol for FBI/FBD?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, observe the availability of a written case management protocol for at least 1 epidemic prone disease	
	EPIDEMIC RESPONSE			
16	Has the health facility implemented prevention and control measures based on local data for at least one FBI/FBD epidemic prone disease?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, observe that the health facility achieved an acceptable case fatality rate for most recent outbreak.	
	FEEDBACK			
17	Has the health facility received any feedback bulletin or reports on FBI/FBD in the last one year?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If Yes, observe at least 1 report or bulletin at the health facility on FBI/FBD from a higher level during the past year on the data they have provided.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS
18	Has the health facility conducted any sensitisation/awareness meeting with the community members in the past one year on FBI/FBD?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, how many? 2. Observe the minutes or report of at least 1 meeting on FBI/FBD between the health facility team and the community members within the six months.	
		SUPERVISION		
19	Have you been supervised on FBI/FBD in the last 6 months?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, how many times? 2. Observed supervision report or any evidence of supervision in last 6 months. 3. Observed supervision report or any evidence for appropriate review of FBI/FBD surveillance practices.	
		TRAINING		
20	Have you been trained in FBI/FBD surveillance and epidemic management?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	To specify when, where, how long, by whom?	
21	Has other personnel(s) in the State been trained in FBI/FBD surveillance and epidemic management?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	1. If Yes, request for report of training. 2. What is the percentage of personnel trained?	
22	Have you received any post-basic training in FBI/FBD surveillance and epidemic management?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	To specify when, where, how long, by whom?	
		LEVEL OF SATISFACTION WITH SURVEILLANCE SYSTEM		
23	Are you satisfied with the FBI/FBD surveillance system?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Request for how the system can be improved.	

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS
24	Are there opportunities for integration of FBI/FBD surveillance activities and functions?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	Look out for core activities, training, supervision, guidelines, resources etc.	
		RESOURCES		
25	Do the facilities have any of the following? 1. Logistics i. Electricity ii. Bicycles iii. Motorcycles iv. Vehicles v. PPEs 2. Data management i. Stationeries ii. Calculators iii. Computers iv. Printers v. Statistical packages vi. Communication gadgets vii. Internet facilities 3. Communication i. Telephone service ii. Fax iii. CB radio iv. Computers that have modems v. Information education and communication materials vi. Posters vii. Megaphones viii. Flipcharts or Image box ix. VCR and TV set x. Generators xi. Screens xii. Projectors (Movie) xiii. Others			

S/NO	QUESTION	RESPONSE	MEANS OF VERIFICATION	FINDINGS
	4. Hygiene and sanitation materials i. Potable water ii. Spray pumps iii. Disinfectants iv. Protection materials			

QUESTIONNAIRE/CHECKLIST FOR HEALTHCARE FACILITIES

Name of Facility: .....

Address of Facility: .....

State/LGA: .....

Facility Type (Public/Private): .....

Category (Hospital Based/Reference Laboratory): .....

Date of visit: ..... Duration of visit: .....

Assessment Team ID: ..... Interviewer ID: .....

Contact Persons:

S/n	Name	Designation	Phone number	Email address
1				
2				
3				
4				
5				

PART I: LABORATORY INSPECTION

Inspect the laboratory and complete the following form. Be courteous by first asking permission to open refrigerators, freezers, media storage closets and incubators to examine items contained therein. Some of the information collected during a walk-through will be used to verify information provided on the questionnaire. Make additional Notes as required, e.g. general cleanliness and organization of the laboratory, staff activity level, workload (specimens and inoculated plates present), and special facilities. Obtain copies of standard forms where indicated.

S/N	ACCESSIONING AND REPORTING	RESPONSE	MEANS OF VERIFICATION	FINDINGS
REVIEW ACCESSIONING LOGBOOK(S) IF AVAILABLE. ROUGHLY CALCULATE THE NUMBER OF SPECIMENS SUBMITTED OVER A ONE-MONTH PERIOD. RECORD NUMBER: SAMPLES/MONTH				
1	Are copies of report forms available?	Yes ☐ No ☐ N/A ☐ Don't Know ☐	If yes in Q1, sight/obtain copies of standardized report forms that are used.	
2	What proportions of available report forms are FBI/FBD?	‹ 50% ☐ ›50% ☐	Review forms submitted with specimens.	
3	What proportion of specimens received is labelled with the sample/patient's name and unique identifications?	‹ 50% ☐ ›50% ☐		
AVAILABILITY Of MANUALS				
1	Test Procedures/SOP	Yes ☐ No ☐ N/A ☐ Don't Know ☐	When was it last reviewed? ‹ 1 year ☐ 2-5 years ☐ ›5 years ☐ No date ☐	
2	Safety	Yes ☐ No ☐ N/A ☐ Don't Know ☐	When was it last reviewed? ‹ 1 year ☐ 2-5 years ☐ ›5 years ☐ No date ☐	
3	Quality Control	Yes ☐ No ☐ N/A ☐ Don't Know ☐	When was it last reviewed? ‹ 1 year ☐ 2-5 years ☐ ›5 years ☐ No date ☐	
EQUIPMENT AND REAGENTS				
1	Briefly look to see if reported number and type of equipment items is consistent with those reported on the questionnaire. Are findings generally consistent with responses above?	Yes ☐ No ☐ N/A ☐ Don't Know ☐		
INSPECT EQUIPMENT TO SEE IF PERFORMANCE INDICATORS (E.G. TEMPERATURES) ARE REGULARLY RECORDED				

S/N	ACCESSIONING AND REPORTING	RESPONSE	MEANS OF VERIFICATION	FINDINGS
1	Is the temperature of the REFRIGERATORS regularly recorded?	Yes ☐ No ☐ N/A ☐	What is the percentage of records kept? 0% ☐ 1-50% ☐ › 50% ☐	
2	Is the temperature of the FEEZERS regularly recorded?	Yes ☐ No ☐ N/A ☐	What is the percentage of records kept? 0% ☐ 1-50% ☐ › 50% ☐	
3	Is the temperature of the INCUBATORS regularly recorded?	Yes ☐ No ☐ N/A ☐	What is the percentage of records kept? 0% ☐ 1-50% ☐ › 50% ☐	
INSPECT PREPARED REAGENTS, DEHYDRATED MEDIA, ANTIBIOTIC SUSCEPTIBILITY DISKS AND PREPARED MEDIA TO SEE IF DATES ARE RECORDED FOR THE DATE REPAIRED OR OPENED AND TO SEE IF EXPIRATION DATES HAVE PASSED.				
1	Proportion of reagents labelled appropriately?	‹ 50% ☐ ›50% ☐	Request for reagent/media packages and sight for confirmation.	
2	For reagents with dates, what is the percent of outdated reagents/media?	‹ 50% ☐ ›50% ☐	Request for reagent/media packages and sight for confirmation.	
INSPECT BACTERIOLOGICAL MEDIA, BOTH PREPARED AND DEHYDRATED, AND REAGENTS FOR SIGNS OF DETERIORATION, E.G. DRYING, DISCOLORATION, HAEMOLYSIS				
1	Deterioration noted in bacteriological media	Yes ☐ No ☐ N/A ☐	What is the percentage of deterioration in media? 0% ☐ 1-50% ☐ › 50% ☐	
SAFETY				
1	If biosafety hood is present, is it operational?	Yes ☐ No ☐ N/A ☐		
2	Is a certification/inspection sticker present?	Yes ☐ No ☐ N/A ☐	If yes, what is the date of certification? ‹ 1 year ☐ › 1 year ☐ N/A ☐	
INSPECT LABORATORY FOR PRESENCE OF BIOSAFETY EQUIPMENT (GLOVES, SHARPS CONTAINERS, SAFETY GLASSES)				
1	Gloves present.	Yes ☐ No ☐ N/A ☐		
2	Sharps containers.	Yes ☐ No ☐ N/A ☐		
3	What proportion of staff are wearing gloves while performing procedures?	1-50% ☐ › 50% ☐		

S/N	ACCESSIONING AND REPORTING	RESPONSE	MEANS OF VERIFICATION	FINDINGS
4	Is the hazardous waste disposal system operational?	Yes ☐ No ☐ N/A ☐	Inspect equipment used for the disposal of biological wastes, e.g. Autoclaves, incinerator.	

PART 2: DATA COLLECTION ON FBDs/FBIs RECORDED AT HEALTH FACILITY SITES IDENTIFIED FOR ASSESSMENT IN 3RD QUARTER 2020

S/N	CASE PARAMETERS		CASE COUNT
A	**GENDER**		
	Number of MALE		
	Number of FEMALE		
	Total		
B	**AGE**		
	0-5 years old		
	>5 years old		
	Total		
C	**SYNDROME**	**POSSIBLE AGENTS**	
1	Diarrhoea	Bacterial pathogens (e.g. *Salmonella, Vibrio cholerae*)	
		Viral pathogens (e.g. norovirus, rotavirus)	
		Others	
	Total		
2	Bloody diarrhoea	Bacterial pathogens (e.g. Shiga-toxin producing *Escherichia coli*, *Shigella*, *Campylobacter*)	
		Parasites (e.g. *Entamoeba*)	
		Others	
	Total		
3	**Neurological**	Chemical agents (e.g. organophosphates, mercury, triorthocresyl, ethylene glycol, methanol)	
		Natural toxins (e.g. mushrooms containing ibotenic acid or muscarine, those that cause paralytic shellfish poisoning, tetrodotoxin, poisonous plants,	

		those that cause ciguatera)	
		Bacterial agents (e.g. botulinum toxin from *Clostridium botulinum*)	
		Others	
	Total		
D	**IMPLICATED FOODS**		
	Milk & Milk products		
	Fish		
	Canned foods		
	Spices		
	Others		
	Total		