



NIGERIA CENTRE
FOR DISEASE CONTROL

Viral Haemorrhagic Fever Preparedness and Response Plan

Prepared by the
Nigeria Centre for Disease Control
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About NCDC

Nigeria Centre for Disease Control (NCDC) is Nigeria's national public health institute with the mandate to provide a healthier and safer Nigeria through the prevention and control of diseases of public health importance. It is focused on protecting the health of Nigerians through evidence based prevention, integrated disease surveillance and response activities, using a one health approach, guided by research and led by a skilled workforce.

NCDC operations and activities are guided by five key goals:

- Accurately measure the burden of infectious diseases in Nigeria
- Ensure Nigeria is able to meet its international obligations as a member of the World Health Assembly
- Develop a Public Health laboratory service network to support the detection, prevention and response to critical infectious diseases
- Reduce the adverse impact of predictable and unpredicted public health emergencies
- Create an efficiently managed and evidence based organisation with a clear focus of health promotion and disease prevention.

NCDC operates through five directorates: Surveillance and Epidemiology, Public Health Laboratory Services, Emergency Preparedness and Response, Prevention and Programmes Coordination and Administration.

NCDC is the host for the ECOWAS Regional Centre for Disease Control (RCDC) and the regional hub for the Africa Centres for Disease Control (ACDC).



Foreword

The last decade has seen the emergence and re-emergence of Viral Haemorrhagic Fevers (VHFs) in Nigeria and indeed in the West African sub-region. VHFs pose a great challenge to public health globally due to the high infectivity, morbidity and mortality associated with this group of diseases.

Seasonal outbreaks of Lassa fever have continued in Nigeria with cases now being recorded in States that have not reported these in the past. This situation has presented challenges in case management and infection prevention and control especially among health care workers with attendant health care worker infection being recorded, mainly due to the general ability of VHFs to spread readily in health facilities

Prevention of human to human transmission of VHFs through standard infection prevention and control measures during the care and management of suspected or confirmed VHF patients in the community and within health facilities remains the mainstay of control of VHF outbreaks.

With the aim of eliminating or minimising the risk of transmission to health care workers and others coming into contact with an infected person, this document has been developed to provide clear guidance to health care workers and health authorities involved in patient care and management as well as the response to VHF outbreaks in Nigeria.

This Preparedness and Response Plan provides healthcare workers a clear and easy guide to manage VHF cases in Nigeria.

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Index of Acronyms

CDC	Centers for Disease Control and Prevention
EOC	Emergency Operations Centre
EPC	Epidemic Preparedness Committee
EVD	Ebola Virus Disease
NEPC	National Epidemic Preparedness Committee
ETC	Ebola Treatment Centre
FCT	Federal Capital Territory
FMoH	Federal Ministry of Health
GLP	Good Laboratory Practice
HCW	Health Care Worker
IATA	International Air Transport Association
IDSR	Integrated Disease Surveillance and Response
IMS	Incident Management System
IPC	Infection Prevention and Control
LGA	Local Government Area
LUTH	Lagos University Teaching Hospital
MSF	Médecins Sans Frontières
NCDC	Nigeria Centre for Disease Control
NFELTP	Nigeria Field Epidemiology and Laboratory Training Programme
NPC	National Population Commission
ORS	Oral Rehydration Solution
PoC	Point of Care
PoE	Points of Entry
PPE	Personal Protective Equipment
RRT	Rapid Response Team
SOP	Standard Operating Procedures
SMoH	State Ministry of Health
TOR	Terms of Reference
TOT	Training of Trainers
UNICEF	United Nations Children’s Fund
VBVD	Vector-Borne Viral Diseases
VHF	Viral Haemorrhagic Fevers
WHO	World Health Organisation
WHO – MPPR	WHO Guidance on the Minimum Package for EVD Preparedness and Readiness

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Preamble

The National Viral Haemorrhagic Fevers (VHF) preparedness plan identifies and describes systems, activities, resources and timelines at National, State and Local Government Area levels. This plan is to be used for pre-outbreak as well as post-outbreak phases to prevent, mitigate and contain any emerging or re-emerging VHF disease. The document aims to build on the existing capacities created in response to recent VHF outbreak responses in Nigeria, while taking into consideration lessons learnt from previous outbreaks.

1.1 OVERARCHING OBJECTIVE

The goal of this plan is to ensure the availability of capacities for prevention, rapid detection, investigation, verification, and response to VHF cases and outbreaks, in order to minimise associated health consequences and the negative socio-economic impact.

1.2 OBJECTIVES

The objectives of this document are:

1. To describe strategies for the prevention of VHFs in Nigeria, including raising public awareness on VHF risks and behaviour change.
2. To strengthen capacity for early detection and verification, reporting, investigation and confirmation of infections that can lead to VHF.
3. To define resources required for outbreak verification and response, as well as capacities for effective coordination, oversight and management of outbreaks.
4. To define capacity and standardise processes for sample collection, laboratory confirmation, and reporting of laboratory results.

5. To define capacity for case management, effective infection prevention control and safe burial practices.
6. To strengthen coordination and harmonisation of the preparedness and response to VHF cases and outbreaks.

1.3 STRATEGY FOR VHF PREPAREDNESS AND RESPONSE

This preparedness plan aims to strengthen the following areas relating to the objectives above;

1. Enhanced surveillance, rapid verification and response including surveillance and public health measures at Points of Entry (PoEs i.e. airports, seaports and ground crossings).
2. Specimen collection and transportation.
3. Case management and infection prevention and control (IPC).
4. Prevention including social mobilisation, public awareness and community engagement.
5. Logistics (supplies, equipment, contingency funds).
6. Coordination, management and oversight of outbreak response operations.

1.4 SCOPE OF VHF SURVEILLANCE AND RESPONSE PREPAREDNESS

The NCDC VHF preparedness plan is for all viral haemorrhagic fevers with particular emphasis on Ebola, Lassa, Dengue and Yellow Fever which have been prioritised for various epidemiological reasons.

**1.5
KEY
OPERATIONAL
AREAS OF THE
PREPAREDNESS
PLAN**

The key operational areas are the coordination, surveillance, case management, capacity building (training, infection prevention control), laboratory and point of entry.

1. **Coordination:** Providing leadership at Federal level for State and LGA systems, carrying out oversight activities and coordination of outbreak response through functional EOCs.
2. **Epidemiology and surveillance:** Enhancing surveillance, improved reporting, rapid investigation and verification.
3. **Capacity building for case management:** Building capacity for case management, infection control and social support.
4. **Strengthening laboratory capacity:** Strengthening laboratory capacity and management for rapid, reliable laboratory results.
5. **Logistics**
6. **Communication and social mobilisation**
7. **Points of Entry**
8. **Research**

2 Before an Outbreak

THEME 1: COORDINATION, MANAGEMENT AND OVERSIGHT OF VHF OUTBREAK PREPAREDNESS

Objective:

To strengthen coordination of the preparedness capacity at National and State levels in accordance with the established WHO roadmap and other technical guidelines.

Strong central coordination is essential to the control of disease outbreaks. One of the key lessons learnt from the response to Polio and Ebola in Nigeria is the use of Emergency Operations Centre (EOC) for coordination. The coordination of VHF's preparedness activities at the National level is the responsibility of the Head, Health Emergency Preparedness and Response at the Nigeria Centre for Disease Control.

At the State level, this responsibility lies with the Director of Public Health or delegated to the State Epidemiologist.

Main Activities

1. Establishment of a functional "Incidence Management System".
 - a. Establish an EOC management structure at National level;
 - b. Develop Terms of Reference and identify members of various team and sub-teams;
 - c. Coordinate all the activities on this plan;
 - d. Prepare and implement drills and simulation exercises to test the plan.
2. Mobilise resources to facilitate emergency response.
 - a. Disseminate the National VHF Emergency Preparedness Plan;

- b. Support States in development of State plans;
 - c. Advocacy and engagement of all stakeholders.
3. Conduct high-level advocacy and engagement with State institutions to ensure strong buy-in from all stakeholders. This will enhance leadership and effective coordination at the State level and mobilise the critical human, financial and logistical resources.
 - a. Engage partner agencies to strengthen inter-sectoral collaboration and cooperation;
 - b. Coordinate and carry out financial resource mobilisation.
 4. Provide technical support to States in terms of strategy and technical support to strengthen VHF outbreak preparedness.
 5. NCDC will support development of plans and training at the national level. NCDC will work with its partners to identify additional technical resources and capacity.

NCDC recommends that all States set-up and maintain EOCs. State Governments and LGAs have the responsibility to initiate and institute actions on issues of disease prevention, control and response. Therefore, each State must ensure that epidemiology/disease surveillance and response divisions/units are adequately staffed and equipped. The LGAs should take responsibility for initial disease notification.

THEME II:
SURVEILLANCE

Objective

The VHF surveillance system is designed to detect cases of VHF in a timely manner to enable prompt verification, investigation and response thereby minimising spread of these viruses in the community.

Roles and responsibilities

Clear roles for surveillance must be defined for each tier of government. It is crucial to ensure and sustain adequate staffing in the surveillance units.

In line with the national IDSR guidelines, the roles are as follows:

National

NCDC is responsible for the following:

1. Strengthening surveillance
 - a. Develop VHF case definitions
 - b. Pilot and roll-out enhanced VHF surveillance; develop guidelines and protocols for enhanced VHF surveillance
 - c. Establish national rumor alert system
 - d. Establish a data management system
 - e. Coordinate laboratories and PoE units
 - f. Sensitise/train State surveillance teams.
2. Data management
 - a. Manage the collection and distribution of data and information to relevant stakeholders for decision-making and resource mobilisation.
 - b. Assist in harmonising resource mobilisation

States and LGAs

States should establish EOCs and Rapid Response Teams (RRTs) comprising of multi-sectoral stakeholders and partners, which can be activated as required. The EOCs will coordinate VHF response activities at the respective levels of operations. In every State, RRTs are in charge of operationalising

the local response operations and should be adaptable to the evolving situation. This team should typically be composed of -at a minimum- a coordinator, an epidemiologist, a clinician, infection prevention and control expert, medical laboratory scientist, a social mobilisation expert, a communications expert and a logistician.

States and LGAs should work in line with national guidelines and be the first to initiate and institute actions on issues of disease prevention.

The State Commissioner for Health should:

1. Ensure that epidemiology/disease surveillance and response divisions/units are adequately staffed and equipped.
2. Establish or strengthen functional RRTs at the State levels for the rapid investigation and response to VHF cases.
3. Support the State Epidemiologist and the State Rapid Response Teams in prompt verification of VHF outbreaks and in instituting immediate response interventions.
4. Organise meetings with partners and other stakeholders to mobilise adequate resources and support the implementation of relevant task forces.
5. Ensure that adequate epidemic preparedness measures are in place in order to avert outbreak of VHF. Commissioners should provide logistics for RRT (PPEs, decontaminants, body bags, etc).

The State Epidemiologist should:

1. Train both State and LGA surveillance staff on disease notification and reporting; LGA and State team(s) should take responsibility for initial disease notification.

2. Sensitise health care workers within the State on the standard case definition of Lassa Fever and enhanced active surveillance including immediate reporting of suspected VHFs, public health events of unknown origin/ undiagnosed illness or unexplained death using community based surveillance and alerts.
3. Work with neighbouring States to provide active VHF surveillance along the border districts and towns, particularly those linking endemic States.
4. Establish/strengthen VHF alert management systems at State and LGA levels to receive alerts, ruMoUrs and other information from the communities, and respond promptly to conduct verification and investigation.
5. Train surveillance team on how to promptly verify and respond to VHF outbreak investigations.
6. Manage all data collected to inform and guide response.
7. Conduct risk assessment for Lassa fever/VHFs in areas of highest risk.

The Rapid Response Teams should comprise of different professionals from all relevant sectors. Persons with prior experience on VHF response should be included if available.

The RRTs should:

1. Identify and adapt national SOPs for VHF outbreak response
2. Develop and continually update the State and LGA epidemic preparedness and response plans; including rumor investigation, contact tracing, data management strategies and logistics.

THEME III:
CASE
MANAGEMENT

All tiers of government should map human resource needs for critical staff functions and deploy them as needed to affected States, to provide technical support and perform on-the-job training. Best practices and lessons learnt should also be collated and shared amongst all levels.

Objective:

To strengthen or build capacity for prompt management of suspected or confirmed VHF cases.

Clear roles must be defined for each tier of government.

NCDC has the responsibility to:

1. Take the leadership role in capacity building for patient management and continue to play the national coordination role including the development of national guidelines and SOPs.

States:

1. It is the primary responsibility of the States and LGAs, working in line with national guidelines to initiate and institute patient management.
2. Each State should establish and maintain designated treatment facilities for the management of infectious diseases, including VHFs. State Commissioners for Health should designate potential isolation facilities/ treatment centres in strategic locations including the provision of ambulance services, burial services, etc.
3. State Ministries of Health should collaborate with Medical Directors of health institutions to:
 - a. Train State Rapid Response Teams on VHF case management.
 - b. Train health-care workers on VHF case management and infection prevention and control practices; including the training of mortuary staff

and other high-risk groups.

4. State Directors of Public Health should procure and pre-position Ribavirin and case management supplies such as Personal Protective Equipment in hospitals designated for the management of VHF.

**THEME IV:
SAFE BURIAL
PRACTICES**

State Public Health Department should:

1. Orient pathologists, Histopathology Medical Laboratory Scientists, mortuary attendants and morticians on standard case definition of Lassa Fever and other VHFs, highlighting the probable case status.
2. Emphasise the need for immediate reporting of all probable VHF cases or unexplained death accompanied by bleeding to the State Epidemiologist.
3. Orient these cadres of professionals on the need to handle all probable cases i.e deaths suggestive of Lassa Fever and other VHFs, with appropriate use of PPE, and provide IPC training. Autopsies should not be conducted on cases of VHFs.

**THEME V:
INFECTION
PREVENTION
AND CONTROL**

Standard Precautions

“Standard precautions” require that health care workers assume that blood and all body fluids of all patients are potential sources of infection, regardless of the diagnosis, or presumed infectious status. Additional precautions are needed for diseases transmitted by air, droplets and contact. [These are termed “additional (transmission-based) precautions”.] Standard precautions are to be used by all staff, in all care settings, at all times, for all patients regardless of the suspected or confirmed presence of an infectious agent to ensure the safety of those being cared for, staff and visitors in the healthcare environment. To be effective in protecting against infection risks, standard precautions must be used at all times by all staff.

The elements of standard precautions are:

1. Patient Placement/Assessment for infection risk
2. Hand hygiene
3. Respiratory and Cough Hygiene
4. Personal Protective Equipment (PPE)
5. Safe management of care equipment
6. Safe Management of the Care Environment
7. Safe Management of Linen
8. Safe Management of Blood and Body Fluid Spillages
9. Safe Disposal of Waste (including sharps)
10. Occupational Safety: Prevention and Exposure Management (including sharps)

Transmission-Based Precautions

Transmission-based precautions are intended to supplement Standard Precautions in patients with known or suspected colonisation or infection of highly transmissible or epidemiologically important pathogens. Transmission based precautions are categorised by the route of transmission of infectious agents (some infectious agents can be transmitted by more than one route).

The three categories of transmission-based precautions include:

1. Contact Precautions
2. Droplet Precautions, and
3. Airborne Precautions.

For diseases that have multiple routes of transmission, a combination of transmission-based precautions may be used. Whether used singly or in combination, they are always used in addition to Standard Precautions.

The administrative recommendations/plan for treatment centres are as follows:

NCDC:

1. Collate, print and disseminate guidelines or SOPs on standard precautions, IPC measures and isolation precautions for management of VHF to all health facilities
2. Ensure adherence to general IPC requirements from guidelines, during establishment of VHF isolation/treatment facilities and triage centres in the country
3. Mandate all patient care facilities (clinics, hospitals, maternities etc.) to ensure availability of constant functioning water source (e.g. running tap) and standard waste management facilities as part of the requirements for approval, accreditation or renewal of operating license.
4. Prepare, print and disseminate standard guidelines on burial to designated isolation and treatment centres

States:

1. Set up the treatment/isolation ward for VHF case management. Also as part of the Rapid Response Team, set up an infection prevention control committee with the following responsibility among others.
 - a. Adapt infection prevention plan/policies and procedures appropriate for the services provided by the facility and based on evidence-based guidelines, regulations, or standards provided by NCDC
 - b. Develop and maintain infection prevention and occupational health

programmes.

- c. Ensure that all health facilities have a triage point.
- d. Ensure at least one individual with training in infection prevention is employed or regularly available (e.g. by contract) to manage the facility's infection prevention programme.
- e. Assure availability of sufficient and appropriate supplies necessary for adherence to transmission-based precautions (e.g., hand hygiene products, personal protective equipment, and injection safety equipment, waste management equipment, body bags).
- f. Identify and train burial teams (with the support of NCDC).
- g. Train and orient all health care workers (HCWs) on standard precautions for infection control and appropriate use of PPE.
- h. Train key HCWs in designated isolation facilities on IPC measures and isolation precautions for VHF (hand hygiene best practices plus droplet and contact precautions, and proper use and application of PPE, in particular). Specifically:
 - i. Training should be provided, repeated annually and when policies or procedures are updated/revised.
 - ii. Training should focus on principles of both HCW safety and patient safety
- i. Provide job- or task-specific infection prevention education and training to all HCWs. This includes those employed by external agencies and available by contract or on a volunteer basis to the facility.
- j. Regular audits and feedback of facility staff adherence to infection prevention practices (e.g., hand hygiene, environmental cleaning) should be done.

2. Procure incinerators to ensure safe and proper waste management.
3. Provide constant access to functioning water source/running water at all isolation and triage centres.
4. Provide well-trained security guards for all isolation facilities to ensure security and control access.
5. Procure/identify evacuation and decontamination vehicles (ambulance, utility vehicles).
6. Procure and pre-position decontamination equipment in all isolation centres.
7. Strengthen capacities on injection safety and safe management of infectious waste using standard guidelines/SOPs and providing needed equipment.

Risk Assessment plan

Facilities are encouraged, in line with the IPC policy guideline, to periodically assess practices in their facility and ensure they are meeting the minimum expectations for safe care. In the course of auditing practices, facilities may identify lapses in infection control. If such lapses are identified, efforts should be made to correct the practices, appropriately educate HCW (if applicable), and determine why the correct practice was not being performed. In addition, consideration should also be made for determining the risk posed to patients by the deficient practices

Other prevention and control measures

A. Environmental and rodent control interventions

Lassa fever could be prevented in the community by promoting environmental sanitation to discourage rodents from entering homes. Refuse (garbage) should be disposed far from home. Grains and other foodstuff must be kept away from rodents. The Federal Ministry of Health will collaborate with the

Ministries of Environment, Agriculture and other relevant agencies to carry out environmental sanitation and rodent control interventions.

B. Vector Control (in relation to mosquito-borne viral hemorrhagic fever infections)

The National Arbovirus Research Institute in Enugu will regularly carry out surveys on mosquito population dynamics throughout the country and work with designated virus laboratories to monitor virus content of collected mosquitoes.

**THEME VI:
LABORATORY
SERVICES**

Objectives:

To strengthen the laboratory capacity for optimal contribution to countrywide VHF surveillance

Specifically, the following objectives will be addressed;

- a. Build laboratory capacity for timely VHF diagnostics.
- b. Ensure access to quality-assured VHF testing technology in all parts of the country (aim at ensuring diagnostic capabilities in six strategic locations)
- c. Strengthen capacity for countrywide sample collection, transport and prompt provision of feedback
- d. Strengthen bio-safety and bio-security measures required for VHF sample management according to international best practices.

Main activities for the different levels are as described below:

NCDC:

1. Working with States and key Partners, establish six VHF diagnosis centres (one per geopolitical zone) with capacity to conduct molecular (RT-PCR) and

serologic (IgG/IgM antibody) tests for VHF (Lassa, Ebola, Dengue, Yellow fever) diagnosis.

- a. Identify and designate six VHF diagnostic centres.
 - b. The FMoH and the management of these designated VHF diagnostic sites to sign a memorandum of understanding (MoU) which will define the relationship between the NCDC and the Management of these facilities.
 - c. Conduct personnel, material and safety audits in these facilities with a view to understanding what is needed to ensure 100% capacity for VHF confirmation.
 - d. Agree to SOPs and protocols to be used uniformly across all the centres to ensure quality.
 - e. Ensure that each of these centres is enrolled in external quality assurance programmes.
 - f. The Management of the facilities should provide back-up electricity to ensure 24-hour power supply.
2. Identify and maintain a National Reference Laboratory for VHF tissue culture.
Tissue Culture is also needed for isolation of viral particles, a prelude to research and evidence based intervention. Tissue Culture for VHF requires an enhanced Biosafety Level (BSL) 3 OR BSL 4 laboratory.
 3. Enroll all designated laboratories in an External Quality Assessment (EQA) programme.
 - a. Designated laboratories should enroll the laboratories in an External Quality Assessment (EQA) programme.
 4. Conduct risk assessment of designated VHF testing laboratories
 - a. The laboratory managers should develop a plan for laboratory risk

assessment and document such using internationally acceptable risk assessment tools. Example; the CDC's Biosafety in Microbiological and Biomedical Laboratories (BMBL) guideline which can be downloaded electronically on <http://www.cdc.gov/biosafety/publications/bmbl5/bmbl.pdf>

- b. The laboratory staff should put in place risk management strategies after the assessment and document such. The laboratory managers should share risk assessment and plans for risk management reports among stakeholders and request for needful remediation based on MoU.
5. Improve country-wide reagent and consumable supply-chain system
 - a. NCDC should develop a standardised inventory tool and distribute this for use in all testing institutions.
 - b. Laboratory managers should provide monthly stock information (using the inventory tool provided for as in 5a above) through facility managers to NCDC. Information to be transmitted electronically.
 - c. Facility management should use monthly stock data for procurement and provision of needed reagents and consumables.
 - d. NCDC should use monthly stock data for forecast and pre-positioning of reagents and consumables as part of epidemic preparedness plan. The NCDC pre-positioning activity should also consider available storage space and proximity/accessibility to testing sites.
 - e. All equipment suppliers are to install and service all equipment as is indicated in a signed service agreement. No equipment (purchased by the facility, FMoH or other partners) should be received without a signed service agreement.
 6. Train phlebotomists for VHF sample collection and transport

- a. SMOH should use these master phlebotomists to train and re-train community surveillance officers, operators of primary health care centres and phlebotomists in health care facilities on methods and precautions needed in collection and handling of infectious disease samples.
7. Develop Standard protocols and Operating Procedures (SOP)
 - a. NCDC should (with contribution from laboratory managers) develop and share standard testing and other necessary protocols and result algorithm across all testing sites. This generic document will then be reviewed at facility level to reflect site specific testing technology.

This standardisation will ensure ease of interpretation, acceptability and application of test results across board.
8. Human resource capacity

Facility management should ensure that the laboratory has adequate staff and supply necessary for service upscale should there be a surge in cases. When required, a human resource strategy to mobilise ad-hoc staff should be exercised.
9. The State Epidemiologist coordinates epidemiologic response. He should be in the loop of all information related to sample management and results from the laboratory. Healthcare providers should be communicated about how to submit specimens through the State health department. The States in partnership with the NCDC should ensure safe and prompt sample transportation logistics (preferably using courier services) to the designated VHF labs.
10. Long term sample retention and Storage
 - a. The NCDC shall develop a policy for VHF sample retention and storage
 - b. The NCDC shall maintain a well-protected repository of VHF samples

following international biosecurity regulations and the Nigeria VHF sample retention protocol.

**THEME VII:
COMMUNICATION
AND SOCIAL
MOBILISATION**

Objective

Develop and ensure availability of capacity for public awareness, risk communication, and community engagement for VHF prevention.

Main Activities

Develop a community and public engagement strategy focusing on different target groups and their information needs during:

1. Pre-detection of VHF case; set up basic information gathering/feedback mechanisms, focusing on raising public awareness on VHF recognition, transmission, prevention and control measures, reporting and where to find help.

Key activities will include:

1. Identify and engage existing national level networks and partners needed for possible response e.g. professional associations, social mobilisation and health promotion groups, religious groups, local associations, civil society groups, etc.
2. Map and identify the information, and training needs of the networks (products, messaging, guidelines, skills, tools).
3. Develop, translate into local languages and print IEC materials (fact sheets, brochures and posters).
4. Develop and air radio messages, jingles and social media posts.

5. Develop training materials for health educators, community mobilisers and informants
6. Identify and train health educators, community mobilisers and key informants.
7. Identify, sensitise and mobilise existing social networks for community mobilisation and education in high risk/priority LGAs.

States

This guideline hopes to provide a unified approach to national response to VHFs. Given the impact of coordination on response overall outcomes, the National Communications team on VHF expects all States to implement their communications response by the outline below:

1. Set-Up: States should set-up communications unit as part of their overall Emergency Operations Centre (EOC).
2. Organisation: This team should be led by the State Health Educator or a Health Communications specialist where there is no health educator.
The team should comprise of representative(s) of the following State institution:
 - a. Ministry of Information or equivalent
 - b. State owned electronic media institutions (TV, Radio)
 - c. Online media
3. Planning: The team should develop a
 - a. Communication plan based on perceived and actual needs
 - b. Budget which should be sensitive to available resources

This plan should be presented to the EOC for input BEFORE implementation. A copy of this plan should be shared with the national communications team for review and inputs. The plan should attempt to address educational issues and environmental issues. Thus, States must go ahead to educate their citizens on key issues on VHF and should also implement advocacy targeting the policy makers, regulators and leadership of relevant Organisations with appropriate environment for behavior change.

4. Implementation:

- a. The plan should be implemented as documented and where modifications are made, they should be noted for outcome review.
- b. Where there is no appropriate resource, the team should implement a lean protocol where they resource existing State assets for the key components of the plan.
- c. To close the communication loop, States should create a feedback and inquiry desk which can be reached by mobile phone, SMS or social media (toll free line). States with emergency lines should attempt to receive calls through those call centres. The contact information MUST be part of all communication materials developed.

**THEME VIII:
POINT OF
ENTRY (POE)**

STRENGTHENING PUBLIC HEALTH MEASURES AT POINTS OF ENTRY

Objective

Preparedness activities within Port Health Services and at PoE aim to immediately detect, verify/investigate and effectively manage potential imported cases of VHF into Nigeria, and to limit further transmission and spread within the country. Continue to develop strategic partnerships with stakeholders at

national, State and local levels that will support further preparedness at PoE.

Main Activities

1. Develop health emergency contingency plan for each PoE including all International airports, Seaports and Ground crossings.*
2. Establish, equip and appropriately staff sites for initial health assessments of travelers, including VHF screening and onsite patient evaluation with temporary holding areas at priority POE.
3. Adapt, print and disseminate Standard Operating Procedures (SOPs) to manage and refer ill patients to designated treatment centres.
4. Sensitisation and training of port health and other public health staff at PoE on VHF related public health measures at PoE.

*If a prioritisation based on high risk PoEs is needed for resources, this would include high-risk PoE locations: international airports at Lagos, Abuja, Port Harcourt, and Kano; Seaports at Lagos, Port Harcourt, Calabar, and Warri; ground crossings at Badagry/Seme, Idi-Roko, Bagundo-Kebbi State (Illela), and other western border crossings in Nigeria.

Nigeria has multiple local and international airports, seaports, and ground crossings, some of which are not adequately controlled. Identified gaps and needs for preparedness measures for VHF prevention and control at PoE include:

1. Additional staff should be mobilised to manage and implement the activities. These measures will have to be sustained during the transition period from the outbreak response. Additionally, implementation of these public health measures for VHF detection and management at PoEs should be escalated to cover all priority PoEs.

2. Mechanisms to ensure the notification of health related events by public health staff at PoEs to FMoH should be formalised.

The following identified gaps should be addressed:

- a. Inadequate staff capacity at the existing port health offices for VHF preparedness and response
- b. Lack of experience on VHF outbreak preparedness and response.
- c. Inadequate or lack of screening and holding areas for travelers.
- d. Lack of pre-existing guidelines, SOPs and protocols for screening, transfer decision and IPC measures at PoE.
- e. The WHO interim guidance for Ebola event management at PoEs should be adapted to the context in Nigeria and distributed to all port health staff at strategic and priority PoEs.
- f. Lack of suspect evacuation vehicles at the key PoE.
- g. Lack of pre-positioned PPEs and inadequate knowledge on how to use them.
- h. The lack of properly designated places for the assessment and isolation of the suspected travelers as well as lack of trained medical staff and equipment.
- i. Weak coordination and cooperation of the port medical unit with other port units
- j. Weak supervision and monitoring activities of the medical units at the ports of entry
- k. Staff demotivation: More Psycho-social support, training, supportive supervision and provision of incentive are required and meanwhile salaries should be provided in a timely manner.

**THEME IX:
LOGISTICS
MANAGEMENT**

Objective:

Ensure availability and access to contingency funds, logistics, supplies and appropriate equipment for the immediate and initial response for surveillance of VHF in Nigeria.

Main Activities

1. Logistic support to surveillance team including provision of ICT facilities
2. Procurement of required medical equipment for isolation units
3. Establishment of and equipping the isolation units including painting, fencing, generators, solar panels, water, sanitation and waste management
4. Funding for sample transportation, lab reagents, consumables, service maintenance of equipment, power back up for lab facilities
5. Provision of fuel and maintenance fund for vehicles
6. Technical assistance and coordination of emergency response
7. Contingency funds for immediate access

Implementation Strategy

Responsibility for mobilizing contingency funds, logistics and equipment primarily rest with the FMoH/NCDC and the SMoH. However, Federal and State-level MoH can engage with different technical and bilateral partners to support them to ensure adequate capacities for preparedness for potential VHF outbreak.

THEME X: TRAINING AND HUMAN RESOURCE CAPACITY FOR PREVENTION & CONTROL

TRAINING AND RESEARCH

Objectives

Build national capacities for preparedness, prevention and control for VHF through training.

Main Activities

This will entail delivering tailor made and focused trainings targeting different categories of health care workers with responsibilities for preparedness, prevention and control of VHF. Focus will be on VHF recognition, transmission, confirmation, case management, infection prevention and control, and other related public health measures. Target groups will include clinicians, epidemiologists, surveillance staff, medical laboratory personnel, and environmental health specialists. Additionally, community key informants that include traditional healers, leaders, traditional birth attendants, etc. will be sensitised on VHF detection, reporting, prevention and control. Training content will be packaged according to training needs of different categories of staff.

Implementation Strategy

The NCDC in collaboration with NFEITP, will develop and implement the trainings, starting with training of trainers. The trained trainers will train the other cadres of staff to be trained. Community members, including representatives from schools will be sensitised / trained by the State level staff.

RESEARCH PLAN FOR VHF

Research Goal:

To conduct, support and use public health research in thematic areas of VHF.

Objectives:

1. Support research work needed for evidence-based decisions.
 - a. Conduct a situation analysis (or needs assessment) to identify the most important research gaps for informing policies and programmes, particularly related to understanding the epidemiology of VHFs in a local context, patient management to reduce mortality, treatment protocols reviews, and clinical trials of medicines and vaccines.
 - b. Identify system needs, e.g., related to research ethics review or other sorts of standards, and provide leadership in addressing them.
 - c. Conduct system review to identify best-practices for preparedness and response activities.
2. Conduct and support operational research in the following thematic areas:
 - a. Risk reduction for at-risk populations
 - b. Identify factors associated with high mortality resulting from VHF infection.
 - c. Identify factors associated with human-to-human transmission and the animal-to-human interface.
 - d. Identify control and preventive measures for VHFs
 - e. Understanding of the nature and behaviour of VHFs
 - f. Nature and properties of vectors (example mosquitoes).
 - g. Conduct diseases risk modelling for preparedness and timely response.
3. Study the epidemiology, ecology and methods of limiting the spread of infection aided by environmental factors.
 - a. Mechanism of maintenance in the environment and survival during inter-epidemic existence

- b. Factors for human-to-human transmission
 - c. Public health measures to limit transmission
 - d. The spatial (between States/regions) and temporal (seasonality of infections) context of VHF.
4. Study strategies of minimising the impact of VHF's infection
- a. Assess disease burden and social impact. That is, understand the social context of VHF and peculiarities in transmission.
 - b. Improve immunogenicity and advance research on vaccine and efficacy.
 - c. Public health policies to reduce the impact of disease
5. Optimise the treatment of patients
- a. Factors associated with pathogenesis and clinical severity of VHF
 - b. Improve clinical management of patients
 - c. Health care capacity and response
 - d. Quality assurance and improvement strategies
6. Application of modern public health tools
- a. Development, use and review modern tools for early detection and monitoring of VHF.
 - b. Modelling in public health decision making and intervention measures
 - c. Application of modern tools for risk communication and mitigation.
7. Conduct anthropological studies to:
- a. Identify, understand and describe local context of the disease, including the local knowledge of disease diagnosis, treatment and prevention, and

the structural as well as conceptual barriers to improved health status.

- b. Translate the understanding of local concerns into appropriate health interventions, for example, by providing information to be incorporated in health education and communication strategies for disease control.

DRUG AND VACCINE TRIALS

The only approved and available drug for Lassa Fever treatment in Nigeria is Ribavirin. There are several drugs undergoing clinical trials for Lassa Fever treatment. Nigeria must actively participate in the conduct of these clinical trials. There is also no approved Lassa Fever vaccine. However, there are at least two candidate vaccines – the VSV-Lassa and the ML29 vaccines which have been shown to protect animals challenged with Lassa virus. Given the burden of LF disease in Nigeria - our population and occurrence of the disease in many parts of the country, Nigeria should champion the conduct of (at least) Lassa Fever vaccine phase 1 clinical trials.

3 During an Outbreak

**THEME 1:
COORDINATION,
MANAGEMENT
AND OVERSIGHT
OF VHF
OUTBREAK
RESPONSE**

Objective:

To strengthen coordination and harmonization of the response capacity at national and State levels in accordance with the established WHO roadmap and other technical guidelines.

Main Activities

NCDC

- a. Activate the National EOC, support States to activate sub-national EOCs with clear TORs and identify members of various team and sub-teams
- b. Coordinate all the activities on this plan
 1. Field coordination and collaboration: The NCDC Central Incident Management System is the main operations hub to strengthen operations' coordination and ensure resource use optimisation across all outbreak control activities in the country.
 - a. NCDC will coordinate national response activities and provide guidelines for disease prevention, control and response and operational management of the outbreak response.
 - b. Provide overall leadership at the national level for all planning, coordination and resource mobilisation activities through the Central Incident Management System.
 - c. Coordinate and carry out financial resource mobilisation, effective coordination of outbreak response activities and ensure strategic communications coordination across the country.

- d. NCDC will continue to provide needed support to strengthen core capacities for responding to public health events.

THEME II: RESPONSE

Objectives

The VHF response system is designed to detect cases of VHF in a timely manner to enable prompt verification, investigation and response thereby minimising spread of these viruses in the community.

Roles and responsibilities

Regarding outbreak response, clear roles must be defined for each tier of government. The outbreak response operation in Nigeria consists of State and National teams. In line with the national IDSR guidelines, the plans are as follows:

National

1. Strengthening case management and laboratory diagnosis
 - a. Provide technical support to States in terms of strategy and technical support to strengthen VHF outbreak response. NCDC will also provide supportive supervision in all aspects of VHF response: administrative, logistics and finance management for operations.
 - b. Coordinate and support the activation of previously identified VHF isolation centres and promote access to free treatment by patients with VHF.
 - c. Coordinate the organisation of support for health-care workers and deployed staff that are at higher risk of being infected.
 - d. NCDC will work with its partners such as NFEITP and other development partners to deploy additional technical resources, epidemiologists and

field officers to address immediate priorities and sustain support in the field.

2. Data management and resource allocation
 - c. Enhance management and centralise the collection and distribution of data and information to relevant stakeholders for decision-making, response assessment, and resource mobilisation.

States and LGAs

States should activate the EOC/RRT. The RRT will coordinate VHF response activities at the respective levels of operations. In every State, RRTs are in charge of supporting local response operations and should be adaptable to the evolving situation. States and LGAs should work in line with national guidelines and be the first to initiate and institute actions on issues of disease prevention, control and response.

The State Commissioner for Health should

1. Provide logistic and other support to the State RRT for prompt verification of VHF outbreaks and in instituting immediate response interventions.

The State Epidemiologist should

2. Manage all data collected to inform and guide response.
3. Conduct risk assessment for Lassa fever/VHF in areas of highest risk.

The RRT should comprise of different professionals from all relevant sectors. Persons with prior experience on VHF response should be included if available. The RRT should adapt the respective case definition for use e.g.:

Case definition of Lassa fever (For other VHFs refer case definition)

- Alert case
Any person who has an unexplained fever (i.e. malaria and other likely

causes of fever have been ruled out), with or without bleeding

OR

Any person who died after an unexplained severe illness with fever and bleeding

- Suspected case

An illness of gradual onset with one or more of the following: malaise, fever, headache, sore throat, cough, nausea, vomiting, diarrhea, myalgia (muscle pain), central chest pain or retrosternal pain, hearing loss and either:

a. History of contact with excreta or urine of rodents

OR

b. History of contact with a probable or confirmed Lassa fever case within a period of 21 days of onset of symptoms

OR

c. Any person with inexplicable bleeding/hemorrhage

- Probable case

Any suspected case as defined above but who died without collection of specimen for laboratory testing.

- Confirmed case

Any suspected case with laboratory confirmation (positive IgM antibody, PCR or virus isolation).

Alert threshold is a single suspected case of Lassa fever. The outbreak threshold is a single confirmed case of Lassa fever. Clinicians should have a high index of suspicion when managing febrile illnesses; especially cases with

- A history of non-response to antimalarials or antibiotics.
- A compatible history of travel to an endemic area or an area with an ongoing outbreak, contact with a confirmed case of Lassa fever, negative thick blood film for malaria parasite are suggestive.
- Signs of haemorrhage and shock which is strongly suggestive, but these signs often appear late in the illness.

A. Notification of VHF occurrence

The response to a VHF case requires an efficient and coordinated communication at all levels (LGA, States and National). The IDSR flow of information shall be used.

1. Reporting to the LGA DSNO:

If the patient's illness is compatible with the probable, suspected or confirmed case definition of VHF, the attending physician should inform the DSNO of the LGA where the health facility is located immediately i.e. within 24 hours. The LGA DSNO should immediately notify the State Epidemiologist and the LGA Rapid Response Team (RRT) should visit the health facility and the community of residence of the patient for further investigations within 24 hours following notification receipt. Contact tracing and other appropriate course of actions should be taken, in line with the national technical guidelines. Appropriate documentation should be made on the appropriate IDSR forms (IDSR 001A, B and C).

2. Reporting to the State Epidemiologist and NCDC:

The State Epidemiologist on receipt of the notification from the LGA DSNO should immediately notify the NCDC at the National level. The State Rapid Response Team (SRRT) will collaborate with the DSNO, the LGA RRT, clinician (s) managing the patient, the laboratory and the NCDC in further

implementation of the appropriate course of action.

3. National reporting to WHO:

Due to the potential risk of international spread of VHFs, the International Health Regulation 2005 (IHR 2005) requires the IHR National Focal Point (NFP) i.e. NCDC should conduct an IHR risk assessment and report to WHO. Additionally, a National Rapid Response Team could provide support to the State RRTs as may be required.

It is important that communication continues between the LGA DSNO, State Epidemiologist, the NCDC, the clinician/head of the health facility managing the patient and the laboratory where the diagnostic test is done, as may be necessary.

B. Active case search and contact tracing

Active case search and contact tracing shall be conducted in all communities with a VHF report, by the LGA and State surveillance teams, led by the State Epidemiologist. VHF cases detected via the standard case definition shall be reported using the notification channel described in section “B” above. A VHF contact is defined as a person who has been exposed to the secretions, blood/blood products and or excretions of a VHF case; all contacts must be traced and line listed. Information shall be collected on each case using the IDSR 001A, B & C. The purpose of epidemiological surveillance is to:

1. Confirm the outbreak
2. Identify all cases and contact subjects
3. Detect patterns of epidemic spread

4. Estimate the potential for further spread of the disease
5. Determine whether control measures are working effectively

All these actions must be implemented by the outbreak investigation team upon arrival at the outbreak site.

**THEME III:
CASE
MANAGEMENT**

Objective

To strengthen or build capacity for prompt management of suspected or confirmed VHF cases at national, State and LGA levels. Clear roles must be defined for each tier of government.

NCDC shall:

Take the leadership role in capacity building for patient management. It should continue to play the role of national coordination and developing national guidelines.

States:

Treatment

Any suspected VHF case should be admitted immediately by the managing clinician into an isolation room/ward, in a hospital with the capacity to treat severely ill patients and laboratory capacity for specimen collection. Blood specimen should be collected immediately by the managing clinician from all VHF suspected cases and sent to the laboratory for confirmation.

Ribavirin is the drug of choice for the treatment of Lassa fever (See Standard Operating Procedure for VHF's Patient Management protocol for dosage and administration). For treatment to be effective, it should be initiated early within the first week of onset of illness. Treatment with Ribavirin may

be commenced after collection of blood samples if there was established contact with a Lassa fever case, prior to the receipt of confirmatory results. For other VHFs, there are no specific treatments, but patients are managed symptomatically. Collection of blood samples should be undertaken as soon as possible.

**THEME IV:
SAFE BURIAL
PRACTICES**

Handling the remains of the dead

There is a major risk of transmission when a patient dies of VHFs, as the dead body remains contagious for several days after death. The family and members of the community are also at risk, if the burial rites involve manipulation and cleaning of the body.

Safely prepare the dead bodies

The burial must take place as early as possible after preparation of the remains at the hospital. The Safe Burial team should:

- Prepare the body with care in order to avoid the risk of transmission.
- Strive to respect the cultural practices and religious beliefs of the family, as long as they do not result in a risk of transmission. Let the family understand that certain practices that entail a risk of transmission would be abandoned.
- Advise the family and the community about actions to take in order to protect themselves against the disease. If the body is prepared without information or support to the family and the community, the members of the community may not be willing to bring other relatives to the hospital for fear of not receiving the dead body once the patient has died.
- Find an influential member of the family to ensure that dangerous practices

like touching and washing the dead body are avoided.

To prepare the body at the hospital:

- Wear protective clothing as recommended for members of staff of the isolation area; wear a second pair of thick rubber gloves.
- Disinfect the body by spraying household bleach (0.5% Solution) on the body and adjacent regions.
- Put the body in a body bag, which should be tightly closed. Spray with household bleach (0.5% Solution).
- If there is no body bag, wrap the body in two thick cotton materials, which should be soaked with household bleach diluted at 0.5% solution. Then, wrap the body in plastic (plastic kitchen table cover), which should be attached with a plastic adhesive tape. Spray with household bleach diluted at 0.5% Solution. Place the body in a coffin, where appropriate.
- Transport the body to the burial place as quickly as possible. Designate a health worker or a member of staff of the establishment to accompany the remains in order to be sure that all safety precautions are observed.

Safely transport the body.

The control measures for the infection of Lassa fever should remain in force during the transportation of the body to the burial site.

- Take the shortest route possible for safety reasons and also to limit any possibility of transmission through accidental contact.

- Any member of the safe burial team who needs to touch or handle the body during the transportation should wear the same protective clothes as those worn in the isolation area. The driver of the vehicle does not need to wear protective clothes if s/he does not have any contact with the body.
- Take a spray containing household bleach at 0.5% concentration for use in case of accidental contact with the body or infectious body fluids and also use it to clean fluids spilled in the vehicle.

Prepare the burial site

- The tomb must be at least 2 metres deep.
- Explain to the family that it is not possible to see the body and help the family to understand why the burial ceremony should be restricted to the family alone.

Disinfect the vehicle after transporting the body

- The safe burial team who will disinfect the vehicle should wear protective clothes.
- Wash the interior of the vehicle where the body was placed with a household bleach solution at 0.5% Solution.
- Leave the bleach solution to act for 10 minutes.
- Rinse abundantly with clean water and let it dry

NB: Be careful, rinse well as household bleach is corrosive.

Regulatory list of personal protective clothing and other consumables at the Facility

Personal protective clothing

- A working dress or a used dress to be worn over shirt and trousers (no long skirt).
- A pair of disposable surgical gloves.
- Rubber boots.
- Shoe protectors.
- An overall or an outside dress (surgical overall or single-use long sleeves overall with cuffs).
- A plastic apron that covers the two layers of clothing.
- A second pair of light gloves or thick gloves. The wearing of the second pair of gloves is an additional safety measure and for use during the manipulation of contaminated material.
- A HEPA (High Efficiency Particulate Air Respirator) mask or other biosafety mask (if these are not available, use a surgical mask).
- A cotton cap or hat.
- Anti-mist protective goggles or non-corrective glasses.

Other equipment and consumables:

- Heat gun for taking temperature.
- Sprayers
- Overall

- Cover shoe in polyethylene
- Demister spray
- Adhesive tape
- Body bags
- Water tanks with taps
- Chlorination trays
- Disinfectants.

Reporting:

All contacts of the probable case should be line-listed in both States and followed up as indicated by the national IDSR guidelines.

THEME V: INFECTION PREVENTION AND CONTROL

The administrative recommendations/plan for treatment centres are as follows:

States:

IPC Monitoring and Compliance

Infection prevention control committee shall appoint and oversee IPC monitoring and compliance officers in charge of each unit of the treatment centre. The monitoring and compliance officers shall ensure strict adherence to the IPC policy, guidelines and SOPs as it relates to the services provided by each unit of care

Implementing administrative controls in an isolation unit

1. Hand washing with Chlorine (0.05%) should be done at the gate of the isolation unit where cases (confirmed and suspected) are being received.
2. Patient placement: Put suspected or confirmed cases in single isolation

rooms with an adjoining toilet, showers, sinks equipped with running water, soap and single-use towels, alcohol-based hand rub dispensers, stocks of personal protective equipment (PPE), stocks of medicine, good ventilation, screened windows, doors closed and access restricted. If isolation rooms are unavailable, cohort these patients in specific confined areas while rigorously keeping suspected and confirmed cases separate and ensure the items listed here for isolation rooms are readily available. Make sure that there is at least a 1-meter (3 feet) distance between patient beds.

3. Staff allocation:

- a. Restrict all non-essential staff from VHF patient care areas.
- b. Ensure that clinical and non-clinical personnel are assigned exclusively to VHF patient care areas and that members of staff do not move freely between the VHF isolation areas and other clinical areas during an outbreak.
- c. Maintain a log of persons entering the patient's room.
- d. Temperature checks for all health care workers-done twice daily (before and after shift duties)

4. Visitors:

- a. Limit the number of visitors allowed access to the patient to include only those necessary for the patient's well-being and care, such as a child's parent.
- b. Ensure that all visitors use personal protective equipment (PPE).
- c. Any visitors wishing to observe the patient should do so from an adequate distance from the care area (approximately 15m or 50 feet).

5. Hand hygiene:

- a. Apply infection control precautions to avoid any possible unprotected direct contact with blood and body fluids when providing care to any VHF patient, including suspected cases.
- b. Ensure hand hygiene before and after direct patient care, after any contact with potentially contaminated surfaces, and after removal of PPE. Neglecting to perform hand hygiene after removing PPE will reduce or negate any benefits of the protective equipment.
- c. Perform hand hygiene
 - i. Before donning gloves and wearing PPE on entry to the isolation room/area
 - ii. Before any clean/aseptic procedures being performed on a patient
 - iii. After any exposure risk or actual exposure to patient's blood and body fluids
 - iv. After touching (even potentially) contaminated surfaces/items/equipment in the patient's surroundings
 - v. After removal of PPE, upon leaving the care area
- d. When caring for patients in the same room, it is essential to organise the complete care to each patient before moving to the next and to perform hand hygiene between touching the same patient

6. Personal Protective Equipment:

Ensure the use of full PPE and careful removal and disposal of PPE, which includes respirator after each procedure in the isolation/treatment area

7. Carefully clean and decontaminate reusable equipment.

Adhere rigorously to using dedicated equipment (e.g. stethoscopes) on a single patient only. When this is not possible, decontaminate the items between each patient contact. All waste generated during this decontamination process should be treated as infectious waste. (see IPC Guidelines for details) Items and equipment should not be moved between isolation rooms/areas and other areas of the health facility.

8. Injection safety and management of sharps

- a. Limit phlebotomy and laboratory testing to the minimum necessary for essential diagnostic evaluation and patient care.
- b. Use of needles and other sharp objects should be avoided. If use is necessary, ensure the following precautions are taken:
 - i. Each patient should have exclusively dedicated injection and parenteral medication equipment, which should be disposed of at the point of care and never re-used.
 - ii. NEVER replace the cap on needle. NEVER direct point at self or colleagues. NEVER try to bend or break needles.
 - iii. NEVER re-use syringes or needles.
 - iv. Dispose of syringes, needles, scalpel blades and other sharp objects in appropriate, puncture-resistant containers.
 - v. Ensure that containers for sharp objects are placed as close as possible to the immediate area where the objects are being used and should remain upright at all times.
 - vi. Ensure that the containers are securely sealed with a lid and replaced when $\frac{3}{4}$ full.
 - vii. Keep containers in a restricted place.

9. Equipment Disinfection and Environmental Cleaning

- a. Cleaners should wear heavy-duty rubber gloves, impermeable gown and boots and in addition, facial protection when undertaking activities with increased risk of splashes or in which contact with blood and body fluids is anticipated.
- b. Contaminated environmental surfaces or objects should be cleaned and then disinfected as soon as possible using standard hospital detergents/ disinfectants (e.g. a 0.5% chlorine solution).
- c. Floors and horizontal work surfaces should be cleaned at least once a day with clean water and detergent and 0.5% chlorine solution.
- d. Cleaning should always be carried out from “clean” areas to “dirty” areas, in order to avoid contaminant transfer.
- e. Spraying (i.e. fog) occupied or unoccupied clinical areas with disinfectant should not be done because it is a potentially dangerous practice with no proven disease-control benefit.

Risk Assessment plan

Facilities are encouraged, in line with the IPC policy guideline, to periodically assess practices in their facility and ensure they are meeting the minimum expectations for safe care. In the course of auditing practices, facilities may identify lapses in infection control. If such lapses are identified, efforts should be made to correct the practices, appropriately educate HCW (if applicable), and determine why the correct practice was not being performed. In addition, consideration should also be made for determining the risk posed to patients by the deficient practices

**THEME VI:
LABORATORY
SERVICES**

Objectives:

To strengthen the laboratory capacity for optimal contribution to countrywide VHF outbreak response.

Main activities

1. Transportation of samples to the laboratory
 - a. SMoH shall be responsible for the shipment of samples from the State to the designated laboratory.
 - b. The State Epidemiologist (or his proxy) shall inform a designated laboratory prior to transportation of samples to the laboratory.
 - c. The State Epidemiologist shall confirm that the transportation to the laboratory must be in compliance with the Transport of Dangerous Goods regulations (Triple packaging etc). Refer to SOPs.
 - d. NCDC should advise on transporting samples from testing laboratory to approved validation centre and for receipt of results.
2. Laboratory Testing of Complete Clinical Profile of Cases

Laboratory managers should test for possible clinical profile of cases beyond the identification of causative organism. Clinical profiles (Liver functions test, Kidney function test etc.) allows for full understanding full spectrum of disease, characterization of infective pathogen as well as correct interpretation of related test results.
3. Application of Standard protocols and operating procedures (SOP)

Laboratory managers should ensure that standardised protocols and tools are used in all testing. This promotes ease of interpretation, acceptability and application of test results across board.

4. Close Communication Gaps

- a. Surveillance/Epidemiology and Laboratory Directorates of NCDC should have a direct communication link with testing so as to ensure real time information sharing.

**THEME VII:
COMMUNICATION
AND SOCIAL
MOBILISATION**

**PUBLIC AWARENESS, RISK COMMUNICATION, SOCIAL MOBILISATION
AND HEALTH PROMOTION**

Objective

Ensure availability of capacity for public awareness, risk communication, and community engagement for VHF outbreak control.

Main Activities

Implement community and public engagement strategy focusing on different target groups and their information needs by:

- a. Ensuring prompt communication to the public on the outbreak, importance of early identification and reporting to designated health authorities/facilities for help and treatment, as well as scale up messaging for community and all stakeholders' participation in detection, prevention and control.
- b. Sustaining risk communication messaging on VHF reintroduction, prevention and control, survivor health status and community reintegration to eliminate stigmatization.

Other activities will include:

1. Deploy all social mobilisation and communication strategies
2. Air radio messages, jingles and social media posts
3. Sensitise and mobilise existing social networks for community mobilisation and education in high risk/priority LGAs.

4. Monitor, track and improve social mobilisation interventions and document impact on response

States

This guideline hopes to provide a unified approach to national response to VHFs. Given the impact of coordination on response overall outcomes, the National Communications team on VHF expects all States to implement their communications response by the outline below:

1. Organisation: This team should be led by the State Health Educator or a Health Communications specialist where there is no health educator.
2. Implementation:
 - a. The plan should be implemented as documented and where modifications were made, they should be noted for outcome review.
 - b. Where there is no appropriate resource, the team should implement a lean protocol where they utilise existing State assets for the key components of the plan.
 - c. To close the communication loop, States should create a feedback and inquiry desk which can be reached by mobile phone, SMS or social media (toll free line). States with emergency lines should attempt to receive calls through those call centres. The contact information **MUST** be part of all communication materials developed.
3. Coordination:
 - a. To minimise misinformation, States are encouraged to coordinate all information going out from their respective governments. The Commissioners for Health or appropriate designated persons should speak to the public **AFTER** updates have been shared with the NCDC to ensure the whole system is in harmony.

- b. States should note key epidemiological terms while engaging the media to prevent misinformation. Only number of confirmed cases should be shared with public. The State owned media representatives in the UNIT should help distribute State media releases.

4. Outcome/Impact Review:

Team should review outcomes of communication intervention using appropriate tools.

For further Information States can reach out to NCDC National Communication Lead through the Emergency Operations Centre.

**THEME VIII:
POINT OF
ENTRY (POE)**

Strengthening Public Health Measures at Points of Entry

Objective

Activities within Port Health Services and at PoE aim to immediately detect, verify/investigate and effectively manage potential imported cases of VHF into Nigeria, and to limit further transmission and spread within the country. Continue to develop strategic partnerships with stakeholders at national, State and local levels that will support further preparedness at PoE.

Main Activities

As part of the recent VHF outbreak response, public health measures for VHF screening and management of suspected cases in travelers were established at strategic PoEs. Additional staff should be mobilised to manage and implement the activities. Additionally, implementation of these public health measures for VHF detection and management at PoEs should be escalated to cover all priority PoEs.

**THEME IX:
LOGISTICS
MANAGEMENT**

Objective

Ensure availability and access to contingency funds, logistics, supplies and appropriate equipment for immediate response for surveillance and response of VHF in Nigeria.

Main Activities

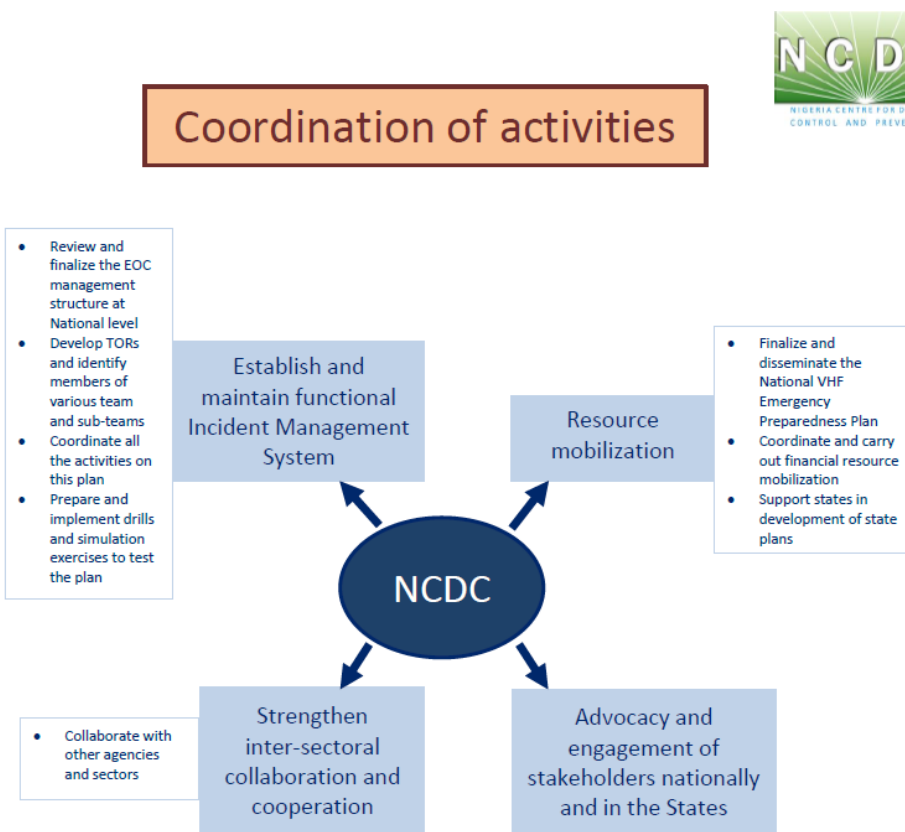
1. Logistic support to epidemic response team including provision of ICT facilities.
2. Procurement of assorted medical equipment for isolation unit.
3. Establishment of and equipping the isolation units including painting, fencing, generators, solar panels, water, sanitation and waste management.
4. Provision of fuel and maintenance fund for vehicles.
5. Technical assistance and coordination of emergency response.
6. Contingency funds for immediate access.

4 After an Outbreak

After an outbreak is over, all thematic areas are to revert to preparedness phase, i.e, commence activities in the before outbreak phase.

A Appendix

Viral Haemorrhagic Fevers



NCDC also recommends to all states to set-up and maintain EOC centers

Once a VHF case is detected and reported, NCDC will

- support response to the outbreak in conjunction with the State and LGAs
- provide guidelines for disease prevention, control and response and operational management of the outbreak response
- ensure strategic communications coordination across the country
- continue to provide needed support to all States to strengthen core capacities for responding to public health events

Surveillance: Pre-outbreak

A NCDC

- Strengthening surveillance
- Data management and resource allocation

B States

State Commissioner for Health

- Ensure disease surveillance and response divisions are adequately staffed and equipped
- Establish or strengthen functional VHF rapid response teams (RRTs) to support verification, investigation, confirmation and response to VHF cases
- Support the State Epidemiologist and the State rapid response teams in prompt verification of VHF outbreaks and in instituting immediate response interventions.
- Organize meetings with partners and other stakeholders to mobilize adequate resources
- Ensure that adequate epidemic preparedness measures are in place in order to avert outbreak of VHF

State Epidemiologist

- Orient both State and LGA surveillance staff on disease notification and reporting
- Orient health care workers within the State on the standard case definition of VHF and enhance active surveillance
- Work with neighbouring states to provide active VHF surveillance along the border districts and towns, particularly those linking endemic States
- Establish/strengthen VHF rumours and alert management systems at State and LGA levels
- Train surveillance team on how to promptly verify and respond to VHF outbreak investigations
- Manage all data collected to inform and guide response
- Conduct risk assessment for Lassa fever/VHFs in areas of highest risk

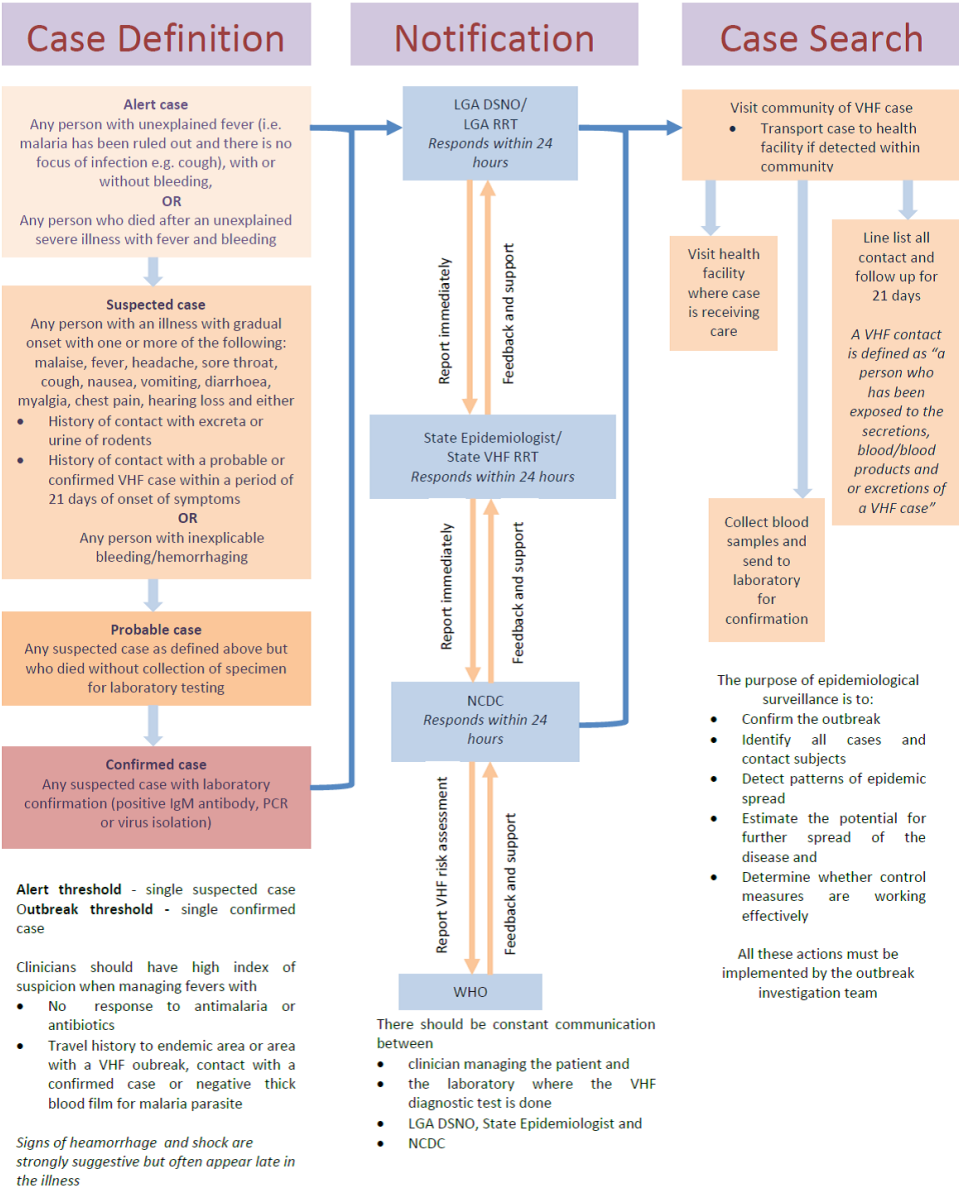
VHF Rapid Response Team

- Identify and adapt national SOPs for VHF outbreak response
- Develop and continually update the State and LGA epidemic preparedness and response plans; including rumours investigation, contact tracing, data management strategies and logistic



Surveillance and Response: Outbreak

Viral Haemorrhagic Fevers





IPC measures before an outbreak

A NCDC

- Disseminate guidelines on IPC measures and isolation precautions for VHF management to States
- Disseminate guidelines on safe burial practices to designated isolation and treatment facilities through the States
- Ensure adherence to general IPC requirements from guidelines
- Mandate all patient care facilities to keep to IPC standards as a requirement for approval, accreditation or renewal of operating license

B States

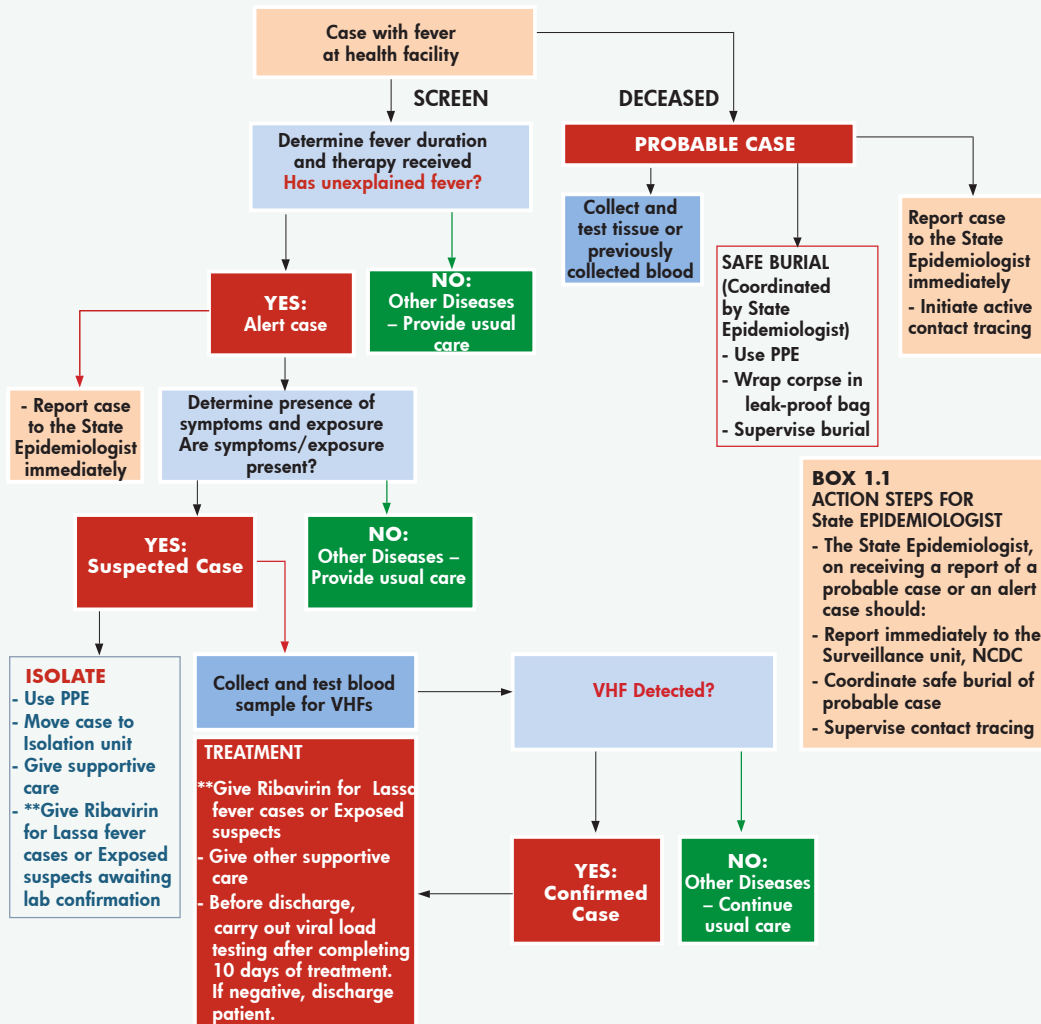
- Set up infection prevention and control committee as part of the Rapid Response Team
- Procure incinerators for the treatment facilities to ensure safe waste management
- Provide constant access to functioning water source at all isolation and triage centers
- Provide security guards for all isolation and treatment facilities to ensure security and control access
- Procure or assign evacuation and decontamination vehicles (ambulance, utility vehicles)
- Procure and pre-position decontamination equipment in all isolation and treatment facilities
- Strengthen capacities on injection safety and safe management of infectious waste using standard guidelines and provide the necessary equipment

Treatment facilities risk assessment plan

- Health facilities, in line with the IPC policy guideline, should periodically appraise practices in their facility and ensure they meet the minimum expectations for safe care

C Other prevention and control measures

- **Environmental and rodent control interventions**
The Federal Ministry of Health will collaborate with the Ministries of Environment, Agriculture and other relevant agencies, to carry out environmental sanitation and rodent control interventions
- **Vector Control** (in relation to mosquito-borne VHF)
The National Arbovirus Research Institute in Enugu will
 - regularly carry out surveys on mosquito population dynamics throughout the country and
 - work with designated virus laboratories to monitor virus content of collected mosquitoes



BOX 1.1
ACTION STEPS FOR State EPIDEMIOLOGIST

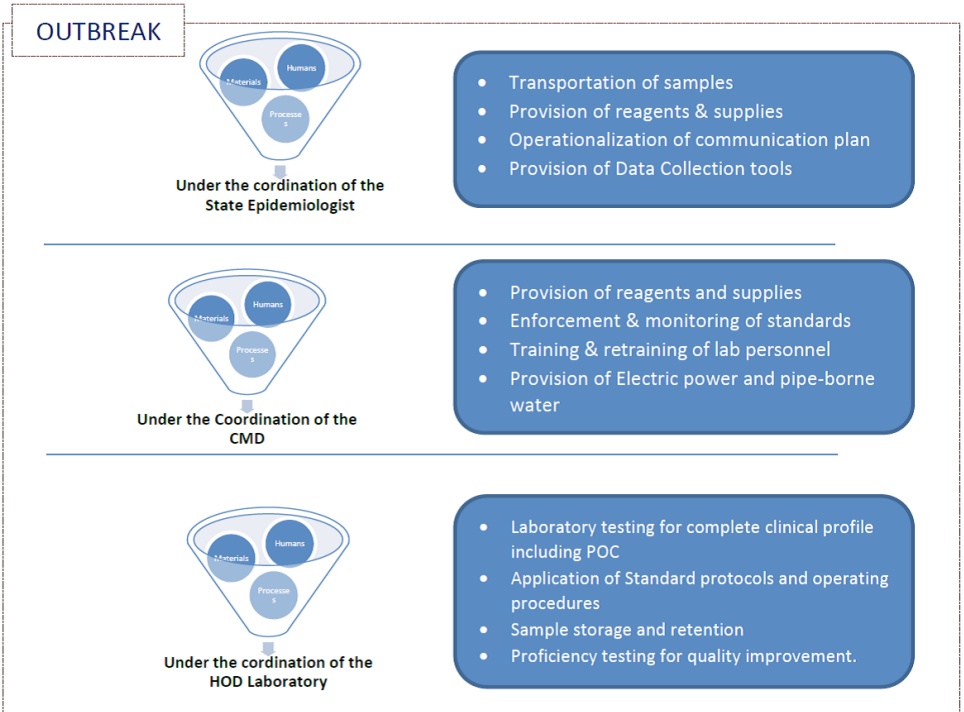
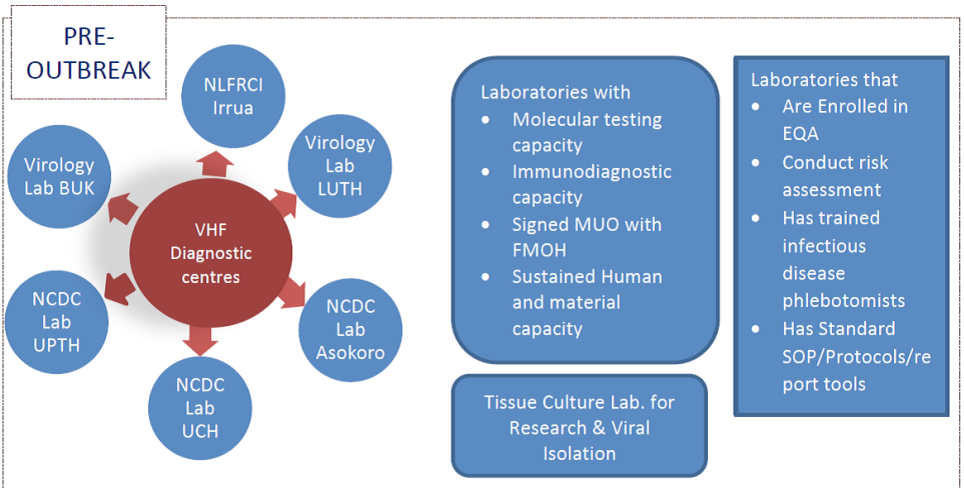
- The State Epidemiologist, on receiving a report of a probable case or an alert case should:
- Report immediately to the Surveillance unit, NCDC
- Coordinate safe burial of probable case
- Supervise contact tracing

- All contacts of suspected, confirmed and probable cases should be line-listed and followed up as indicated by the national IDSR guidelines.

** Treatment Protocol: Parenteral RIBAVIRIN is administered for a period of 10 days.
 Loading Dose (33mg/kg – maximum stat dose of 2.64g)
 Day 1-4: 16mg/Kg (maximum dose of 6 hourly is 1.28g)
 Day 5-10: 8mg/Kg (maximum dose of 8 hourly 0.64g)

Viral Haemorrhagic Fevers

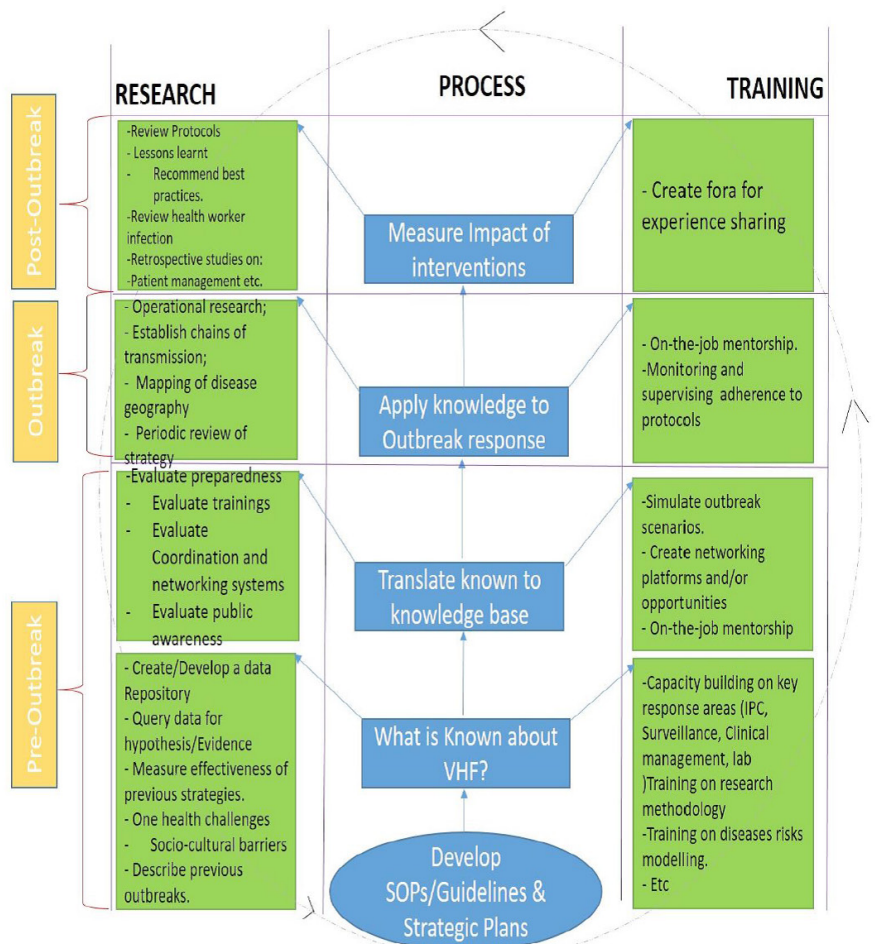
Laboratory Response

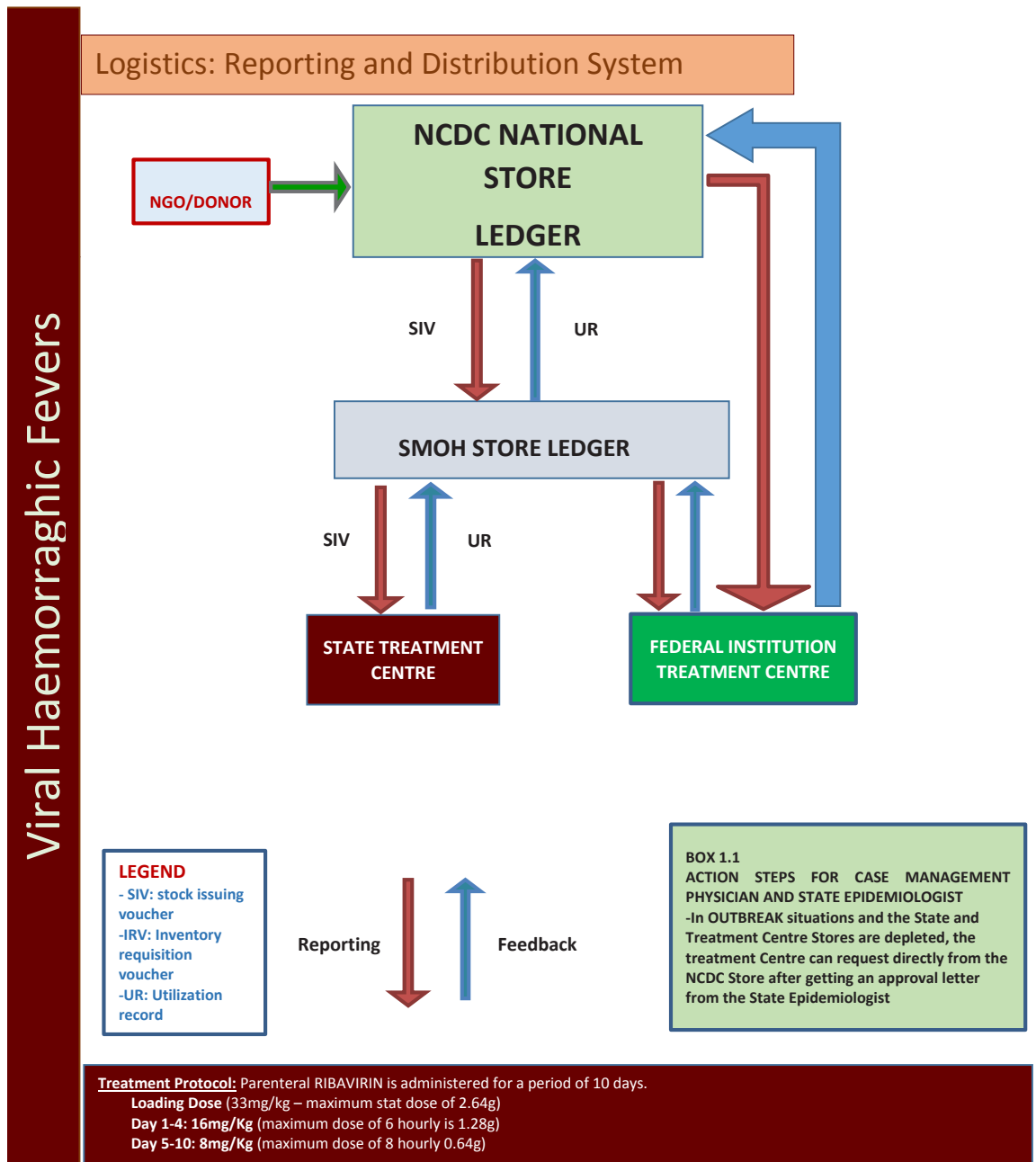




Training and Research

Viral Haemorrhagic Fevers





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VIRAL HAEMORRHAGIC FEVERS PREPAREDNESS AND RESPONSE PLAN

The Viral Haemorrhagic Fevers Preparedness and Response Plan identifies and describes systems, activities, resources and timelines at National, State and Local Government Area levels for pre-outbreak as well as post-outbreak phases to prevent, mitigate and contain any emerging or re-emerging VHF disease. The plan builds on the existing capacities created in response to recent VHF outbreak responses in Nigeria, while taking into consideration lessons learnt from previous outbreaks.

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