**Ebola Virus Disease Preparedness:** 

Taking Stock and Moving Forward.

Geneva, Switzerland 14th–16th January, 2015

**REPORT OF A WHO MEETING** 



Ebola Virus Disease Preparedness: Taking Stock and Moving Forward

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## List of Abbreviations

CDC	Centers for Disease Control
DTRA	Defense Threat Reduction Agency
ECDC	European Centre for Disease Control
EOC	Emergency Operations Centre
ETU	Ebola treatment unit
EU	European Union
EVD	Ebola Virus Disease
FETP	Field epidemiology training programme
ICAO	International Civil Aviation Organization
IDA	International Development Assistance
IDSR	Integrated disease surveillance and response
IHR	International Health Regulations 2005
ILO	International Labour Organization
IMAI	Integrated management of adult illnesses
INSPQ	Institut National de Sante Publique, Quebec
IPC	Infection prevention and control
КАР	Knowledge, attitudes and practices
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PHE	Public Health England
POE	Points of entry
PPE	Personal protective equipment
PST	Preparedness Strengthening Team
SOP	Standard operating procedures
UNMEER	United Nations Mission for Emergency Ebola Response
USAID	United States Agency for International Development
VHF	Viral Haemorrhagic Fever
WHO	World Health Organization
WFP	World Food Programme

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## **Executive Summary**

The current Ebola Virus Disease outbreak has had serious consequences for the three main countries affected and for many other countries. Preparedness is critical since the risk of cross-border movement of infected individuals is significant.

The outbreak has highlighted the fragility of health systems in the Region and the importance of the International Health Regulations (2005) core capacities, which remain inadequate in the majority of countries worldwide.

At a meeting on Preparedness and Readiness in Brazzaville in October 2014, 14 high-priority countries were identified as requiring specific attention. Following that meeting, Preparedness Strengthening missions in Africa were conducted with the 14 African countries. Preparedness action plans were developed, targeted capacity building efforts were undertaken, and gaps in preparedness were identified.

The scope of the Taking Stock and Moving Forward meeting was to identify what further actions are necessary and map partner contributions to filling these gaps from both a technical and financial perspective. Over 150 partners attended this meeting, with active engagement throughout the three days.

The meeting identified both immediate and long term needs in the 14 high-priority countries. Immediate actions for EVD preparedness, and the continuing development of IHR capacities and health systems strengthening were discussed. Adherence to the principles of International Health Partnerships and the contribution of partners to both the response and to preparedness is essential.

Specific issues included the need for cross border coordination of activities between the three affected countries and their neighbours; better coordination among partners supporting national plans of action; stronger community engagement in the process of preparedness and response; as well as the lack of capacities for alert and detection of potential cases. At the same time, representatives of the countries covered in this meeting outlined some of the challenges they face including the competing interests of on-going disease outbreaks and humanitarian crises, financial gaps and insecurity.

The meeting included panel discussions with country representatives, WHO and partners, followed by extensive discussion in plenary. Working groups mapped the recommendations for immediate action with partner support. Next steps identified for the countries, WHO and partners were:

- Implementation of capacities for alert, detection and response
- Provision of PPE
- Coordination and sharing of information on partner activities supporting national preparedness plans
- Immediate support to countries through recruitment of EVD Preparedness Officers.

## **1. Introduction**

In August 2014, the WHO Director General declared the Ebola Virus Disease (EVD) outbreak in Guinea, Liberia and Sierra Leone a Public Health Emergency of International Concern under the International Health Regulations 2005 (IHR). The IHR Emergency Committee recommended that unaffected States with land borders adjoining States with Ebola transmission should urgently step up their preparedness efforts, including surveillance, diagnostic capacity, infection prevention and control (IPC) measures and rapid response teams. WHO, together with implementing partners, is providing technical support to those countries on preparedness assessments, planning and implementation.

Through a consultative meeting between WHO and partners on EVD Preparedness and Readiness held in Brazzaville from 8-10 October 2014, and based on a risk assessment, a number of countries were identified as being of the highest priority for the initial focus of support through Preparedness Strengthening Team (PST) missions. These included: Côte d'Ivoire, Guinea Bissau, Mali and Senegal, as highest priority, along with Burkina Faso, Benin, Cameroon, Central African Republic, the Gambia, Ghana, Ethiopia, Mauritania, and Togo. Niger was included following the detection of a case in Mali.

The EVD PST missions visited the 14 countries listed above and developed an operational plan with each country, with key milestones to be achieved within 30, 60, 90 days of the mission. Through these plans, countries have identified the need for extended technical and financial support for implementation.

The EVD preparedness efforts are also supported by the UN Mission for Emergency Ebola Response (UNMEER), whose five strategic pillars are to stop the outbreak, treat infected patients, ensure essential services, preserve stability, and prevent further outbreaks. WHO, UNMEER and partners are now focusing on building longer term sustainable capacities in the unaffected countries and well as the immediate high-priority activities specifically targeted to EVD preparedness.

In order to coordinate further actions to better support preparedness activities in high risk countries in Africa, WHO convened a meeting of country representatives and partners, from 14-16 January 2015 in Geneva, Switzerland. The aims of the meeting were to:

- Review country PST mission findings and recommendations;
- Present the revised consolidated checklist and dashboard methodology;
- Discuss and agree on a multi-partner plan of action for EVD preparedness particularly focused on information sharing mechanisms through the dashboard; and
- Identify the roles, responsibilities, and tools needed by countries and partner organizations working to strengthen the readiness of countries for potential EVD cases.

The meeting brought together more than 150 participants, including WHO country representatives from the 14 high risk priority countries and national representatives from Mali, Senegal and Côte d'Ivoire, international partners and non-governmental organizations, the African Union (AU), Ambassadors, funding agencies, and development banks, including the Islamic Development Bank and the World Bank Group.

# 2. Taking Stock of the EVD Preparedness Missions – methodology and challenges

With the ongoing unprecedented outbreak of EVD there is risk of importation and spread of infection to unaffected regions and countries. Strategically, all WHO Regions have intensified EVD preparedness activities and all countries are striving to ensure that they are operationally ready to effectively and safely detect, investigate and report potential EVD cases and to mount an effective response in the short term.

Countries need to accelerate and intensify longer term capacity building and health system strengthening through renewed attention to IHR capacities, commitment to address weaknesses highlighted by the EVD outbreak, and foster sustainable partner engagement.

Between October and December 2014, WHO, together with partners, conducted PST missions in 14 high risk countries namely: Mali, Côte d'Ivoire, Ghana, Mauritania, Cameroon, Guinea Bissau, Benin, Senegal, Burkina Faso, The Gambia, Togo, Central Africa Republic, Ethiopia, and Niger. Country PST visits were conducted by multi-disciplinary teams of 5-10 persons from WHO and partners including CDC/US, ECDC, USAID, PHE, INSPQ, UNICEF, OCHA, John Hopkins, Suisse Tropical Public Health Institute, Erasmus Medical Centre-Holland, French Foreign Affairs, among others.

The EVD preparedness assessments were conducted through reviewing existing national plans, utilizing the EVD preparedness checklist, tools and guidance materials, and assured country ownership and involvement in the assessment process.

The PST missions provided support for the development of costed national operational plans with 30, 60, 90-day requirements, prioritized according to each country's needs and circumstances. The 30, 60, 90-day plans were based on multiple inputs: reviewing existing national plans; group discussions; field visits; desktop exercises; and field exercises. Simulations and table top exercises to test existing plans and identify specific gaps were also performed. Additionally, countries received technical support in key areas for immediate improvement, e.g. contact tracing, infection prevention and control, case management, logistics, and were assisted to establish capacities such as logistics, training, and emergency operations centres (EOCs).

Certain challenges highlighted during PST missions included:

- Overlapping agendas and initiatives and other ongoing priorities. For example, PST missions coincided with other national health events e.g. the polio vaccination day in Côte d'Ivoire which posed logistical challenges;
- Prioritization of EVD preparedness activities. In some countries EVD preparedness is a challenge in the face of more pressing needs, for example ongoing infectious disease outbreaks such as a polio outbreak in Cameroon, and cholera in Ghana, and an extended humanitarian crisis in Central African Republic;
- The scope and scale of operational demands to support preparedness activities for EVD. Concerns were raised regarding the long-term sustainability of capacity building efforts.

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During the discussion following this session several issues were raised.

- Cross border collaboration between the most affected countries and the four neighbouring countries, given relatively free movement of people and goods across porous borders. The representatives of the neighboring countries reassured the participants that all rumoured cases are investigated and that significant efforts had been made to engage the community in surveillance, with hotlines set up, and isolation recommended to travellers identified as recently having crossed the border. Further support and coordination of activities on both sides of the border are underway.
- Coordination of partners has posed some difficulties in the high-priority countries. While many technical and financial partners have stepped forward, it has been difficult to coordinate their activities to assist the countries in realizing their respective national plans.
- Despite the widespread engagement of partners to support country-level activities, some funding short falls still exist in many of the high-priority countries.

## 3. Taking Stock of the EVD Preparedness Missions: Country Recommendations - Common Themes and Needs

Common themes across the 11 components of the revised EVD Preparedness checklist<sup>1</sup> that emerged from country PST visits were:

**Resources**: Harmonized guidance, standard operating procedures, personnel, and partners, across the group of countries are needed as well as tailored technical support and coordination of local and international partners in implementing activities.

**Funding support**: There are immediate needs to identify funds for EVD preparedness and human resource support within the countries and engage a broader range of partners to provide both technical and financial support. The donor community at the country and international levels should be engaged to support the budgeted 30, 60, 90 day plans, through interagency operational arrangements for integrated preparedness and response.

**Equipment:** Personal protective equipment (PPE), cell phones, ambulances and infrastructure such as running water and electricity are also necessary for effective response.

**Training**. There is a need for documentation and fora to exchange/share experiences and lessons learnt, as well to harmonize training in country and ensure quality control Testing and improving procedures through field exercises and drills is also necessary

A comprehensive list can be found in Table 1.

<sup>&</sup>lt;sup>1</sup> http://apps.who.int/iris/bitstream/10665/137096/1/WHO\_EVD\_Preparedness\_14\_eng.pdf?ua=1

Following the presentation of the key findings of the PST missions, discussions focused on the importance of community engagement and communication. Key points included:

- Community engagement is the corner stone to the response to the EVD outbreak. Without effective community engagement, contact tracing and breaking chains of transmission is extremely difficult.
- For this reason, Mali, in particular, has engaged anthropologists for a thorough understanding of the culture and attitudes of communities, to enable targeted communications and foster community engagement.
- The critical nature of communications with communities, especially in countries where communications is through the spoken word was highlighted. Many of the cultural practices which have enabled the transmission of EVD have been curtailed during the emergency, but it is felt that these changes, such as changes in funeral practices, should be maintained in the long term, as it is uncertain where this disease may recur.

Consolidated Check List Component	Common Theme/Needs identified
Coordination	Establish Emergency Operation Centres
	Engage international partners
Rapid Response teams	Formalize terms of reference and team composition
	Train and equip response teams
Public Awareness and Community	Develop clear strategies for communication
engagement	Engage with main stakeholders
Infection Prevention and Control	Isolation units – identify and setup (with equipment)
	Identify persons and funding, including hazard pay for high risk
	jobs
Case Management	Train and equip health staff
(Ebola Treatment Centers and Safe Burials)	Engage with community
Epidemiological Surveillance	Improve data management
	Establish, equip and strengthen call centres.
Contact Tracing	Terms of reference
	Train and equip contact tracing teams
Laboratory	Establish procedures and agreements to ensure rapid and safe
	transportation and testing of samples
Capacities at Points of Entry	Identify holding locations
	Strengthen capacities required under IHR
Budget	Develop or update budget for operational and contingency
	plans
	Identify funding gaps and sources both internal and external
Logistics	Develop logistics plans
	Inventory of logistics capacities

## Table 1: Common themes from the PST missions

## 4. Revised Preparedness Checklist and Dashboard.

Based on feedback from PST missions, WHO has made revisions to the EVD Preparedness Checklist. The revisions include identifying the minimum EVD preparedness activities for all countries (including those outside of Africa) and additional activities necessary for the 14 high-risk countries; updates to reference materials and refined progress indicators for each of the key components. The original checklist had 10 functional areas, with logistics as a cross cutting enabling function; it is now considered as a stand-alone component.

To track status and progress made by countries on the indicators/activities outlined in the revised EVD Preparedness Checklist, WHO has developed a data visualization dashboard. Using three colours, the dashboard shows progress on the status of activities; green if the activity has been achieved, orange if an activity is in progress, and red if the activity has not yet been initiated. The visual representation of information will allow for rapid interpretation of information and better prioritization of available resources to ensure gaps are closed.

The dashboard is accessed through the Ebola portal on the WHO web site<sup>2</sup>. The portal is a hub for all information pertaining to preparedness and response activities. Validated findings from the country PST missions are used to populate the dashboard<sup>3</sup>. The dashboard is a living tool to monitor preparedness status and track preparedness activities in high risk countries. The dashboard provides situational awareness to strengthen support for EVD activities and not intended to provide rankings or comparisons between countries.

It was noted that although the dashboard allows the visualization of data, it does not measure the quality of the data. Suggestions for improvement of the dashboard included:

- Addition of a calendar to share events such as trainings;
- Limit rights to edit to WHO with input from partners;
- Consider translation of the dashboard to other languages, in particular, French;
- Training on the use of the dashboard to increase utility at country level;
- Provide explanations of the indicators e.g. meaning of 'adequate';
- Consider higher thresholds for the change of status from red to orange to green;
- Capacity for monthly snapshots to track progress and include the ability to generate reports;
- Ongoing engagement of WHO Country Offices and countries in the ownership and updating of dashboard tool.

<sup>&</sup>lt;sup>2</sup> http://apps.who.int/ebola/

<sup>&</sup>lt;sup>3</sup> http://apps.who.int/ebola/en/current-situation/preparedness-indicators

## **5. Available resources**

**Technical guidance**: WHO, together with its partners, has issued about 50 Ebola-specific technical guidelines since the emergence of the West Africa EVD crisis. This builds on approximately 25 previously published technical guidelines on public health emergency preparedness and response. There are some additional 30 aide-memoires/fact sheets including from the WHO regional offices. Although significant guidance is available, there are still challenges with access, duplication, use and the adaptation of guidance to local contexts.

Online training resources: А large set of training materials is available at http://www.who.int/csr/resources/publications/ebola/en/. In addition, materials for case management and IPC can be found through the Ezcollab.who.int site, and training modules on IHR capacities and EVD preparedness can be accessed through the WHO Health Security Learning Platform https://extranet.who.int/ihr/training/.

**Funding:** Donors and partners have been proactive in the provision of financial contributions, technical capacity, in-kind donations and services for EVD Preparedness. Stakeholders present at the meeting included representatives of the European Commission, the United States of America, the United Kingdom, Canada, Germany, Japan, China, France, Organization of Islamic States and the World Bank Group.

Donors are committed to making significant technical and financial contributions to support EVD preparedness. The World Bank Group to date has repurposed over \$60 million (planned/committed) to support EVD Preparedness efforts through existing international development assistance (IDA) portfolios in high priority countries.

The United States, through its agencies, CDC, USAID, HHS and DTRA, continues to provide financial and technical support and expertise to affected and high priority countries. The United States also provides technical support and expertise to develop guidelines and planning processes, and personnel deployments for targeted activities.

Donors expressed their appreciation of the role of WHO in coordinating the meeting and giving them the opportunity to share their priorities. They expressed their desire to further collaborate in collective efforts to build capacities. The donors view long-term capacity building efforts under the International Health Regulations and Global Health Security Agenda as a necessary investment in global health security.

This session on available resources stimulated significant discussion. Points which were raised include:

- The need to harmonize training materials in line with WHO guidance, as many partners provide training and often develop their own training materials. Closely related to this is quality control for training, to ensure best practice.
- The need for simulations and exercises to test operational capacities.

- Access to training materials in the field was highlighted as an issue. Many training materials are available as online modules, which are not always useful where there is limited internet access. Hard copy training materials adapted to the country context should be available.
- Guidance for psycho-social support services appears to be a gap.
- A strong emphasis was placed on the need for all partners to support national preparedness plans, under the principles of International Health Partnership, which include country ownership and leadership of actions at country level.

## 6. Summary Discussions following the Working Groups

The outputs of the Working Groups can be found in Annex 2.

Following the working group presentations, a plenary discussion covered the following topics:

- The monitoring of preparedness activities will rest with the respective Ministries of Health who will validate that progress has been made. The process of updating the dashboard will rest with the WHO Country Office, who are in the process of recruiting Ebola Preparedness Officers to support monitoring and on-going preparedness activities.
- Maintaining the impetus for preparedness work after the outbreak is contained concerned many of the country representatives. Commitment by partners in the long term was noted.
- The role of UNMEER in preparedness. UNMEER will track and support preparedness efforts but will not be actively involved in the implementation. One key role of UNMEER is the management of the PPE stockpile in collaboration with other UN agencies.
- There is a need to identify the highest risk zones within the 14 countries, to target activities and resources in the short term.

## 7. Conclusions

Throughout the discussions, the key themes of country ownership and leadership were reiterated; the importance of long term health systems strengthening was highlighted; and the commitment of partners to both short term actions and investment in long term development were re-stated. Global health security through the development of resilient health systems capable of withstanding shocks was also a common theme. Work on preparedness for EVD, and other hazards, contributes to a safer world for all, and is a major motivator for continued support of preparedness activities, across the Region and beyond.

## 8. Next Steps for WHO and partners

#### WHO: Ongoing

- Continue leading health coordination and supporting the steering role and ownership of governments.
- Conduct and assure consistency of training.
- Continue to develop guidance and training materials together with partners.
- Expand training to include incident management/EOC, logistics, rapid response teams, and contact tracing, among others.
- Ensure a supply of PPE for countries.
- Advocate for resources, including funding, as gaps remain and additional support will be necessary.
- Maintain accountability, monitoring through the dashboard, and evaluation.
- Coordinate with partner UN agencies through regular conference calls and meetings.
- In collaboration with the national authorities:
  - Build capacity;
  - o Immediately and effectively use resources currently committed;
  - o Leverage all available technical resources (consultants, global staff pool); and
  - Strengthen coordination of partners at country level.

#### WHO: Within 30 days:

- Share worksheet with participants for the provision of updated information from regional and country offices.
- Share dashboard with WHO country offices and update with information from national authorities.
- Recruit EVD Preparedness Officers for each WHO Country Office to monitor, coordinate and assist with the implementation of preparedness activities.
- Map partner contributions and intentions shared during the meeting.

#### WHO: Within 90 days:

- Provide technical support to operationalize country plans.
- Organize PST follow-up missions with a minimum of two weeks' notice.
- Conduct simulations and exercises involving partners.
- Complete provision of PPE to all 14 countries.
- Convene another 'Take stock' meeting in approximately four months to review what has been done and consider longer term actions.

#### **Partners**

- Partners to maintain their commitments.
- Provision of technical assistance.
- Provision of financial assistance.
- Provide support to all priority countries.

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- Coordinate and align activities with national plans.
- Provide information to enable monitoring of implementation and identification of remaining gaps.
- Continue building IHR core capacities and strengthening health systems in all countries.

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	Recommendations	Action Points	Key Partners
Coordination	<ul> <li>Establish linkages between Health and National Disaster Management</li> <li>Develop work plan of simulation exercises and drills for coordination and operations across functional areas</li> <li>Develop mechanisms to coordinate partners (health and non-health)</li> </ul>	<ul> <li>EOC support including training and establishment of SOP and development of linkages between Health and National Disaster Management structures</li> <li>Deployment of WHO EVD Preparedness officers to all priority countries</li> </ul>	AFRICOM, DTRA, CDC Funded by EU
Budget	<ul> <li>Technical assistance in health financing (mechanisms, guidance, templates etc)</li> <li>Funding for activities in recently identified priority areas</li> </ul>	<ul> <li>Countries to review national plans to identify resource gaps and needs</li> </ul>	MoH WHO
Rapid Response	Map the resources needed	Develop plans for implementation	WHO,
Teams	<ul> <li>Formalize team composition at national and subnational levels</li> <li>Establish and render fully operational RRTs at national and subnational levels</li> <li>Train team members</li> <li>Provide adequate equipment</li> </ul>	<ul> <li>Identify staff and resources for priority districts/regions</li> <li>Generic standardized materials and country adapted training to be developed</li> <li>Resources plan to be in place in the Region</li> <li>Equip teams</li> </ul>	CDC, DTRA, AFENET, ESTER

## Annex 2 - Key recommendations from PST missions and partner commitments to action

Public awareness	Public Awareness:	<ul> <li>Engaging various groups e.g. decision makers,</li> </ul>
and Community Engagement	<ul> <li>Share of materials, information, and best practices between nations</li> <li>Develop operational and logistical structures</li> <li>Develop culturally-appropriate and scientific messages adapted to local languages, religions, cultures</li> <li>Standardize hotline procedures and messages</li> <li>Ensure consistency of messages and information</li> <li>Conduct KAP surveys and anthropological research on culture, religion, and health at community level</li> <li>Establish journalist training and operating protocols</li> <li>Design sustainable and evolving campaigns</li> <li>Utilizing social media, youth and women's groups to promote positive messages</li> </ul>	<ul> <li>religious groups, women's groups etc.</li> <li>Conduct surveys, intelligence, and material testing with communities, KAP surveys, Anthropologists</li> <li>Message material testing, adapt clear operational structures, SOP's and operationalizing plans.</li> <li>Link public communications with community communications and engage volunteers</li> <li>Conduct rumor management, media monitoring,</li> <li>Cross-country exchanges of resources e.g. experienced personnel, training and lessons learnt.</li> <li>Sustainable, locally adapted, culturally sensitive training for journalists</li> </ul>
	<ul> <li>Establish forum for engaging at different levels</li> <li>Strengthen existing structures and civil society</li> <li>Link public health communication with community communication</li> <li>Engage volunteers</li> <li>Utilizing human resources to operationalize staff</li> <li>Connect with religious leaders, social media, business sectors, national organizations</li> </ul>	

Infection Prevention and Control	<ul> <li>Accelerate implementation of SOPs for IPC at all health facilities</li> <li>Establish IPC procedures</li> <li>Train IPC teams including clinicians</li> <li>Provide IPC materials and supplies</li> <li>Improve waste disposal</li> <li>Identify health facilities for setting up basic isolation units for suspected cases in all major hospitals and all border points</li> </ul>	<ul> <li>Establish an Occupational Health focus within Preparedness plans (involve Ministry of Labour)</li> <li>Consider necessary supplies beyond PPE (e.g. needle injury protection devices)</li> <li>Raise awareness and increase use of standard precaution measures in regular health services.</li> <li>Coordinate development and adaptation of guidelines and training materials among partners.</li> <li>Widely disseminate guidelines such as WHO/ILO toolkit for health wise work improvement in health services.</li> <li>Provide clear guidance on isolation units vs community care centers vs ETUs</li> </ul>	
Case Management a) Ebola Treatment Centers	<ul> <li>Increase number of ETCs that follow international standards</li> <li>Increase capacity for clinical management</li> <li>Standardize training for healthcare workers</li> <li>Supply PPE/ materials, including ambulances</li> <li>Train and provide SOPs to health workers</li> <li>Organize simulation exercise in each ETC</li> </ul>	<ul> <li>Training in clinical recognition of diseases of security concern (incl. Ebola)</li> <li>Training of Health care workers (IPC, PPE etc.)</li> <li>Adopt IMAI and VHF manuals for use in training medical staff</li> <li>Produce posters and bench top tools for case identification and case treatment SOPs</li> <li>Establish quick and efficient collection, monitoring of outcomes and transmission of data between the stakeholders from ETU, Lab, Coordination Centre, Surveillance, Contract tracing etc.</li> </ul>	DTRA USAID
Case Management b) Safe Burials	<ul> <li>Increase capacity for dead body management</li> <li>Establish teams in charge of safe burials</li> <li>Update safe burial protocols with regard to religious practice</li> <li>Identify safe burials sites</li> </ul>	<ul> <li>Consider research on local customs and funeral rites and anthropological studies recommended to understand local culture.</li> <li>Disseminate existing guidelines or articles.</li> <li>Train and equip National teams to perform safe burials activities</li> </ul>	
Epidemiological surveillance	<ul> <li>Training from central to community levels</li> <li>Implement of IDSR with integration of EVD</li> <li>Strengthen event based surveillance, establish hotlines, and improve data management system</li> </ul>	<ul> <li>Training Guidelines</li> <li>IHR implementation review</li> <li>Analysis of gaps in IDSR</li> <li>Provide resources for implementation of IDSR and event based surveillance</li> </ul>	

Contact tracing	<ul> <li>Adapted guidelines to the country context</li> <li>Train staff</li> <li>Engage community (cross cutting)</li> </ul>	<ul> <li>Adaptation of guidance at country level</li> <li>Provide training</li> </ul>	WHO, CDC, FETP, AFENET
Laboratory	<ul> <li>Train on specimen collection, packaging and shipping</li> <li>Establish transport mechanism of samples from peripheral to national or international/reference laboratories</li> <li>Develop specimen shipping and transport mechanisms notably to address cross border issues</li> <li>Ensure adequate supply of PPEs</li> </ul>	<ul> <li>Adapt protocols and improve IPC</li> <li>Provide triple packaging materials &amp;PPE at priority locations</li> <li>Clarify and simulate specimen collection, shipping and transport mechanism</li> <li>Clarify specimen storage and transport temperature requirements</li> </ul>	
Points of Entry	<ul> <li>Develop public health contingency plan at POE</li> <li>Provide guidance, assessment, HR, equipment and funding at land crossings</li> <li>Identify and train of POE staff</li> <li>Train political decision makers on travel issues</li> <li>Evaluate the effectiveness of public health measures</li> </ul>	<ul> <li>Develop guidance for land crossing with cross border collaboration</li> <li>Finalize and improve multisectoral Public Health contingency plan for POEs</li> <li>Conduct simulation exercises at land crossings</li> <li>Provide funding and equipment</li> </ul>	WHO, CDC, ICAO
Logistics	<ul> <li>Map logistics capacity,</li> <li>Establish a logistics strategy</li> <li>Train logisticians to support EVD</li> <li>Establish a stock management system and identify warehousing</li> <li>Ensure security and transportation for patients.</li> <li>Put in place logistics mechanisms for RRT</li> </ul>	<ul> <li>Completion of logistics assessment in all countries</li> <li>Ongoing deployment of PPE kits to all priority countries</li> <li>Prepositioning of emergency stocks in hubs (Dubai and Accra)</li> <li>Complete logistics assessment in all countries</li> <li>Conduct workshop to clarify and finalize guidelines</li> <li>Trainings for logistics capacity at country level</li> <li>Identification of logistics focal points in all countries</li> <li>Harmonizing kits for PPE and other essential supplies</li> </ul>	WHO, WFP, UNICEF



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