Ebola virus disease preparedness strengthening team

Cameroon country visit 10–14 November 2014

World Health Organization

Contents

Executive summary

As recently demonstrated in Mali, Nigeria and Senegal, the evolving outbreak of Ebola virus disease (EVD) in West Africa poses a considerable risk to countries in close geographical proximity to those with intense, widespread transmission. If there is an adequate level of preparation, introduction of the virus can be contained before a large outbreak develops. WHO, with partners including the United States Centers for Disease prevention and Control (CDC), is deploying international "preparedness strengthening teams" to help unaffected countries build on their current preparedness and planning.

In August 2014, the WHO Director-General declared the EVD outbreak 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 in which there was transmission of Ebola virus should urgently establish surveillance for clusters of unexplained fever or deaths due to febrile illness; establish access to a qualified diagnostic laboratory for EVD; ensure that basic infection prevention and control measures are in place in health care facilities and that health workers are aware of and trained in appropriate infection prevention and control procedures; and establish rapid response teams with the capacity to investigate and manage EVD cases and their contacts.

EVD preparedness is also supported by the United Nations Mission for Emergency Ebola Response, the five strategic pillars of which are to: stop the outbreak, treat infected patients, ensure essential services, preserve stability and prevent further outbreaks. A consultation between WHO and partners on EVD preparedness and readiness, held in Brazzaville on 8–10 October 2014, agreed on intensified, harmonized, coordinated support to currently unaffected countries. WHO is intensifying preparedness to ensure immediate outbreak response capacity in Benin, Burkina Faso, Cameroon, the Central African Republic, Cote d'Ivoire, the Democratic Republic of the Congo, the Gambia, Ghana, Guinea-Bissau, Mali, Mauritania, Nigeria, Senegal and Togo.

The immediate objective of the country visit to Cameroon was to ensure that Cameroon is as operationally ready as possible to effectively and safely detect, investigate and report potential EVD cases and to mount an effective response that will prevent a larger outbreak. The joint team for strengthening preparedness for EVD was composed of representatives of Cameroon's Ministry of Health, WHO, CDC, the National Public Health Institute in Quebec (Canada), John Hopkins University, the United States Agency for International Development and other partners.

After technical working group meetings, field visits, a "table-top" exercise and a hospital-based simulation exercise (including at the Yaoundé Ebola treatment centre) were undertaken. Key strengths and weaknesses were identified, and specific areas for improvement were proposed to the Ministry of Health.

The output of the mission was a costed operational plan over 30, 60 and 90 days.

The following areas for improvement were identified and proposed to the Minister of Health:

1. Coordination

    - Review the mandate of the National Committee for the Management of Public Health Emergencies.
    - Formally establish an incident management structure, with a functional organigram to clearly identify key functions and the personnel filling them. The structure should include technical functions such as rapid response teams and contact tracing.
    - Identify and equip an emergency operations centre.

2. Surveillance

   - Strengthen case detection by disseminating standard operating procedures (SOPs) for EVD case reporting to all health centres and points of entry and reinforcing use of the case definition by "bottom-up" training.
   - Facilitate efficient reporting of EVD cases by ensuring that all health centres and points of entry have access to a "float" phone system, and staff a call centre to manage the EVD community hotline 24 h/24 h, 7 d/7 d.

3. Contact tracing

   - Prepare country-specific SOPs for contact tracing.
   - Identify and train epidemiologists to trace contacts.
   - Develop a data management system for linking EVD cases and contacts.

4. Infection prevention and control

   - Increase awareness of and capacity for infection prevention and control in health care settings by establishing a sustainable system for the provision of materials and equipment in all 10 regions of the country, strengthening hygiene committees in hospitals and providing training in standard precautions and waste management.
   - Put in place specific EVD infection control measures in health care settings by identifying and appropriately equipping and training personnel in health facilities in which there is an area for isolation of suspect cases, with priority for reference hospitals in each region.
   - Establish a financial and insurance framework for staff who will work in high-risk areas.

5. Rapid response teams

   - Establish and render fully operational 11 rapid response teams, one for each region and one at the national level, and identify, designate or recruit each team.
   - Strengthen the capacity of the teams by training in technical functions, including intensive training in infection control and contact tracing.

6. Case management

   Ebola treatment centres:

   - Render functional the two treatment centres identified in Yaoundé and Douala, and staff them with multidisciplinary teams who are adequately trained and motivated with a compensation and insurance framework.
   - Plan three mobile clinics to serve other regions.
   - Train all clinical staff working at the Ebola treatment centres or mobile clinics in clinical management of EVD, including training in psychosocial support for patients, families and clinical staff.
   - Train paramedics and ambulance drivers in safe transport of patients, and provide at least one ambulance to each Ebola treatment centre.

   Safe, dignified burials:

   - Develop and promulgate clear SOPs for safe burial throughout the country, and raise awareness in the community using lessons from the country's experience with other diseases, such as cholera.
   - Train trainers in the 10 regions in safe, dignified burials, and establish and equip teams in all regions.

7. Social mobilization

    - Reduce anxiety in the population by formalizing and empowering an EVD communications committee in an EVD social mobilization plan to provide technically correct messages to communities and strengthen community-based case detection.
    - Increase social mobilization by establishing dialogue with influential figures such as chiefs and religious leaders throughout the country.

8. Laboratory

    - Train rapid response teams in sampling procedures from suspected EVD cases and in transport of samples, including infection control measures.
    - Ensure stocks of safe, adequate transport media and security stocks at the laboratory.
    - Establish procedures and agreements to ensure rapid transport of samples for confirmatory testing in an international reference laboratory.
    - Finalize accreditation of the Centre Pasteur in Cameroon as a WHO reference laboratory for viral haemorrhagic fevers.

9. Points of entry

    - Reinforce enhanced surveillance at the 29 points of entry (airports, ports and roads) by standardized screening for febrile illness. Prepare an SOP for managing travellers with elevated body temperature.
    - Establish clear mechanisms for the safe transport of suspected cases from points of entry to isolation rooms or an Ebola treatment centre.
    - After a risk assessment, enhance surveillance and information-sharing on EVD at major ground border crossings.

10. Budget

    - Prepare a detailed task-based budget for the national contingency plan, with the resources required to operationalize strategies, showing the gaps in financial resources for the Government of Cameroon, international donors and other partners.
    - Identify focal points in all relevant departments of the Ministry of Health who will be responsible for filling in budgeting tools and ensuring standardized coordination among departments to ensure robust accountability and information-sharing.
    - Modify and reinforce mechanisms and templates for monitoring and evaluation designed for previous infectious disease outbreaks, to ensure robust accountability, monitoring and reporting in an EVD outbreak.
    - Prepare templates for contractual agreements, including payments, fringe benefits and incentive structures for staff, and formalize mechanisms to ensure effective reporting and timely payments.

11. Logistics

    - Identify and train logisticians at all levels.
    - Develop standard stock management systems.

In conjunction with the Ministry of Health and local partners in Cameroon, WHO, CDC and international partners will facilitate implementation of the national EVD action plan by:

- providing immediate and longer-term support to Cameroon to achieve the 30-, 60- and 90-day goals, with follow-up visits by technical experts;
- ensuring that the WHO and CDC country teams support and monitor progress made in all technical fields;

- providing logistic, financial and human resources for preparedness and response at national and sub-national levels;
- assisting in setting up an EOC, operationalizing its organigram and providing technical expertise for its operating and management;
- preparing and implementing a comprehensive training plan for national, regional and local personnel, with comprehensive reference materials and tools;
- providing intensive training for rapid detection and containment of infection, as outlined in the WHO checklist; and
- providing technical expertise in development of a data management system for linking EVD cases and contacts.

Introduction

Given the evolving situation of Ebola virus disease (EVD), there is a considerable risk that cases will appear in currently unaffected countries. With adequate preparation, introduction of the virus can be contained before a large outbreak develops. WHO is currently deploying international "preparedness strengthening teams" to help unaffected countries strengthen or plan preparedness. The teams are formed with national and international partners and networks such as the Global Outbreak Alert and Response Network, the International Association of National Public Health Institutes and the United States Centers for Disease Control and Prevention (CDC). The teams visit countries to support them in developing operational readiness for EVD to the greatest degree possible.

In August 2014, the WHO Director-General declared the MVE outbreak 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 urgently establish surveillance for clusters of unexplained fever or deaths due to febrile illness; establish access to a qualified diagnostic laboratory for EVD; ensure that basic infection prevention and control measures are in place in health care facilities and that health workers are aware of and trained in appropriate procedures; and establish rapid response teams with the capacity to investigate and manage EVD cases and their contacts.

In particular, the IHR Emergency Committee recommended that countries:

- establish alert systems at:
  - major land border crossings with already affected countries (which are currently Guinea, Liberia, Nigeria and Sierra Leone) and
  - the airport, seaport (if any) and health care facilities, especially major hospitals, in the capital city;
- activate their epidemic management committee and rapid response teams;
- ensure that adequate infrastructure and supplies for infection prevention and control are available in health care facilities;
- ensure that health care workers have received training in the application of standard precautions and appropriate use of personal protective equipment (PPE); and
- consider activating public health emergency contingency plans at designated points of entry.

EVD preparedness is also supported by the United Nations Mission for Emergency Ebola Response, which has five strategic aims: to stop the outbreak, treat infected patients, ensure essential services, preserve stability and prevent further outbreaks. A consultation between WHO and partners on EVD preparedness and readiness, held in Brazzaville on 8–10 October 2014, agreed on intensified, harmonized, coordinated action to support currently unaffected countries. WHO is accelerating preparedness activities to ensure immediate Ebola outbreak response capacity in Benin, Burkina Faso, Cameroon, the Central African Republic, Cote d'Ivoire, the Democratic Republic of the Congo, Gambia, Ghana, Guinea Bissau, Mali, Mauritania, Nigeria, Senegal and Togo.

Objectives

The objective of the visit to Cameroon was to ensure urgently that the country is as operationally ready as possible to detect, investigate and report potential EVD cases effectively and safely and to mount an effective response that will prevent a larger outbreak. The team identified the next steps required to strengthen preparedness over 30, 60 and 90 days (the EVD action plan).

Country visit team

The joint team to strengthen EVD preparedness in Cameroon (Annex 1) was composed of representatives of Cameroon's Ministry of Health, WHO, CDC, the National Public Health Institute in Quebec (INSPQ), John Hopkins University, the United States Agency for International Development, the French Ministry of Foreign Affairs and other partners working in the country.

Activities

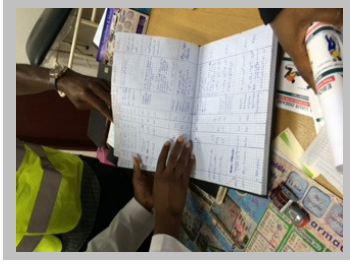
Field visit to Yaoundé Central Hospital	Yaoundé Central Hospital	A visit was made to the Yaoundé Central Hospital with the EVD medical coordinator (Dr Françoise Ngo Nsak). The team was shown a holding area (two one-bed rooms) for suspected EVD cases and discussed the infection control measures taken by hospital staff, transport measures, management of patients by the EVD team identified at the hospital (including when rapid diagnostic testing for malaria would be conducted, e.g. after Ebola virus tests) and the procedures for alerting the rapid response team. The team also visited the hospital triage area, examination and sampling rooms for infectious diseases and briefed the hospital staff on the "skill drill" to be conducted on day 4.
Visit to the Centre Pasteur 	Centre Pasteur de Cameroon	The team conducted a "walk-through" of the arrival of a sample from a suspected case of EVD at the P3 Pasteur laboratory in Yaoundé, the analysis protocol (including link to epidemiological investigation) and referral mechanisms to the Institut Pasteur in Lyon (France) for confirmation. Ten samples from suspected cases had already been tested, and all were found to be negative for Ebola virus. Partnerships exist with airlines for international shipment of samples, and three samples have already been shipped to Lyon. The Centre Pasteur is a national reference laboratory for 12 pathogens, not including Ebola virus. WHO accreditation for testing for Ebola virus has been requested.
Agreement on mission objectives with the Minister of Health	Ministry of Health	Initial mission objectives set out by the WHO Representative, the team leader, the Minister of Health, the Department for the Control of Disease and Epidemics and the Secretary-General of Health. WHO and CDC gave briefings on current preparedness activities and the global EVD response, the IHR Emergency Committee recommendations for preparedness, the Brazzaville meeting and the strategic pillars of the United Nations Mission for Emergency Ebola Response. The Minister outlined his priorities, which included a field exercise, case management, measures to reinforce surveillance along the border with Nigeria, partner coordination and a logistics plan for EVD. The Department for the Control of Disease and Epidemics said that the

		visit would also be used to strengthen epidemic response capacity in Cameroon more generally. The arrangements for the field exercise on day 4 were also discussed.

Hôpital Central de Yaoundé Isolation room

Day 2		
Briefing on state of preparedness by Ministry of Health and Department for the Control of Disease and Epidemics 	Department for the Control of Disease and Epidemics	The Head of the Department gave an extensive description of the preparedness measures taken within the Ministry of Health to prepare the country for EVD cases. The meeting was also attended by international partners, including ESTHER and UNICEF, and by a representative of the Ministry of Communications. The Head of the Department outlined the activities undertaken in coordination, training, national guidelines, SOPs, contact tracing, awareness-raising, measures at points of entry, logistics and financial resources. The national operational plan should be finalized with the team.
Working group on coordination, rapid response teams and laboratory preparedness		The WHO consolidated checklist was used to identify gaps and the actions necessary to strengthen existing coordination mechanisms at strategic and operational levels.

	Formalization and decentralization of rapid response teams and the human resources and equipment required were identified. The state of laboratory preparedness of the Centre Pasteur de Cameroon was discussed. An organigram for the incident management structure was proposed (Annex 3).
Working group on surveillance, contact tracing and points of entry	The WHO checklist was also used to assess Cameroon's preparedness in terms of surveillance, contact tracing and points of entry.
Working group on social mobilization (UNICEF, the Ministry of Communication, WHO, Ministry of Health, John Hopkins and CDC)	The WHO checklist was used to identify the strengths and weaknesses of the national communication plan. The main weakness identified was lack of an official communications committee, which is necessary for a rapid, accurate, consistent, well-tailored, well-coordinated communication strategy.
Working group on infection control and clinical management	Recent improvements in infection prevention and control in the main hospitals were described, but standard infection control practices and equipment are not used consistently in all health facilities. Projects to strengthen this area often require partner support, and systematic provision and replenishment of equipment and materials were often lacking. Cameroon has two identified EVD treatment centres, and all health facilities are required to identify rooms for isolating suspected cases of EVD. These facilities must be finalized and equipped with material and trained teams of clinical and non-clinical staff. Teams of health care workers have been identified to manage suspected and confirmed cases and have been trained. Further, better-tailored training is required, and incentives should be given to motivate staff and make more staff available.
Working group on budget	The budgeting group met with two officials from the Department of Financial Resources and Administration of the Ministry of Health on financing and budgeting strategies in the country. They prepared a template for budgeting from the national contingency plan and identified standard procedures for resource mobilization, for requesting and receiving donor assistance and for establishing donor accountability mechanisms. Bottlenecks were identified and possible solutions discussed They discussed establishment of contingency funds and the speed with which money can be transferred from the centre to the periphery. Bottlenecks were identified and possible solutions discussed. Further discussions were held with the financial administration and accounting team at the Department for the Control of Disease and Epidemics, which has been identified as the direct recipient of external assistance for the National Operational Plan and for emergency response, if needed. The budgeting template was

		analysed in detail and modified according to the requirements of the Department for financial analysis and reporting.
Working group on logistics		Field visits were made to Ministry of Health stocks and pharmacy to make an inventory of equipment stockpiles for EVD preparedness. Facilitated customs clearance, distribution of stocks nationally and logistics software requirements were addressed. A logistics plan was drawn up with the Ministry during the mission.
Field visit to a point of entry  	Yaoundé International Airport	The surveillance team visited the airport to observe the enhanced surveillance and case detection measures in place. A number of steps have been taken to detect and contain EVD cases rapidly. A laser thermometer scanner is used to screen all passengers arriving in Yaoundé for a body temperature greater than 38 °C, and there are three infrared hand-held thermometers for validation. Two doctors, zsix nurses and two hygienists rotate shifts to ensure 24 h/24 h, 7 d/7 d coverage. There is an isolation room with an examination table, and many Ebola-related posters are on display. Areas for improvement include an SOP for handling patients with elevated body temperature, deciding who will be responsible for filling in forms and other paperwork for suspected cases, and stocking sufficient personal protective equipment (PPE). Other requirements are "float" phones (with paid coverage) for medical staff and some posters in English.
Field visit to an Ebola treatment centre  	Ebola treatment centre in Yaoundé (Mimetala)	The mission visited the Ebola treatment centre being set up in Yaoundé (Mimetala). The facility is composed of six separate buildings, of which three will be used for patient care. The centre is in its final stages of completion and will be one of the locations used for the field skill drill on day 4. The visit included ESTHER and Ministry of Health training in infection prevention and control with the clinical management team from Yaoundé Central Hospital, with which the treatment centre is linked. The mission provided technical assistance (Annex 3) to the Ministry of Health for completion of the treatment centre and for establishing the multidisciplinary teams that will work in the centre.
EVD table top exercise	WHO Country Office	The table-top exercise involved a country-specific, progressive scenario and a series of scripts to allow participants to understand the potential impact of an

outbreak in terms of existing plans, procedures and capacity. Strengths and weaknesses were identified.

The exercise was attended by approximately 40 participants, including the Secretary-General and other staff of the Ministry of Health, the United Nations Resident Coordinator and representatives of the World Bank, the World Food Programme, Médecins sans Frontières, CDC, the International Medical Corps, ESTHER and other local technical and financial partners.

Day 4

Field simulation and skill drill	Hôpital Central de Yaoundé	The Director of the Hospital was briefed on the simulation exercise to be held that morning. A member of the group (Monique Tuyisenge-Onyegbula) simulated a patient with suspected EVD. After positive confirmation, a transfer was organized. Discussion with hospital participants and mission observers
	Ambulance	The ambulance transferred the patient to the Mimetala Ebola treatment centre.
	Treatment centre	Patient installed in treatment ward for confirmed cases; simulation stopped
	Treatment centre	Debriefing with Minister of Health, WHO Representative and members of mission, followed by a press conference

Sampling during the skill drill

Finalization of national operational plan	WHO	A joint group from the mission and the Ministry of Health produced a consolidated, budgeted plan for preparedness and response.
Debriefing with Minister of Health and partners	Ministry of Health	The mission activities and areas for improvement in preparedness were presented with the budgeted national operational plan for EVD preparedness and response. The plan was endorsed by the Minister of Health.

Strengths and weaknesses

	Strengths	Weaknesses
Coordination	Existence of an EVD technical committee; members trained at central and regional levels Ministry of Health has identified the need for an EOC Ministry of Health has a contingency plan for EVD preparedness Organigram for the EOC has been created	Fragmentation of roles among Government institutions, with no clear integrating structure EOC must be brought to an operational level and equipped EOC staff should be identified and trained. No formalization of technical roles and responsibilities
Surveillance	Case definitions exist Mobile phone "float" system for early warnings from health centres exists A hotline is being set up for early warning from the community IDSR systems for EVD exist; some training has been done Simplified case definitions have been produced for the community and distributed to regions Surveillance system has found suspected EVD cases, tested them and found them negative.	Case definition not available or applied in all health centres or at points of entry; most suspected cases did not meet the definition of a suspected case. Surveillance is fragmented and lacks coordination. All points of entry and health centres should have access to "float" phones. Hotline not equipped or staffed No SOP for case reporting at health facilities or points of entry IDSR systems have not been tested, and training is incomplete. No system for data management Private health facilities not included in surveillance system
Rapid response teams	Staff for rapid response teams have been identified. Kits are available for rapid response teams with equipment for collecting samples and triple boxes, PPE, disinfectants and transport fares for emergency use. SOPs being developed at regional level A simulation exercise has been conducted to test activation of rapid response teams. The Minister of Finance has procedures in place for rapid access to funds during emergencies.	Rapid response team members must be formally designated and trained according to their expertise. The roles and responsibilities of the teams are not clear. Significant gaps in communication, coordination and infection control seen during the field exercise The rapid response team is centralized, which may pose logistical and transport difficulties. No incentives for members of rapid

		response teams Some members at central level have simultaneous roles in the Yaoundé Central Hospital
Social mobilization	Social communication committee exists and functions Targeted messages and materials have been developed. A strategic communications plan has been developed and consolidated. Community leaders have been identified to engage in EVD preparedness. Mechanisms for engagement with national networks exist.	Communication committee is not formalized Lack of visible dialogue with communities, despite uncertainty among local populations EVD messaging materials have not been cleared by the Ministry of Health. No mechanisms to ensure timely review and clearance of information products Critical communication networks should be identified at national and sub-national levels.
Infection prevention and control	Improvements in basic hygiene observed in some hospitals (e.g. Hôpital Central de Yaoundé) Local production and use of alcohol-based gel at the Hôpital Central and plans to expand this capacity Health care workers at central clinics and points of entry are aware of the need to wear PPE. PPE present in some hospitals, and training undertaken with partners (e.g. WHO, CDC, ESTHER) Kits being prepared for distribution at regional level	Siimulation exercise revealed significant errors in putting on, wearing and taking off PPE Health facilities lack infection control procedures, and do not use standard precautions. Equipment and running water lacking in health facilities Lack of appropriate PPE in isolation rooms (where identified) No training of “front-line” clinical and non-clinical personnel (e.g. cleaners, hygienists)
Case management	Two Ebola treatment centres have been identified to serve as Ebola treatment units, in Douala and Yaoundé. Ebola treatment centre in Yaoundé in final stages of completion, and 25 individuals have received training in infection control and case management (November 2014). Ministerial instruction for all health facilities to identify a room to isolate suspected cases Plans to mount three mobile clinics and small Ebola treatment centres in three regions	General training has not been targeted. Lack of clarity on who is responsible for case management Lack of capacity for clinical management or safe burials No motivation of Ebola treatment centre staff through financial, insurance or any other means
Laboratory	A P3 biosafety level laboratory set up in Yaoundé (Centre Pasteur du Cameroun), P4 available for use in Lyon The Centre Pasteur is working on an agreement with the Fondation Mérieux to ship samples from suspected cases to WHO for diagnostic testing. Laboratory result obtained in less than 24 h	No SOPs for safe packaging of specimens at health centres and points of entry Poor road conditions jeopardize the safety of transport. Lack of stocks of safe, adequate transport media and security stocks at the laboratory Training for health care professionals in the remaining five regions should be organized.

	(6 h after delivery of a specimen to the laboratory) Protocols for specimen collection and shipment have been developed and adopted. Health care staff in five regions have been trained.	
Points of entry	Many EVD communication materials (e.g. posters) are displayed at key points of entry Three of the four major airports have laser thermometers to screen all passengers Semi-equipped isolation rooms exist at airports Personnel and equipment are available for carrying out the plan. General (unwritten) procedures exist for exit screening of travellers at airports.	Lack of capacity for EVD detection at ground crossings A formalized SOP needed for handling patients with elevated body temperature Guidance required on who will be responsible for filling out forms and other paperwork for suspected cases Lack of sufficient PPE All staff must be trained in infection prevention and control and properly equipped.
Budget	The Directorate of Disease Control has received 40 million CFA (of an allocated 630 CFA) for EVD preparedness. Funds for emergency use by rapid response teams are included in PPE kits. International partners have already contributed to the Ministry of Health for EVD preparedness. Standardized procedures exist for quickly mobilizing funds from partners (the new budget law will establish a special "emergency fund" with simplified administrative procedures).	Practical difficulties in releasing allocated funds exist Existing funds are not sufficient to cover EVD activities for an extended period EVD preparedness mostly financed by limited amounts of money received from partners (WHO, CDC, private sector and others). In case of emergency, money will have to be mobilized from donors, the private sector and partners.
Logistics	Identification of Ebola treatment units in Yaoundé and Douala Stocks of safe, adequate transport media (Bio-pack class 6.2) at national level Identification of lorries that can be adapted immediately to transport goods	No trained logisticians No standard stock management system No plans for waste management, burial areas, water supply structures No efficient system for transport of laboratory samples No resources or SOP for transport of EVD patients
Contact tracing	Representatives of Ministry of Health attended a United States Agency for International Development workshop for training in contact tracing Personnel (Field Epidemiology Training Program fellows) have been identified to trace contacts and will be trained next week.	No SOP for contact tracing No data management systems set up No equipment or transport for contact tracing teams Rapid response teams are responsible for many activities, including case management, phlebotomy and contact tracing; responsibility for so many tasks may compromise their capacity for contact tracing.

Key areas for improvement by the Ministry of Health

The following areas of improvement were identified on the basis of the mission activities and the strengths and weaknesses identified, and was proposed to the Minister of Health.

1. Coordination

   - Review the mandate of the National Committee for the Management of Public Health Emergencies.
   - Formally establish an incident management structure, with a functional organigram to clearly identify key functions and the personnel filling them. The structure should include technical functions such as rapid response teams and contact tracing.
   - Identify and equip an emergency operations centre.

2. Surveillance

   - Strengthen case detection by disseminating standard operating procedures (SOPs) for EVD case reporting to all health centres and points of entry and reinforcing use of the case definition by “bottom-up” training.
   - Facilitate efficient reporting of EVD cases by ensuring that all health centres and points of entry have access to a “float” phone system, and staff a call centre to manage the EVD community hotline 24 h/24 h, 7 d/7 d.

3. Contact tracing

   - Prepare country-specific SOPs for contact tracing.
   - Identify and train epidemiologists to trace contacts.
   - Develop a data management system for linking EVD cases and contacts.

4. Infection prevention and control

   - Increase awareness and capacity for infection prevention and control in health care settings by establishing a sustainable system for the provision of materials and equipment in all 10 regions of the country, strengthening hygiene committees in hospitals and providing training in standard precautions and waste management.
   - Put in place specific EVD infection control measures in health care settings by identifying and appropriately equipping and training personnel in health facilities in which there is an area for isolation of suspect cases, with priority for reference hospitals in each region.
   - Establish a financial and insurance framework for staff who will work in high-risk areas.

5. Rapid response teams

   - Establish and render fully operational 11 rapid response teams, one for each region and one at the national level, and identify, designate or recruit each team.
   - Strengthen the capacity of the teams by training in technical functions, including intensive training in infection control and contact tracing.

6. Case management

   Ebola treatment centres:

   - Render functional the two treatment centres identified in Yaoundé and Douala, and staff them with multidisciplinary teams who are adequately trained and motivated with a compensation and insurance framework.
   - Plan three mobile clinics to serve other regions.

- Train all clinical staff working at the Ebola treatment centres or mobile clinics in clinical management of EVD, including training in psychosocial support for patients, families and clinical staff.
- Train paramedics and ambulance drivers in safe transport of patients, and provide at least one ambulance to each Ebola treatment centre.

Safe, dignified burials:

- Develop and promulgate clear SOPs for safe burial throughout the country, and raise awareness in the community using lessons from the country's experience with other diseases, such as cholera.
- Train trainers in the 10 regions in safe, dignified burials, and establish and equip teams in all regions.

7. Social mobilization

- Reduce anxiety in the population by formalizing and empowering an EVD communications committee in an EVD social mobilisation plan to provide technically correct messages to communities and strengthen community-based case detection.
- Increase social mobilization by establishing dialogue with influential figures such as chiefs and religious leaders throughout the country.

8. Laboratory

- Train rapid response teams in sampling procedures from suspected EVD cases and in transport of samples, including infection control measures.
- Ensure stocks of safe, adequate transport media and security stocks at the laboratory.
- Establish procedures and agreements to ensure rapid transport of samples for confirmatory testing in an international reference laboratory.
- Finalize accreditation of the Centre Pasteur in Cameroon as a WHO reference laboratory for viral haemorrhagic fevers.

9. Points of entry

- Reinforce enhanced surveillance at the 29 points of entry (airports, ports and roads) by standardized screening for febrile illness. Prepare an SOP for managing travellers with elevated body temperature.
- Establish clear mechanisms for the safe transport of suspected cases from points of entry to isolation rooms or an Ebola treatment centre.
- After a risk assessment, enhance surveillance and information-sharing on EVD at major ground border crossings.

10. Budget

- Prepare a detailed task-based budget for the national contingency plan, with the resources required to operationalize strategies, showing the gaps in financial resources for the Government of Cameroon, international donors and other partners.
- Identify focal points in all relevant departments of the Ministry of Health who will be responsible for filling in budgeting tools and ensuring standardized coordination among departments to ensure robust accountability and information-sharing.
- Modify and reinforce mechanisms and templates for monitoring and evaluation designed for previous infectious disease outbreaks, to ensure robust accountability, monitoring and reporting in an EVD outbreak.

- Prepare templates for contractual agreements, including payments, fringe benefits and incentive structures for staff, and formalize mechanisms to ensure effective reporting and timely payments.

11. Logistics

    - Identify and train logisticians at all levels.
    - Develop standard stock management systems.

Conclusions and next steps

In conjunction with the Ministry of Health and local partners in Cameroon, WHO, CDC and international partners will facilitate implementation of the national EVD action plan by:

- providing immediate and longer-term support to Cameroon to achieve the 30-, 60- and 90-day goals, with follow-up visits by technical experts;
- ensuring that the WHO and CDC country teams support and monitor progress made in all technical fields;
- providing logistic, financial and human resources for preparedness and response at national and sub-national levels;
- assisting in setting up an EOC, operationalizing its organigram and providing technical expertise for its operating and management;
- preparing and implementing a comprehensive training plan for national, regional and local personnel, with comprehensive reference materials and tools;
- providing intensive training for rapid detection and containment of infection, as outlined in the WHO checklist; and
- providing technical expertise in development of a data management system for linking EVD cases and contacts.

Resources provided immediately to Cameroon

- Drafting and budgeting with the Ministry of Health of a national operational plan for EVD preparedness and response. The plan was fully endorsed by the Minister of Health during the mission debriefing.
- Logistics support by extending the mission of the WHO logistician to complete the inventory of stocks, visit the Ebola treatment centre in Douala and set up a logistics plan
- Training in contact tracing for the Ministry of Health by CDC
- Provision of guidelines on all technical areas
- Identification of staff to support the WHO Country Office in Cameroon in following-up activities identified during the mission.

Annex 1. Mission team

WHO headquarters and Regional Office for Africa
Stella Chungong (team leader)
Catherine Smallwood (infection prevention and control and clinical)
Tamara Curtin (table-top exercise/field exercise)
Jordi Sacristan (logistics)
Adolphe NKongolo (epidemiology)
Jerome NDaruhutse (rapid response team, coordination)
WHO Country Office in Cameroon
Charlotte Ndiaye (WHO Representative)
Leonard MBam MBam (Director, Programme Management)
Philippe MarienTache (Blood Safety and Laboratory Services)
Edgar MBa Niamazok (Administrative Officer)
Samuel Besong (Essential Drugs and other Medicines)
Michel Hendji (mission logistics)
Jean Claude Kikoo (consultant)
CDC
Omatoyo Bolu
Els Mathieu (operational plan)
Julie Painter (epidemiology and contact tracing)
Monique Tuyisenge-Onyegbula (social mobilization)
National Public Health Institute in Quebec
Alain Poirier (table-top exercise/field exercise)
John Hopkins University
Simplice Kaptue
Centre Pasteur Cameroun
Marie Vernet (laboratory)
United States Agency for International Development
Tamari Chikhradze-Young
Ministry of Foreign Affairs, France
Caroline Comiti

Annex 2. Committees and official documents for EVD preparedness and response in Cameroon

- Comité National de Réponse aux Epidémies et Urgences sanitaires
- Plan de Préparation et de Riposte à l'Epidémie de la Maladie à Virus Ebola au Cameroun (August 2014)
- Directives nationales en Matière de Surveillance de la Maladie à Virus Ebola (August 2014)
- Plan operationnel de Préparation à la Reponse contre l'Epidémie de la Maladie à Virus Ebola au Cameroun (Novembre 2014)

Annex 3. Report on the Mimetala Ebola treatment centre in Yaoundé

Introduction

An existing structure has been identified in the Yaoundé region, in accordance with the EVD national preparedness plan. The structure is on the road between Yaoundé and the international airport and is therefore well connected. In accordance with the recommendations of the preparedness plan, a technical assessment has been conducted and recommendations made to improve the facility with regard to logistics, infection control and circuits for patients, staff and waste.

Assessment of the structure

The facility consists of five separate buildings that are already rehabilitated and adapted for the purpose. It is beside a national road which connects the city with the international airport and has an estimated surface of about 12 000 m^2, with space for extension if needed. The land slopes north–south and west–east. The perimeter is fenced, and two separate entrances have been built, with one for patients and one for staff and support services. The entrances are designed for access of ambulances, cars, lorries, etc.

All the structures are level and connected to a septic tank, which will collect all wastewater, and then to an infiltration well for final discharge. Each buildings is designed for a different purpose—administration and storage, staff area, area for screening suspected cases, non-case area, confirmed case area and a services building. The complex is connected to the urban water supply, and supplementary water storage capacity has been installed (about 30 000 L) as a back-up system. Two plastic tanks have been placed into the clean area, on the highest side of the compound, to supply water by gravity if needed.

All the buildings are connected to the electric power supply. As the city power system is not 100% reliable, however, a back-up generator will be installed to ensure power at all times.

Organization and layout of the Ebola treatment unit

Each building has a specific purpose (see images below). All the buildings in the contaminated area have a dedicated space for PPE dressing and undressing, with a defined circuit. A waste area is allocated for the management of waste and of dead bodies.

Patients and ambulance gate

Contaminated area

Patients entrance at the screening / confirmed cases areas

Findings

1. The access for patients and ambulances is not finished, and vehicles may have difficulty in approaching the patients' entrance to the screening area, especially during the rainy season.

2. The contaminated and clean areas are physically separated, but the work is not completed. There are still some gaps through which staff and patients can cross from one side to the other without going through disinfection.

3. Connections to both water and power supplies are still pending (at the time of the visit, there was neither power nor water). The two tanks for water storage and back-up are not connected to the system.

4. Inside the patient wards, there is a physical separation between the clean and contaminated areas, with well-identified entrances and exits. Nevertheless, the entrance door opens into the infection prevention area, and there are no means at the exit of the ward for preventing patients or staff from entering the clean area without decontamination. In addition, there is a small window for handing items from one area to the other, which could lead to cross-contamination.

5. The decontamination area is too small for proper PPE removal. There is no system in place to collect the liquid waste from decontamination. Moreover, the separation between clean and dirty areas is just a line on the floor, which makes it difficult to ensure proper separation.

6. The screening entrance is very narrow, making it difficult to enter and manipulate a stretcher. There is also a high step into the ward, which makes access to patients difficult.

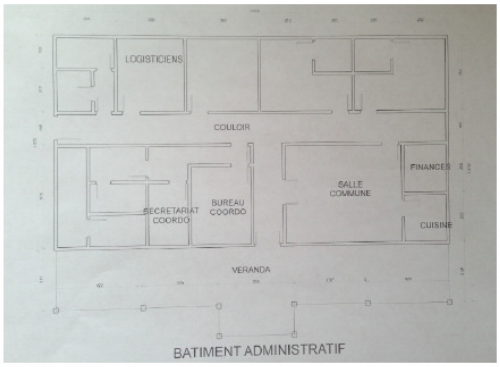
7. The floors of the buildings are suitable for proper cleaning and disinfection. The walls are acceptable but will be improved. There are no mosquito screens on the windows. Some patient rooms do not have windows and have poor ventilation.

8. There is no identified space for a morgue. There is a dedicated place behind the service building, next to the waste area, for cleaning and disinfecting dead bodies, but it is not suitable for keeping them until burial.

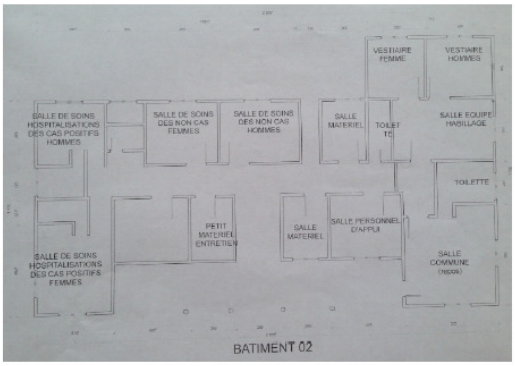
9. The service area (laundry, disinfection of goggles, boots and aprons for reuse, chlorine storage, etc.) should have a clearly defined circuit for moving from contaminated to uncontaminated areas to avoid cross-contamination.

10. The waste zone is still under construction. There is an "incineration pit", the drainage of which goes into the runoff water collection system. There is no pit for organic wastes or sharps. A septic tank to collect contaminated water from the wards is connected to a drainage well for final discharge. The area is not entirely fenced, so that unauthorized persons could enter.

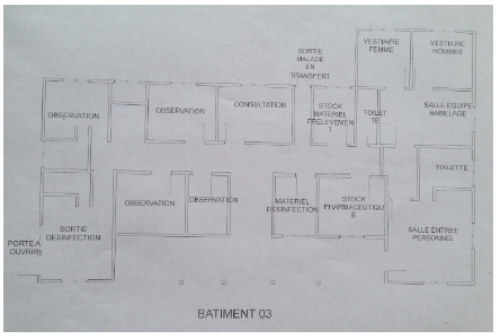
11. There were some discrepancies between the original design and the explanations given during the visit to the Ebola treatment unit.



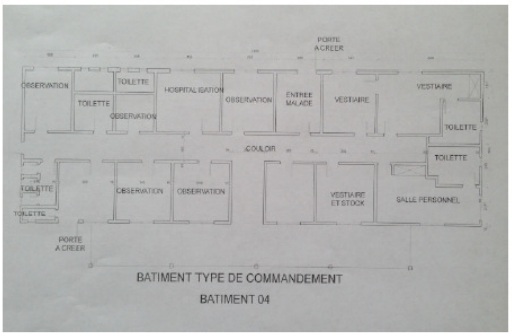
Admin/logistics



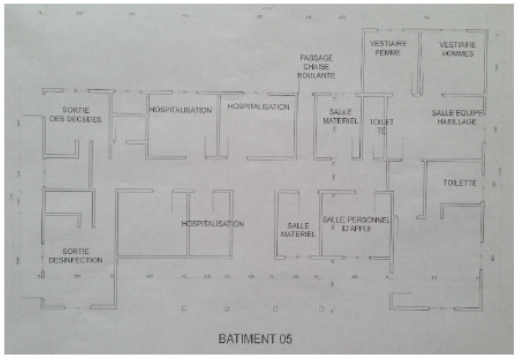
Staff



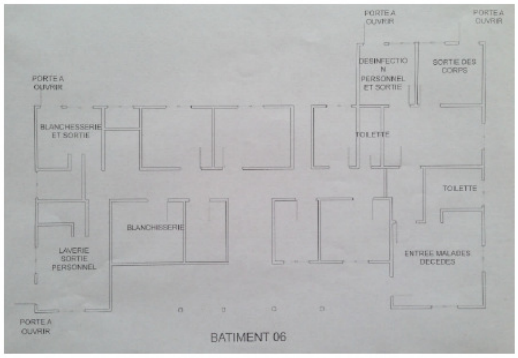
Screening and Suspect cases



Non case ward



Confirmed cases



Services building

Recommendations

Structure

1. Improve the patients' entrance, especially for cars and ambulances. A space should be allocated for disinfecting vehicles before they leave.

2. Ensure complete physical separation between contaminated and clean areas, by closing the spaces between buildings and around the service area. Ensure and secure all entries and exits between contaminated and clean areas in all wards.

3. Improve access to the screening area and the entrance of the ward for confirmed cases by constructing a ramp to facilitate entry of stretchers. The access should be modified to ensure a wider entrance. A door could be opened instead of the window in the room labelled “stock sampling material” (see building 03 on the plan) and the “material room” (building 05). The narrow corridors for the entrance and exit of patients to be transferred to different wards should be closed.

4. Reorganize the observation area, moving the stocks into closed rooms, and use rooms with windows and proper ventilation as observation areas for patients (building 03).

5. Increase the number of toilets for patients, with at least two toilets (one male, one female) in each building in the patient area. It might be necessary to make the toilet in the area designated for staff disinfection available to patients. Once staff have disinfected and removed PPE, they could use the shower and toilets in the staff building (buildings 03 and 05).

6. Define an appropriate place for the morgue, and ensure an appropriate temperature for keeping corpses temporarily. The circuit for moving dead bodies between the area in which they are prepared and that in which they are kept before burial should be reviewed.

7. Increase the number of the showers in patient areas, with at least two showers (one male, one female) in each ward. Explore the possibility of installing a shower in the patient arrival area, as some arrive in bad condition and might need a shower before screening.

Infection control measures

8. The decontamination area at the exit of the patients’ ward must be improved. Decontamination is almost impossible with the current design. A physical separation must be placed between contaminated and clean areas, to avoid breaching isolation and containment. As PPE should be disinfected before it is removed, a system is required to collect all spills and liquids (0.5% chlorine). The area must be large enough to contain containers for collecting contaminated waste and reusable items.

9. Review and clarify the placement of the non-patient ward. According to the original plan, this area was between the staff building and the screening area; however, during the visit, the team was told that it would be placed between the observation area and the suspected case ward. Adherence to the original plan is strongly recommended to prevent non-cases from circulating between two contaminated areas.

Water and sanitation

10. Ensure a water storage capacity of a minimum of 3600 L in case the supply is cut off (60 L per patient per day, 20 patients, 3 days). Water for human consumption must be treated and chlorinated inside the tanks.

11. “Grey” water can be collected independently from “black” water and run-off water (i.e. fully chlorinated water from decontamination areas) and drained into the environment to avoid a high influx of liquid into the septic tank.

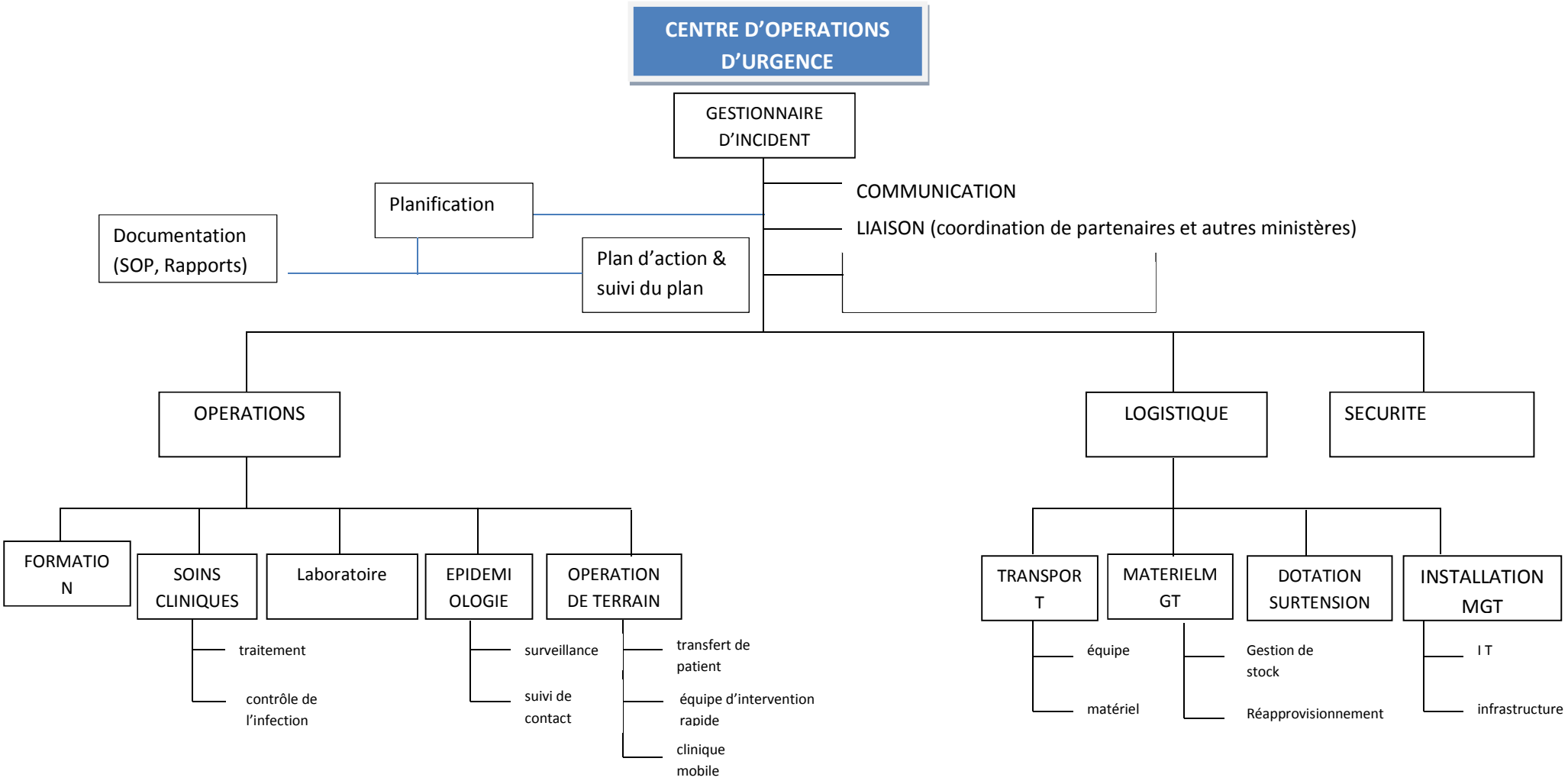
12. Grey water from the laundry need not be collected in the septic tank, to avoid filling it too quickly, and may be discharged through a soil drainage system for natural absorption. A grease trap should be installed to avoid clogging the system (also if the water is discharged into the septic tank).

Solid waste management

13. Ensure that a proper waste management system is in place, with clear segregation of contaminated and uncontaminated waste. Appropriate structures must be constructed to ensure correct waste management and disposal of each type of waste (solids, organic matter and sharps): an incinerator or burner, an ash pit, a sharps pit and a pit for organic waste. The area must be entirely fenced to avoid the access of unauthorized persons. As staff entering the area should be wearing PPE, a proper decontamination area should be in place at the exit.

14. Each building should have a three-container collection system to ensure proper waste segregation (solids, organic and sharps). The containers must be adapted to purpose and clearly labelled.

Annex 4. Suggested structures for emergency operations centres and incident management



Annex 5. Results of table-top exercise

The desk-top simulation provided additional information on components of the checklist. Participants from the Ministry of Health, the Department for the Control of Disease and Epidemics, WHO and partners (including the United Nations Resident Coordinator, Médecins sans Frontières, the World Food Programme, UNICEF, CDC, International Medical Corp, International Federation of the Red Cross and others) participated. An evaluation form filled in by 37 participants identified strengths and weaknesses and areas that required clarification or improvement. The answers are grouped according to the checklist components.

Coordination	**Strengths**: The engagement and participation of the authorities are the principal strength of all components. **Weaknesses**: This component requires the greatest improvement, to address the absence of SOPs and an operational plan, improve organizational links and roles and responsibilities, increase regional activities.	Strength: 19 Weakness: 35
Rapid response team	**Strengths:** Four people considered this a strength. **Weaknesses:** Six mentioned training and absence in the regions as weaknesses.	Strength: 4 Weakness: 6
Community engagement and social mobilization	**Strengths**: Existence of a plan **Weaknesses:** Provision of information to the population should be improved.	Strength: 2 Weakness: 9
Infection prevention and control	**Strengths**: Five people considered this a strength. **Weaknesses**: Participants expected improvements with training (10), definition of a suspected case (8) and personnel motivation.	Strength: 5 Weakness: 26
Case management	**Strengths:** Creation of a treatment centre **Weaknesses:** General improvement required (10); others specified improvement in transport (4), training (3) and salary (2)	Strength: 4 Weakness: 19
Burial management	**Strengths:** No mention **Weaknesses:** Improvement required	Strength: 0 Weakness: 1
Epidemiological surveillance	**Strength:** No mention **Weaknesses**: Case definition should be clarified (3), procedures improved (3), case notification improved (2)	Strength: 0 Weakness: 8
Contact tracing	**Strength:** No mention **weaknesses:** Procedures should be developed and clarified	Strength: 0 Weakness: 11
Laboratory	**Strengths:** Considered a strength **weaknesses**: Blood sample transport	Strength: 2 Weakness: 8
Points of entry	**Strength:** Airport screening a strength **Weaknesses:** VIP procedure (1); procedures should be developed for travellers from bordering states (5)	Strength: 1 Weakness: 6
Budget	**Strengths**: Material resources a strength **weaknesses;** Logistics must be improved (12), absence of an emergency fund (5)	Strength: 2 Weakness: 19

Overall, better training was mentioned 19 times.

General comments on the exercise, the mission and its follow-up were requested on an evaluation form. The table-top exercise received 28 positive comments; one person mentioned that too much time was devoted to the catastrophic part of the scenario. For the mission, timely sharing of

conclusions and its usefulness for orienting funding partners were mentioned three times. The evaluation form also had questions about the goal of the exercise, the quality of exchanges and lessons learnt. Agreement was obtained by more than 97% of the participants.

1. The goal of the simulation goal was attained.	35%	75%	
2. The scenarios and questions permitted good exchanges.	57%	43%	3%
3. The table-top exercise raised important questions and identified useful lessons.	59%	38%	3%

Annex 6. Skill drill

The drill revealed both strengths and opportunities for improvement in procedures, training, material and infrastructure. In order to facilitate comparison of the results with those of other preparedness efforts, the results are categorized according to areas and elements of the WHO consolidated checklist for EVD preparedness.[1]

Component 1. Overall coordination

Coordination at national level was not part of this exercise. As the treatment centre is under the management of the central hospital, coordination was done within the administrative and coordinating structures of the hospital.

Component 2. Rapid response team

The rapid response team was mobilized for drawing a blood sample.

Strengths

- The team members and their contact details were known, and the team arrived in a timely manner.
- The team had the necessary material to take, pack and ship a sample.
- A contact history was begun, including contact numbers.
- Facilities have been identified to receive suspected EVD cases

Opportunities for improvement

- The team found putting on and taking off the PPE problematic.
- Issues in sample packing
- The contact tracing paper was difficult to handle in PPE.

Recommendations

- Training in putting on and taking off PPE should be continuous, including periodic drills.
- Review of sample drawing and packing procedures, including PPE required at each stage.
- A person who is not in close contact with the patient should fill out the contract tracing form, not a member of the rapid response team wearing full PPE.

Component 3. Public awareness and community engagement

While public awareness and community engagement were outside the scope of this exercise, individuals on the hospital grounds expressed great concern that the simulated patient was actually a patient. The facilitators and observers spoke with the bystanders and learnt that they had a very low level of awareness of what EVD is, how it is transmitted, etc., indicating more widespread lack of public awareness about the disease, which could cause delays in people seeking care in the case of possible infection.

[1] *The Consolidated checklist for Ebola virus disease preparedness* (http://www.who.int/csr/disease/ebola/evd-preparedness-checklist-en.pdf)

The impression that the public was not well informed was reinforced when the ambulance transferring the simulated patient to the treatment centre was waiting on a nearby football pitch for authorization to enter the treatment centre. The men playing were visibly agitated by the presence of an ambulance with a crew wearing PPE and began asking questions about EVD and the Government. The issues of concern and comments included:

- What if I can't pay?
- How could I get to the hospital if I was sick?
- What is Ebola actually?
- How do you catch it?
- All we know is what we hear from media.

Overall, the exercise team observed that more community awareness and engagement is needed about EVD and the actual risks, which should be kept up to date and conveyed through reliable channels.

Component 4. Infection prevention and control

As the exercise involved interaction with a simulated suspected case, this component was dealt with extensively.

Strengths

- Personnel, from hospital staff to ambulance crews, were all aware of the need to wear PPE.
- Gloves, masks and gowns were rapidly accessible at the outpatient intake desk.
- Decontamination of patient areas was initiated.
- Staff showed familiarity with the PPE, indicating training.
- A safe distance was cleared of bystanders for transport of the patient.
- Personnel arriving on the scene were immediately advised that the patient should be treated as highly contagious.

Opportunities for improvement

- While staff were familiar with the PPE, there were still significant errors in putting on, wearing and taking it off.
- Gloves broke frequently.
- Not all the PPE was of the proper size.
- The PPE available to outpatient intake staff was permeable and difficult to put on rapidly.
- The basic level of hygiene at the Central Hospital is very low, with limited access to water, and issues of quality control of chemicals in the production of sterilization fluid in the hospital.
- Significant problems in waste management were seen while the patient was being transferred, including disposal of used PPE and collection of used gloves and other materials left on the ground.
- The area that the patient traversed was not thoroughly decontaminated.
- The area in which patients are kept in isolation must be secured, both to keep the patient inside and to keep unprotected people from entering.

Recommendations

- Training and exercises in use of PPE should be continuous and widespread.
- Training should be based in the hospital and accessible, not just provided by international partners.
- The trajectory of patients must be secured and as direct as possible to facilitate decontamination of areas where there may be infected fluids or material.

- The quality, composition and size of PPE should be reviewed for appropriateness.
- Documentation and an “aide-memoire” should be prepared for putting on and taking off PPE and posted in areas where PPE is put on and taken off.
- Waste management capacity should be integrated into the isolation area.

Component 5. Case management

The drill included only limited functions at the Ebola treatment centre. As the simulated case was still alive on arrival at the centre, burial was not addressed in the exercise.

Strengths

- Ebola treatment centres have been set up in two locations in the country, with more planned.
- The Mimetala Ebola treatment centre has sufficient space for extension if needed.

Opportunities for improvement

- The doors of the treatment centre are short and narrow.
- The walls of patient rooms should be tiled to facilitate disinfection.
- The ambulance had difficulty in getting up the hill to the patient entrance in the mud.

Recommendations

- Increase the size of the doors at the Ebola treatment centre.
- Tile walls.
- Ensure that an ambulance can use the designated entrance, even in the rain.

Component 6. Epidemiological surveillance

While the drill did not explicitly include surveillance, related activities were initiated at the hospital during intake of the case.

Strengths

- Hospital intake staff were aware of the case definition of EVD.

Opportunities for improvement

- While staff were aware of the definition, whether they were aware that patients should be validated against it could not be verified. It is uncertain that, if a person with the same history as the simulated patient were to present to outpatient care, he or she would be identified as a suspected case.

Recommendations

- Provide continuous training on the case definition.
- Conduct frequent exercises in detecting suspected cases.

Component 7. Contact tracing

The drill focused on the isolation, testing and transfer of an EVD patient and did not include contact tracing. Some activities were initiated as a result of the exercise.

Strengths

- The rapid response team staff took an inventory of contacts while taking the sample.

- The intake nurse initiated an inventory of hospital staff who had been in contact with the patient.

Opportunities for improvement

- The husband of the patient was in the room and was not treated as a contact but as a source of information.

Recommendations

- Clear directives should be issued on dealing with close family members and children of a suspected case.
- Train staff in the importance of thorough, timely contact tracing.

Component 8. Laboratory

Drawing a blood sample and shipping it to a laboratory were simulated, and other activities were initiated during the drill.

Strengths

- Arrangements are in place for the transport and testing of samples from Yaoundé, as the Centre Pasteur is located near the hospital.
- Rapid response team members showed awareness of the protocol for drawing a sample.

Opportunities for improvement

- Avoidance of contaminating packaging and use of PPE when packing samples should be improved.

Recommendations

- Review the procedures for safe packing and transport of samples, including the PPE to be worn during different steps.
- Develop and post aide-memoires in areas where samples are packed.

Component 9. Capacity at points of entry

As the simulation was done with a patient who fell ill after returning to Cameroon, capacity at points of entry was not included.

Component 10. Budget

Budget elements were not within the scope of the exercise.

Conclusion

Many of the physical elements of the facilities used in the drill were not fully operational. As a result, the issues identified during the exercise can be addressed before the facilities are in operation. Many staff in various functions showed insufficient understanding of procedure (ambulance transport to the Ebola treatment centre), or the procedures were unclear. Further preparedness activities should ensure that procedures are documented and sufficient, and continuous training should be organized for an efficient response.

Annex 7. Checklist results for Cameroon

Composante 1 – Coordination globale

	Tâches	En	O/N.
1.1	**Comité d'urgence et Comité sur les épidémie de haut niveau/ Groupe spécial Ebola (ETF)** Mise en place d'un comité multisectoriel et fonctionnel/groupe spécial Ebola aux niveaux national et infranational/à celui des districts. Révision et mise à jour des règles d'appartenance à ce comité/groupe spécial Ebola au niveau national et à l'échelle des districts à risque. Existence d'un mandat clair pour le Comité/groupe spécial ETF Mécanismes en place pour coordonner l'aide des donateurs au niveau national Examen des cadres politiques et législatifs actuels pour s'assurer qu'ils autoriseront les mesures de préparation proposées Evaluation complète des coûts des plans d'intervention/d'urgence existants pour permettre l'identification des financements	30 jours	O/N
1.2	**Centre d'opérations d'urgence (EOC) /Structure de gestion des incidents (IMS):** Mettre en place du personnel EOC/IMS au niveau infranational ou au niveau du district pour qu'il coordonne et gère au niveau local les activités de ces entités. Identifier, former et désigner des responsables de la gestion et des opérations ayant pouvoir de prendre des décisions opérationnelles. Affecter des responsabilités claires en matière de communication à des fonctions spécifiques au sein de l'EOC/IMS. Organiser des canaux de communication au sein de l'EOC/IMS et entre ces entités, leurs partenaires et le public. Etablir des procédures pour les mécanismes de commande, de contrôle et de coordination et pour l'autorisation des produits techniques et informatifs clés.	30 jours	N

	Tester la coordination et les opérations par le biais d'exercices théoriques et de répétitions. Identifier un lieu physique pour l'EOC.		

Composante 2 – Équipe d'intervention rapide

	Tâches	**En*(days)***	**O/N**
2.1	Désigner et affecter un ou des chefs d'équipe et des membres appartenant à différentes disciplines dans le cadre de l'EOC/IMS	30	N
2.2	S'assurer qu'un système de communication rapide est en place pour alerter l'EIR	30	O
2.3	Former tout le personnel clinique de l'EIR à la prise en charge des cas selon les normes internationales et en utilisant un CTE simulé.	30	O
2.4	Former l'EIR aux procédures de prélèvement et au transport des agents pathogènes de catégorie A	30	N
2.5	Former l'EIR infranationale à la surveillance et à la recherche des contacts	30	N
2.6	Cartographier les établissements de soins au niveau du district pouvant être prêts à recevoir des cas suspects de maladie à virus Ebola	60	N
2.7	En l'absence de cas de maladie à virus Ebola dans le pays au bout de 60 jours, réaliser au moins un exercice de simulation pour préserver la capacité de l'EIR à répondre rapidement.	90	O

Composante 3 – Sensibilisation du public et obtention de la participation des communautés

	Tâches	En *(jours)*	Oui/ Non
3.1	Mettre au point ou adapter, traduire dans les langues locales et diffuser des messages ciblés à l'intention des médias, du personnel soignant, des dirigeants locaux et traditionnels, des églises, des écoles, des tradipraticiens et d'autres parties prenantes dans la communauté.	**30**	**N**
3.2	Identifier et engager des acteurs/mobilisateurs clés, exerçant une grande influence, comme des chefs religieux, des politiciens, des tradipraticiens ainsi que des médias en zones urbaine et rurale.	**30**	**N**
3.3	Cartographier les moyens publics de communication et les compétences dans le secteur de la santé et d'autres secteurs	**30**	**N**
3.4	Définir et mettre en place des mécanismes pour faire participer les réseaux nationaux à la mobilisation sociale	**30**	**N**
3.5	Identifier un mécanisme de communication et de coordination fonctionnel et en place impliquant tous les secteurs de l'État et d'autres parties prenantes (y compris des organisations de la société civile et les communautés)	**30**	**N**
3.6	Mettre en place un mécanisme de coordination pour amener les communautés à participer (impliquant les tradipraticiens et les secteurs concernés dans le cadre d'une démarche descendante)	**30**	**N**
3.7	Mettre en place un mécanisme de coordination pour amener les partenaires à participer (ONG, par ex.)	**30**	**N**
3.8	Constituer une liste d'aptitude avec des rôles et des responsabilités clairement définis pour les chargés de communication et les porte-parole internes et externes	**30**	**N**
3.9	Mettre en place des procédures fonctionnelles et à jour pour l'examen, la validation et l'autorisation des produits informatifs	**30**	**N**
3.10	Identifier et former des porte-parole et une équipe de communication et leur fournir des argumentaires en fonction des besoins	**30**	**N**
3.11	Elaborer une stratégie, un plan et un budget complets pour obtenir la participation des médias et du public (avec une stratégie d'élargissement)	**30**	**N**

3.12	Mettre en place un système pour suivre et investiguer les rumeurs, puis leur répondre	**30**	**N**
3.13	Dresser un plan pour examiner et réviser la stratégie de communication et en suivre l'impact	**30**	**N**
3.14	Identifier les réseaux de communication importants et planifier l'utilisation de matériel d'information dans les langues appropriées (TV, radio, médias sociaux, SMS, conteurs, théâtre, et autres moyens de communication appropriés)	**30**	**N**
3.15	Mettre en place des mécanismes de surveillance des médias disposant d'outils appropriés	**30**	**N**

Composante 4 – Prévention et lutte contre les infections

	Tâches	**En jours**	**Oui/Non**
4.1	Fournir aux établissements de soins du matériel et des posters dans les domaines de l'hygiène de base, de l'assainissement et de la désinfection/protection. La priorité sera donnée aux hôpitaux, puis aux centres de santé dans les zones à haut risque (débuter dans les 30 jours et couvrir les districts prioritaires dans les 60 jours).	**30 – 60**	**N**
4.2	Accroître la sensibilisation générale à l'hygiène et aux moyens pour mettre en oeuvre efficacement la prévention et la lutte contre les infections (débuter dans les 30 jours et couvrir les districts prioritaires dans les 60 jours).	**30 – 60**	**N**
4.3	Identifier les établissements de soins pour mettre en place des unités d'isolement (2 lits) pour accueillir les cas suspects dans tous les grands hôpitaux et à tous les points frontaliers (dans l'idéal, dans les hôpitaux régionaux et de district)	**30**	**Y**
4.	Equiper et former convenablement le personnel soignant, y compris les personnes chargées de la santé environnementale, le personnel de nettoyage, etc., aux mesures d'IPC, y compris la gestion des déchets, la priorité étant donnée au premier contact avec les patients et à l'unité d'isolement de base.	**60**	**N**
4.5	Mettre en place une rémunération et des avantages sociaux pour les agents de santé : rémunération et motivation pour les affectations à	**60**	**N**

	haut risque ; indemnisation en cas d'infection et de décès.		

Composante 5 – Prise en charge des cas

5a) Centre de traitement Ebola (CTE)

	Tâches	En (jours)	Oui/ Non
5a.1	Mettre sur pied au moins un établissement disposant de personnel formé et de fournitures suffisantes et prêt à dispenser des soins à un patient ou un groupe de patients suspectés d'être porteurs du virus Ebola. Cet établissement devra accueillir 15 patients au départ.	**30**	**Y**
5a.2	Équiper et former de manière appropriée des équipes d'ambulanciers pour transporter les cas suspects de maladie à virus Ebola	**30**	**N**
5a.3	Identifier les établissements de soins au niveau du district pouvant être transformés en peu de temps en CTE	**30**	**N**
5a.4	Identifier les établissements de soins au niveau local pouvant être transformés en peu de temps en CTE	**60**	**N**

5b) Inhumations sans risque

	Tâches	En jours	Oui/ Non
5b.1	Mettre au point des modes opératoires standardisés (MOS) pour l'inhumation sans risque et la décontamination	**30**	**N**
5b.2	Identifier un lieu d'inhumation sûr et approprié avec l'accord de la communauté	**30**	**N**

5b.3	Équiper et former convenablement les équipes d'inhumation (8 personnes)	**30**	**N**
5b.4	S'assurer de l'existence d'une procédure de transport spéciale pour inhumer sans risque les restes humains	**30**	**N**
5b.5	S'assurer que les équipes d'inhumation ont accès à des services de soutien tels que chauffeurs, creuseurs de tombe et appui sur le plan de la sécurité pendant le processus d'inhumation	**30**	**N**

Composante 6 – Surveillance épidémiologique

	Tâches	**En jours**	**Oui/ Non**
6.1	Mettre en place une ligne rouge 24h/24, 7j/7, avec des possibilités de transfert à un niveau supérieur et employant du personnel ayant reçu une formation médicale	30	**N**
6.2	Former le personnel travaillant pour la ligne rouge à l'identification des cas et à la gestion de la communication avec des cas potentiels	30	**N**
6.3	Fournir des orientations (définition de cas et formulaires d'investigation à tous les niveaux infranationaux/de district et à tous les établissements de soins ; définitions de cas standard à tous les pays)	30	**O/N**
6.4	Dispenser des formations sur la définition de cas et l'investigation des cas	30	**N**
6.5	Tester la surveillance existante/les systèmes d'IDSR pour Ebola, identifier les lacunes et débuter la mise en oeuvre des mesures correctives le cas échéant.	30	**N**
6.6	Mettre en place des lignes de notification immédiate pour les cas suspects, avec une définition claire des responsabilités pour ces actions	30	**N**

6.7	Identifier les moyens humains pour la surveillance au niveau communautaire (agents de santé communautaires, Croix Rouge/Croissant Rouge, ONG, guérisseurs, chefs, etc.)	30	**N**
6.8	Diffuser des définitions de cas simplifiées à l'usage des communautés	60	**N**

Composante 7 – Recherche des contacts

	Tasks	**En (jours)**	**Oui/Non**
7.1	Former les équipes aux niveaux national et infranational/du district, et notamment à la recherche des contacts et à la gestion des données (selon une stratégie ToT)	**30**	**N**
7.2	Fournir à l'UNMEER une liste des équipements et du matériel nécessaires pour la recherche des contacts aux niveaux national et infranational	**30**	**N**
7.3	Former le personnel au niveau du district à la recherche des contacts	**30**	**N**
7.4	Former le personnel au niveau infradistrical et communautaire à la recherche des contacts	**30**	**N**

Composante 8 – Laboratoires

	Tâches	**En (jours)**	**Oui/Non**
8.1	Pour chaque district, identifier le laboratoire responsable de l'analyse ou du traitement des échantillons biologiques et du mode de transport de ces échantillons.	**30**	**N**

8.2	Dispositions et accords de soutien en place avec les centres collaborateurs de l'OMS pour la réalisation d'analyses de confirmation	**30**	**O**
8.3	Dispositions et accords de soutien en place avec les compagnies d'aviation concernées pour le transport d'échantillons provenant de cas suspects à des centres collaborateurs de l'OMS	**30**	**O**
8.4	Disponibilité des ressources pour faciliter le transport et l'expédition des échantillons	**30**	**N**
8.5	Existence de protocoles pour : – recueillir les échantillons ; – adresser et expédier les échantillons provenant de cas suspects de maladie à virus Ebola au laboratoire désigné pour conformation dans les laboratoires de santé publique nationaux et infranationaux	**30**	**O**
8.6	Personnel de laboratoire formé aux procédures de prélèvement, d'emballage, d'étiquetage, d'adressage et d'expédition, y compris la manipulation de substances infectieuses.	**30**	**N**

Composante 9 – Moyens aux points d'entrée

	Tâches	**En (jours)**	**Oui/Non**
9.1	S'assurer qu'un plan d'intervention pour les urgences de santé publiques est en place au niveau des points d'entrée à haut risque (ports, aéroports et carrefours terrestres)	**30**	**N**

9.2	Délivrer des fournitures identifiées (9 kits complets d'EPI à chaque point d'entrée, équipement médical pour enquêter sur les cas, 3 thermomètres manuels à infrarouges, 1 scanner, 2 chambres d'observation/ 2 unités de soins et des fournitures pour l'isolement et l'observation sans risque des cas suspects, avec si possible une pièce d'isolement, sinon une zone séparée. Selon le lieu géographique, 1 Ambulance vers les points d'entrée. Chaque point d'entrée doit disposer d'une pièce d'isolement ou d'une zone spécialement affectée pour garder les cas suspects.	**30**	**N**
9.3	Désigner des équipes disponibles 24h/24 et 7j/7 au point d'entrée pour aider les voyageur et s'assurer de leur isolement correct, le cas échéant, notamment dans un centre/une zone de "rétention" pouvant accueillir tout cas suspect	**30**	**O/N**
9.4	Examiner et tester le système de communication actuellement en place entre les autorités sanitaires et les exploitants des moyens de transport au point d'entrée, et avec le réseau de surveillance sanitaire national	**30**	**N**
9.5	Examiner les systèmes et les procédures de mise en œuvre des mesures sanitaires relatives à l'IPC, et former le personnel concerné	**30**	**N**
9.6	Disponibilité de MOS pour identifier, prendre en charge et transférer les malades suspects du point d'entrée vers des hôpitaux désignés/une installation d'isolement.	**30**	**N**
9.7	Sensibiliser les autorités de santé publique au niveau du point d'entrée à la maladie à virus Ebola, revoir leurs rôles et les procédures de traitement, de notification et de transfert des cas suspects	**30**	**N**
9.8	Disponibilité de MOS pour réaliser le dépistage de sortie en cas de flambée confirmée de virus Ebola.	**30**	**O/N**

Composante 10 – Budget global pour la flambée

	Tâches	**En (jours)**	**Oui/Non**

10.1	Définir un budget opérationnel pour les activités (communication, surveillance renforcée, investigations, etc.), le dépistage pré-épidémique et la réponse préliminaire	**30**	**O/N**
10.2	Vérifier que les sources budgétaires, y compris l'affectation de ressources domestiques et des mécanismes pour lever des fonds supplémentaires en cas de nécessité, ont été mises en place et sont connues	**30**	**O**
10.3	Mettre au point des schémas pour la mobilisation des ressources et pour les obligations redditionnelles à l'égard du pays et des donateurs, y compris des mécanismes de suivi et de surveillance de la mise en œuvre des fonds	**30**	**O/N**
10.4	Mettre en place des fonds de réserve facilement accessibles pour la réponse immédiate à la flambée de maladie à virus Ebola au niveau national et en d'autres sites appropriés	**30**	**N**
10.5	Identifier le processus pour transférer l'argent du niveau central au niveau local pour une utilisation d'urgence	**30**	**O/N**