NATIONAL PREPAREDNESS PLAN FOR VIRAL HEAMORRHAGIC FEVER:

EBOLA VIRUS DISEASE

AND

MARBURG VIRUS DISEASE

Ministry of Health and Wellness

February 2025

Acronyms

CDCU	Communicable Diseases Control Unit
CDC	Centre for Disease Control and Prevention, Atlanta, USA
COMBI	Communication for Behaviour Impact
EBV	Ebola Virus Disease
HCV	Hepatitis C Virus
HCW	Health Care Workers
HIV	Human Immunodeficiency Virus
IHR	International Health Regulations
MVD	Marburg Virus Disease
MHO	Medical & Health Officer
MOHW	Ministry of Health & Wellness
PHEIC	Public Health Emergency of International Concern
PH&FSI	Public Health and Food Safety Inspector
PPE	Personal Protective Equipment
RRT	Rapid Response Team
RPHS	Regional Public Health Superintendent
SOP	Standard Operating Procedures
VHF	Viral Haemorrhagic Fever
WHO	World Health Organization

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EXECUTIVE SUMMARY

Ebola first appeared in 1976 in two simultaneous outbreaks, one in what is now Nzara, South Sudan, and the other in Yambuku, Democratic Republic of Congo. The latter occurred in a village near the Ebola River, from which the disease takes its name.The virus family Filoviridae includes 3 genera: Cuevavirus, Marburgvirus, and Ebolavirus. Within the genus Ebolavirus, 6 species have been identified: Zaire, Bundibugyo, Sudan, Taï Forest, Reston and Bombali.

Ebola Virus Disease (EVD) declared as a Public Health Emergency ofInternational Concern by the World Health Organisation on 8 August 2014.On 30 January 2025, the Ministry of Health of the Republic of Uganda issued a statement confirming a case of Ebola Virus Disease in Kampala. This marks the eighth Ebola outbreak in the country.

Sudan virus disease is a severe, often fatal illness affecting humans and other primates that is due to Orthoebolavirus sudanense (Sudan virus), a viral species belonging to the same genus of the virus causing Ebola virus disease. Case fatality rates of Sudan virus disease have varied from 41% to 100% in past outbreaks. There have been eight previous outbreaks of the Sudan virus disease, with five occurring in Uganda and three in Sudan. Uganda last reported an outbreak of Sudan virus disease in 2022.

Marburg virus (MARV) and Ravn virus (RAVV) of the species *Orthomarburgvirus marburgense* are the causative agents of Marburg virus disease (MVD). The disease has a case fatality ratio of up to 88%, but it can be much lower with good and early patient care.

Both Ebola and Marburg viruses are part of the *Filoviridae* family (filovirus) to which *Orthoebolavirus* genus belongs. Though caused by different viruses, Ebola and Marburg diseases are clinically similar. Both diseases are rare but have the capacity to cause outbreaks with high fatality rates.

In response to this event in Uganda and in anticipation of the probability of the spread of this disease to the Republic of Mauritius, the National Preparedness Plan on EVD has been updated in January 2025.

The aim of this plan is to prevent and control Viral Haemorrhagic Fever such as Ebola Virus Disease and Marburg Virus Disease in the Republic of Mauritius, including Rodrigues and the Outer Islands. It provides strategic orientations for actions to be taken for the prevention and containment of EVD

and MVD.

The preparedness plan consists of three main parts; the preparedness phase, themitigation phase and the recovery phase. The overall strategies include:

A. Response planning and coordination

B. Control at ports of entry

C. Surveillance of incoming passengers from affected countries

D. Hospital preparedness

E. Laboratory preparedness

F. Passenger Monitoring/Contact Tracing

G. Risk Communication and Community Engagement

H. Recovery activities

This document also outlines three possible scenarios following introduction of the disease in the Republic of Mauritius, and the actions to be taken during each scenario.

The three possible scenarios are:

1. Introduction of the disease by incoming passenger/s from affected countries;
2. Localized spread of the disease to close contacts; and
3. Widespread transmission of the disease at community level.

The document contains protocols and guidelines most of which are based on the recommendations of the World Health Organisation and Centres for Disease Control and Prevention, Atlanta.

1 INTRODUCTION

1.1 Ebola Virus Disease

Background

In the past, EVD has been reported primarily in remote villages in Central and West Africa,near tropical rainforests.

Ebola first appeared in 1976 in two simultaneous outbreaks, in Nzara, Sudan, and in Yambuku, in the Democratic Republic of Congo (DRC). The latter was in a village situated near the Ebola River, from which the disease takes its name. The Ebola virus belongs to the *Filoviridae* family (filovirus).

Some species of the Ebola virus have been associated with large EVD outbreaks in Africa. On 30 January 2025, the Ministry of Health of the Republic of Uganda issued a statement confirming a case of Ebola Virus Disease in Kampala. This marks the eighth Ebola outbreak in the country.

The Ebola virus is among the deadliest and without treatment, up to 90% of cases are fatal. It caused the 2014–2016 outbreak in West Africa, the largest Ebola disease outbreak to date, with more than 28,600 cases reported. It was also associated with a 2018–2020 outbreak in the DRC, during which a small number of cases were reported across the border in Uganda. Other large outbreaks of Ebola virus have resulted in hundreds of cases in DRC and Gabon. Smaller outbreaks have also occurred in DRC, Gabon, the Republic of the Congo, and South Africa.

The Sudan virus causes death in about 50% of people who get sick with the disease. This virus caused several outbreaks in Uganda and near the border between South Sudan and DRC.

The Bundibugyo virus is the most recently discovered type of orthoebolavirus. It was discovered in 2007 and causes death in about 30% of people who contract it. It was associated with two large outbreaks, one in DRC and the other on the border of DRC and Uganda.

Taï Forest virus is a rarer cause of disease. It has only been known to infect one person, in Côte d'Ivoire in 1994.

Definition

EVD (formerly known as Ebola haemorrhagic fever) is a severe illness which affects humans and nonhuman primates (monkeys, gorillas, and chimpanzees). EVD outbreaks can have a case fatality rate of up to 90%. The disease is caused by a virus of the Filovirideae genus.

Transmission

Ebola is introduced into the human population through close contact with the blood,secretions, organs or other bodily fluids of infected animals. Such infections have primarily occurred through the handling of infected chimpanzees, gorillas, fruit bats, monkeys, forestantelope and porcupines found ill or dead especially in the rainforests.

Human-to-human transmission occurs as a result of direct contact with the blood, secretions, organs or other bodily fluids of infected people, or through indirect contact with environments contaminated with such fluids. Burial ceremonies have also contributed tothe transmission process whenever mourners have had direct contact with the body of the deceased person.

As a matter of fact, once a person comes into contact with an animal that has Ebola, it can spread within the community from human to human. Infection occurs from direct contact (through broken skin or mucous membranes) with the blood, or other body fluids or secretions (stool, urine, saliva, semen) of infected people. Infection can also occur if broken skin or mucous membranes of a healthy person come into contact with environments that have become contaminated with Ebola patient's infectious fluids such as soiled clothing, bed linen, or used needles.

Clinical Manifestations

The incubation period, that is, the time interval from infection with the virus to onset of symptoms is 2 to 21 days. It has been shown that there is no risk of transmission of the disease during the incubation period. The patients become contagious once they begin to show symptoms.

Sudden onset of fever, intense weakness, muscle pain, headache and sore throat are typical **signs and symptoms.** This is followed by vomiting, diarrhoea, rash, impaired kidney and liver function, followed by both internal and external bleeding.

Laboratory findings include low white blood cells and platelet counts, and elevated liver enzymes. EVD infections can only be confirmed through laboratory testing.

Treatment is mostly symptomatic for the disease. Severely ill patients require intensive supportive care. They are frequently dehydrated and need intravenous fluids or oral rehydration with solutions that contain electrolytes.

1.2 Marburg Virus Disease

Overview

Marburg virus (MARV) and Ravn virus (RAVV) of the species *Orthomarburgvirus marburgense* are the causative agents of Marburg virus disease (MVD). The disease has a case fatality ratio of up to 88%, but it can be much lower with good and early patient care.

Both viruses are part of the *Filoviridae* family (filovirus) to which *Orthoebolavirus* genus belongs. Though caused by different viruses, Ebola and Marburg diseases are clinically similar. Both diseases are rare but have the capacity to cause outbreaks with high fatality rates.

MVD was initially detected in 1967 after two simultaneous outbreaks in Marburg and Frankfurt in Germany, and in Belgrade, Serbia. In 2008, two independent cases were reported in travellers who had visited a cave inhabited by *Rousettus aegyptiacus* bat colonies in Uganda. In September 2024, Rwanda reported the country's first outbreak and Tanzania declared another outbreak in January 2025.

Transmission

Initially, human MVD infection results from prolonged exposure to mines or caves inhabited by Rousettus fruit bat colonies.

Once introduced in the human population, Marburg virus can spread through human-to-human transmission via direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and with surfaces and materials (e.g. bedding, clothing) contaminated with these fluids.

Healthcare workers have frequently been infected while treating patients with MVD. This has occurred through close contact with patients when infection control precautions are not strictly practiced. Transmission via contaminated injection equipment or through needle-stick injuries is associated with more severe disease, rapid deterioration, and possibly a higher fatality rate.

Burial ceremonies that involve direct contact with the body of the deceased can also contribute to the transmission of Marburg virus. People cannot transmit the disease before they have symptoms and remain infectious as long as their blood contains the virus.

Symptoms of Marburg virus disease

The incubation period (interval from infection to onset of symptoms) varies from 2 to 21 days.

MVD begins abruptly, with high fever, severe headache and severe malaise. Muscle aches and pains are a common feature. Severe watery diarrhoea, abdominal pain and cramping, nausea and vomiting can begin on the third day. Non-itchy rash have been reported in patients between 2 and 7 days after onset of symptoms.

From day 5 of the disease, patients may develop haemorrhagic manifestations, including fresh blood in vomitus and faeces, and bleeding from the nose, gums and vagina. Bleeding at venepuncture sites (where intravenous access is obtained to give fluids or obtain blood samples) can also be observed. Involvement of the central nervous system can result in confusion, irritability and aggression. Orchitis (inflammation of one or both testicles) has been reported occasionally in the late phase of disease.

In fatal cases, death occurs most often between 8 and 9 days after symptom onset, usually preceded by severe blood loss and shock.

Diagnosis

It can be difficult to clinically distinguish MVD from other infectious diseases such as malaria, typhoid fever, shigellosis, meningitis and other viral haemorrhagic fevers. Confirmation that symptoms are caused by Marburg virus infection are made using the following diagnostic methods:

- antibody-capture enzyme-linked immunosorbent assay (ELISA)
- antigen-capture detection tests
- reverse transcriptase polymerase chain reaction (RT-PCR) assay
- virus isolation by cell culture in maximum containment laboratories.

Samples collected from patients are an extreme biohazard risk; laboratory testing on non-inactivated samples should be conducted under maximum biological containment conditions. All non-inactivated biological specimens should be packaged using the triple packaging system when transported nationally and internationally.

Treatment and vaccines

Early intensive supportive care including rehydration and treatment of specific symptoms, can

improve survival. Currently there are no vaccines or antiviral treatments approved for MVD (WHO, 2025).

1.3 Rationale for developing the preparedness plan

The preparedness plan consists of three main parts: the preparedness phase, the mitigation phase and the recovery phase.

The preparedness phase is covered in part one which deals with all the preparedness steps to be taken to prevent the introduction of the virus in Mauritius. The main objectives are planning and coordination, assessing the hospital capacity, procuring the necessary drugs, supplies and reagents, capacity building for active sentinel surveillance and sensitizing the relevant stake holders.

The mitigation phase is covered in Part 2 which deals with actions to be undertaken during an eventual epidemic in order mitigate disease burden and deaths due to the infection from the disease. The main objectives are enhanced surveillance for active case search, contact tracing and isolation to break the chain of transmission and clinical management of cases to reduce morbidity and mortality.

The recovery phase is covered in Part 3 which deals with the post-epidemic phase that is aimed at averting future epidemic. This will consist of brainstorming lessons learnt with all stake holders and psychological support for the public to use the hospital by dispelling fear and myths.

2 PART ONE: STATE OF PREPAREDNESS BEFORE INTRODUCTION OF THE EBOLA VIRUS OR MARBURG VIRUS DISEASE IN MAURITIUS.

The health sector must be in a state of readiness to cope with the eventual importation and public health consequences of EVD/MVD.

The main objectives are planning and coordination, assessing the hospital capacity, procuring the necessary drugs, supplies and reagents, capacity building for active sentinel surveillance and sensitizing the relevant stakeholders. These objectives are covered based on the following strategies:

- Response planning and coordination
- Control at ports of entry
- Surveillance of incoming passengers from affected countries
- Hospital preparedness
- Laboratory preparedness
- Contact tracing
- Risk Communication and Community Engagement

2.1 Response Planning and Coordination

The planning and coordination process will be directed towards developing effective mechanisms for mobilization and deployment of required resources to implement the National Preparedness Plan.

2.1.1 Setting up of a High Incident Command Committee

The High Incident Command Committee will oversee the planning process, trigger response activities, evaluate the operational plan and take decisions regarding future response strategies as and when required. This High Incident Command Committee will also inform Government of new developments and liaise with external agencies for any additional support.

The High Incident Command Committee will comprise the following:

- Hon. Minister of Health & Wellness (Chairperson)

- Senior Chief Executive
- Permanent Secretaries of Ministry of Health & Wellness
- Director General Health Services
- All Directors Health Services
- Director Laboratory services
- Director Public Health and Food Safety
- Infection Prevention and Control Focal Point
- Infectious Disease Specialist
- Chief Health Information, Education and Communication Officer
- Advisor in Information Matters
- Representatives of Prime Minister's Office
  - Secretary of Defence and Home Affairs
  - Permanent Secretary, External Communications
  - Permanent Secretary, Outer Islands Development Cooperation
- WHO Country Representative
- Commissioner of Police
- Permanent Secretary of the Ministry of Finance & Economic Development
- Permanent Secretary of the Ministry of Agro-Industry and Food Security
- Permanent Secretary of Ministry of Local Government and Outer Islands
- Permanent Secretary of Ministry of Tourism & Leisure
- Director of Civil Aviation
- Director of Port Authority
- Chairperson of the National Disaster Risk Reduction and Management Centre

2.1.2 Setting up of an Intersectoral Committee

Coordination between the health and non-health sectors is critical to define the role, functions and responsibilities of each stakeholder, achieve harmonization and minimize duplication, redundancy or contradictory activities. The Intersectoral Committee will be headed by the Honourable Minister of Health and Wellness. Members of this Committee will include all relevant stakeholders who have collaborated with the Ministry during previous outbreaks of communicable diseases. The Committee will enrol the support of the Disaster Risk Reduction and Management Centre in the event there is widespread transmission of the disease in the country. List of stakeholders at **Annex 1**.

2.1.3 Setting up of Coordination Committees

2.1.3.1 Coordination Committee (Public Health)

The Coordination Committee (Public Health) at the level of the Ministry will include the following officers:

- Director Health Services/ Permanent Secretary, Public Health (Co-Chair)
- Deputy Permanent Secretary (Procurement)
- All Regional Public Health Superintendents
- Infection Prevention and Control Focal Point
- Infectious Disease Specialist
- Director Public Health and Food Safety Inspectorate
- Principal Public Health and Food Safety Inspectors of Port, Airport
- Director Nursing
- Chief Hospital Administrator
- Epidemiologist
- Director, Central Health Laboratory

- Advisor in Information Matters
- Chief Health Information Education Communication

Other members will be co-opted as and when required.

Periodic meetings of the Coordination Committee will be scheduled to:

- review and update operational plans and protocols;
- advise on response activities for the prevention and control of EVD or MVD;
- monitor implementation of activities and ensure preparedness at all levels;
- carry out surveillance activities and ensure a proper feedback mechanism;
- ensure the availability of additional resources, if necessary; and
- consider legal and ethical issues that might arise during an outbreak, forexample, issues pertaining to quarantine and burial.

2.1.3.2 Coordination Committee (Hospital Services)

The Coordination Committee (Hospital Services) at the level of the Ministry will include the following officers:

- Director Health Services/ Permanent Secretary (Hospital Services) (Co-Chair)
- Deputy Permanent Secretary (Procurement)
- All Regional Health Directors
- All Regional Public Health Superintendents
- Infection Prevention and Control Focal Point
- Infectious Disease Specialist
- Director SAMU Services
- Director Nursing

- Director Pharmaceutical Services
- Consultants in Charge, Internal Medicine
- Consultants in Charge, Peadiatrics
- Director, Central Health Laboratory
- Chief Hospital Administrator
- Advisor in Information Matters

Other members will be co-opted as and when required.

Periodic meetings of the Coordination Committee will be scheduled to:

- Monitor hospital preparedness.
- Ensure the availability of adequate resources.
- Advise about additional isolation and quarantine facilities.

2.1.4 Linkage with the Ministry of Agro Industry and Food Security

This coordination committee will work with the Ministry of Agro Industry and Food Security and the Wildlife Foundation to look at issues relating to the presence of Ebola or Marburg virus in animals in Mauritius, importation of animal products from the affected countries and transmission of the virus from humans to the animals.

2.2 Control at Ports of Entry

Procedures are already in place at the two entry points in Mauritius, namely, the portand airport, for health profiling of incoming passengers. At these entry points, the health and travel status of individual incoming passengers is reviewed by public health and food safety inspectors working at these border posts. The protocol for handling of suspected cases at airport isin **Annex 2** and at the port in **Annex 3**. The case definition for active case detection during surveillance is at **Annex 4**.

2.3 Routine Procedures for Surveillance of incoming passengers from affected countries

Surveillance for active case detection among incoming passengers and crew-members is undertaken at:

i. Airport

ii. Sea port

The process consists of the following:

2.3.1 At the Airport

1. Boarding of the plane by the Public Health and Food Safety Inspectorate andcollection and verification of the Flight Declaration Form;
2. Passengers will pass through the Thermal Scanner
3. Passengers will move to the immigration counter
4. Then the passenger will move to the health counter. At the health counter, the Passport and Health Declaration Form All-in-One Form will be scrutinized by the Public Health inspectorate and information about the health status of the traveller, as well as on possible risk of exposure to the virus while in the affected country will be elicited.

2.3.2 At the Port

Boarding of ships by Public Health and Food Safety Inspectorate and verification of the Maritime Declaration Certificate and the ports visited; and

Collection of the Health Declaration Form, and eliciting information about the health status of the traveller, as well as on possible risk of exposure to the virus while in the affected country, at the Health Counter before proceeding to the Immigration Counter of the Aurelie Perrine Passenger Terminal at the Port.

Members of the staff at the Port inform the respective Regional Health Offices and the respective Principal Public Health and Food Safety Inspector at the earliest, of incoming passengers from high-risk countries.

In addition, a list of incoming passengers is transmitted by facsimile to the respective health offices for follow up purposes.

The follow up process consists of the following steps:

A first visit is carried out by the Public Health and Food Safety Inspectorate (PH&FSI) within twenty-four (24) hours of the passenger list being transmitted to the respective Regional Health Offices. If a passenger is at site of work, the PH&FSI of the Regional Health Office in whose catchment area the work site is located carries out this visit.

During the first visit the passenger is briefed about the disease, namely the signs and symptoms, mode of transmission, and precautionary measures to be taken.

During this visit, a questionnaire is filled in by the PH&FSI and submitted on same day to the respective Regional Public Health Superintendent's office. The questionnaire is at **Annex 5**.

A follow up visit is carried out after three (3) days from the first visit. In between visits, contact is established by telephone daily.

In the event that the passenger arrives on a Saturday, Sunday or Public Holiday, the Senior PH&FSI of the Airport and Port Health Office inform the Principal PH&FSI of the respective Regional Health Offices by telephone. The latter makes necessary arrangements so that the passenger is contacted by phone within 24 hours, followed by personal contact on the next working day.

The passenger is visited personally once weekly for four (4) consecutive weeks following the second visit.

2.4 Hospital preparedness

The overall objective is to ensure that the hospital admitting cases of Ebola or Marburg is fully prepared to manage such patients, while establishing specific protocols and guidelines for the identified procedures.

This process will include the following:

2.4.1 Identifying isolation facilities

Isolation wards have been set up on the first floor of Souillac Hospital, now known as district hospital with four bays, each consisting of three beds for male and female patients, with all amenities and facilities. Details of isolation wards are given in **Annex 6** and layout plan are at **Annex 7**

respectively.

2.4.2 Identifying quarantine facilities

A quarantine bay has been identified on the same floor and this bay is physically separated from the isolation bays and has a partition in the middle to separate male andfemale patients. Presently this bay can accommodate a total of four beds. The purpose is to monitor the health status of persons who have been in unprotected contact with confirmed cases. Nursing staff will be posted in the bay on a 24-hour basis, working in 8-hour shifts.

2.4.3 Staffing pattern

With regard to medical staff, one Medical & Health Officer (MHO) and one specialist will ensure coverage of the isolation facility.

Provision has been made to ensure availability of adequate number of staff, while reckoning the need to expose the least number of Health Care Workers to the virus.

Assuming all isolation bays are occupied by 12 patients, the proposed staffing pattern isas follows:

The isolation bays will be manned by adequate Nursing staff at a time.

2.4.4 Stockpiling of Personal Protective Equipment (PPE)

Health workers treating patients with suspected or confirmed illness are at higher risk of infection than other groups. During an outbreak a number of important actions will help to reduce or stop the spread of the virus, and protect health workers and others in the health-care setting. These actions are called “standard and other additional precautions”.

Personal protective equipment is designed to protect the wearer from exposure to the virus. Examples of PPE include gloves, gowns, goggles, face shields, masks, and respirators.

Proper use of PPEs is essential if proper protection is to be achieved. The sequence of donning and removal is specific, and staff posted in the isolation wards will be trained accordingly.

A protocol for the wearing and removal of PPEs is at **Annex 8**.

Provisions have been made to keep a buffer stock of PPEs. A list of these items is at **Annex 9**.

2.4.5 Stockpiling of drugs, equipment and consumables

No specific drugs are required for the treatment of EVD or MVD. Treatment is symptomatic and an adequate stock of medications, including intravenous fluids, analgesics, antibiotics and blood products, is available.

Medical equipment and consumables will include ventilators, suction apparatus, cardiac monitors, intravenous cannulas and syringes.

2.4.6 Development of protocols on case management and Infection Prevention and Control

In view of the specific nature of EVD and MVD and their high fatality rate, handling of patients and corpses requires specific procedures. These procedures need to be spelt out as clear protocols and guidelines for all those concerned.

In this respect, protocols and guidelines have been prepared for the following:

1. Isolation procedures **(Annex 10)**
2. Infection prevention and control **(Annex 11)**
3. Procedures for laboratory testing **(Annex 12)**
4. Linen and laundry services **(Annex 13)**
5. Clinical management of cases **(Annex 14)**
6. Management of clinical waste **(Annex 15)**
7. Handling of dead bodies and burial procedures **(Annex 16)**
8. Environment cleaning procedures **(Annex 17 and 18)**
9. Cleaning of Isolation Bay **(Annex 18)**
10. Disinfection of Transport Vehicles **(Annex 19)**
11. Guidelines for aircraft cabin crew **(Annex 20)**

2.4.7 Training of staff

With a view to ensuring strict compliance to Protocols and Guidelines**,** training of staff and relevant stakeholders will be undertaken in the following areas:

1. Case definition and clinical recognition of cases;
2. Universal and special transmission-based precautions;
3. Isolation procedures;
4. Proper use of Personal Protective Equipment;
5. Laboratory procedures;
6. Clinical waste management; and
7. Burial procedures.

2.4.8 Arrangements for logistic support

Logistic support in the local context will consist of providing transport facilities for the following:

1. Transfer of suspected cases from the airport to the isolation facility at adesignated hospital/ health institution;
2. Transport for contact tracing team for assessment of suspected cases at community level;
3. Transport of laboratory samples
4. Transfer of suspected cases detected at community level to the isolation facility (Rapid Response Team);
5. Transfer of waste from isolation facility to burial/incineration site; and
6. Transfer of corpses to burial site.

Special provisions will be made for:

1. the driver and attendant to be separated from a suspected case during transfer;
2. wearing of PPEs for accompanying staff;

3. designated vehicle for transfer of waste; and

4. decontamination procedures for the transport vehicles

2.4.9 Arrangements for disposal of dead bodies

The objective of safe burial is to minimize risk of transmission of EVD or Marburg to staff, family members and the local community during handling, transporting and burying the deceased.

With a view to limiting the risk, it is recommended to bury the corpse as follows:

- Immediately after the patient has died;
- In the closest available and appropriate graveyard;
- Without the physical handling of the corpse by family members; and
- With a trained burial team undertaking the procedure.

Furthermore, the graveyard should be ideally situated in an area with limited access. In the event that a common graveyard is being utilized, a separate area should be identified for such cases. As it is difficult to predict the period during which the body will be infective, it is recommended that the site remains undisturbed.

It has been recommended that the graveyard at Camp Diable be earmarked for burial purposes.

The prepared protocol on burial of deceased patients gives instructions on how to:

- Prepare the body of a deceased patient who suffered from Ebola Virus Disease or Marburg Virus Disease;
- Transport the infected body safely to the burial site;
- Disinfect the vehicle after transporting the body.

The protocol is at **Annex 13.**

2.5 Laboratory preparedness

Being given that the body fluids of infected patients are highly infectious, a separate laboratory is

being set up at Souillac Hospital, now known as a district hospital in the isolation area to carry out tests for admitted patients. This will minimize the transport of potentially infected blood and other body fluids samples to the Central Health laboratory. The protocol for testing is at **Annex 12.**

2.6 Passenger Monitoring and Contact Tracing

Systematic contact tracing will be undertaken following the detection of a suspected /confirmed case.

This process will entail identification of contacts through questioning/interviews of suspected/confirmed cases, from hospital records or information available from other relevant and reliable sources.

As this exercise is of prime importance for interrupting the chain of transmission and required extreme mobilisation of resources, it is imperative that full support of relevant stakeholders and active community participation be obtained.

A contact tracing form has been designed and is at **Annex 21.**

2.7 Risk Communication and Community Engagement

Strategic communication is a well-planned and well-coordinated means of passing well- designed messages from an individual or institution to its identified stakeholders or general public at the right time, in the right quantity and to achieve well-defined objectives.

The overall objective of communication is to sensitize stakeholders including media, public, and professional partners about Ebola Virus Disease or Marburg Virus Disease, their evolution, precautionary measures and to advocate for community support and collaboration while at the same time increasing visibility on measures taken by authorities.

The modes of communication will differ for each level of alert and response. Accordingly, different approaches will be adopted. At the initial stage of alert, before the introduction of the virus in the country, communication will specifically target stakeholders such as healthcare workers, officers of ports of entry, travellers to affected areas and passengers arriving from those countries. In addition, the public at large will be given basic information on the disease.

Communication strategies will also cater for Rumour Information Management as follows:

1) Setting of a Rumour Registry;

2) Appoint at least 2 persons for recording and coordinating with community andinvestigating team; and

3) Rumour Registry should be carefully maintained.

The following strategies will be used:

1. Press releases on the evolution of the disease and on measures taken to prevent the introduction of the disease in the country, through written, audiovisual and electronic media. These will be reviewed and updated with regular bulletins.

2. Targeted radio and television programmes;

3. Counselling of travellers on precautionary measures through the InternationalVaccination Centre and through the travel agencies;

4. Distribution of Ebola/Marburg fact sheets and case definition to doctors, in both public and private sectors;

5. Preparation and distribution of pamphlets on EVD/MVD and the preventive aspects;

6. Preparation and distribution of leaflets on precautionary measures to be taken bystaff at the airport and port.

7. Informing Government on a regular basis;

8. Joint press conferences with wide representations of leadership which can help tocalm to populace will be held.

9. Telephone hotlines will be established to answer to questions on a 24-hour basis.

10. Frequent media appearances by the health sector leadership will be undertaken;and

11. Situation reports to stakeholders will be communicated on a daily basis.

2.8 Amendments to Public Health Act

Burial procedures for this specific condition will require some amendments by the introduction of regulations after consultation with State Law Office, with a view to allowing only trained

professionals to handle the corpse.

2.9 Exit Screening at Airport for Outgoing Passengers underSurveillance for Ebola

Under the IHR (2005), a single case of Ebola or Marburg in our territory has to be reported to WHO, using set standard procedure. The Ministry of Health and Wellness has already drafted a protocol for reporting and it is proposed to use this protocol for reporting cases of Ebola to WHO. Given that some visitors may leave the country during the incubation period of the disease and in this respect have developed symptoms prior to departure, it is proposed to introduce an exit screening for specific passengers who would be entering thecountry from high-risk countries. A protocol for this exit screening exercise has been developed and is at **Annex 32**.

3 PART TWO EPIDEMIC RESPONSE DURING IMPORTATION AND LOCAL SPREAD OF EBOLA OR MARBURG VIRUS

This part deals with actions to be undertaken during an eventual epidemic in order mitigate disease burden and deaths due to the disease. The main objectives are clinicalmanagement of cases to reduce morbidity and mortality and to break the chain of transmission by instituting enhanced surveillance for active case search, contact tracingand isolation of cases and contacts

Three possible local scenarios can be envisaged for the above objectives:

1. Introduction of the disease by incoming passenger/s from affected countries;
2. Localized spread of the disease to close contacts; and
3. Widespread of the disease at community level

3.1 Actions to contain the virus for scenario 1: Introduction of the disease by incoming passenger(s) from affected countries

This scenario provides for a case that is detected in an incoming passenger who has travelled to countries where there is transmission of Ebola virus or Marburg Virus.

Such a case can be detected in the following circumstances:

3.1.1 on board a conveyance;

3.1.2 at the terminal of the Airport or Port; and

3.1.3 at community level.

3.1.1 Case detection and public health management on board a conveyance

In the event that the case is detected on board an aircraft the protocol laid down at **Annex 2** will be followed. Similarly, cases detected on board a ship will be handled as at **Annex 3.**

3.1.2 Case detection and public health management at the port

Cases detected within the terminal of either the port or airport will be handled as parprotocol

at **Annexes 2 and 3**.

A Senior Medical and Health Officer from Dr A.G. Jeetoo Hospital will be sent to the port area to assess the case, given that there is no doctor physically present at the port.Consideration will be given to the posting of a doctor to the port, as and when required.

3.1.3 Case detection and public health management in the community

At community level, following notification to the hotline, the Regional Public Health Superintendent will organize a team at the Regional Hospital in collaboration withRHD/Duty Manager for the initial assessment of the patient at his place of residence.

All cases will be transferred to the isolation ward at Souillac hospital, in a dedicatedtransport vehicle, in compliance with Infection Prevention and Control procedures.

In a highly suspicious case, disinfection of the residence of the person will be carriedout by mopping and cleaning with moistened cloth and disinfectant.

3.1.4 Laboratory diagnosis of cases

Laboratory diagnosis of the case will be done as per protocol detailed out at **Annex 12**.Management of cases will follow the guidelines spelt out at **Annex 14**.

3.1.5 Contact tracing of cases

Contact tracing will be done in a systematic manner with a view to assessing the risk of exposure.

Quarantine measures will be applied for contacts of confirmed cases, in the form of hospital quarantine.

Follow up of contacts will be carried out for a period of 21 days following exposure. The purpose of control measures during this phase will be to prevent secondary cases.

Actions will include:

- Isolation of suspected cases;

- Diagnosis;
- Clinical management of suspected cases;
- Contact tracing;
- Quarantine measures;
- Disease surveillance; and
- Communication and sensitization.

3.1.6 Communication & Sensitization Strategies During Scenario 1

During scenario 1, communications will aim at informing the authorities, WHO and the public at large about the evolution of the situation. Sensitization and awareness programmes targeting close contacts and family members on precautionary measures will also be mounted.
In accordance with IHR will be notified of cases confirmed.

- Government will be kept informed on a regular basis;
- Regular press releases will be issued to the press, radio and television; and
- Pamphlets will be distributed to specific pre-identified target groups such asfellow workers, school mates and close relatives.
- The private health sector will be informed through a special correspondence.

3.2 Actions to contain the virus for scenario 2: Localized spread of the disease to close contacts

Following active case detection, more cases will be detected in the community. The purpose of preventive measures will be to prevent further spread of the disease in the community at large.
The Incident Command and the Coordination Committees will meet to review the situation and advise on the way forward. The Minister of Health & Wellness after discussion with the Prime Minister may decide at this stage to review the chairmanship and composition of the High Incident Command Committee.

3.2.1 Field activities

Active search for other cases among the contacts and at the level of the community will entail the mobilization of rapid response teams for contact tracing and identification of potential suspected cases.

The case definition used for surveillance purposes in the community is available at Annex 31. In this particular scenario, epidemiological links should be established with a confirmed case with a view to ensuring that all detected cases are linked with this index case or are secondary to other cases.

A case notification form will be introduced.

Suspected cases will be transported by ambulance dedicated for the purpose and admitted to the isolation ward at a designated hospital/ health institution and laboratory confirmation procedures will be initiated.

Quarantine procedures will be implemented in the same manner as in scenario 1.

Other public health measures to be implemented in the event the outbreak is localizedin a specific region include:

- closure of educational institutions;
- prohibition of mass gatherings in that particular region; and
- a control of movement of people to and from the region

The purpose of prevention and control measures will be to contain the disease within specific geographical area/s.

Actions will include:

- Isolation and management of cases;
- Quarantine of close contacts;
- Active search for other cases among the contacts and at the level of thecommunity;
- Cordon Sanitaire if a specific region is affected;

- Communication and sensitization;
- Disease surveillance.

3.3 Actions to contain the virus for scenario 3: Widespread transmission of the disease at community level

Measures taken will aim to control further spread of the disease with a view to minimizing morbidity and mortality and to reduce social, economic and business disturbances.

Actions will include:

1) Early detection of cases and identification of contacts;
2) Prompt isolation and management of cases;
3) Social distancing;
4) Disease surveillance; and
5) Communication and sensitization.

Despite prevention and control measures taken, more and more cases are being detected in different regions of the country.

1) The incident Command will meet and will review the situation.
2) Future strategies will be discussed and if the need arises, support forconsultancy services will be sought from WHO.
3) A multisectoral meeting will be convened to share information and to advocatefor support and collaboration.
4) Decision on other public health measures such as social distancing will be taken.
5) The coordination committee will ensure the adequacy of response consumables,equipment, reagents and personal protective equipment.
6) Redeployment of staff will be worked out.
7) Logistic support will be reinforced.

8) Communication strategies will be worked out as detailed below.

9) Field operations will be reinforced.

10) Case detection and notification will be strengthened as cases may have recourseto private health services.

11) Rapid response teams will be sent to the affected regions and outbreak investigation procedures will be followed and these will include, inter alia, the following:

a. Determination of the sites and facilities frequented and family and social groups exposed by outbreak-related patients during their infectious periods. Such information can be obtained from:

i. case-patient interviews and contact investigations;

ii. medical and public health records; and

iii. Information from the facility logs or records.

b. Determination of the exposed cohort of persons at each site/facility who may have been present when an outbreak-related case-patient was present during his/her infectious period. Such information can be sourced from case- patient interviews and contact investigations, medical and public health records; and

c. Determination of the duration by number of hours, days, or weeks the exposedcohort of persons may have spent around an infectious outbreak-related patient.

Such activities will entail the deployment of additional staff on the field. In this respect the support of Health Surveillance Officers and Community Health Care Workers will be enrolled.

3.3.1 Home quarantine

Home quarantine procedures will be strengthened to control the movements of contacts and to monitor their health status.

3.3.2 Isolation of suspected cases

Isolation facilities will be reviewed and additional wards will be converted into isolation areas at any designated hospital. In this context, routine activities will be stopped and the whole hospital converted into an isolation facility.

3.3.3 Epidemiological surveillance

Epidemiological surveillance will follow the same procedure as mentioned earlier with data mentioned at scenario 2.

3.3.4 Communication & Sensitization

Communication strategies will be reinforced, more so at community level. This process will entail the following:

1) Production and distribution of health information and communicationmaterials such as pamphlets, posters, banners and flyers;
2) House to house distribution of pamphlets and counselling; and
3) Stepping up of health education activities at community level.
4) Extension of Communication for Behavioural Impact (COMBI) approach to all regions.

3.4 Guidelines for Quarantine During All Three Scenarios

3.4.1 Hospital Quarantine

This procedure will apply to persons with high-risk exposure.A high-risk exposure includes any of the following:

- Percutaneous, e.g. the needle stick, or mucous membrane exposure to bodyfluids of an EVD/MVD patient;
- Direct care or exposure to body fluids of an EVD/MVD patient without appropriatepersonal protective equipment (PPE);
- Laboratory worker processing body fluids of confirmed EVD/MVD patients without

appropriate PPE or standard bio-safety precautions; and

- Participation in funeral rites which include direct exposure to human remains inthe geographic area where outbreak is occurring without appropriate PPE.
- Monitoring of health status in terms of manifestation of symptoms suggestive of EVD/MVD following exposure will be undertaken for 21 days.

3.4.2 Home quarantine

This will be considered for contacts with low exposure, as defined below: -A low risk exposure includes any of the following: -

- Household member or other casual contact with an EVD/MVD patient; and
- Providing patient care or casual contact without high-risk exposure with EVDpatients in health care facilities in EVD/MVD outbreak affected countries*

Casual contact is defined as:

a) being within approximately 3 feet (1 meter) or within the room or care area fora prolonged period of time (e.g., healthcare personnel, household members) while not wearing recommended personal protective equipment., OR

b) Having direct brief contact (e.g., shaking hands) with an EVD/MVD case while not wearing recommended personal protective equipment.

At this time, brief interactions, such as walking or moving through a hospital, do not constitute casual contact. (Source CDC)

3.5 Communication and Sensitization For Scenario 2 And 3

Communication within this scenario will have the same orientation as in scenario 1.

In addition, community engagement needs to be strengthened by proper advocacy with a view to identifying suspected cases and achieving behavioural changes that would reinforce control activities.

In this respect, the COMBI approach would be envisaged.

Additional health education materials will be produced and distributed to relevant stakeholders.

3.6 Epidemiologic Surveillance for All Three Scenarios of Outbreaks

The purpose of epidemiological surveillance in this scenario is to confirm an outbreak,to identify all contacts and secondary cases, if any, to determine the potential threat of further spread and whether control measures are working effectively.

A case reported system will be developed for suspected/confirmed cases and also contacts.

Epidemiological surveillance will be carried out by the Communicable Disease Control Unit where all data pertaining to cases detected, suspected and confirmed, will be compiled and analysed. Furthermore, this process will ensure the setting up of a proper feedback mechanism to keep authorities, stakeholders, international agencies and the public informed of latest developments.

Epidemiological surveillance will be carried out on the same lines as stipulated for scenario 1.

Data compilation will include the following:

(i) Line listing of suspected/confirmed cases;

(ii) Line listing of contacts including those in quarantine;

(iii) Cumulative number of cases;

(iv) Cumulative number of deaths;

(v) Cumulative number of patients under treatment;

(vi) Number of Patients hospitalized;

(vii) Number of contacts requiring follow-up;

(viii) Number of contacts under effective follow-up;

(ix) Date last case notified;

(x) Last suspected case of death;

(xi) Geographic distribution of cases;

(xii) Simple epidemic curve;

(xiii) Case fatality rate; and

(xiv) Age specific attack rates.

4 PART 3: RECOVERY PHASE

This part deals with post-epidemic phase that is aimed at averting future epidemic. This will consist of brainstorming on lessons learnt with all stake holders and psychological support for the public to use the hospital by dispelling fear and myths.

After the detection of the last case, surveillance activities including active care detection will be maintained for a period of 42 days, which is equivalent to 2 incubation periods, before the end of the outbreak is declared.

Subsequent to the end of the outbreak, it is proposed to consider resuming normal activities at Souillac Hospital.

This process will necessitate a thorough terminal clearing and disinfection of the hospital premises.

Furthermore, a strong sensitisation campaign will be carried out to dissipate any apprehension relating to safety issues at Souillac Hospital.

5.LIST OF ANNEXES

Annex 1: Composition Of Intersectoral Committee

1. Hon. Minister of Health & Wellness (Chairperson)
2. Senior Chief Executive
3. Permanent Secretaries of Ministry of Health & Wellness
4. Director General Health Services
5. WHO Country Representative, World Health Organization (Local Office)
6. Indian Ocean Commission
7. All Directors Health Services
8. All Regional Health Directors
9. All Regional Public Health Superintendents
10. Infection Prevention and Control - Focal Point
11. Director, Pharmaceutical Services
12. Director, Central Health Laboratory
13. Epidemiologist
14. Director Nursing
15. Director Public Health & Food Safety Inspectorate
16. Chief Hospital Administrator
17. Chief Health Information Education Communication Officer
18. Prime Minister's Office (External Communication)
19. Permanent Secretary, Ministry of Education and H.R
20. Permanent Secretary, Ministry of Agro-Industry and F. S.

21. Permanent Secretary, Ministry of Local Government and Outer Islands
22. Permanent Secretary, Ministry of Tourism and Leisure
23. Commissioner of Police
24. Commander, Special Mobile Force
25. Director, Government Information Services
26. The Secretary-General, Mauritius Chamber of Agriculture
27. The Chief Executive Officer, AHRIM
28. The Director, Mauritius Export Association (MEXA)
29. Representative, Business Mauritius
30. The President, Pharmaceutical Association of Mauritius
31. President, Private Clinics' Association
32. President, Private Medical Practitioners Association
33. Representative of MACOSS
34. Other members will be co-opted as when required.

Annex 2: Protocol For Handling Suspected Cases Onboard a Flight

The cabin crew will take a proper history from the sick passenger whether he has travelled affected countries within the past one month and if so, will keep the sick person separate from others and provide same with an N95 mask. Passenger will also be provided with tissues and plastic bags for disposal of same for incineration thereafter. The passenger will be provided with a designated toilet for exclusive use. Air staff will wear N95 mask, coverall, disposable gloves and overshoes when dealing with the passenger and follow hand hygiene protocols on PPE removal.

Contacts (the passengers seated on adjacent seats to the sick passenger, the one sitting in front, the one behind and one on both sides) will be identified by the crew. All passengers and crew who report close contact with the case will also be identified to be assessed by the Medical Team at the airport on arrival.

The airport medical post must be informed prior to the landing of the plane. As soon as the medical post is informed, the airport doctor will inform the RPHS in charge of the airport/ RPHS on call (after 4 pm, Saturday afternoon, Sunday or Public holiday) and the medical superintendent of JNH/ Duty Manager. The latter will make immediate arrangement to send a dedicated Medical Team (consisting of a doctor and nursing officer, driver and attendant in full PPE) to the airport.

At the airport, the plane should be channelled to a separate parking bay. All passengers except the sick traveller and the identified contacts will disembark. The medical team from the airport (Airport Medical Doctor and one Nursing Officer) will board the plane after wearing Personal Protective Equipment (impermeable gown, impermeable gloves, goggles and N95 mask).

The sick passenger will be interviewed systematically and a history on risk of exposure will be obtained:

1. Whether a person is suffering from fever and/or any other symptoms.
2. Whether he has travelled or transited to affected countries during the last one month;
3. Whether he had contact with a sick person suspected or confirmed with Viral Haemorrhagic Fever.
4. Whether he has visited or worked in a health institution where VHF cases are being treated;
5. Whether he has attended any funeral rites for a case of VHF;
6. Whether he has worked in a laboratory where tests are being carried out on VHF
7. Whether he/she has been in contact with sick or dead animals in the affected countries; and

8. Whether he has symptoms of bleeding internal or external (even without fever).

Following assessment by airport doctor, if the passenger is identified as a suspected case (as per case definition), the RPHS and Medical Superintendent is informed. The suspected case wearing an impermeable gown and N95 mask is then transferred by the airport ambulance parked on the tarmac and handed over to the dedicated Medical Team. The latter proceeds with the transfer of the suspected case to a designated hospital isolation ward. The Medical Superintendent of JNH/Duty manager concurrently informs the Medical Superintendent/Duty manager of the designated hospital to take appropriate steps to receive the suspected case in the Isolation Ward. The DHS (Public Health) and RPHS of CDCU is subsequently informed by the RPHS in charge of airport/RPHS on call.

The cabin of the driver of the specially designated ambulance will be separated from the passengers. The driver will wear full Personal Protective Equipment to convey the sick passenger.

The contacts mentioned above will be interviewed and followed up for 21 days. Subject to the passengers having been exposed to secretions and body fluids of the suspected case, they will be sent to the designated hospital/ health institution for quarantine.

The cabin crew or other passengers who have reported close contact with the case will be assessed by the airport medical officer and put on home quarantine with daily monitoring of temperature.

A - Screening of Passengers at the Airport

All passengers arriving from all international flights are being screened by Public Health & Food Safety officers while queuing up before the immigration counter. Their passports are being verified to see whether they have transited in or travelled to any of the four infected countries within the last months and their Health Declaration Forms arealso checked. They are questioned about their health status. Any traveller who has visited one or more of the four infected countries recently and reporting sick would be channelled to a dedicated office in the arrival lounge. The airport medical team (Airport medical doctor and nurse) will take a detailed history and assess the patient after which the sick passenger will be transferred through a fast track to an ambulance and sent to the designated hospital/ health institution accompanied by a nursing officer.

B - Passengers Identified at the Health Counter

Passengers identified as suspect cases at the health counter will be assessed by the Airport Medical Officer in a dedicated office of the Arrival Lounge at the airport.

An assessment will be made after taking a proper history of symptoms and any risk of exposure to Ebola Virus Disease or Marburg Virus Disease in the last one month. The suspected passenger will follow the fast track for evacuation to designated hospital Isolation Ward accompanied by a Nursing Officer wearing full Personal Protective Equipment. The designatedambulance will be parked at the identified location reserved for this purpose.

The Airport Medical Officer will inform the Regional Health Director, the Medical Superintendent or Duty Manager on call, the Medical Officer on call at designated hospital together with the Nursing Supervisor, to take appropriate steps to receive the patient in the Isolation Ward. The Regional Public Health Superintendent should also beinformed.

The RRT will accompany the patient to the dedicated hospital. On patient's entry to the Isolation ward, the Ward Manager (wearing full Personal Protective Equipment) will direct the patient and accompanying Nursing Officer to the proper isolation bay where beds are available.

The Medical Officer will wear full Personal Protective Equipment to make a clinical assessment of the patient in the isolation room and inform the Medical Specialist on call for the isolation ward to attend to the patient after contacting the Regional Health Director.

Annex 3: Protocol For Handling of Suspected Cases At The Port

(i) At the Port, in the event there is a suspected case of Ebola Virus Disease or Marburg Virus Disease on board a ship, it should be berthed at an isolated quay. The Duty quarantine officer will inform the Regional Public Health Superintendent of the region during working hours to arrange for a dedicated Medical Team wearing full Personnel Protective Equipment to visit and transfer the patient to the Isolation Ward at a designated hospital;

(ii) After working hours, the duty manager of the hospital to be informed, to arrange for the dedicated Medical Team wearing full Personal Protective Equipment to visit andtransfer the patient to the Isolation Ward at a designated hospital;

(iii) Contacts to be identified by Public Health & Food Safety Inspectors with the help of crew members; and

(iv) All asymptomatic close contacts, who would have been in contact with secretionsand body fluids of the suspected case, will be sent to Souillac Hospital.

Annex 4: Case Definition Of Ebola Virus Disease (EVD) And Marburg Virus Disease (MVD)

Ebola Virus Disease (EVD) is a severe, often fatal illness in humans caused by the Ebola virus. The case definition can vary depending on the context of an outbreak, but here is a general framework based on the latest understanding and previous outbreaks:

Case Definition for Ebola Virus Disease/ Marburg Virus Disease

Clinical Criteria:

1. **High-Risk Clinical Symptoms**:

- Fever (≥ 38.6°C or 101.5°F)
- Severe headache
- Muscle pain
- Weakness
- Fatigue
- Gastrointestinal symptoms (vomiting, diarrhea)
- Abdominal pain
- Unexplained hemorrhage (bleeding or bruising)

Epidemiological Criteria:

- A history of contact with:
  - A confirmed case of EVD.
  - A person who died from suspected EVD.
  - A live or dead animal (e.g., bats or nonhuman primates) in a known outbreak area within the 21 days prior to symptom onset.

Laboratory Criteria:

- Confirmation of EVD via one or more of the following:
  - Detection of Ebola virus RNA by reverse transcription polymerase chain reaction (RT-PCR).
  - Isolation of the Ebola virus from a clinical specimen.
  - Positive serology (antibody testing) for Ebola virus in a patient with history of exposure.

Case Classification:

- **Suspected Case**: Meets clinical criteria and has epidemiological link to a confirmed case.
- **Confirmed Case**: Meets the laboratory criteria regardless of clinical symptoms.

Suggested Actions:

- Immediate notification to health authorities upon identification of potential cases.
- Implementation of infection control practices to prevent transmission.
- Consideration for quarantine or observation of contacts during the incubation period (up to 21 days).

This case definition will be revised as and when required.

Any doctor who sees a patient and who meets the above case definition for suspected case should immediately notify the health authorities on the health authorities on the hotline 8924.

Annex 5: Questionnaire For Ebola/Marburg

Name:.....

Nationality:.....

Address in Mauritius:.....

Telephone Number (Landline)..... Mobile.....

Email Address.....

Age: ---------- Sex : ☐ Male ☐ Female

Occupation :.....

History of Travel:.....

Country/ Countries travelled to:.....

Specific regions visited:.....

Past Symptoms.....

Present Symptoms

Fever:	Yes ☐	No ☐		Headache:	Yes ☐	No ☐	
Loss of appetite:	Yes ☐	No ☐		Lethargy:	Yes ☐	No ☐	
Aching muscles or joints:	Yes ☐	No ☐		Vomiting:	Yes ☐	No ☐	
Breathing difficulties:	Yes ☐	No ☐		Stomach pain:	Yes ☐	No ☐	
Diarrhoea:	Yes ☐	No ☐		Difficulty swallowing:	Yes ☐	No ☐	
Hiccup:	Yes ☐	No ☐		Bloody diarrhoea:	Yes ☐	No ☐	
bleeding into eyes:	Yes ☐	No ☐		Bleeding gums:	Yes ☐	No ☐	
Skin Bleeding:	Yes ☐	No ☐		Blood in urine:	Yes ☐	No ☐	
Any inexplicable bleeding:	Yes ☐	No ☐					

Date of onset of symptoms :----------

History of Contact **w**ith a suspected, probable or confirmed case of Ebola: Yes ☐ No ☐

With a dead or sick animal: Yes ☐ No ☐

Whether stayed in a hospital where cases are treated: Yes ☐ No ☐

Name of visiting officer.....

Date of first visit..... Date of second visit.....

Date of third visit..... Date of fourth visit.....

Any Remarks.....

Annex 6: Isolation Ward

The Isolation Ward is located on the first floor of New Souillac Hospital (formerly Male Isolation Ward), now being used as a district hospital. The isolation ward is provided with a changing room, kitchen, and toilet with bathroom for staff on the right side of the corridor before the Central Nursing Station.

The ward has 5 bays. Four bays are reserved for isolation and one bay for quarantine. The four isolation bays are completely separated from the quarantine bay with separate accesses.

i. Isolation Bays

A. The first two isolation bays are equipped with facilities for ventilator machines. The first bay has been earmarked for male patients and the second bay for female patients. Each bay can accommodate three beds with ensuite toilet and bathroom.

There is also provided a nursing station and an anteroom in each bay. The anteroom will be used by staff for removal of personal protective equipment and hand washing after leaving the patient's room.

In the patient's room each bed will be provided with a dedicated thermometer, stethoscope, automatic blood pressure apparatus, hand sanitizer (alcohol hand rub) anda covered pedal bin lined with double plastic bags. The mattress to be covered by disposable plastic sheet or an impermeable mattress cover.

The room will also have a sink with sensor taps and automatic liquid soap dispenserand paper towels for hand drying.

B. There are two other bays one for female and one for male patients each with three beds, but without facilities for ventilation machines. They are also provided each with a nursing station, an anteroom and ensuite toilet and bathroom for patients.

Total no. of beds in isolation bays: 6 + 6 = 12

ii. Quarantine Bay

The quarantine bay is physically separated from the isolation bays and has a partition inthe middle to separate male and female patients. On one side to the left inside the bay,a small space will be

provided for Nursing Staff monitoring the quarantined patients. The quarantine bay will accommodate two beds for male patients and two beds for female patients.

Total no. of beds in quarantine bay: 4

iii. Anteroom

The anteroom will have a sink with taps and automatic soap dispensers and provision for paper towels for hand-drying. Also, an automatic alcohol hand rub dispenser will be available for hand hygiene. Large bins with cover and lined with double plastic bags will be used for collection of used disposable Personal Protective Equipment except gumboots which will be kept in a separate container with disinfectant.

iv. Nursing Station in Isolation Bays

The nursing station will have a facility for communicating with the central nursing station in the ward. It will also have an alcohol hand rub dispenser and a small cupboard with a mini fridge for keeping medications.

v. The Central Nursing Station

It will have a direct phone line and communication facilities with the nursing stations in all the bays. It will also be provided with alcohol hand rub dispensers and stationery for record keeping.

vi. Entry to Isolation Ward

Patients will be transported to a designated hospital by ambulance. The ambulance willnot take the main entrance, but the underground entrance at the rear parking leading to the underground lift. The patient will take the corridor to the designated lift at basement. This lift will be solely dedicated for transfer of Ebola/Marburg patients only, to the Isolation Ward on the first floor. The patient accompanied by the Nursing Staff will access the main door of the Isolation Ward and after leaving the patient in the Isolation Room; the Nursing Officer will proceed to the anteroom by the other door earmarked for this, for the removal of Personal Protective Equipment andhand hygiene.

vii. Entry to Quarantine Bay

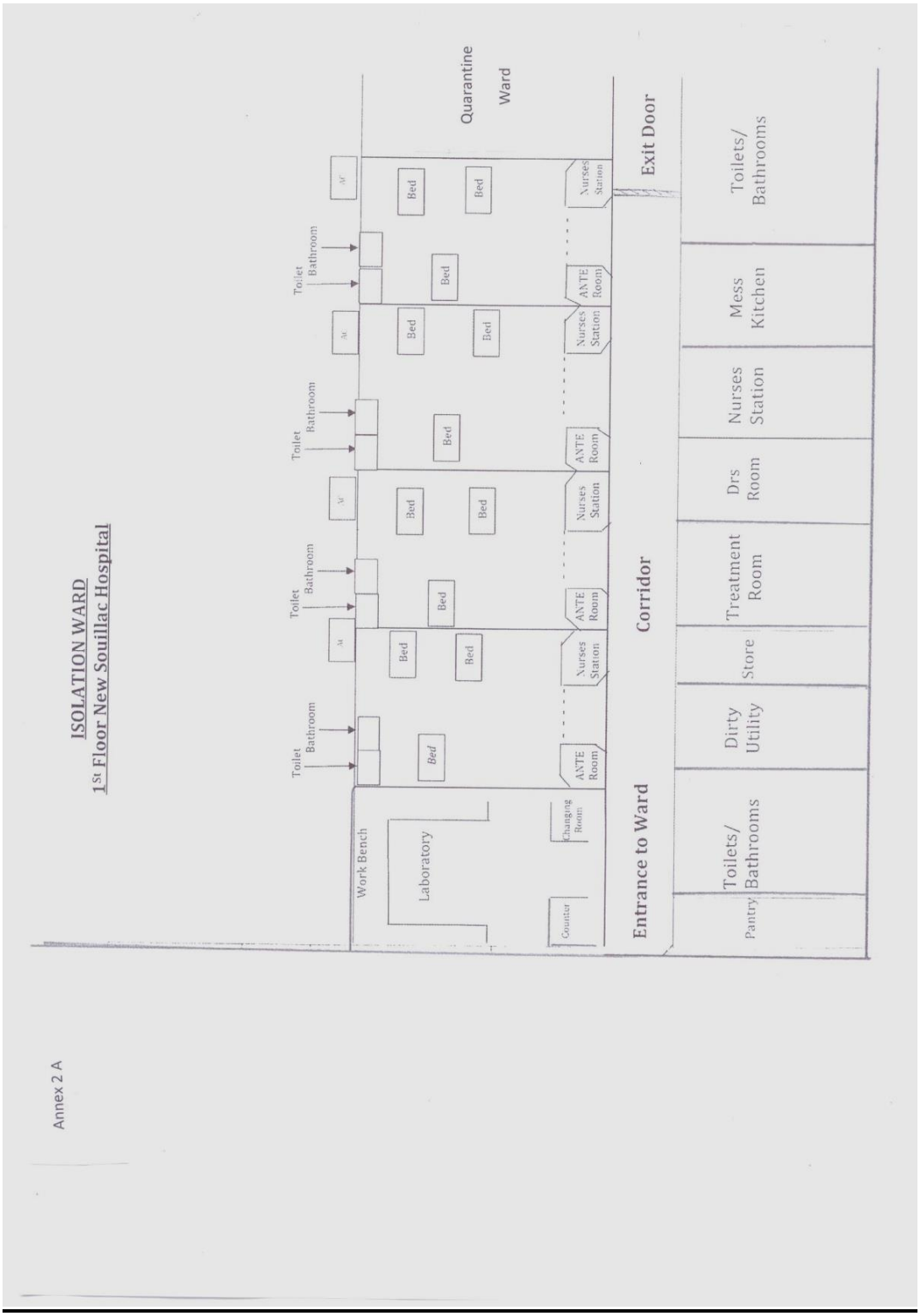
Since these patients are not sick and will be ambulatory, they will access the quarantine bay by the stairs at the emergency exit on the ground floor.

The ambulance transporting these patients, will take the underground entrance at the rear parking leading to the underground lift. The Nursing Officer accompanying the person to be quarantined will proceed withhis admission to the quarantine bay after having informed the Nursing Supervisor.

viii. Procedures

All staff working in the isolation bays will change into theatre clothes first (trousers and shirts) and then put on the personal protective equipment as per protocol in the changing room.

Annex 7: Outlay Plan of Isolation Ward At Souillac Hospital



Annex 8: Protocol For Wearing Personal Protective Equipment

In Changing Room

1. Staff to put on theatre clothes (trousers and shirts) first after removing workingclothes and shoes.
2. Put on overshoes.
3. Put on gum boots.
4. Put on disposable impermeable long sleeved disposable gown over theatreclothes.
5. Wear N95 mask.
6. Put on goggles or disposable face shield.
7. Wear disposable head cover.
8. Perform hand hygiene

(i) Either wash hands with soap and water if hands visibly soiled

Or

(ii) Use alcohol hand rubs if hands not soiled.

9. Put on disposable impermeable gloves over cuffs of gown. Use double gloves ifcontact with blood or body fluids are anticipated.
10. Place disposable waterproof apron over gown.

While Wearing Personal Protective Equipment

1. Avoid touching or adjusting Personal Protective Equipment.
2. Remove gloves if they become soiled or damaged.
3. Change gloves between patients or between procedures on same patient ifrequired.
4. Always perform hand hygiene before putting on new gloves.

How to Remove Personal Protective Equipment

Before removal of Personal Protective Equipment, staff to dip boots in container withdisinfectant (Javel) immediately after entering the anteroom by the side door.

1. Peel off plastic apron and dispose in bin earmarked for this purpose.

2. Remove gown and roll inside-out slowly and dispose in bin.

3. Remove gloves and discard in bin. Perform hand hygiene with alcohol hand rub.

4. Remove rubber boots without touching them with the hands (with the help of a boot remover). The removed boots are placed into a container with disinfectant (Javel solution) by an attendant.

5. Perform hand hygiene – wash hands with soap and water and dry with paper towels – discard used paper towels in bin.

6. Remove head cover from behind.

7. Remove face protection

(a) Remove disposable face shield from behind and place in bin or remove goggles from behind and place in a separate container with disinfectant and for processing it to be secured.

(b) Remove mask from behind the head.

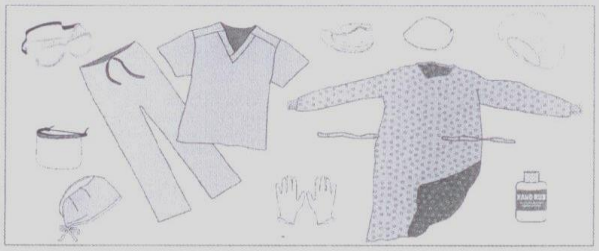
8. Perform hand hygiene – wash hands with soap and water and use paper towels for drying. Dispose paper towels in bin.

Steps to put on Personal Protective Equipment (PPE)

1 Always put on essential required PPE when handling either a suspect, probable or confirmed case of VHF. Gather all the necessary items of the PPE beforehand.

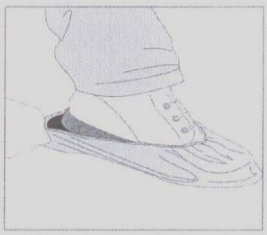
2 The dressing and undressing of PPE should be supervised by another trained member of the team. These instructions should be displayed on the wall in the dressing and undressing room. Steps to put on essential required PPE.

3 Put on the scrub suit in the changing room.

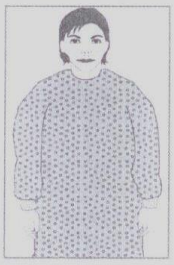


4 Put on gum boots; If not available, make sure you have closed, puncture and fluid resistant shoes and put on overshoes.

OR, IF BOOTS UNAVAILABLE



5 Place the gown over the scrubs.



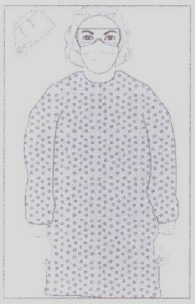
6 Put on face protection:

6a Put on a medical mask.

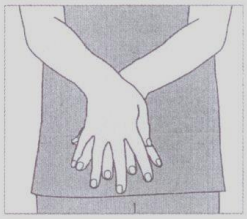
6b Put on goggles or a face shield

OR

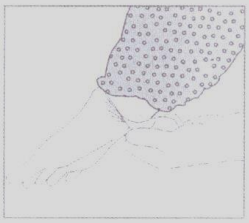
7 If you have any abrasions on your scalp or you have concern for splashing fluids, also place a head cover at this time.



8 Perform hand hygiene.



9 Put on gloves* (over cuff).



10 If a impermeable gown is not available and you expect to undertake any strenuous activity (e.g. carrying a patient) or tasks in which contact with blood and body fluids, place waterproof apron over gown.

Whilst wearing PPE:

- Avoid touching or adjusting PPE
- Remove gloves if they become torn or damaged
- Change gloves between patients
- Perform hand hygiene before donning new gloves

* Use ***double gloves*** if any strenuous activity (e.g. carrying a patient or handling a dead body) or tasks in which contact with blood and body fluids are anticipated. Use ***heavy duty/rubber gloves*** for environmental cleaning and waste management.

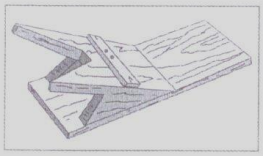
Steps to remove PPE

1 Peel off plastic apron and dispose of safely, (if the apron is to be reused, place in a container with disinfectant)

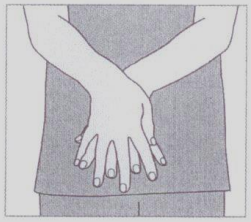
2 If wearing protective overshoes, please remove them with your gloves still on. (If wearing gum boots, see step 4).

3 Remove gown and gloves and roll inside-out and dispose of safely.

4 If wearing rubber boots, remove them (ideally using the boot remover) without touching them with your hands. Place the removed boots into a container with disinfectant.



5 Perform hand hygiene.

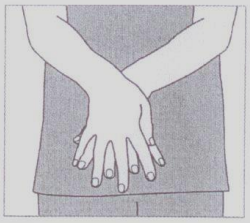


6 If wearing a head covering, remove it now (from behind head).

7 Remove face protection:
7a Remove face shield or goggles (from behind head). Place eye protection in a separate container for reprocessing. OR

7b Remove mask from behind head.

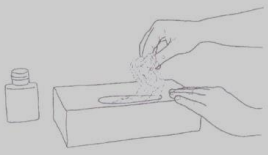
8 Perform hand hygiene.



Technique for donning and removing non-sterile examination gloves

When the hand hygiene indication occurs before a contact requiring glove use, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water.

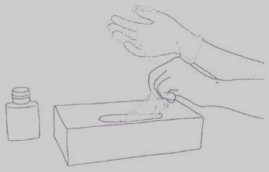
I. HOW TO DON GLOVES:



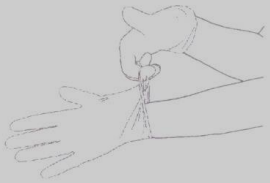
1. Take out a glove from its original box

2. Touch only a restricted surface of the glove corresponding to the wrist (at the top edge of the cuff)

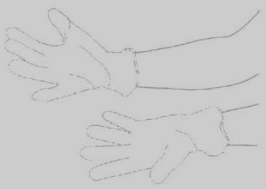
3. Don the first glove



4. Take the second glove with the bare hand and touch only a restricted surface of glove corresponding to the wrist

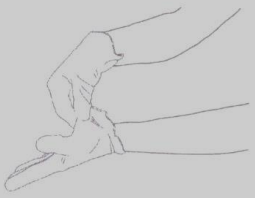


5. To avoid touching the skin of the forearm with the gloved hand, turn the external surface of the glove to be donned on the folded fingers of the gloved hand, thus permitting to glove the second hand

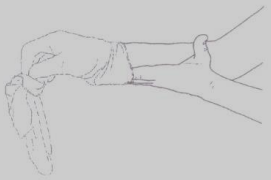


6. Once gloved, hands should not touch anything else that is not defined by indications and conditions for glove use

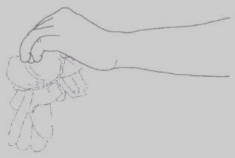
II. HOW TO REMOVE GLOVES:



1. Pinch one glove at the wrist level to remove it, without touching the skin of the forearm, and peel away from the hand, thus allowing the glove to turn inside out



2. Hold the removed glove in the gloved hand and slide the fingers of the ungloved hand inside between the glove and the wrist. Remove the second glove by rolling it down the hand and fold into the first glove



3. Discard the removed gloves

4. Then, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water

Annex 9: Stockpiling Of Personal Protective Equipment

Item No	Items	Quantity for disposable items per month	Quantity for re-usables
1	***Disposable Surgical Gloves***		
	Small		
	Medium		
	Large		
2	***Disposable Surgical Gowns***		
	Medium		
	Large		
	Extra large		
3	***N95 Face Masks***		
4	***Surgical Face Masks***		
5	***Head Covers***		
6	***Shoe Covers***		
7	***Disposable Plastic Aprons***		
8	***Face Shields***		
9	***Goggles(USAID)***		
10	***Gum Boots (pairs)***		
	Size 42		
	Size 43		
	Size 44		

Item No	Items	Quantity for disposable items per month	Quantity for re-usables
11	***Long Sleeved Surgical Gloves***		
	Small		
	Medium		
	Large		
12	***Heavy Duty Gynaecological Gloves***		
13	***Overalls***		
	Medium		
	Large		
	Extra Large		
14	***Coveralls***		
	Medium		
	Large		
	Extra Large		
15	***Heavy Duty Plastic Aprons***		
16	***Biohazard Plastic Bags***		
17	***Body Bags***		
18	***Thermal Thermometer***		
19	***Camera***		
20			

Annex 10: Isolation Procedures

Before entering the isolation room **always wears full PPE.**

Consider changing gloves if heavily soiled with blood or any body fluids while providing care to the same patient (perform hand hygiene immediately after removal).

Always change gloves and perform hand hygiene immediately after removal, when moving from one patient to another while caring for patients in the same room.

When undertaking any strenuous activity, (e.g. carrying a patient) or task in which contact with blood and body fluids is anticipated (e.g. the patient has symptoms like diarrhoea, bleeding or vomiting and/or the environment could be contaminated with bloodor body fluids), in addition to the above-mentioned PPE, use double gloving and wear a heavy-duty impermeable apron over the gown.

Avoid aerosol-generating procedures as far as possible.

When leaving the isolation room**, carefully remove and dispose of PPE** (including boots) into waste containers and perform hand hygiene.

When removing PPE, be careful to avoid any contact between the soiled items (e.g. gloves, gowns) and any area of the face (i.e. eyes, nose or mouth) or non-intact skin.

Use **dedicated equipment** (e.g. thermometer, stethoscope, and BP apparatus) for each patient. Disinfect this equipment with appropriate disinfectants.

The patient's charts and records should be **kept outside the isolation room** at the Central Nursing station to avoid their contamination.

Annex 11: Infection Prevention and Control

Standard Precautions in health Care
KEY ELEMENTS AT A GLANCE

1. Hand hygiene[1]

How to perform hand hygiene:

- Clean your hands by **rubbing them with an alcohol-based formulation**, as the preferred mean for routine hygienic hand antisepsis if hands are not visibly soiled. It is faster, more effective, and better tolerated by your hands than washing with soap and water.
- **Wash your hands with soap and water** when hands are visibly dirty or visibly soiled with blood or other body fluids or after using the toilet.
- If exposure to potential spore-forming pathogens is strongly suspected or proven, including outbreaks of *Clostridium difficile*, hand washing with soap and water is the preferred means.

Summary technique:[1]

- Hand washing (40–60 sec): wet hands and apply soap; rub all surfaces; rinse hands and dry thoroughly with a single use towel; use towel to turn off faucet.
- Hand rubbing (20–30 sec): apply enough product to cover all areas of the hands; rub all surfaces until dry.

Summary indications:[1]

1. Before touching a patient: Clean your hands before touching a patient when approaching him/her*

2. Before clean / aseptic procedure: Clean your hands immediately before accessing a critical site with infectious risk for the patient (e.g. a mucous membrane, non-intact skin, an invasive medical device)*

3. After body fluid exposure risk: Clean your hands as soon as the task involving an exposure risk to body fluids has ended (and after glove removal)*

4. After touching a patient: Clean your hands when leaving the patient's side after having touched the patient*

5. After touching patient surroundings: Clean your hands after touching any object or furniture when living the patient surroundings, without having touched the patient*

2. Gloves

- Wear GLOVES when touching blood, body fluids, secretions, excretions, mucous membranes, nonintact skin.
- Change GLOVES between tasks and procedures on the same patient after contact with potentially infectious material.
- Remove THEM after use, before touching non-contaminated items and surfaces, and before going to another patient. Perform hand hygiene immediately after removal.

3. Facial protection (eyes, nose, and mouth)

- Wear (1) a surgical or procedure mask and eye protection (eye visor, goggles) or (2) a face shield to protect mucous membranes of the eyes, nose, and mouth during activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions.

4. Gown

- Wear to protect skin and prevent soiling of clothing during activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.
- Remove soiled gown as soon as possible, and per-form hand hygiene.

5. Prevention of needle stick and injuries from other sharp instruments[2]

Use care when:

- Handling needles, scalpels, and other sharp instruments or devices.

6. Respiratory hygiene and cough etiquette

Persons with respiratory symptoms should apply source control measures:

- Cover their nose and mouth when coughing/sneezing with tissue or mask, dispose of used tissues and masks, and perform hand hygiene after contact with respiratory secretions.

Health-care facilities should:

- Place acute febrile respiratory symptomatic patients at least 1 metre (3 feet) away from others in common waiting areas, if possible.
- Post visual alerts at the entrance to health-care facilities instructing persons with respiratory symptoms to practise respiratory hygiene/cough etiquette.
- Consider making hand hygiene resources, tissues and masks available in common areas and areas used for the evaluation of patients with respiratory illnesses.

7. Environmental cleaning

- Use adequate procedures for the routine cleaning and disinfection of environmental and other frequently touched surfaces.

8. Linens

Handle, transport, and process used linen in a manner which:

- Prevents skin and mucous membrane exposures and contamination of clothing.
- Avoids transfer of pathogens to other patients and or the environment.

9. Waste disposal

- Ensure safe waste management.
- Treat waste contaminated with blood, body fluids, secretions and excretions as clinical waste, in accordance with local regulations.
- Human tissues and laboratory waste that is directly associated with specimen processing should also be treated as clinical waste.
- Discard single use items properly.

10. Patient care equipment

- Handle equipment soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of pathogens to other patients or the environment.
- Clean, disinfect, and reprocess reusable equipment appropriately before use with another patient.
- Cleaning used instruments.
- Disposing of used needles and other sharp instruments.

Hand Hygiene

Carefully apply the following precautions to avoid any possible unprotected direct contact with blood and body fluids when providing care to the patient:

Perform hand hygiene:

- before donning gloves and wearing PPE on entry to the isolation room/area,
- before any clean/aseptic procedures being performed on a patient,
- after any exposure risk or actual exposure with the patient's blood and bodyfluids,
- After touching (even potentially) contaminated surfaces/items/equipment in thepatient's surroundings and after removal of PPE, upon leaving the care area.

Hand hygiene should be performed within the isolation rooms/areas every time it is needed according to the above indications during care to the patient, along with change of gloves. When caring for patients in the same room, it is essential to organize the complete care to each patient before moving to the next and to perform hand hygiene between touching the patients.

Neglecting to perform hand hygiene after removing PPE will reduce or negate anybenefits of the protective equipment.

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

Duration of the entire procedure: 40-60 seconds

0

Wet hands with water;

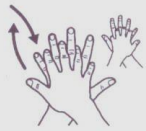
1

Apply enough soap to cover all hand surfaces;

2

Rub hands palm to palm;

3



Right palm over left dorsum with interlaced fingers and vice versa;

4

Palm to palm with fingers interlaced;

5

Backs of fingers to opposing palms with fingers interlocked;

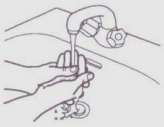
6

Rotational rubbing of left thumb clasped in right palm and vice versa;

7

Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

8



Rinse hands with water;

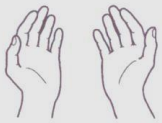
9

Dry hands thoroughly with a single use towel;

10

Use towel to turn off faucet;

11



Your hands are now safe.

How to perform hand hygiene by hand rubbing or handwashing

How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

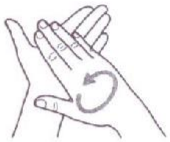
Duration of the entire procedure: 20-30 seconds

1a

Apply a palmful of the product in a cupped hand, covering all surfaces;

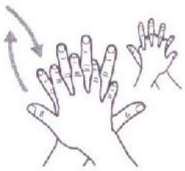
1b

2



Rub hands palm to palm;

3



Right palm over left dorsum with interlaced fingers and vice versa;

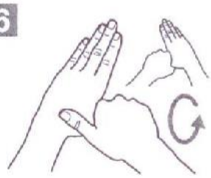
4

Palm to palm with fingers interlaced;

5

Backs of fingers to opposing palms with fingers interlocked;

6

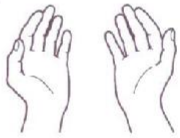


Rotational rubbing of left thumb clasped in right palm and vice versa;

7

Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

8



Once dry, your hands are safe.

GUIDE TO LOCAL PRODUCTION

This is intended to guide a local producer in the actual preparation of the formulation.

Materials required (small volume production)

REAGENTS FOR FORMULATION 1:

- Ethanol 96%
- Hydrogen peroxide 3%
- Glycerol 98%
- Sterile distilled or boiled cold water

REAGENTS FOR FORMULATION 2:

- Isopropyl alcohol 99.8%
- Hydrogen peroxide 3%
- Glycerol 98%
- Sterile distilled or boiled cold water

- 10-litre glass or plastic bottles with screw-threaded stoppers (1), or
- 50-litre plastic tanks (preferably in polypropylene or high density polyethylene, translucent so as to see the liquid level) (2), or
- Stainless steel tanks with a capacity of 80–100 litres (for mixing without overflowing) (3, 4)
- Wooden, plastic or metal paddles for mixing (5)
- Measuring cylinders and measuring jugs (6)
- Plastic or metal funnel
- 100 ml and 500 ml plastic bottles with leak-proof tops (7)
- An alcoholometer: the temperature scale is at the bottom and the ethanol concentration (percentage v/v and w/w) at the top (8)

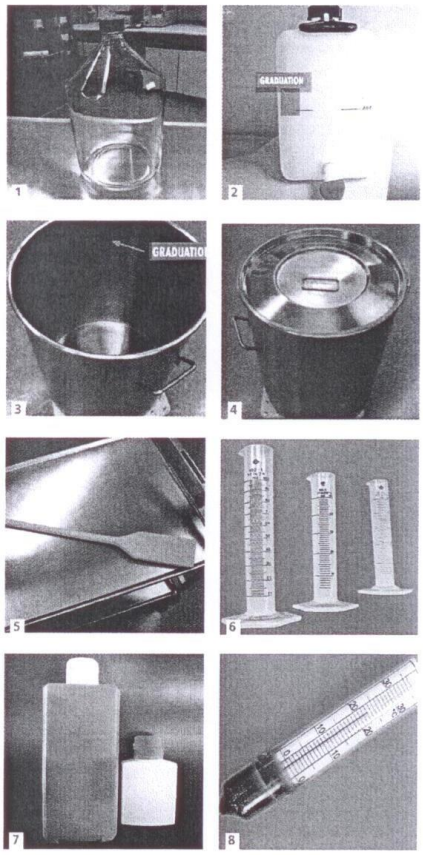
NOTE

- Glycerol: used as humectant, but other emollients may be used for skin care, provided that they are cheap, widely available and miscible in water and alcohol and do not add to toxicity, or promote allergy.
- Hydrogen peroxide: used to inactivate contaminating bacterial spores in the solution and is not an active substance for hand antisepsis.
- Any further additive to both formulations should be clearly labelled and be non-toxic in case of accidental ingestion.
- A colorant may be added to allow differentiation from other fluids, but should not add to toxicity, promote allergy, or interfere with antimicrobial properties. The addition of perfumes or dyes is not recommended due to risk of allergic reactions.

General information

Labelling should be in accordance with national guidelines and should include the following:

- Name of institution, date of production and batch number
- WHO-recommended handrub solution
- For external use only
- Avoid contact with eyes
- Keep out of the reach of children
- Use: Apply a palmful of alcohol-based handrub and cover all surfaces of the hands. Rub hands until dry.
- Composition: ethanol or isopropanol, glycerol and hydrogen peroxide
- Flammable: keep away from flame and heat



Production and storage facilities:

- Production and storage facilities should ideally be air conditioned or cool rooms. ***No naked flames or smoking should be permitted in these areas.***
- WHO-recommended handrub formulations should not be produced in quantities exceeding 50-litres locally or in central pharmacies lacking specialised air conditioning and ventilation.
- Since undiluted ethanol is highly flammable and may ignite at temperatures as low as 10°C, production facilities should directly dilute it to the above-mentioned concentration. The flashpoints of ethanol 80% (v/v) and of isopropyl alcohol 75% (v/v) are 17.5°C and 19°C, respectively.
- National safety guidelines and local legal requirements must be adhered to the storage of ingredients and the final product.

METHOD: 10-LITRE PREPARATIONS

These can be prepared in 10-litre glass or plastic bottles with screw-threaded stoppers.

Recommended amounts of products:

FORMULATION 1:
- Ethanol 96%: **8333 ml**
- Hydrogen peroxide 3%: **417 ml**
- Glycerol 98%: **145 ml**

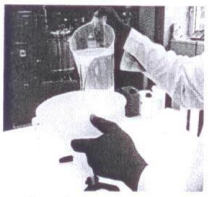
FORMULATION 2:
- Isopropyl alcohol 99.8%: **7515 ml**
- Hydrogen peroxide 3%: **417 ml**
- Glycerol 98%: **145 ml**

Final products:

FORMULATION 1:
Final concentrations:
- Ethanol 80% (v/v)
- Glycerol 1.45% (v/v)
- Hydrogen peroxide 0.125% (v/v)

FORMULATION 2:
Final concentrations:
- Isopropyl alcohol 75% (v/v)
- Glycerol 1.45% (v/v)
- Hydrogen peroxide 0.125% (v/v)

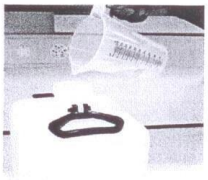
Step by step preparation:



1. The alcohol for the formula to be used is poured into the large bottle or tank up to the graduated mark.

2. Hydrogen peroxide is added using the measuring cylinder.

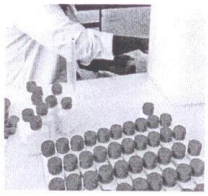
3. Glycerol is added using a measuring cylinder. As glycerol is very viscous and sticks to the wall of the measuring cylinder, it should be rinsed with some sterile distilled or cold boiled water and then emptied into the bottle/tank.



4. The bottle/tank is then topped up to the 10-litre mark with sterile distilled or cold boiled water.

5. The lid or the screw cap is placed on the tank/bottle as soon as possible after preparation, in order to prevent evaporation.

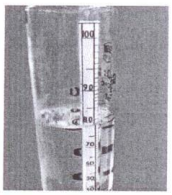
6. The solution is mixed by shaking gently where appropriate or by using a paddle.



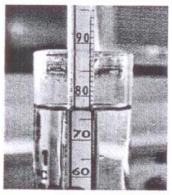
7. Immediately divide up the solution into its final containers (e.g. 500 or 100 ml plastic bottles), and place the bottles in quarantine for 72 hours before use. This allows time for any spores present in the alcohol or the new/re-used bottles to be destroyed.

Quality control

1. Pre-production analysis should be made every time an analysis certificate is not available to guarantee the titration of alcohol (i.e. local production). Verify the alcohol concentration with the alcoholmeter and make the necessary adjustments in volume in the preparation formulation to obtain the final recommended concentration.



2. Post-production analysis is mandatory if either ethanol or an isopropanol solution is used. Use the alcoholmeter to control the alcohol concentration of the final use solution. The accepted limits should be fixed to ± 5% of the target concentration (75%–85% for ethanol).



3. The alcoholmeter shown in this information pamphlet is for use with ethanol; if used to control an isopropanol solution, a 75% solution will show 77% (± 1%) on the scale at 25°C.

Injection Safety and Sharps

- Syringes, needles or similar equipment should never be reused.
- Limit the use of needles and other sharp objects as much as possible.
- Limit the use of phlebotomy and laboratory testing to the minimum necessary foressential diagnostic evaluation and patient care.
- Never replace the cap on a used needle.
- Never direct the point of a used needle towards any part of the body.
- Do not remove used needles from disposable syringes by hand, and do notbend, break or otherwise manipulate used needles by hand.
- -Dispose of syringes, needles, scalpel blades and other sharp objects in appropriate, puncture-resistant containers.

Puncture-resistant containers for sharps objects should be placed as close as possible to the immediate area where the objects are being used ('point of use') to limit the distance between use and disposal, and ensure the containers remain upright at all times.
Puncture-resistant containers should be securely sealed with a lid and replaced when three quarters full

Managing exposure to the virus through body fluids including blood

Persons including HCWs with percutaneous or muco-cutaneous exposure to blood, body fluids, secretions, or excretions from a patient with suspected or confirmed HF should immediately and safely stop any current tasks, leave the patient care area, and safely remove PPE. Remove PPE carefully according to the steps indicated in **Annex 3**,because exposure during PPE removal can be just as dangerous for nosocomial transmission of EVD. Immediately after leaving the patient care area, wash the affected skin surfaces or the percutaneous injury site with soap and water.
Accordingly, irrigate mucous membranes (e.g. conjunctiva) with copious amounts of water or an eyewash solution, and not with chlorine solutions or other disinfectants.
Immediately report the incident to the local coordinator. This is a time-sensitive task andshould be

performed as soon as the HCW leaves the patient care unit.

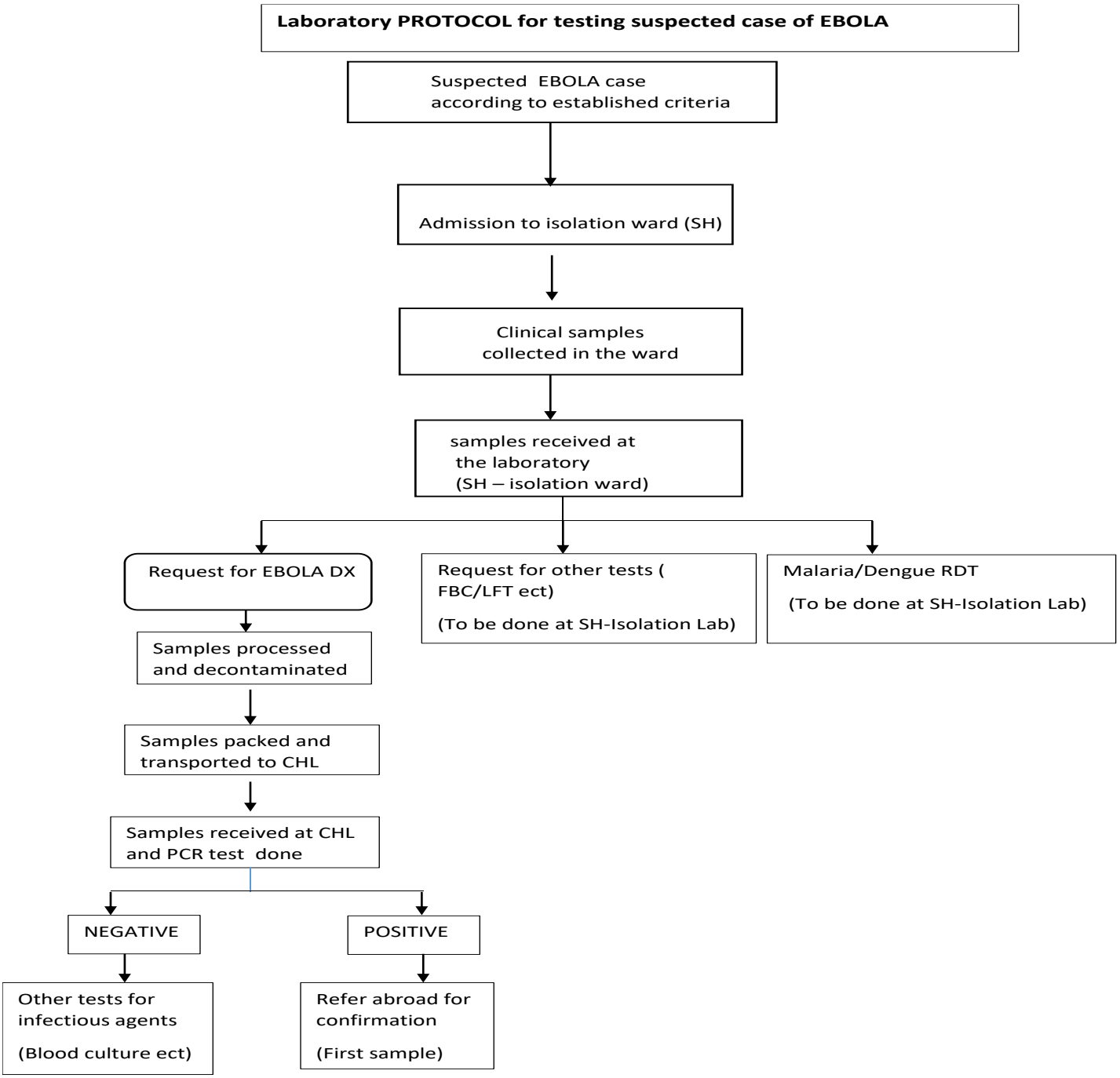
Exposed persons should be medically evaluated for other potential exposures (e.g., HIV, HCV) and receive follow-up care, including fever monitoring, twice daily for 21 daysafter the incident.

Any exposed person who develops fever within 21 days of exposure should notify the sanitary authorities.

HCWs suspected of being infected should be cared for/isolated, and the same recommendations outlined in this document must be applied until a negative diagnosisis confirmed.

Contact tracing and follow-up of family, friends, co-workers and other patients, who mayhave been exposed to Ebola/Marburg virus through close contact with the infected HCW will be carried out.

Annex 12: Protocol For Laboratory Testing for Suspected Cases Of Ebola /Marburg



The same testing protocol will be applied for Marburg.

Annex 13: Linen and Laundry Services

Linen that has been used on patients can be heavily contaminated with body fluids (e.g.blood, vomit) and splashes may result during handling. When handling soiled linen from patients, **always use full PPE.**

Soiled linen should be placed in clearly-labelled, leak-proof bags or buckets at the site of use and the container surfaces should be disinfected (using an effective disinfectant) before removal from the isolation room.

If there is any solid excrement such as faeces or vomit, scrap off carefully using a flat firm object and flush it down the toilet before linen is placed in its container.

Linen should never be carried against the body.

Linen should be then transported directly to the laundry area in its container andlaundered promptly with water and detergent. A heavy-duty washing machine should beused for laundering. After washing linen should be soaked in 0.05% Chlorine solutionfor approximately 30 minutes and then dried.

Visibly soiled linen should be incinerated.

Annex 14: Clinical Management of Cases

(1) Single venous puncture for the following blood tests:

- Full Blood Count
- Urea/Electrolytes
- Liver Function Tests
- Blood Culture
- Coagulation profile
- Ebola
- Malaria
- Dengue/Chikungunya

(2) Supportive and symptomatic treatment

a. Maintain adequate rehydration by oral route preferentially. Use IV access, if indicated.

b. Do not use products containing salicylates or other non-steroidal anti- inflammatory drugs. Use Paracetamol as antipyretics.

c. In the event of severe bleeding, blood and blood products will be used.

Annex 15: Management of Clinical Waste

A - Personal protection

Heavy duty/rubber gloves, impermeable gown, closed shoes (e.g. boots) and Facial protection (mask and goggle or face shield) should be worn when handling infectious waste (e.g. solid waste or any secretion or excretion with visible blood) even ifit originated from a normally sterile body cavity. Goggles provide greater protection than visors from splashes of liquid waste.Avoid splashing when disposing of liquid infectious waste.

A 1 - Waste management procedures

- Waste should be segregated at point of generation to enable appropriate andsafe handling.
- Sharp objects (e.g. needles, syringes, glass articles) and tubing that has been in contact with blood or body fluids should be placed inside puncture resistantwaste containers. These should be located as close as is practical to the patient care area where these items are used. The same applies to laboratories.
- All solid, non-sharp, infectious waste should be collected using leak-proof waste bags and covered bins. Bins should never be carried against the body.
- Waste should be placed in a designated pit of appropriate depth (e.g. 2 metres or7 feet) and filled to a depth of 1–1.5 m or 3–5 feet. After each waste load, the waste should be covered with a layer of soil 10-15 cm deep.
- An incinerator may be used for short periods during an outbreak to destroy solid waste. However, it is essential to ensure that total incineration has taken place. Caution is also required when handling flammable items.
- Placenta and anatomical samples should be buried in a separate pit.
- The area designated for the final treatment and disposal of waste should have controlled access to prevent entry by animals, untrained personnel or children
- Waste, such as faeces, urine and vomit, and liquid waste from washing, can be disposed of in the sanitary sewer. No further treatment is necessary.

Annex 16: Protocol For Handling and Disposal Of Dead Bodies And Disinfection Of Transport Vehicle

This section describes how to:

- Prepare the body of a deceased Ebola Virus Disease/ Marburg Virus Disease patient.
- Transport the infected body safely to the burial site.
- Disinfect the vehicle after transporting the body.

(i) Use safe burial practices

There is risk of transmission in the health facility when an Ebola Virus Disease/ Marburg Virus Disease patient dies because the bodies and body fluids of deceased Ebola Virus Disease/ Marburg Virus Disease patients remain contagious for several days after death.

Family and community members are also at risk if burial practices involve touching and washing the body.

(ii) Prepare the body safely

Burial should take place as soon as possible after the body is prepared in the health facility.

Health facility staff should:

- Be aware of the family's cultural practices and religious beliefs. Help the family understand why some practices cannot be done because they place the family orothers at risk for exposure.
- Counsel the family about why special steps need to be taken to protect the family and community from illness.

While preparing the body in the health facility:

- The handling of human remains should be kept to a minimum.
- Only trained personnel should handle the remains.
- Full protective clothing should be worn as recommended for staff in the patient isolation area (impermeable gowns, mask, eye protection, face shield, boots and thick rubber gloves as the second pair or outer layer of gloves).
- Natural orifices should be plugged.

- Body should be placed in a zipped leak-proof body bag (mortuary sack) which should be closed securely.
- the surface of the body bag should be wiped over with sodium hypochlorite solution (0.5 % chlorine)
- The body bag containing the corpse should be placed in a second body bag and the surface wiped again with 0.5% chlorine solution.
- The body should be placed inside a coffin and sealed hermetically.
- It should be labelled “Highly Infectious”
- PPE should be removed immediately after and placed in the grave along with the coffin, followed promptly by hand hygiene.
- The coffin should immediately be transported to Camp Diable cemetery at an identified spot and buried promptly. The route should pass through Royal Road Union Ducray, St Aubin, Riviere des Anguilles, and Batimarais.
- The vehicle should be escorted to Camp Diable cemetery by Police.
- Personnel handling the coffin during transport and burial should wear full PPE as is worn in the Isolation Room.
- Personnel should take a closed container or sprayer with 1:10 Bleach Solution in the event of any accidental contact with infectious body fluids or to clean up any spills in the transport vehicle.
- The grave should be dug at least two (2) metres in depth
- The family should be informed that viewing the body is impossible and they should be made to understand the reason for limiting the number of people assisting the burial. Family members and public should be advised not to approach the grave site.
- The vehicle should be disinfected after transporting the body. Personnel who disinfect the vehicle should wear full PPE as is worn in the Isolation Room. The grave site should also be disinfected.
- The interior of the vehicle where the body was carried should be rinsed with 1:10 bleach solution and allowed to soak for ten (10) minutes, and then rinsed wellwith clean water and air dried.

Annex 17: Environmental Cleaning

The following precautions should be observed:

Wearing of full PPE including heavy duty/rubber gloves, impermeable gown, apron, boots and facial protection when cleaning the environment and handling infectious waste.

Cleaning and disinfection of environmental surfaces or objects contaminated with blood,other body fluids, secretions or excretions, which should be done as soon as possible using standard hospital detergents/disinfectants (e.g. a 0.5%chlorine solution or a solution containing 1 000 ppm available free chlorine). Application of disinfectantsshould be preceded by cleaning to prevent inactivation of disinfectants by organic matter.

Preparing cleaning and disinfectant solutions every day. Cleaning solutions should be changed and equipment refreshed frequently while being used during the day, as they will get contaminated quickly.

Cleaning floors and horizontal work surfaces at least once a day with clean water and detergent. Cleaning with a moistened cloth helps to avoid contaminating the air and other surfaces with air-borne particles.

Allowing surfaces to dry naturally before using them again.

Cleaning should always be carried out from “clean” areas to “dirty” areas, in order to avoid contaminant transfer.

Disinfection of occupied or unoccupied clinical areas with spray (fogging) should not be carried out. This is a potentially dangerous practice that has no proven disease control benefit.

Example I - Using Liquid Bleach

Chlorine in liquid bleach comes in different concentrations. Any concentration can be used to make a dilute chlorine solution by applying the following formula:

$$\left[\frac{\text{\% chlorine in liquid bleach}}{\text{\% chlorine desired}}\right] - 1 = \text{Total parts of water for each part bleach†}$$

Example: To make a 0.5% chlorine solution from 3.5%‡ bleach:

$$\left[\frac{3.5\%}{0.5\%}\right] - 1 = 7 - 1 = 6 \text{ parts water for each part bleach}$$

Therefore, you must add 1 part 3.5% bleach to 6 parts water to make a 0.5% chlorine solution.

† "Parts" can be used for any unit of measure (e.g. ounce, litre or gallon) or any container used for measuring, such as a pitcher.

‡ In countries where French products are available, the amount of active chlorine is usually expressed in degrees chlorum. One degree chlorum is equivalent to 0.3% active chlorine.

Example II - Using Bleach Powder

If using bleach powder, † calculate the amount of bleach to be mixed with each litre of water by using the following formula:

$$\left[\frac{\text{\% chlorine desired}}{\text{\% chlorine in bleach powder}}\right] \times 1\,000 = \text{Grams of bleach powder for each litre of water}$$

Example: To make a 0.5% chlorine solution from calcium hypochlorite (bleach) powder containing 35% active chlorine:

$$\left[\frac{0.5\%}{35\%}\right] \times 1\,000 = 0.0143 \times 1\,000 = 14.3$$

Therefore, you must dissolve 14.3 grams of calcium hypochlorite (bleach) powder in each litre of water used to make a 0.5% chlorine solution.

† When bleach powder is used; the resulting chlorine solution is likely to be cloudy (milky).

Example III - Formula for Making a Dilute Solution from a Concentrated Solution

$$\text{Total Parts (TP) } (H_2O) = \left[\frac{\text{\% Concentrate}}{\text{\% Dilute}}\right] - 1$$

Example: To make a dilute solution (0.1%) from 5% concentrated solution.

$$\text{Calculate TP } (H_2O) = \left[\frac{5.0\%}{0.1\%}\right] - 1 = 50 - 1 = 49$$

Take 1 part concentrated solution and add to 49 parts boiled (filtered if necessary) water.

Annex 18: Cleaning Of Isolation Bay

Health Cleaning Personnel will wear heavy duty/rubber gloves and full Personal Protective Equipment when cleaning the isolation bay. They will start by the nursing station (clean), proceed to patient's room (contaminated) and leave by the anteroomand store Personal Protective Equipment in same and place used equipment in a bin marked for this purpose.

The anteroom needs to be cleaned by another cleaning staff who will remove all bins after disinfecting their surfaces with disinfectant (Javel). The bins to be carried on a trolley and transported to the basement via the designated lift. Waste and soiled linen will be disposed of in accordance with established procedures.

The bin containing the soiled boots will be brought to an identified location near the basement. The boots to be immersed in soapy water followed by immersion in disinfectant solution (0.5% available chlorine) overnight for decontamination. Afterdecontamination, they should be rinsed with water and then allowed to dry.

Annex 19: Disinfection Of Transport Vehicle

The vehicle cleaner should wear full Personal Protective Equipment.

The interior of the vehicle should be rinsed with bleach solution diluted in strength of1:10. The solution should be allowed to rest for ten minutes.

The vehicle should then be rinsed well with clean water and allowed to air- dry.Proper rinsing is advised as the solution may be corrosive to the vehicle.

Annex 20: Guidelines For Aircraft Cabin Crew

1. It is recommended that sealed single use refresher towels be provided to each passenger.

2. In the event that passengers with fever, bleeding, travelling from, or recently been in a risk country with reported cases of Ebola Virus Disease / Marburg Virus Disease be detected prior to taking off, the Health Authorities at the port of embarkation should be contacted for necessary advice and action. Should such passengers be identifiedduring the flight, they should be separated from others as much as possible (at rear end of aircraft with separate lavatory for exclusive use).

3. The sick person should be provided with a face mask, or tissues if cannot tolerate mask.

4. The sick person should be encouraged to wash hands with soap and water and /or use alcohol based hand cleaner.

5. Crew members caring for sick persons should wear facemasks, impermeable disposable gloves or recommended Personal Protective Equipment in accordance with International Civil Organization guidelines.

6. Close contacts (the passengers seated adjacent, the passenger sitting in front, behind and both sides to be identified by cabin crew members.

7. Hard surfaces that are visibly soiled should be cleaned and disinfected. Soft surfaces such as carpeted floor or seat cushions soiled with vomit or diarrhoea should also be cleaned and thereafter covered with an impermeable material to reduce risk of spread of infection. In the event the sick passenger's clothes are soiled, he should be provided with a long sleeve disposable impermeable gown.

8. On flight, passengers and cabin crew are advised to practise good hand hygiene, such as washing hands with soap and water or using a hand sanitizer.

9. Solid waste such as gloves, towels and tissues have to be collected in closed bags, to be disposed of by incineration. Used sickness bags should be placed in sealed plastic bags, to be disposed of by incineration.

10. It is advisable to have an adequate stock of consumables such as disposable gloves, facemasks

and hand sanitizers, on board the aircraft.

11. Cabin crew is advised to avoid touching eyes, mouth and nose as far aspossible without washing hands.

12. The ground control should be informed of any health-related incident before disembarkation so that precautionary measures could be taken.

Annex 21: Passenger Monitoring & Contact Tracing Form

Health Office: ………………………………………………………………….

S/N	Name / Address/Contact Number	Sex	Age	Date of last contact	Day of Follow up																				
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

Tick “0” if the contact has not developed fever or bleeding
Tick “X” if the contact has died or developed fever or bleeding (complete case report form and, if alive, refer to the hospital)

Annex 22: **Guidelines For Passport and Immigration Officers**

1. It is recommended to avoid unnecessary close contact with sick lookingpassengers.
2. All officers are advised to practice good hand hygiene either by regular handwashing with soap and water or by using a hand sanitizer.
3. Officers are advised to avoid touching eyes, mouth and nose as far as possiblewithout washing hands.
4. It is recommended to always wash hands before and after taking meals and afterusing toilets.

Annex 23: Guidelines For Health Personnel at Airport

1. All health personnel are recommended to apply Infection Prevention Control measures at the health point.
2. All officers are advised to practice good hand hygiene either by regular hand washing with soap and water or by using a hand sanitizer.
3. It is recommended to avoid touching eyes, mouth and nose as far as possible without washing hands.
4. Health personnel who have been in contact with a suspected case and develop fever, severe weakness, body ache should inform the officer in charge immediately.
5. Follow recommended guidelines while assessing symptomatic patients.

Annex 24: Guidelines For Customs Officers

1. It is recommended to avoid unnecessary close contact with sick lookingpassengers.

2. All officers are advised to practise good hand hygiene either by regular handwashing with soap and water or by using a hand sanitizer.

3. Impermeable disposable gloves should be worn by all officers when handlingluggage and hands washed with soap and water after removing gloves.

4. Gloves are to be collected in closed bags, to be disposed of by incineration.

5. All workers should avoid touching eyes, mouth and nose as far as possiblewithout washing hands with soap and water.

6. It is recommended to always wash hands before and after taking meals and afterusing toilets.

Annex 25: Guidelines For Police and Security Officers

1. It is recommended to avoid unnecessary close contact with sick lookingpassengers.
2. All officers are advised to practise good hand hygiene either by regular handwashing with soap and water or by using a hand sanitizer.
3. Officers are advised to avoid touching eyes, mouth and nose as far aspossible without washing hands.
4. It is recommended to always wash hands before and after taking meals andafter using toilets.

Annex 26: Guidelines For Airport Baggage Handlers

1. It is recommended to avoid close contact with sick looking passengers.

2. All officers are advised to practise good hand hygiene either by regular handwashing or by using a hand sanitizer.

3. Impermeable disposable gloves should be worn by all officers when handlingluggage.

4. Gloves are to be collected in closed bags, to be disposed of by incineration.

5. All workers should avoid touching eyes, mouth and nose as far as possiblewithout washing hands with soap and water.

6. It is recommended to always wash hands before and after taking meals and afterusing toilets.

Annex 27: Guidelines For Personnel of Duty-FreeShops

1. It is recommended that officers working in duty free shops avoid unnecessaryclose contact with sick looking passengers.

2. All officers are advised to practise good hand hygiene either by regular handwashing with soap and water or by using a hand sanitizer.

3. Officers are advised to avoid touching eyes, mouth and nose as far as possible without washing hands.

4. It is recommended to wash hands before and after taking meals and after using toilets.

Annex 28: Guidelines For Ground Personnel

1. It is recommended to avoid unnecessary close contact with sick lookingpassengers.
2. All officers are advised to practise good hand hygiene either by regular handwashing with soap and water or by using a hand sanitizer.
3. Officers are advised to avoid touching eyes, mouth and nose as far as possiblewithout washing hands.
4. It is recommended to always wash hands before and after taking meals and afterusing toilets

Annex 29: Guidelines For Catering Officers

1. All officers are advised to practice good hand hygiene by regular hand washingwith soap and water.
2. All officers are recommended to avoid touching eyes, mouth and nose as far aspossible without washing hands.
3. It is recommended not to handle food, when suffering from any infectious illness.
4. It is recommended to always cover nose and mouth while coughing andsneezing.
5. It is recommended to observe good hygienic practices while preparing andserving food.
6. Impermeable disposable gloves should be worn while handling food waste.
7. Disposable food trays/utensils should be used on the plane.
8. In the event that reusable utensils have been utilized on board, it is recommended that all these items be disinfected and washed thoroughly using detergent and water. The officer handling these items should wear heavy duty gloves.
9. All leftover food and disposables from the plane should be disposed of in sealed bags and ultimately incinerate.

Annex 30: Guidelines For Aircraft Cleaning Personnel

1. It is recommended to avoid close contact with sick looking passengers.

2. Workers responsible for cleaning are advised to practice good hand hygiene by regular hand washing with soap and water.

3. It is recommended to wear impermeable disposable gloves while cleaning aircrafts.

4. All frequently touched surfaces (such as table tops, headsets, arm rests, and headrests, door knobs, taps, etc.) in the aircraft should be cleaned and disinfected, wearing impermeable disposable gloves. In the event of a suspectedcase on board the aircraft, cleaning personnel should wear appropriate disposable Personal Protective Equipment (impermeable long-sleeved gowns, plastic aprons, caps, goggles, N95 face masks, and boots).

5. All workers should clean hands with soap and water after gloves are removed.

6. Solid waste such as gloves, used Personal Protective Equipment, used paper towels, disposable masks, and towels should be collected in closed bags to be disposed of by incineration.

7. All workers should avoid touching their eyes, mouth and nose without washing hands with soap and water.

8. It is advisable not to use compressed air to clean the airplane.

9. Special vacuuming procedures are not recommended while cleaning the plane.

10. Workers who develop fever, severe weakness, body ache should consult a doctor immediately.

Annex 31: Guidelines For Ship Disinfection

1. Ship disinfection will be followed according to the WHO Maritime declaration asstipulated by the International Health Regulations (2005).

Annex 32: Exit Screening At Airport For Outgoing Passengers Under Surveillance For Ebola

1. On the first visit or first phone call to the passenger, the Principal Public Healthand Food Safety Officer will record the following information:

a) Date and time of departure from Mauritius;

b) Country of disembarkation; and

c) Flight details with name and number of carriers.

2. This information will be forwarded on the same day to the Airport Health Office.

3. A daily database of outgoing passengers leaving the country before 22 days willbe compiled.

4. This list of passengers will be communicated to the officers at the check-in counters who will inform immediately the Public Health and Food Safety Officer upon arrival of the passengers at the counters in the Departure Lounge.

5. The Public Health and Food Safety Officer will screen the passengers for fever and associated symptoms. Any passenger found to be sick, will be assessed by the Airport Medical Officer and if required, transferred to the Isolation Ward at the designated hospital/ health institution by ambulance accompanied by a Nursing Officer wearing Personal Protective Equipment (PPE).

Annex 33: Case Definition for Community-Based Surveillance

Suspected case

Illness with onset of fever and no response to treatment for usual causes of fever in the area, and at least one of the following signs:

- bloody diarrhea
- bleeding from gums
- bleeding into skin (purpura)
- bleeding into eyes and urine

+ History of travel to countries with active cases of EVD

Confirmed case

A suspected case with laboratory confirmation (positive for virus antigen, either by detection of virus RNA by RT-PCR)

References

Websites of the following organizations have been consulted in the preparation of this document: -

- ✓ World Health Organization
- ✓ Centre for Disease Control and Prevention, Atlanta, USA
- ✓ https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease
- ✓ https://www.afro.who.int/countries/uganda/news/who-accelerates-efforts-support-response-sudan-virus-disease-outbreak-uganda
- ✓ https://www.cdc.gov/ebola/outbreaks/index.html