COMMUNICABLE DISEASE TOOLKIT

ANNEX

Angola

1. Health surveillance forms
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INTRODUCTION

There is a high risk of communicable disease outbreaks in emergency situations. Outbreaks must be recognized and controlled rapidly in order to minimize their impact. **Effective containment of an outbreak depends on**:

- **early detection and reporting of suspect cases**
- **rapid epidemiological investigation**
- **rapid laboratory confirmation of the diagnosis**
- **implementation of effective control measures.**

Rapid identification of the causative agent and the likely source or mode of transmission is essential. The initial investigation involves two important processes: collection of information on suspect cases, and collection of clinical specimens for laboratory diagnosis. **Successful laboratory confirmation** of a disease depends on:

- **advance planning**
- **collection of appropriate and adequate specimens**
- **correct packaging of specimens and rapid transport to an appropriate laboratory**
- **the ability of the laboratory to carry out the diagnostic tests**
- **proper biosafety and decontamination procedures to reduce the risk of further spread of the disease.**

The purpose of this document is to ensure that the correct specimens are collected, packaged and transported in a safe and standardized manner during a field investigation of an outbreak in Angola or its neighbouring countries.

This document is adapted for emergency situations from the WHO document *Guidelines for the collection of clinical specimens during field investigation of outbreaks*, Geneva, World Health Organization, 2000 (WHO/CDS/CSR/EDC/2000.4).

1. Planning for specimen collection

Once a suspected outbreak has been detected and reported, an epidemiological investigation must be quickly organized. The materials and procedures required for efficient specimen collection and their transport to the laboratory for testing are outlined below.

1.1 Define the possible causes of the outbreak

An assessment of current clinical and epidemiological information is the starting point for considering the potential etiology of the outbreak. The historical knowledge of regional endemic and epidemic diseases, as well as their seasonality, further defines the possible causes. Since a variety of infectious agents can present with a similar clinical picture, the outbreak should be approached in a syndromic manner to obtain the differential diagnosis. One or more specimen types may be required to define the cause of the outbreak.

1.2 Decide which clinical specimens are required to confirm the cause of the outbreak

After defining the clinical syndrome and suspect pathogen(s), decide on the clinical specimens to be collected for appropriate laboratory diagnosis.

1.3 Laboratory for specimen testing

In the event of an outbreak, WHO will coordinate the transport of specimens and follow up on results of laboratory tests.

1.4 Collecting the specimens

For stool samples, the health worker should collect the sample, place in cold box and inform WHO. Transport to the laboratory should be done as soon as possible. For CSF the admitting physician should conduct the lumbar puncture and obtain the sample. Blood samples should be taken by the health worker.

2. Specimen collection and processing

Investigation should start as early as possible after a suspected outbreak has been notified. Specimens obtained in the acute phase of the disease, preferably before administration of antimicrobial drugs, are more likely to yield detectable concentrations of antibody, antigen or infective pathogen. Before beginning specimen collection, explain the procedure to the patient and relatives. When collecting the specimen, avoid contamination and take a sufficient quantity of material (as guided by the laboratory tests). Follow the appropriate precautions for safety during collection and processing of specimens.

2.1 Labelling and identification of specimens

In an outbreak investigation the information contained in the case investigation and laboratory request forms is collected along with the specimen. Each patient should be assigned a unique identification number by the collection team.This is the link between the laboratory results on the line-listing form, the specimens and the patient, which guides further investigation and response to the outbreak. This unique identification number and the patient's name should be present on all specimens, epidemiological data forms and the laboratory request forms and should be used as a common reference.

2.2 Labelling specimen containers/slides

Labels must always be used. The label should be permanently affixed to the specimen container.
It should include:

- patient's name
- unique identification number
- specimen type and date and place of collection
- name or initials of specimen collector.

2.3 Case investigation and laboratory forms

A case investigation form should be completed for each patient at the time of specimen collection. The original case investigation form remains with the investigation team, and should be kept together for analysis and later reference. A laboratory form must also be completed for each specimen. The epidemiological and clinical data gathered in the investigation can later be easily tied to the laboratory results for analysis.

The form includes:

- Patient information – name, age (or date of birth), sex, and complete address.
- Clinical information – date of onset of symptoms, clinical and immunization history, risk factors, antimicrobial taken before specimen collection.
- Laboratory information – acute or convalescent specimen, other specimens from same patient.

The form records the date and time when the specimen is received and the name of the person collecting the specimen.

3. Storage of specimens

To preserve bacterial or viral viability for microbiological culture or inoculation, specimens should be placed in appropriate media and stored at recommended temperatures. These conditions must be preserved throughout transportation to the laboratory and will vary according to the nature of the specimens and the pathogens (sensitivity to desiccation, temperature, nutrients and pH) and the time required to transport the specimens to the laboratory.

Many specimens taken for viral isolation are viable for 2 days if maintained in type-specific media at 4–8 °C. Freeze these specimens in accordance with expert advice, as infectivity may be altered.

Specimens for bacterial culture should be kept in appropriate transport media at the recommended temperature. This ensures bacterial viability while minimizing overgrowth of other microorganisms. With the exception of CSF, urine and sputum, most specimens may be kept at ambient temperature if they will be processed within 24 hours. For longer delays, storage at 4–8 °C is advisable except in the case of particularly cold-sensitive organisms such as *Shigella,* the meningococcus, and the pneumococcus. Longer delays are not advisable as the yield of bacteria may fall significantly.

Specimens for antigen or antibody detection may be stored at 4–8 °C for 24–48 hours, or at –20 °C for longer periods. Sera for antibody detection may be stored at 4–8 °C for up to 10 days. Although not ideal, sera stored at room temperature may still be useful for antibody testing even after prolonged periods (weeks). Sera that have been collected should therefore not be discarded simply because there are no refrigeration facilities available.

APPENDIX 1:
Laboratories for confirmation of priority diseases in Angola

Suspected organism/disease	Laboratory
Vibrio cholerae (O1): (stool)	– National Institute for Public Health (Instituto Nacional De Saude Publica) in Luanda.
Shigella dysenteriae type 1: (stool)	National Institute for Public Health (Instituto Nacional De Saude Publica) in Luanda.
Meningitis: cerebrospinal fluid (CSF)	─ Gram-stain at peripheral laboratories (health centres and district hospitals). ─ Rapid tests (latex agglutination) with slidex meningite Kit 5 for meningococcal available with some NGOs in Angola (MSF). ─ Transport for culture to Institut Pasteur (IP) Paris, France, OSLO Laboratory or NHLS of South Africa.
Measles: blood, serum (2 tubes)	Departement des Laboratoires Institut National de Sante Publique (INSP) Luanda ANGOLA
Yellow fever: blood, serum (2 tubes)	– Institut Pasteur (IP), Dakar - Senegal, for confirmation.
Acute flaccid paralysis (stool)	Polio Laboratory National Institute for Communicable Diseases Private Bag X4 Sandringham 2131 South Africa
Haemorrhagic fevers (blood, saliva, urine)	─ Special Pathogens Program, National Microbiology Laboratory, 1015 Arlington Street, Winnipeg, Manitoba, R3E 3R2 – CANADA ─ Special Pathogens Unit, National Institute for Communicable Diseases Private Bag X4, Sandringham 2131, South Africa ─ CDC NCID/SPB, 1600 Clifton Road, Atlanta, Georgia 30333, United States of America ─ Centre International de Recherches Médicales de Franceville, BP 769, Franceville, Gabon ─ Bernhard-Nocht-Institut für Tropenmedizin (BNI), Bernhard-Nocht-Str. 74, 20359 Hamburg, Germany

APPENDIX 2: Blood specimen collection

Blood and separated serum are the most common specimens taken in outbreaks of communicable disease. Venous blood can be used for isolation and identification of the pathogen in culture and by inoculation, or separated into serum for the detection of genetic material (e.g. by polymerase chain reaction), specific antibodies (by serology), antigens or toxins (e.g. by immunofluorescence). For the processing of most specimens for diagnosis of viral pathogens, serum is preferable to unseparated blood except where otherwise directed. When specific antibodies are being assayed, it is often helpful to collect paired sera, i.e. an acute sample at the onset of illness and a convalescent sample 1–4 weeks later. Blood can also collected by finger-prick for the preparation of slides for microscopy or for absorption onto special filter-paper discs for analysis. Whenever possible, blood specimens for culture should be taken before antibiotics are administered to the patient.

Note: Collection of blood and other samples for investigation of viral hemorrhagic fevers is described in Annex 5: *Guidelines for outbreak control* in this Toolkit.

Venous blood samples

Materials for collection

- Skin disinfection: 70% alcohol (isopropyl alcohol, ethanol) or 10% povidone iodine, swabs, gauze pads, adhesive dressings.
- Disposable latex or vinyl gloves.
- Tourniquet, Vacutainer® or similar vacuum blood collection devices, or disposable syringes and needles.
- Vacutainer® or sterile screw-cap tubes (or cryotubes if indicated), blood culture bottles (50 ml for adults, 25 ml for children) with appropriate media.
- Labels and indelible marker pen.

Method of collection

- Full infection control measures must be taken, with gowns, gloves, masks and boots for suspected viral haemorrhagic fevers such as Marburg or Ebola (See Annex 7).
- Place a tourniquet above the venepuncture site. Disinfect the tops of blood culture bottles.
- Palpate and locate the vein. The venepuncture site must be meticulously disinfected with 10% povidone iodine or 70% isopropyl alcohol by swabbing the skin concentrically from the centre of the venipuncture site outwards. Let the disinfectant evaporate. Do not repalpate the vein again. Perform venepuncture.
- If using conventional disposable syringes, withdraw 5–10 ml of whole blood from adults, 2–5 ml from children and 0.5–2 ml from infants. Using aseptic technique, transfer the specimen to relevant transport tubes and culture bottles. Secure caps tightly.
- If using a vacuum system, withdraw the desired amount of blood directly into each transport tube and culture bottle.
- Remove the tourniquet. Apply pressure to site until bleeding stops, and apply dressing.
- Label the tube, including the unique patient identification number, using indelible marker pen.
- Do not recap used sharps. Discard directly into the sharps disposal container.
- Complete the case investigation and the laboratory request forms using the same identification number.

Handling and transport

- Blood specimen bottles and tubes should be transported upright and secured in a screw-cap container or in a rack in a transport box. They should have enough absorbent paper around them to soak up all the liquid in case of spill.
- For serum samples (e.g measles, yellow fever, HIV) – the blood cells must be separated from serum. Let the clot retract for 30 minutes then centrifuge at 2000 rpm for 10–20 minutes and pour off serum. If no centrifuge is available, place sample in refrigerator overnight (4–6 hours) and pour off the serum for transport in a clean glass tube.
- Do **not** attempt this in a case of suspected viral haemorrhagic fever unless you are a clinician/laboratory technician experienced in management of the disease. Full protection and infection control measures must be taken.
- Blood culture: If the specimen will reach the laboratory within 24 hours, most pathogens can be recovered from blood cultures transported at ambient temperature. Keep at 4–8 °C for longer transit periods, unless the bacterial pathogen is cold-sensitive.

APPENDIX 3: Cerebrospinal fluid (CSF) specimen collection

The specimen must be taken by a physician or a person experienced in the lumber puncture procedure. CSF is used in the diagnosis of viral, bacterial, parasitic and fungal meningitis/encephalitis.

Materials for collection

Lumbar puncture tray which includes:
- sterile materials: gloves, cotton wool, towels or drapes
- local anaesthetic, needle, syringe
- skin disinfectant: 10% povidone iodine or 70% alcohol
- two lumbar puncture needles, small bore with stylet
- six small sterile screw-cap tubes and tube rack
- water manometer
- microscope slides and slide boxes
- if available, Trans-Isolate media (must be kept at 4–8 °C *while in storage*; allow to reach room temperature before introducing CSF).

Method of collection

- As only experienced personnel should be involved in the collection of CSF samples, the method is not described in this document. CSF is collected directly into the screw-cap tubes. If the samples will not be transported immediately, separate tubes should be collected for bacterial and viral processing.
- If Trans-Isolate medium is available, first ensure that the medium has reached room temperature, draw the collected CSF from the sterile tube and inject into the vacuum-sealed Trans-Isolate bottle. The bottle must be kept for at least 3 days at over 25 °C to allow incubation.

Handling and transport

- In general, specimens should be delivered to the laboratory and processed as soon as possible.
- CSF specimens for bacteriology are transported at ambient temperature, generally without transport media. They must never be refrigerated as these pathogens do not survive well at low temperatures. If Trans-Isolate media are available, follow the instructions on the packaging precisely.
- CSF specimens for virology do not need transport medium. They may be transported at 4–8 °C for up to 48 hours, or at –70 °C for longer periods.

APPENDIX 4: Faecal specimen collection

Stool specimens are most useful for microbiological diagnosis if collected soon after onset of diarrhoea (for viruses <48 hours and for bacteria <4 days), and preferably before the initiation of antibiotic therapy. If required, two or three specimens may be collected on separate days. Stool is the preferred specimen for culture of bacterial, viral and parasitic diarrhoeal pathogens. Rectal swabs showing faeces may also be taken from infants but are not useful for the diagnosis of viral infections.

Materials for collection

- Tubes with Cary-Blair transport medium
- Clean, dry, leak-proof, screw-cap container and tape, if Cary-Blair transport medium is not available.
- Appropriate bacterial transport media for transport of rectal swabs from infants (ideally Cary-Blair).
- Parasitology transport pack: 10% formalin in water, polyvinyl isopropyl alcohol (PVA).

Method of collecting a stool specimen

If Cary-Blair transport meduim is available:

- place sterile swab in freshly passed stool to allow it to soak up stool
- place swab in the Cary-Blair transport medium inside the tube
- break off the top part of the stick without touching the tube and tighten the screw cap firmly
- label the specimen tube.

If Cary-Blair transport medium not available:

- collect freshly passed stool, 5 ml liquid or 5 g solid (pea-size), in a container
- label the container.

Method of collecting a rectal swab from infants

- Moisten a swab in sterile saline.
- Insert the swab tip just past the anal sphincter and rotate gently.
- Withdraw the swab and examine to ensure that the cotton tip is stained with faeces.
- Place the swab in sterile tube/container containing the appropriate transport medium.
- Break off the top part of the stick without touching the tube and tighten the screw cap firmly.
- Label the specimen tube.

Handling and transport

- Stool specimens should be transported in a cold-box at 4–8 °C. Bacterial yields may fall significantly if specimens are not processed within 1–2 days of collection. *Shigella* is particularly sensitive to elevated temperatures. If transport medium is not available, do not allow the specimen to dry – add few drops of 0.85% sodium chloride solution.
- Specimens to be examined for parasites should be mixed with 10% formalin or PVA, 3 parts stool to 1 part preservative. Transport at ambient temperature in containers sealed in plastic bags.

APPENDIX 5: Respiratory tract specimen collection

Specimens are collected from the upper or lower respiratory tract, depending on the site of infection. Upper respiratory tract pathogens (viral and bacterial) are found in throat and nasopharyngeal specimens. Lower respiratory tract pathogens are found in sputum specimens. For certain organisms, such as *Legionella*, culture is difficult and presumptive diagnosis is based on the detection of antigen excreted in the urine or respiratory secretions.

When acute epiglottitis is suspected, no attempt should be made to take throat or pharyngeal specimens since these procedures may precipitate respiratory obstruction. Epiglottitis is generally confirmed by lateral neck X-ray, but the etiologic agent may be isolated on blood culture.

Materials for collection

- Transport media – bacterial (Trans Amies) and viral (Cellmatics)
- Dacron and cotton swabs
- Tongue depressor
- Flexible wire calcium alginate tipped swab (for suspected pertussis)
- Nasal speculum (for suspected pertussis – not essential)
- Suction apparatus or 20–50 ml syringe
- Sterile screw-cap tubes, and wide-mouthed clean sterile jars (minimum volume 25 ml)

Upper respiratory tract specimens

Method of collecting a throat swab

- Hold the tongue down with the depressor. Use a strong light source to locate areas of inflammation, and exudate in the posterior pharynx and the tonsillar region of the throat behind the uvula.
- Rub the area back and forth with a Dacron or calcium alginate swab. Withdraw the swab without touching cheeks, teeth or gums and insert into a screw-cap tube containing transport medium.
- Break off the top part of the stick without touching the tube, and tighten the screw cap firmly.
- Label the specimen containers.
- Complete the laboratory request form.

Method of collecting nasopharyngeal swabs (for suspected pertussis)

- Seat the patient comfortably, tilt the head back and insert the nasal speculum.
- Insert a flexible calcium alginate/Dacron swab through the speculum parallel to the floor of nose without pointing upwards. Alternately, bend the wire and insert it into the throat and move the swab upwards into the nasopharyngeal space.
- Rotate the swab on the nasopharyngeal membrane a few times, remove it carefully and insert it into a screw-cap tube containing transport medium.
- Break off the top part of the stick without touching the tube, and tighten the screw cap firmly.
- Label the specimen tube, indicating left or right side.
- Complete the laboratory request form.
- Repeat on the other side.

Lower respiratory tract specimens

Method of collecting sputum

- Instruct patient to take a deep breath and cough up sputum directly into a wide-mouthed sterile container. Avoid saliva or postnasal discharge. Minimum volume should be about 1 ml.
- Label the specimen containers.
- Complete the laboratory request form.

Handling and transport

- All respiratory specimens except sputum are transported in appropriate bacterial/viral media.
- Transport as quickly as possible to the laboratory to reduce overgrowth by commensal oral flora.
- For transit periods up to 24 hours, transport bacterial specimens at ambient temperature and viruses at 4–8°C in appropriate media.

APPENDIX 6: Urine specimen collection

Material for collection

- Sterile plastic cup with lid (50 ml or more).
- Clean, screw-top specimen transport containers ("universal" containers are often used).
- Gauze pads.
- Soap and clean water (or normal saline) if possible.
- Labels and indelible marker pen.

Method of collection

- Give the patient clear instructions to pass urine for a few seconds and then to hold the cup in the urine stream for a few seconds to catch a mid-stream urine sample. This should reduce the risk of contamination from organisms living in the urethra.
- To reduce the risk of contamination from skin organisms, the patient should be directed to avoid touching the inside or rim of the plastic cup with the skin of the hands, legs or external genitalia. Tighten the cap firmly when finished.
- For hospitalized or debilitated patients, it may be necessary to wash the external genitalia with soapy water to reduce the risk of contamination. If soap and clean water are not available, the area may be rinsed with normal saline. Dry the area thoroughly with gauze pads before collecting the urine.
- Urine collection bags may be necessary for infants. If used, transfer urine from the urine bag to specimen containers as soon as possible to prevent contamination with skin bacteria. Use a disposable transfer pipette to transfer the urine.
- Label the specimen containers.

Handling and transport

- Transport to the laboratory within 2–3 hours of collection. If this is not possible, do not freeze but keep the specimen refrigerated at 4-8°C. Keeping the specimen refrigerated will reduce the risk of overgrowth of contaminating organisms.
- Ensure that transport containers are leak-proof and tightly sealed.

APPENDIX 7:
Sample collection for suspected viral haemorrhagic fever

All invasive procedures and investigations should be minimized until the diagnosis of viral haemorrhagic fever (VHF) is confirmed or excluded. Only the specific diagnostic samples needed should be obtained from acutely ill humans.

Other routine blood samples should be avoided when investigating a case of VHF.

The blood samples should be kept in their original tube (sealed sterile dry tubes, Monovettes or Vacutainer® type).

Do not attempt to separate serum or plasma from blood clots in the field – this may be highly risky in case of VHFs. If these procedures are needed they should be performed at the reference laboratory.

Each collected sample must be identified as “high risk”. Labels prepared in advance for both specimens collected and laboratory request forms should bear the name, the date of collection and a coded link to the corresponding record of the case.

Precautions for sampling

In addition to basic safety precautions, certain other specific precautions and additional safety equipment are essential when investigating cases of VHF to protect skin and mucous membranes against these pathogens:

- Blood specimens should be taken by a doctor or nurse experienced in the procedure. Urine samples also should be handled carefully: a 20 ml syringe may be used to transfer urine from a bedpan to the specified container.

- Protective clothing should always be worn when handling specimens from suspected VHF cases:
  – protective gown
  – waterproof protective apron
  – two pairs of latex gloves
  – particulate filter face mask
  – goggles
  – rubber boots.

Method of collection

- Observe all the basic safety precautions when obtaining samples from suspected VHF cases.
- For taking blood samples, it is advisable to use a vacuum blood-sampling system (Monovette or Vacutainer®); however, use the equipment and procedure you are most familiar with to avoid the risk of accidents or spills.
- Withdraw 5–10 ml of whole blood from adults, 2–5 ml from children and 0.5−2 ml from infants, directly into the transport tube (blood sample tube).
- Avoid the use of disposable alcohol swabs to apply pressure to venepucture wounds; it is advisable to use dry cotton-wool balls or gauze swabs.
- After the sample has been taken, the blood sample tube should be externally disinfected by wiping with 0.5% hypochlorite solution (See *Appendix 8* below).

Removing protective clothing

- When the procedure is finished, remove the apron. Before removing the outer pair of gloves, wash your hands with soap and water and rinse them in 0.5% hypochlorite solution (see *Appendix 8* below) for 1 minute.
- Keep the inner gloves on while removing goggles, mask, anything used to cover the head, and the external gown. Before removing boots (which have also been previously soaked in the same hypochlorite solution), soak them in 0.5% hypoclorite solution. Finally remove the gloves, and then the inner gown. Then wash your hands well with soap and water and disinfect them with 70% isopropyl alcohol or povidone iodine.

Dispose of all protective clothing, gloves, and materials in a plastic bag and incinerate everything.

Remember never to recap used sharps. Discard them directly into a sharps disposal container for later incineration.

Handling and transport of samples of suspected VHF cases

Particular care to prevent external contamination of specimen containers during specimen collection is critical.

A triple packaging system is used:

— The blood sample tube should be transported upright and secured in a leak-proof secondary container with a screw cap and sufficient absorbent material to absorb all the contents should leakage occur. Ensure that the cap is screwed tight and labelled (specimen record). The secondary container should be externally disinfected by wiping with 0.5% hypochlorite solution (see *Appendix 8* below).

— Specimen data forms, letters and information that identify or describe the specimen and also identify the shipper and receiver should be taped to the outside of the secondary container.

The secondary container is then placed into a third container – the transport box. The outer part of the transport box should be clearly marked with the biohazard label and should bear an address label that clearly identifies the specimen, the shipper and the receiver (see section 2.2: *Labelling specimen container/slide* as indicated above).

If the blood sample cannot be processed the same day, ice packs must be placed in the transport box to keep the sample cold (around 4–8 °C). Whole blood samples should not be frozen.

Note: All materials needed for the sample handling and transport are included in the “Specimen transport module” in Annex 8: *Outbreak investigation kit*.

APPENDIX 8: Chemical disinfectants

Chlorine is the recommended disinfectant for use in field outbreak investigations. An all-purpose disinfectant should have a chlorine concentration of 0.1% (= 1 g/litre = 1000 ppm). A stronger solution of 0.5% (= 5 g/litre = 5000 ppm) should be used in situations such as suspected Marburg and Ebola virus outbreaks.

In preparing appropriate dilutions, it is important to remember that different products have different concentrations of available chlorine. The manufacturer may provide appropriate instructions for the preparation of solutions with the above concentrations. Otherwise, the guidelines provided below may be used. Chlorine solutions gradually lose strength, and so fresh solutions must be prepared daily. Clear water should be used because organic matter destroys chlorine.

Commonly used chlorine-based disinfectants include:

Sodium hypochlorite
Commercial liquid bleaches, such as household bleach (e.g. Chlorox, *eau-de-javel*) generally contain 5% (50 g/litre or 50 000 ppm) available chlorine.

To prepare a 0.1% chlorine solution, make a 1-in-50 dilution, i.e. 1 part bleach in 49 parts water to give final concentrations of available chlorine of 0.1%. (For example, add 20 ml of bleach to approximately 1 litre of water.)

To make a 0.5% chlorine solution, make a 1-in-10 dilution, i.e. 1 part bleach in 9 parts water to give final concentrations of available chlorine of 0.5%. (For example, add 100 ml of bleach to 900 ml water.)

Chloramine powder
While the bleach solution described above may satisfy all disinfection needs, chloramine powder may prove convenient for disinfecting spills of blood and other potentially infectious body fluids. It may also be useful under field conditions because of ease of transport. It contains approximately 25% available chlorine.

In addition to its use for spills, chloramine powder may be used to prepare liquid chlorine solutions. The recommended formula is 20 g of chloramine powder to 1 litre of clean water.

Decontamination of surfaces
Wear an apron, heavy-duty gloves and other barrier protection if needed, and wipe surfaces clean with an absorbent material. Disinfect surface by wiping clean with a 1:10 dilution of household bleach, then incinerate all absorbent material in heavy-duty rubbish bags.

Decontamination of blood or body fluid spills
Spills should be very liberally sprinkled with chloramine granules to absorb the liquid and left for at least 30 minutes. If chloramine powder is not available, absorbent materials may be used to soak up most of the fluid before disinfection with 0.5% liquid bleach. These absorbent materials must then be disinfected in bleach before disposal.

Sterilization and reuse of instruments and materials
In a field outbreak situation, it is not advisable to consider sterilization and reuse of any instruments or materials. Sterilization techniques are therefore not required and are not described in this document.

Disinfection of hands
The principal means for disinfecting hands is thorough washing with soap and water. If available, commercial hand disinfectants such as chlorhexidine or povidone iodine may be used.