

**Note: Reference 2 May 2015 update (not incorporated into this protocol below) refers to -**

- references to Liberia have been removed now that it has been declared Ebola-free
- the case definition has been aligned with those of other countries (ie temperature of 38 or higher specified)
- redefined direct contacts as "high risk with PPE" and "high risk with no PPE" and clarified that contact with a case, infected body fluids, or a deceased case is required to be in this category; and only these two categories would be required to self-monitor
- included a case by case risk assessment and decision about whether a high risk contact should be required to stay within 3 to 5 hours by road of a referral hospital for the first 11 days of self-monitoring (and a risk assessment form appended that Save the Children Fund use for their healthcare workers)
- included in several places that a clinical assessment and monitoring by an ID physician would be done prior to a person self-monitoring being declared a suspected case.

**November 2015 update to reference 2 has been incorporated in this protocol below**

## C&PH EBOLA VIRUS DISEASE PROTOCOL

Based on the following MoH documents:

- Updated information for health professionals: Ebola virus disease (EVD): 16 Dec 2014
- Patient Management Guideline for Primary Care Ebola virus disease (EVD): 12 Nov 2014
- Risk Assessment Framework for Managing Ill Travellers with Suspected Symptoms of Ebola Virus Disease and Contacts Arriving in New Zealand: Guidelines for DHB Public Health Units: 16 Dec 2014
- Communicable Diseases Control Manual 2012, Viral Haemorrhagic fevers

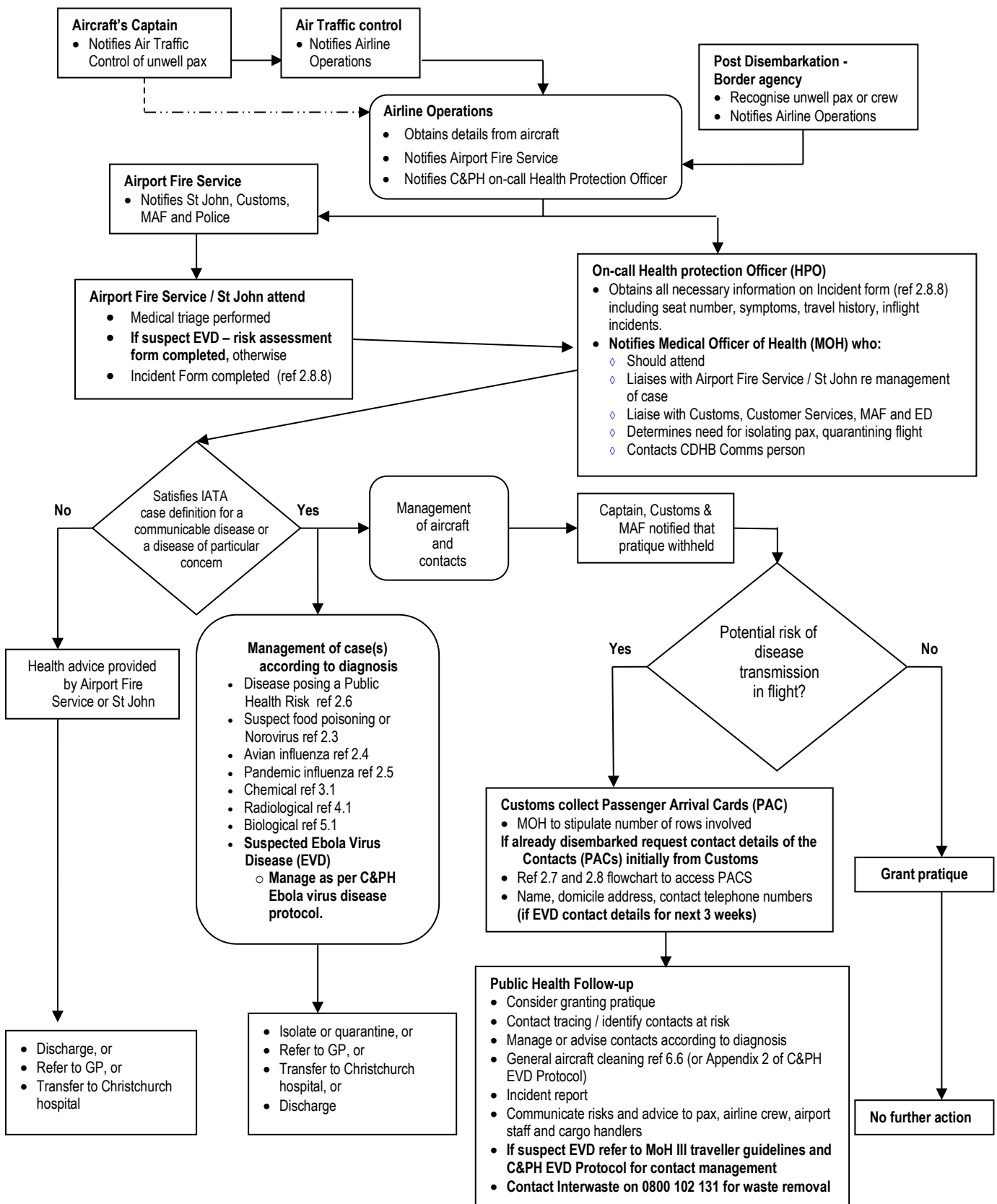
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### KEY ACTIONS

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**Border Health Protocol flow diagram for managing an unwell passenger at CIAL<sup>3</sup>**  
Including a suspected case of Ebola Virus Disease [‘ref numbers’ in text boxes refer to specific sections in the CIAL Border Health protocols] (also Appendix B)



**KEY ACTIONS**

**Management Of A Suspected Ebola Case And Contacts At Christchurch International Airport**

C&PH Ebola Protocol, Appendix B	Key Actions
<ul style="list-style-type: none"> <li>Aircraft's Captain</li> <li>Notifies Air Traffic Control of unwell pax</li> </ul> <p><b>Air Traffic control</b>                      OR                      <b>Post Disembarkation - Border agency</b></p> <ul style="list-style-type: none"> <li>Notifies Airline Operations</li> <li>Recognise unwell pax or crew</li> <li>Notifies Airline Operations</li> </ul>	
<p><b>Airline Operations</b></p> <ul style="list-style-type: none"> <li>Obtains details from aircraft</li> <li>Notifies Airport Fire Service</li> <li>Notifies C&amp;PH on-call HPO</li> </ul>	<input type="checkbox"/> If ill traveller thought to possibly have a quarantinable disease, pratique withheld until suspect case and contacts managed appropriately or considered unlikely to be a quarantinable disease
<p><b>Airport Fire Service</b> Notifies St John, Customs, MAF and Police</p>	
<p><b>Airport Fire Service / St John attend</b></p> <ul style="list-style-type: none"> <li>Medical triage performed (St John board aircraft and assess unwell pax)</li> <li>If suspect EVD – risk assessment form, otherwise</li> <li>Incident Form completed (ref 2.8.8)</li> </ul>	<p><b>On-call Health Protection Officer</b></p> <ul style="list-style-type: none"> <li>Obtains all necessary information on Incident form (ref 2.8.8) including seat number, symptoms, travel history, inflight incidents</li> <li>Completes EVD – risk assessment form.</li> </ul>
<p><b>Satisfies IATA case definition for a communicable disease or a disease of particular concern</b></p>	<input type="checkbox"/> Unwell pax isolated <input type="checkbox"/> HPO reviews Incident form 2.8.8 <input type="checkbox"/> HPO reviews Ebola Case Risk Assessment form (CIT002, Appendix N)
<p><b>Management of case(s) according to diagnosis</b></p> <ul style="list-style-type: none"> <li>Suspected Ebola Virus Disease - manage as per C&amp;PH Ebola virus disease.</li> <li>Isolate or quarantine, or Transfer to Christchurch hospital, or Discharge</li> </ul>	<input type="checkbox"/> HPO contacts MOH <input type="checkbox"/> MOH attends and liaises with, provides advice and reassurance to <input type="checkbox"/> Airport Fire Service / St John <input type="checkbox"/> Customs, <input type="checkbox"/> Immigration <input type="checkbox"/> Customer Services, <input type="checkbox"/> MAF <input type="checkbox"/> Airport staff and baggage handlers Telephones the Chch Hospital Emergency Department <input type="checkbox"/> Consider if infection prevention (PPE) needs to be implemented by Border agencies <input type="checkbox"/> Ensure St John transport suspect case to Chch Hospital and are aware of the need for PPE.
<p><b>Management of aircraft and contacts</b></p>	<input type="checkbox"/> MOH determines need for isolating pax, quarantining flight
<p><b>Captain, Customs &amp; MAF notified that pratique withheld</b></p>	<input type="checkbox"/> MOH contacts CDHB Comms <input type="checkbox"/> MOH <input type="checkbox"/> Determines need for isolating pax and quarantining the flight <input type="checkbox"/> Gives on-board message <input type="checkbox"/> Telephones MoH (0800 GET MOH) Also ensure the following are informed: <input type="checkbox"/> CDHB Comms person, C&PH Duty manager,
<p><b>Potential risk of disease transmission in flight</b></p>	<input type="checkbox"/> On-call Infectious disease physician and arrange laboratory testing (Note: repeat testing may be necessary). Request ID physician contacts: - On-call Microbiologist - Chief Medical officer CDHB <input type="checkbox"/> Assess inflight transmission risk - Ebola Case Risk Assessment form (CIT002, Appendix N) <input type="checkbox"/> MOH to stipulate which Arrival Cards to retrieve. Ensure contact details are obtained for next 21 days.
<p><b>Customs collect Passenger Arrival Cards (PAC)</b> MOH to stipulate number of rows involved <b>If already disembarked</b> request contact details of the Contacts (PACs) initially from Customs</p>	<input type="checkbox"/> If already disembarked request contact details of the Contacts (PACs) initially from Customs to obtain name, domicile address, contact telephone numbers for EVD contact details for next 3 weeks/ 21 days after exposure

Continued next page

**Management Of A Suspected Ebola Case And Contacts At Christchurch International Airport** continued

C&PH Ebola Protocol, Appendix B	Key Actions
<p><b>Public Health Follow-up</b></p> <ul style="list-style-type: none"> <li>• Consider granting pratique</li> <li>• Contact tracing / identify contacts at risk</li> </ul> <ul style="list-style-type: none"> <li>• Manage or advise contacts according to diagnosis</li> </ul> <ul style="list-style-type: none"> <li>• General aircraft cleaning ref 6.6 (or Appendix 2 of C&amp;PH EVD Protocol)</li> </ul> <ul style="list-style-type: none"> <li>• Incident report</li> <li>• Communicate risks and advice to pax, airline crew, airport staff and cargo handlers</li> <li>• If suspect EVD refer to MoH Ill traveller guidelines and C&amp;PH EVD Protocol for contact management</li> <li>• Contact Interwaste on 0800 102 131 for waste removal</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider pratique</li> <li><input type="checkbox"/> Ensure all Arrival Cards completed, and for pax not regarded as contacts provide advice on low risk, health advice card, fact sheet (Appendix M) and release.</li> <li><input type="checkbox"/> Classify risk of contacts. Identify Direct Contacts. Commence interviews - Ebola First Contact Form (CMT003, Appendix O). (If worked in Ebola-affected area see next page).</li> <li><input type="checkbox"/> Direct contacts (high risk) <ul style="list-style-type: none"> <li><input type="checkbox"/> Pax/crew who had direct contact with body fluids of suspect case Possibly family/friends travelling with case, depending on contact when case symptomatic or possible common exposure to an index case</li> </ul> </li> <li><input type="checkbox"/> Direct contacts (low risk) <ul style="list-style-type: none"> <li><input type="checkbox"/> Pax seated +/- 1 seat in all directions from suspected case</li> <li><input type="checkbox"/> Crew who provided in-flight service in section where suspect case seated</li> </ul> </li> <li><input type="checkbox"/> Provide advice on risk, fact sheet (Appendices K,L or M of C&amp;PH Ebola protocol) self-monitoring, restriction, quarantine, subsequent action (HealthLine, PHU contact details)</li> <li><input type="checkbox"/> Advise on aircraft cleaning</li> <li><input type="checkbox"/> Advise on Arrivals Hall cleaning</li> <li><input type="checkbox"/> Advise on baggage handling</li> </ul> <p style="text-align: center;"><i>(See above Public Health Follow-up, Consider granting pratique)</i></p> <p style="text-align: center;"><i>(As per this check list document)</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Contact Interwaste on 0800 102 131 for waste removal</li> </ul>

**When Contacts Are Notified By Customs Border Screening**

C&PH Ebola Protocol	Key Actions
<ul style="list-style-type: none"> <li>• Potential exposure only</li> </ul> <ul style="list-style-type: none"> <li>• Possible case <ul style="list-style-type: none"> <li>- If the ill traveller is subsequently considered to be a suspected case of Ebola, and is symptomatic (eg has an elevated temperature), contact tracing and management will be required.</li> <li>- If considered to be a contact of Ebola case manage accordingly</li> <li>- If considered to be some other illness, manage according to Border Health Protocol for other illness.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure contact details are available, provide fact sheet (Appendix I) and health advice card and discuss the importance of calling Healthline or C&amp;PH if any symptoms develop.</li> <li><input type="checkbox"/> HPO reviews Ebola Case Risk Assessment form (CIT002, Appendix N)</li> </ul> <p>→ as per above, <i>Management Of A Suspected Ebola Case And Contacts At Christchurch International Airport</i></p> <p>→ as per above, <i>Management Of A Suspected Ebola Case And Contacts At Christchurch International Airport</i></p> <p>→ as per <i>Border Health Protocols for a Public Health Response to Public Health Risks at Christchurch International Airport Limited and see Appendix B (flow diagram) C&amp;PH Ebola protocol.</i></p>

**When Contacts Are Notified By The Ministry Of Health / National Focal Point**

C&PH Ebola Protocol	Key Actions
<p>Refer to this section in the C&amp;PH Ebola protocol</p>	<p>See Table 1, <i>Categories and management of contacts of Ebola cases, C&amp;PH Ebola protocol</i></p>

**Management Of People Who Have Been Assisting In The Ebola Response Arriving In New Zealand**

C&PH Ebola Protocol	Key Actions
<p>Refer to this section in the C&amp;PH Ebola protocol Also see Table 1. Categories and management of contacts of Ebola cases</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> HPO to arrive at the airport at least an hour before a flight is due to ensure appropriate arrangements are in place and to provide advice and reassurance to border officials and airport staff. Unless communicated otherwise, person will be asymptomatic and therefore will not be considered infectious for Ebola.</li> <li><input type="checkbox"/> Consider media conference if appropriate</li> <li><input type="checkbox"/> Person is not to return to work in healthcare setting until the end of the incubation period</li> <li><input type="checkbox"/> Person needs to self-monitor (refer to C&amp;PH Ebola protocol)</li> <li><input type="checkbox"/> Person will be supported by public health staff</li> </ul>

**Management Of Symptomatic Community Contacts Of Ebola Cases**

C&PH Ebola Protocol	Key Actions
<p>Refer to this section in the C&amp;PH Ebola protocol If, at any time a Direct Contact of a case develops an illness compatible with Ebola they <b>must</b> be treated as a suspected case. (The MoH latest case definition can be found at: <a href="http://www.health.govt.nz/ebolacasedefinition">www.health.govt.nz/ebolacasedefinition</a>)</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Report the suspected case to the Ministry of Health on 0800 GET MOH (0800 438 664).</li> <li><input type="checkbox"/> Ensure infection prevention and control measures are immediately implemented including the appropriate use of Personal Protective Equipment (PPE).</li> <li><input type="checkbox"/> Contact St John to transport suspect case to Christchurch hospital.</li> <li><input type="checkbox"/> Commence contact tracing.</li> </ul>

**Management Of A Suspected/ Probable Case In Primary Care**

C&PH Ebola Protocol	Key Actions
<p>Refer to this section and the two following Appendices in the C&amp;PH Ebola protocol</p>	<p><b>Immediate actions (see Flow Diagram)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> If telephone contact, person is told not to attend the primary care facility Otherwise:</li> <li><input type="checkbox"/> Place the suspected case in a single (negative pressure) room.</li> <li><input type="checkbox"/> Staff perform hand hygiene</li> <li><input type="checkbox"/> Staff don PPE (refer to Appendix 1 in this section)</li> <li><input type="checkbox"/> Patient counselled</li> <li><input type="checkbox"/> GP consults with MOH</li> </ul> <p>MOH:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> - assists with case assessment</li> <li><input type="checkbox"/> - coordinates transfer to Christchurch hospital</li> <li><input type="checkbox"/> - decides on the extent of cleaning and disinfection following risk assessment based on persons symptoms and likely contamination of others/the environment (refer to the following: the section in the protocol, the Infection and Control section and Appendix G)</li> </ul> <ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure correct disposal of infectious waste (Appendix 2 in this section)</li> <li><input type="checkbox"/> Report the suspected case to the Ministry of Health on 0800 GET MOH (0800 438 664).</li> </ul> <p><b>Also telephone and inform</b></p> <ul style="list-style-type: none"> <li>- The Emergency Department</li> <li>- CDHB Comms person.</li> <li>- The on-call Infectious Disease physician (and arrange laboratory testing.- Note: repeat testing &gt; 3 days later may be necessary).</li> <li>- Request the ID physician call:             <ul style="list-style-type: none"> <li>- on-call Microbiologist</li> <li>- Chief Medical Officer, CDHB</li> </ul> </li> </ul>

**Management Of A Suspected/ Probable Case In Hospital**

**C&PH Ebola Protocol**

**Key Actions**

Refer to this section in the C&PH Ebola protocol

**Immediate actions**

- Place the suspected case in a single (negative pressure) room.
- Use standard precautions plus droplet transmission-based precautions, including PPE (see Appendix G).
- Suspected cases should only be managed by senior staff.
- Medical Officer of Health to be notified
- Report the suspected case to the Ministry of Health on 0800 GET MOH (0800 438 664).
- Local readiness and response plans should be initiated including St John for transport to Christchurch hospital.
- The Ministry's Ebola Readiness Incident Management Team (IMT) will provide advice, support and coordination.

**Also telephone and inform**

- The Emergency Department
- CDHB Comms person.
- The on-call Infectious Disease physician (and arrange laboratory testing.- Note: repeat testing > 3 days later may be necessary).
- Request the ID physician call:
  - on-call Microbiologist
  - Chief Medical Officer, CDHB

**Management Of A Confirmed EVD Case**

**C&PH Ebola Protocol**

**Key Actions**

Refer to this section in the C&PH Ebola protocol

- Care for EVD is supportive
- The Ministry's Ebola Readiness IMT will provide advice, support and coordination.
- In the convalescent phase, the need for PPE will be reviewed.
- Recovered confirmed cases may be released from isolation in consultation with an infectious diseases physician and allowed to return home once well.

**Counselling**

- Advise the case and their caregivers of the nature of the infection and its mode of transmission.
- Advise on measures to reduce transmission to household or other close contacts
- Convalescent patients must be meticulous about personal hygiene due to the possibility of the presence of virus in bodily fluids including semen for 3 months after illness
- Cases should be advised not to have sexual activity (or use condoms) for 3 months after illness
- Cases must not donate blood for 3 months.

**Management Of Community Contacts**

**C&PH Ebola Protocol**

**Key Actions**

Refer to this section in the C&PH Ebola protocol

Also see Table 1. Categories and management of contacts of Ebola cases

- Contacts should be categorised, advice provided, and monitoring conducted aligned with the guidance in Table 1. 'Categories and management of contacts'
- Liaise closely with the Ministry of Health regarding contact tracing and management of identified contacts.
- It takes several days for confirmatory testing of an EVD case and repeat testing may be necessary.

**Other Control Measures**

**C&PH Ebola Protocol**

**Key Actions**

Refer to this section in the C&PH Ebola protocol

- Identification of other cases
- Disinfection
- Health education

**Special Situations**

**C&PH Ebola Protocol**

**Key Actions**

Refer to this section in the C&PH Ebola protocol

- Outbreaks in health care facilities**
- Convene an outbreak meeting including a senior facility manager, an infection control practitioner, clinical and public health staff.
  - Identify and monitor close contacts
  - Active case finding
  - Isolation and/or cohorting
  - Work restriction for health care workers who are close contacts (ie, unprotected exposure) with a suspected, probable or confirmed case
  - Distribution of fact sheets and other information
  - Determine risks for infection (epidemiological studies)

*Continued next page*

**Special Situations** continued

**C&PH Ebola Protocol**

**Key Actions**

- Outbreaks in residential care facilities or other residential institutions (eg, prisons or boarding schools)**
- Convene an outbreak meeting including a senior facility manager, an infection control practitioner, clinical and public health staff.
- Other factors to consider in the event of local transmission**
- Thorough review contributing environmental factors. Including a review of infection control procedures, and opportunities for exposure to environments contaminated by body fluids.
  - If a case had exposure to animals in New Zealand, consult with the Ministry for Primary Industries



## Ebola Virus Disease Protocol

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### Regarding the 2013-2014 Ebola outbreak in West Africa<sup>1</sup>

#### Current situation

An outbreak of EVD has been occurring in West Africa since December 2013. It is the largest outbreak of EVD ever reported, both in terms of the number of cases and the geographical spread. It is also the first time the EVD has spread to large cities.

For further information on the evolving situation, see: [www.who.int/csr/disease/ebola/situation-reports/en/](http://www.who.int/csr/disease/ebola/situation-reports/en/)

A list of countries currently defined as EVD affected countries is available at: [www.health.govt.nz/ebolauupdate](http://www.health.govt.nz/ebolauupdate).

#### **Declaration of a Public Health Emergency of International Concern (PHEIC)**

On 8 August 2014, the World Health Organisation (WHO) Director General declared the ongoing Ebola Virus Disease (EVD) outbreak in West Africa to be a PHEIC. This decision was based on the advice and assessment of an Emergency Committee convened under the International Health Regulations. It is only the third time a PHEIC has been declared (the first was for the 2009 H1N1 influenza pandemic, the second was in May 2014 in response to the international spread of wild polio virus).

The WHO issued a series of recommendations for states with EVD transmission, those with potential or confirmed EVD cases and those with land borders with affected states. These recommendations are intended to assist with containing the outbreak and preventing further international spread. The WHO also issued a series of recommendations for all states which are applicable to New Zealand.

#### **Separate EVD outbreak in the Democratic Republic of Congo (DRC)**

A separate outbreak of EVD, not related to the ongoing outbreak in West Africa, was reported on 24 August by the Democratic Republic of Congo (DRC). Following two incubation periods without a new case of EVD reported, the WHO declared the outbreak in the DRC to be over on 21 November 2014.

#### **Where to get further information and advice<sup>1</sup>**

Please see the webpages below for the latest information:

- *General information for the public:*
  - [www.health.govt.nz/ebola](http://www.health.govt.nz/ebola)
- *Health professional guidance:*
  - [www.health.govt.nz/ebolaguidance](http://www.health.govt.nz/ebolaguidance)
- *Situation updates:*
  - [www.health.govt.nz/ebolauupdate](http://www.health.govt.nz/ebolauupdate)
  - [www.who.int/csr/disease/ebola/situation-reports/en](http://www.who.int/csr/disease/ebola/situation-reports/en)
- *EVD case definitions:*
  - [www.health.govt.nz/ebolacasedefinition](http://www.health.govt.nz/ebolacasedefinition)

#### **Map of cases and extent of outbreak**

CDC: <http://www.cdc.gov/vhf/ebola/resources/distribution-map-guinea-outbreak.html>

#### **CDHB (C&PH) Ebola Intel report**

<K:\CFS\InformationTeam\Shared\Requests\EbolaIntel\CDHBIntel\2015 CDHB Ebola Intel reports>

#### **Further advice<sup>1</sup>**

- Health professionals should phone their local public health unit for advice in the first instance, for any person whose history and symptoms raise concern, even if the person does not meet the formal EVD case definition.
- The Ministry of Health on 0800 GET MOH (0800 438 664).
- The Ministry of Health will provide advice, support and coordination. The Ministry will be able to call on additional expert advice from the ETAG.

The Disease	
	<p><b>Ebola viruses</b></p> <p>EVD is caused by a virus of the <i>Filoviridae</i> family. Five species of Ebola virus have been identified, namely Zaire, Sudan, Reston, Tai Forest and Bundibugyo, from samples collected during human and non-human primate outbreaks since the first outbreak in the Democratic Republic of the Congo in 1976. Fruit bats of the <i>Pteropodidae</i> family are considered to be a likely natural host of the Ebola virus, with outbreaks of EVD occurring occasionally amongst other species such as chimpanzees, gorillas, monkeys and forest antelope. The 2014 outbreak in West Africa is caused by the Zaire strain of Ebola virus.<sup>1</sup></p> <p>The onset of symptoms is sudden and includes intense weakness, muscle pain, headache, nausea and sore throat. This is followed by vomiting, diarrhoea, a rash, impaired kidney and liver function, and in some cases, both internal and external bleeding. Laboratory findings frequently include low white blood cell and platelet counts and elevated liver enzymes. Some cases progress to shock and multi-organ failure. The case-fatality ratio for the Zaire strain of Ebola virus is estimated to be between 50% and 90%.<sup>1</sup></p> <p><b>Epidemiology in New Zealand</b></p> <p>There has never been an imported case of EBV into New Zealand, but it is possible that an infected traveller will bring the disease to New Zealand where there is the potential for person-to-person spread.</p> <p><b>Incubation period, signs and symptoms<sup>1</sup></b></p> <p>The incubation period varies from 2 to 21 days, most commonly 8–10 days. People are not infectious before symptoms develop. The onset of symptoms is sudden and includes fever, intense weakness, myalgia, headache, nausea and sore throat. This is followed by vomiting, diarrhoea, impaired kidney and liver function, rash, and in some cases, both internal and external bleeding. Laboratory findings frequently include low white blood cell and platelet counts, as well as elevated liver enzymes. Some cases progress to profuse internal and external bleeding, which can further progress to shock and multi-organ failure. The mortality associated with Ebola virus in developing countries ranges from 50 percent to 90 percent (50–70 percent in this current outbreak) depending on the species of Ebola virus causing disease. The mortality for patients receiving care in developed countries is not known but is expected to be lower.</p> <p><b>Transmission<sup>1</sup>:</b> People infected with Ebola virus disease are not infectious before symptoms develop. The risk of transmission increases in later stages of the disease, with increasing viral titres.</p> <p>EVD is introduced into the human population through contact with the blood, secretions, other bodily fluids or organs of infected animals (often through hunting or preparation of bushmeat). EVD then spreads person to person through contact and droplet transmission via the blood, secretions, organs or other bodily fluids of infected people, and contact with environments heavily contaminated with such fluids, including in health care settings. The risk for infection in health care settings can be significantly reduced through the appropriate use of infection control precautions. Transmission through sexual contact could potentially occur up to three months after clinical recovery. Laboratory-acquired infections have also been reported.</p> <p>Airborne transmission, as occurs for measles or influenza, has never been documented. There is no evidence that simple physical contact with a sick person is sufficient for contracting EVD. Contact with heavily contaminated objects (such as bedding) can possibly facilitate transmission. Traditional burial ceremonies in affected countries are a known high risk activity for transmission.</p> <p>The role of the environment in transmission has not been established. Under environmental conditions that favour virus persistence, it has been shown that Ebola virus can survive in</p>

liquid or dried material for a number of days. However, Ebola virus is also sensitive to inactivation by ultraviolet light and drying.

**Communicability:** People infected with EBV are not infectious before symptoms develop. Transmission risk is highest in late stages of illness. Cadavers can be infectious. May be passed through semen up to 7 weeks after illness.

**Prevention:** Vaccines against EBV are currently being developed. Prevention efforts must concentrate on avoiding contact with the particular host species. If prevention methods fail and a case of EVD does occur, efforts should focus on preventing further transmission from person to person by strict infection prevention and control measures.

**Notification Procedure<sup>1</sup>**

EVD is notifiable as a viral haemorrhagic fever under the Health Act 1956. Suspected cases of EVD or any viral haemorrhagic fever, must be notified to the Medical Officer of Health and 0800 GETMOH immediately. Notification should not await confirmation.

**EVD CASE DEFINITIONS (5 June 2015)**

**Important: check here for the most current case definition:**  
[www.health.govt.nz/ebolacasedefinition](http://www.health.govt.nz/ebolacasedefinition)

Public health officers should notify the Ministry of Health of any person with history or symptoms that raise concern, even if they do not meet the case definition.

**Suspected case**

*Given the lack of specificity of initial symptoms, a person will be defined as a suspected case only after a clinical assessment by an Infectious Diseases physician.*

A person with a clinical illness compatible with Ebola

*Fever (temperature 38°C or above)<sup>1</sup> with or without additional symptoms such as intense weakness, severe headache, myalgia, abdominal pain, sore throat, marked vomiting, marked diarrhoea or unexplained haemorrhage. Initial symptoms are usually not specific, but onset is sudden and intense with symptoms worsening over a few days, often with prostration, rash, evidence of capillary leak, bleeding/haemorrhage, shock and impaired consciousness. Please note that during the current outbreak in West Africa, haemorrhagic symptoms have been reported less frequently than non-specific symptoms.*

**AND**, within 21 days before onset of illness, a history of travel to the affected areas<sup>2</sup> or a contact with an identified potential source of Ebola virus elsewhere,

**WITH EITHER:**

- direct contact with a probable or confirmed case<sup>3</sup> OR
- exposure to Ebola-infected blood or other body fluids or tissues<sup>4</sup> OR
- direct handling of bats, rodents or primates, from Ebola-affected countries OR
- preparation or consumption of ‘bushmeat’<sup>5</sup> from Ebola-affected countries.

**Probable case**

A suspected case with no possibility of laboratory confirmation for Ebola either because the patient or samples are not available for testing.

**Confirmed case**

A suspected case with laboratory confirmation (positive serology or PCR).

1. Fever may be absent at presentation if the person is taking antipyretic medication.
2. Affected areas in the countries with transmission in Western Africa (please refer to [Centers for Disease Control and Prevention](#) website).
3. Direct contact includes:
  - direct physical contact with the case during the illness (without the appropriate infection prevention and control measures)
  - direct physical contact with the case post mortem (without the appropriate infection prevention and control measures)

- having touched case's blood or body fluids during the illness (without the appropriate infection prevention and control measures)
  - having touched case's clothes or linens during the illness (without the appropriate infection prevention and control measures)
  - having been breastfed by the case.
4. This includes the semen of a recovered male patient. The presence of virus has previously been demonstrated in semen for up to three months after recovery.
  5. Bushmeat is the meat of African wild animals used as food.

**Laboratory Testing<sup>1</sup>**

EVD diagnostic testing must be undertaken in an accredited reference laboratory for quality assurance purposes. The Ministry has arrangements in place for testing to be undertaken at the Victorian Infectious Diseases Reference Laboratory (VIDRL), Peter Doherty Institute, Victoria.

VIDRL has requested that only original samples be submitted, not deactivated samples or extracted nucleic acid.

Instructions for the shipping of samples are included in the 'Sample Shipping Process' document available on the Health Emergency Management Information System (EMIS). Please contact your DHB Emergency Planner for further information on Health EMIS if required.

The timeframe for receiving a result is up to 72 hours.

- If a patient meets the suspected case definition, a negative test within the first three days of the onset of symptoms cannot rule out EVD. A repeat sample should be sent after day three from symptom onset and at least 48 hours after the first negative result. It is recommended that a patient remain under full isolation precautions until two negative PCR results are obtained (or one negative PCR test if undertaken more than three days after onset of symptoms). Decisions regarding cessation of isolation precautions should be discussed with appropriate local teams and should include liaison with an Infectious Diseases Physician and Medical Officer of Health.
- Following negative diagnostic results for EVD, a suspected case may be released from isolation and discharged, if the medical condition allows, unless a high index of suspicion remains (such as in the absence of an alternative diagnosis). They should be given information about EVD and contact details for the local public health unit.

**General recommendations for clinicians and laboratory staff managing suspected EVD cases and samples<sup>1</sup>**

- Laboratory testing is used to confirm EVD or other infection, and to optimise supportive care. Until the EVD diagnostic test result is available, tests should be kept to the minimum necessary to provide care for the patient in order to minimise possible exposure of EVD to laboratory staff and other health care workers.
- A local risk assessment should be conducted by senior scientific staff and/or pathologists. This risk assessment should cover collection, handling and disposal of specimens from suspected EVD cases.
- A laboratory plan should be developed regarding the local capacity for diagnostic and supportive care testing. This plan should be communicated with clinical staff that may be assessing or treating patients with suspected EVD.
- All laboratory staff and other healthcare personnel collecting, handling, testing or disposing of specimens must follow established laboratory standards. Refer to: AS/NZS 2243.3:2010: Safety in Laboratories.
- Use of point-of-care diagnostic (eg, malaria rapid test) and supportive care testing is recommended where available, but should be used based on local risk assessment.
- In line with other jurisdictions, the Ministry has purchased point of care testing devices for use in the management of a suspected or confirmed EVD case. These devices have been distributed to Auckland, Middlemore, Wellington and Christchurch Hospitals. If a patient were to present at another facility and they were not able to be transferred, the Ministry of Health would arrange deployment of the device (and people who are trained in their use) to the appropriate facility.

- There is currently no international consensus as to whether the point of care devices should be used at the bedside or within the laboratory. This decision will be made on a case by case basis, based on a local risk assessment, as it would include consideration of the patient’s condition as well as the particular local facilities.
- Staff operating these devices must use personal protective equipment as for handling any specimen and all waste generated by the testing process must be disposed of safely according to established standards.

**Management of A Suspected/Probable Case – Christchurch Airport<sup>2,3</sup>**

- Before investigating, urgently discuss the situation with the Medical Officer of Health.
- The text is to be read in conjunction with the flow diagram Appendix B, Public health response guidelines for managing an unwell passenger at CIAL. For the complete protocol refer to the document, Border Health Protocols for a Public Health Response to Public Health Risks at Christchurch International Airport v1, 13 Sep 2012 (K:\CFS\ProtectionTeam\FinalDocs\Emergencies\Preparedness\ChristchurchAirport\CIALBorder Health Protocolsv1Draft.Ink)<sup>4</sup>

**Notification of an Ill Traveller on an Aircraft  
Pratique**

The captain of an international flight is required to notify the border health protection officers (medical officer of health or health protection officer) if passengers or crew on board the craft have symptoms of concern. The symptoms of concern are defined by the World Health Organization and the International Civil Aviation Organisation:

A fever (temperature of 38<sup>o</sup>C or greater) [*however note this is different from the MoH clinical description for a suspected case of Ebola in which the level of temperature of a fever is not specified*] associated with one or more of the following:

- appearing obviously unwell
- persistent coughing
- impaired breathing
- persistent diarrhoea
- persistent vomiting
- skin rash
- bruising or bleeding without previous injury
- confusion of recent onset.

If the border health protection officers are notified of an ill passenger or crew, the ill traveller protocol should immediately be activated. Inform the Ministry of Health on 0800 GET MOH. The aircraft will no longer be deemed to have pratique and so must be met/assessed on arrival.

The subsequent actions will be dependent on the public health risk assessment, and may require border response plans to be activated.

Pratique must be granted as soon as the border health protection officer deems there is no quarantinable disease likely to be present. The statutory provisions that apply to notifiable infectious diseases are applicable, for example, section 79 (powers to detain and isolate).

Note: Ebola virus disease has been made a quarantinable disease.

*See Appendix B for a flow diagram of the process for managing a symptomatic traveller.  
See Appendix N CIT002 Suspected Case Risk Assessment form [CFS/EBOLA/4\_Operations/Case Investigation]*

**Notification After Passengers and Crew Have Disembarked**

Customs officers are checking arrival cards and identifying travellers who list Guinea, Sierra Leone, or Liberia as countries visited in the past 30 days. (See Appendix J for a fact sheet on screening of travellers.) Any travellers identified who have visited the Ebola-affected countries will be questioned further by Customs officers:

1. Are you experiencing any symptoms of fever, muscle aches, vomiting or diarrhoea.
2. Have you been in direct contact with someone who has had Ebola or was suspected of having the disease?
3. Were you living in a household with someone who has had Ebola?
4. Were you providing medical care to an Ebola patient?
5. Were you working in a laboratory and having exposure to Ebola samples?
6. Have you attended a funeral?

If the traveller answers 'no' to all six questions, they will be given the generic Ministry of Health advice card (see Appendix K).

If the traveller answers 'yes' to any of these questions, the traveller will be isolated and Customs will contact border health protection officers to undertake an assessment of the traveller to see if they meet the case definition (see **Notification Procedure** section above) or may be a contact of a suspected case (see **Management of Contacts – Airline And Christchurch Airport** below).

See Appendix B for a flow diagram of the process for managing a symptomatic traveller.

### **Suspected Case - Risk Assessment and Case Management**

If a suspected case is identified, immediately isolate the person and inform the MOH. Information that must be gathered and considered in the risk assessment of a suspected case includes:

- onset date of illness
- symptoms, in particular fever.

In the 21 days prior to onset of symptoms ask about

- history of travel
- for travel in West Africa, gather details on places visited and dates
- history of contact with any suspected or confirmed Ebola cases
- history of exposure to blood or body tissue
- history of exposure to bats or primates
- history of eating bush meat
- participation in a funeral which involved direct contact with the deceased body
- details of direct contact with others since onset of symptoms.

Confirm symptoms meet the Ministry of Health's case definition (*refer to <http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-updates/case-definitions-ebola-virus-disease>*) and complete CIT002 (Appendix N), Suspect Case Risk Assessment form [CFS/EBOLA/4\_Operations /Case Investigation].

If the ill traveller meets the case definition or the risk assessment indicates there is a public health risk that requires further management the following actions should be taken:

- ensure the case has been reported to the local Medical Officer of Health and the Ministry of Health on 0800 GET MOH.
- ensure transmission-based precautions are immediately implemented by border agencies including the appropriate use of Personal Protective Equipment (PPE). PPE standards for Ebola are assessed by each agency using their own protocols.
- Implement the St John ambulance aspect of the Border protocol<sup>3</sup>, Appendices A and B to ensure the case is safely transported to Christchurch hospital. Ensure St John staff are aware of the need to take appropriate infection prevention and control measures.
- Assess what the risk of transmission during the flight was.
- Commence contact tracing.

Assessment at the airport should follow the directions of:  
**Management of Contacts – Airline And Christchurch Airport** (below),  
and see Key Action Points document (includes Appendix A and Appendix B [flow diagram]).

- As well as contacting the Medical Officer of Health and Ministry of Health ensure the following are also informed of the situation:



- The Emergency Department
- The on-call Infectious Disease physician
- The Microbiologist
- The Chief Medical Officer, CDHB

**Management of Contacts – Airline And Christchurch Airport<sup>1,2,3</sup>**

*It is recommended that, if at all possible, border health protection officers arrive at the airport at least an hour before a flight is due to land with a suspected case or known contacts (eg people who have been assisting in the Ebola response). This will enable the officers to ensure appropriate arrangements are in place and to provide advice and reassurance to border officials and airport staff who may be concerned about potential exposure risk.*

*Border health protection officers should take pre-prepared kits that include the relevant forms and templates, health advice card and relevant fact sheets. For high-risk contacts and people who have assisted with the Ebola response, the kits will also need to include a self-monitoring log (CMT004 {..CFS/EBOLAS/4\_Operations/Contact Management}), a thermometer and instructions on how to use it (CMT005) and contact details for the public health unit.*

**Notification (pathways) of contacts of suspected Ebola cases**

Border health protection officers (medical officers of health or health protection officers) may be notified of contacts through the following pathways:

- Directly from an arriving aircraft that there is an ill traveller on board displaying symptoms of concern;
- From the New Zealand Customs Service, as a result of the border screening process;
- From the Ministry of Health, for example the National Focal Point advising of a suspected, probable, or confirmed case of Ebola on an international flight and of New Zealand residents or travellers to New Zealand who were on the same flight;
- From the Ministry of Health, for example the planned return of people who have been assisting in the Ebola response in the affected countries.

**Contact Tracing and Contact Management**

**People who are asymptomatic are not infectious; therefore border health protection officers do not need to wear personal protective equipment (PPE) during interactions with these people. (However good hand hygiene is always strongly recommended.)**

**Purpose of contact tracing:** contact tracing is required for the prevention of onward transmission, awareness-raising and early detection. No specific treatment is available for Ebola virus disease, but supportive treatment increases survival chances, especially if applied early.

**The severity of the symptoms and infectiousness of the index case:** cases are not infectious before they develop symptoms. Patients with more severe symptoms are more likely to be infectious. The presence of any symptoms displayed during the flight that are compatible with Ebola virus disease should be considered in the risk assessment.

**Route of transmission:**

- The main route of transmission for Ebola virus disease infection is by direct contact with infectious body fluids.
- In the absence of specific incidents (eg uncontrolled vomiting, diarrhoea, bleeding), **the use of the toilet** by the index case is not considered a risk for others and therefore not relevant when considering contact tracing.
- The transmission of Ebola virus disease through aerosol spread (eg coughing, aircraft ventilation systems) is considered negligible.
- Ebola virus disease cannot be caught by people sitting across the room from a suspected case; direct contact with infected bodily fluids is required.



- People infected with Ebola are not infectious before symptoms develop. Once symptoms develop (between 2 and 21 days after exposure) there is initially a low risk of transmission even with high-risk exposure. The risk of transmission increases in later stages of the disease, with increasing viral titres.
- Physical contact with infected body fluids is necessary for transmission. In the later stages of the disease, contact with heavily contaminated objects may also be a risk for transmission.

**Duration of flight:** Since direct contact is necessary for the transmission of Ebola virus disease, the duration of flight is not taken into consideration when considering contact tracing.

**Relevant information:**

- Severity of symptoms and details of any incidents resulting in contamination from body fluids (particularly blood, urine, faeces, vomit)
- Use of facilities on the aircraft (or in the airport on arrival) if they are likely to have been contaminated by body fluids as above.
- Seat location of symptomatic traveller
- Nature of contact between symptomatic traveller and other travellers and crew.

**Upon notification of contacts of suspected Ebola cases**

Once the border health protection officer has received details of contacts to be followed up, the following actions must be taken as soon as possible:

- Speak directly with each of the contacts identified, preferably face to face;
- Advise of reason for the interview and of the need for accurate and honest information;
- Confirm personal and contact details for the person (phone number, email and address) for up to the next 21 days (or incubation period remaining since contact with a suspect case);
- Confirm the person's current health status, including asking specific questions about Ebola symptoms, in particular fever. A temperature check should be part of the initial assessment;
- Confirm the details and nature of their recent travel, in particular the flight in question;
- Confirm the nature of contact with others on board the flight and any potential contact with body fluids (vomit, faeces etc) during the flight. If the case's location on the aircraft is known in relation to the contact a more detailed conversation may be possible, otherwise discussions may need to be more general eg, any contact with an ill traveller.
- For people who have been assisting in the Ebola response in the affected countries confirm nature, duration and location of the work they have undertaken. Confirm any stand-down measures that have been undertaken.
- For other contacts confirm nature and dates of contact with confirmed or probable cases.
- Confirm personal situation including living circumstances, current health status, and working commitments. Assess whether the contact will be able to adequately self-monitor and whether their personal circumstances may mean that an offer of accommodation in a quarantine facility may be helpful or necessary

- **Contacts of an ill traveller suspected of having Ebola on an aircraft**

*(see also Table 1 ('Management of Community Contacts' for contact definitions Advice/Actions and monitoring requirements)*

**Remember:** cases are not infectious before they develop symptoms. Patients with more severe symptoms are more likely to be infectious. The presence of any symptoms displayed during the flight that are compatible with Ebola should be considered in the risk assessment.

Passengers and crew from the affected flight must be processed as quickly as possible. There is almost certain to be significant concern among passengers and crew on the affected flight. It is important for travellers to be given clear advice about the risk of contracting the disease and opportunity to obtain information following leaving the airport. The first step should be

to identify direct contacts and classify them as high or low risk. (Appendix O, CMT003 [CFS/EBOLA /4\_Operations/Contact Management] and see Table 1: *Categories and management of Contacts of Ebola cases*).

**Direct contacts (low risk)** are defined as:

- Passengers sitting in direct proximity to the suspect case, that is passengers who were one seat away (+/-1 seat in all directions, including diagonally), at any time during the flight.
- Crew members who provided in flight service in the section of the aircraft where the suspect case was seated.

**Direct contacts (high risk)** are defined as:

- Co-travellers and crew members who reported direct body contact or contact with body fluids with the suspected or confirmed case during the flight. This includes contact with any surfaces soiled with body fluids.
- Other travel companions of the suspect case (eg, friends or family) should also be considered, even if not sitting within one seat of the suspected case, as they may have been exposed to the same potential source of infection as the suspected case or have had direct contact prior to the flight, while case was symptomatic.

**Actions:** see Table 1: *Categories and Management of Contacts of Ebola cases*:

- For aircrew and people sitting within one seat of the suspected case, and those who have had direct contact with body fluids: confirm nature of contact during flight
- For travelling companions (friends, family): confirm nature of contact prior to the flight or if they may have the same potential exposure pathway. Travelling companions should be questioned about possible exposures in the last 21 days (use risk assessment questions as for suspected case).
- Provide advice on the situation and public health risks.
- Advise that if the suspected case is in New Zealand, a blood sample will be taken from them and tested for the Ebola virus. We will be in regular communication with them, and will confirm whether the person has Ebola or not, when this information is available. (It may take several days for confirmatory testing of an EVD case and depending on the time since last potential exposure and the stage of illness, repeat testing may be necessary).
- Advise direct low risk contacts that Ebola cannot be passed on to others if you are asymptomatic, but should any symptoms develop over the next 21 days they should isolate themselves from others and phone Healthline 0800 611 116, advising they are a contact of a suspected Ebola case. Provide health advice and relevant fact sheet (see Appendices K and M).
- Ensure passenger arrival cards have been completed; request this includes contact details. Retain a copy of contact details for all direct contacts.

**Direct contacts (high risk) additional actions:**

- Explain the need for self-monitoring. Carefully explain how to measure, record and report temperature twice daily for the full incubation period after the last contact with the case. It is recommended that public health officers, and people who are self-monitoring, use sublingual or tympanic thermometers (and NOT forehead thermometers). Ensure who ever will be undertaking this monitoring has the appropriate equipment and knows how to use it (CMT005). Report immediately to the local public health unit if symptoms develop, including fever, or any other concerns and self-isolate while medical care is arranged. The public health unit will make an assessment of the person and notify the Ministry of Health on 0800 GET MOH (0800 438 664).
- Inform the contacts that there are no limitations to activities of daily living or use of public transport or facilities providing they have no symptoms and they adhere to the monitoring requirements.
- However, depending on the assessment of the individual contacts, the border health

protection officers may need to consider additional controls. These controls may include asking the contact not to return to work or school during the incubation period. Consideration should be given to quarantine (home or facility) depending on the risk assessment, and/or the likelihood the contact will comply with monitoring.

- Advise the contact that a public health staff member will contact them daily (by phone or by visit) to check their state of health, answer any questions and keep them informed (eg the case diagnosis). Provide relevant fact sheet (see Appendix L).

**Other travellers on the plane not defined as contacts:** reassure other travellers on the aircraft that there is no risk of transmission to passengers or crew on the aircraft if they have not had direct contact with the suspected Ebola case. These passengers/crew will need general information prior to being released.

- Provide advice on the situation and public health risks
- Provide health advice card and the relevant fact sheet (see Appendices K and M)
- Ensure passenger arrival cards have been completed; request this includes contact details so that they can be contacted to be given any updates
- Passengers can now be released.

*For examples of standard communications messages including inflight messaging prior to passengers disembarking see Appendix F.*

**B. Notified by Customs border screening**

- There will be no warning of this notification.
- As noted previously, Customs officers are screening passengers and/or crew members who have travelled from Ebola affected countries.
- If the traveller answers 'no' to all the questions, they are given a health advice card.
- If they answer 'yes' to one or more questions, they will be escorted to an isolation area to await border health protection officer.
- Customs officers will hold the arrival cards for other travellers on the same flight.
- If the border health protection officer considers the traveller is a suspected case of Ebola, and is symptomatic (eg has an elevated temperature), contact tracing and management will be required.
- If the traveller reports potential exposure only, then the border health protection officer should provide the relevant fact sheet (see Appendix I) and health advice card to the traveller and discuss the importance of calling Healthline if any symptoms develop. The border health protection officer should ensure contact details are available.
- If the contact is a direct high-risk contact, advise the traveller that someone from the public health unit will check their state of health during the incubation period (by phone or personal visit).
- Refer also to Table 1: *Categories and management of Contacts of Ebola cases.*

**C Notified by the Ministry of Health/National Focal Point**

- The New Zealand National Focal Point may be advised of contacts of a suspected Ebola case. There may be very little warning of this notification. Contacts may be on route to New Zealand or may have arrived up to 20 days previously.
- Border health protection officers will receive communication from the Ministry of Health of any confirmed cases of Ebola who have travelled internationally **and** where follow up of contacts in New Zealand is required.
- The Ministry of Health will work at a national level with border stakeholders (customs, immigration and airlines) to obtain the information needed for contact tracing. This will include as much information as is known on the nature and onset of the cases symptoms, presence of symptoms during the flight, any potential exposures during the flight, and seating arrangements for the case.
- Information on identified contacts from the specific flight/s living or travelling in New Zealand will be collated by customs and forwarded either directly to the relevant public health unit or to the Ministry of Health who will then forward it on. If an aircraft seating plan is available this will also be provided.
- Refer also to Table 1: *Categories and management of Contacts of Ebola cases.*

**D People who have been assisting in the Ebola response arriving in New Zealand**

{see update (new section 5.7) in Reference 2 (Risk Assessment Framework for Managing Ill Travellers etc)}

- Ministry of Health officials expect to provide border health protection officers with advance notice of the return of people who have been assisting in the Ebola response in the affected countries, such as healthcare and humanitarian aid workers.
- The Ministry of Health is working closely with the NGOs who are deploying workers to assist with the Ebola outbreak response in affected countries, such as the Red Cross and Medecins Sans Frontieres.
- People who have been assisting in the Ebola response in the affected countries will monitor their state of health as they return to New Zealand, including their temperature, and provide updates to their parent organisation. At the final transit leg, this information will be provided to the Ministry of Health, and only people who do NOT exhibit any symptoms of concern (ie no elevated temperature) will continue their journey to New Zealand.
- Border health protection officers will be notified in advance of any people who have been assisting in the Ebola response in the affected countries known to be returning through airports in their district and provided with the flight details. It is recommended that border health protection officers arrive at the airport at least an hour before a flight is due to land to ensure appropriate arrangements are in place and to provide advice and reassurance to border officials and airport staff who may be concerned about potential exposure risk.
- The workers will be identified to Customs and the Customs officers will ensure these passengers are identified on arrival and taken to a room for a health screening. Border health protection officers will be expected to meet and screen any person returning from assisting in the Ebola response in the affected countries. The purpose of the health screening is to ensure/demonstrate active management of healthcare and humanitarian aid workers due to the nature of the work they have undertaken. Border health protection officers should allow sufficient time during their interview for the workers to share their experiences, if they wish, as part of the general care and respect for the workers.
- Depending on circumstances at the time of the workers return (for example public and media interest), there may be additional measures required. These may include use of VIP processing to enable the people who have been assisting in the Ebola response in the affected countries to move through processing without undue public scrutiny. It may also include formal media conferences if appropriate.
- After the person who has been assisting in the Ebola response in the affected countries has been screened, they will continue their journey but will not return to work in a healthcare setting until the incubation period from their last contact with potentially infected people or materials has passed.

*Public health unit staff are responsible for undertaking daily contact with returned humanitarian/healthcare workers. People who have returned from assisting with the response will have a high familiarity with Ebola and the requirements, and benefits, of early access to appropriate care. Public health staff will have made a public health risk assessment at the border and determine that:*

- *the returnee is currently asymptomatic*
- *they are confident that the returnee will comply with the requirements of self monitoring*
- *they are confident that the returnee will immediately notify the public health unit of any concern or symptoms (in addition to their daily contact with public health unit staff)*
- *they have no reason to believe the returnee presents any other public health risk.*

- The individual will self-monitor at an agreed location from the time of their arrival in

New Zealand until 21 days following their departure from an Ebola affected country. Self-monitoring involves taking and recording their temperature twice daily and recording any medications taken. It is recommended that public health officers, and people who are self-monitoring, use sublingual or tympanic thermometers (and NOT forehead thermometers). Anti-pyretics or other fever-masking therapies must not be taken in the four hours prior to a temperature check (CMT005).

- People will be supported over this time by staff from the local public health unit. A public health unit staff member will phone or visit the person daily and complete the daily monitoring form (CMT004). Routine reporting to the Ministry of Health is **not** required. If a person who has been assisting in the Ebola response in an affected country develops a raised temperature or any other signs or symptoms of concern they will immediately self-isolate and notify their local public health unit by telephone. The public health unit must notify the Ministry of Health on 0800 GET MOH (0800 438 664) if the person starts to experience a rise in temperature, symptoms of concern, or any other matter the public health unit considers appropriate to inform the Ministry. If there is any heightened concern, consider self-isolation, and increased follow-up by the public health unit.
- Refer also to Table 1 *Categories and Management of Contacts of Ebola cases*.
- Unless communicated otherwise, people who have been assisting in the Ebola response in the affected countries will be asymptomatic and therefore will **not be** considered infectious for Ebola.
- **Ministry Comment** [email from Sally Gilbert: *Ebola Outbreak in West Africa: Update on New Zealand Response for Border Agencies and Organisations 18/12/2014*]

*"We do not consider it is appropriate, proportional or operationally required that ambulance services or DHBs hold the names or addresses of people who are undergoing self-monitoring, and we note that this information is not held or provided for other notifiable or quarantinable diseases.*

**Other travellers from the affected region:** *there is even less rationale and additional privacy issues in providing the details of those who have declared and completed Customs screening and answered no to all screening questions.*

#### **Management of Symptomatic Contacts of Ebola Cases**

If, during the initial contact assessment or in monitoring during the stand down period, the contact is assessed as having a clinical illness compatible with Ebola and has had direct contact with a confirmed case or has been exposed to other Ebola risk factors (eg preparing and/or eating bush meats) then they **must** be treated as a suspected case (CIT002, [Appendix N], Suspect Case Risk Assessment form). (Note that public health officers, or other people undertaking health risk assessments such as paramedics, should use sublingual or tympanic thermometers and NOT forehead thermometers.) The Ministry of Health latest case definition can be found at: [www.health.govt.nz/ebolacasedefinition](http://www.health.govt.nz/ebolacasedefinition)

Ensure the following actions are taken immediately:

- Report the suspected case to the Ministry of Health on 0800 GET MOH (0800 438 664).
- Ensure transmission-based precautions are immediately implemented including the appropriate use of Personal Protective Equipment (PPE).
- Ensure the suspected case is safely transported to an appropriate tertiary level hospital (Middlemore, Auckland, Wellington, or Christchurch hospitals only) for case management and relevant screening tests. Additional information has been provided to the health sector on patient management.
- Commence contact tracing for this suspected case.

**Note:** it may take several days for confirmatory testing of an EVD case and depending on the time since last potential exposure and the stage of illness, repeat testing may be necessary.

Refer to Ministry of Health website for more information on management of cases. <http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-update/ebola-information-health-professionals>

**Infection Control and Cleaning**

The health and safety of airport and airline staff is the responsibility of their respective employers in conjunction with Worksafe New Zealand, however border health protection officers can give general advice about Ebola and the Ministry of Health’s general risk assessment for the disease.

Passengers and crew who are asymptomatic are not considered to be infectious, therefore personal protective equipment (PPE) is not required during interactions with these persons. However good hand hygiene is always strongly recommended. Infection control guidance is available from Appendix G (Updated information for health professionals, 25 November 2014, Ministry of Health’s website)

**Guidance for Airline Cleaning Personnel:** Airlines have the responsibility for cleaning their aircraft and dealing with contaminated items soiled with the body fluids, and will have their own procedures. However Appendix C provides guidance, including advice adapted from CDC guidelines by the Auckland Regional Public Health Service, which may be helpful background for border health protection officers during discussions with airline staff or airline cleaning staff.

**Cleaning Residually Treated (Disinsected) Aircraft:** Ministry for Primary Industries (MPI) and the Australian Department of Agriculture have compiled a joint Schedule of Aircraft Disinsection that all airlines comply with when flying internationally into NZ or Australia. Both agencies manage the compliance of this process.

Following a residual spray application and where internal areas of aircraft receive additional or substantial cleaning to sections such as wall linings, carpets etc, then these areas must undergo a supplementary ‘touch-up’. The touch-up may be from an aerosol spray containing permethrin (see Appendix D).

**Communications**

It is likely that there will be significant media interest in any event. Public health staff must refer any media enquiries to the Ministry of Health communications team.

Good risk communication will be crucial in any border health response. Communication will be required to affected passengers and crew, border agencies and ground handlers and other airport staff, health services and the media. For key messages see Appendix E and for examples of standard communications messages including inflight messaging prior to passengers disembarking see Appendix F.

Key messages should include:

- It is very unlikely that New Zealand will have a case of Ebola because of our geographic isolation and the lack of direct flights from the affected countries. Additionally, the affected countries are not common destinations for New Zealand travellers.
- In the event that there was a case of Ebola in New Zealand, it would be highly unlikely that this would cause an outbreak.
- Ebola is not easy to catch; it is not spread through the air, it's not as infectious as the flu or measles. You cannot get Ebola just from sitting next to someone on a plane - it requires contact with infected bodily fluids. People with Ebola are not infectious until they have symptoms.
- Local and international expert advice, together with international experience of managing other viral haemorrhagic diseases, is that the Ebola would be well contained in countries with health services like ours.
- The health sector is very familiar with controlling and managing cases of infectious diseases. If there was a suspected case of Ebola, the person would be treated in hospital isolation. Isolation facilities and existing infection control protocols in NZ hospitals are adequate for treating an imported case. Given the serious nature of the disease, samples would be sent to a high security reference laboratory overseas.
- The Ministry of Health is closely monitoring the advice from, and actions being taken by, the World Health Organization and other countries in relation to the Ebola outbreak in West Africa.



- Thermal screening of passengers at points of entry is not recommended by the World Health Organization. The World Health Organization considers thermal screening very unlikely to detect anyone arriving with Ebola, which has an incubation period of two to 21 days and symptoms that are not specific.
- The Ministry has recently reminded border agencies of the protocols around dealing with ill travellers (<http://www.who.int/ith/updates/20140910/en/>). Up-to-date clinical information on Ebola has also been sent to District Health Boards and other health services. This is something the Ministry does as required.
- Any response to national health emergencies is led by the Ministry of Health and involves all DHBs, which are familiar with the established protocols and processes in the National Health Emergency Plan (NHEP). The NHEP is an overarching framework for the health and disability sector to work together to respond to any health emergencies.

Advice to the public and health professionals is available on the Ministry's website - [www.health.govt.nz/ebolaguidance](http://www.health.govt.nz/ebolaguidance)

Up-to-date information for travellers is also available on the Safe Travel website - <https://safetravel.govt.nz/>

The Ministry of Health advises any traveller who feels unwell after returning home to call Healthline on 0800 611 116.

#### Management Of A Suspected/Probable Case In Primary Care<sup>5</sup>

This guidance has been developed specifically for primary care facilities and clinicians. It is based on the Ministry of Health's *Updated information for health professionals: Ebola virus disease (EVD)* guidance document (included in various sections elsewhere in this protocol including the section following [**Management Of A Suspected/Probable Case In Hospital**]) which has more detailed information and will be kept updated on the Ministry's website: [www.health.govt.nz/ebola](http://www.health.govt.nz/ebola) guidance.

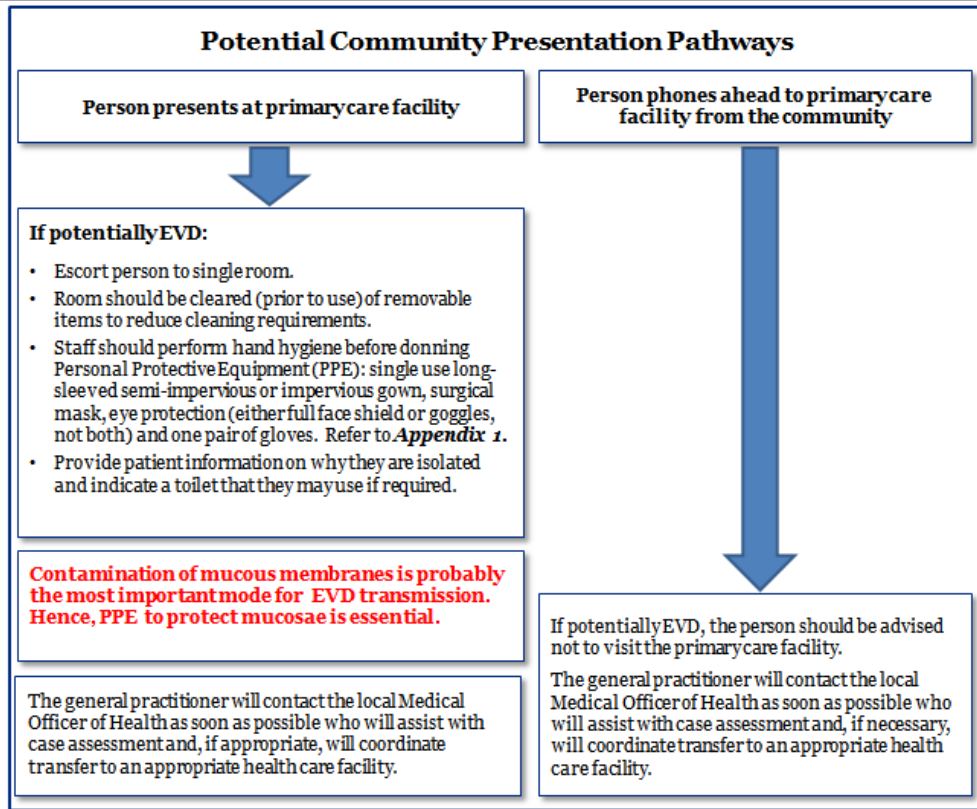
**In the first instance, general practitioners should phone their local public health unit for advice regarding any person with history or symptoms of concern, even if they do not formally meet the suspected case definition.**

**EVD should be suspected with:**

A person who is unwell and has returned from an EVD affected country within 21 days of illness onset, with a fever or history of fever \*

\*Further details on case definitions and the most recent case definitions are located at: [www.health.govt.nz/ebolacasedefinition](http://www.health.govt.nz/ebolacasedefinition)





**Additional key notes for primary care:**

- Primary care facilities should clearly display signage requesting people immediately tell the nurse or receptionist on arrival if they are unwell and have travelled overseas recently.
- Any people that identify themselves to reception staff as being unwell and have visited an EVD affected country in the previous 21 days should be isolated in a single room as soon as possible. They should not sit in the general waiting room once EVD is considered a possibility and urgent advice should be sought from the local public health unit.
- If a patient has not identified themselves on arrival, but during a consultation EVD is identified as a possibility, then the clinician should take immediate steps to isolate the patient in order to limit further contact and seek advice from the local public health unit.
- Hand hygiene is an important infection prevention and control measure; EVD is not a robust virus, and is readily inactivated by soap and water or by alcohol based hand rub.
- It is important to remember that transmission of EVD from person to person occurs only through direct contact with the blood or body fluids of a symptomatic person. There is no evidence of EVD transmission through intact skin or through small droplet spread, such as coughing or sneezing.
- **Appendix 1** (following) contains a quick reference guide for standards of PPE. For correct donning & removal of PPE, go to [www.albertahealthservices.ca/hp/if-hp-ipc-donning-ppe-poster.pdf](http://www.albertahealthservices.ca/hp/if-hp-ipc-donning-ppe-poster.pdf) and [www.albertahealthservices.ca/hp/if-hp-ipc-doffing-ppe-poster.pdf](http://www.albertahealthservices.ca/hp/if-hp-ipc-doffing-ppe-poster.pdf).
- *Note: this standard of PPE is appropriate for any anticipated contact with a suspected EVD patient within a primary care facility. The recommended PPE is in line with that required for Standard Precautions.*
- Refer to the Infection Prevention and Control section (below) and Appendix G for further guidance.
- Reception staff should be made aware of these instructions.

**Guidelines for cleaning and decontamination of primary care facilities following suspected case of EVD:**

Cleaning and decontamination of any rooms in which a suspected EVD case has been isolated, or any facilities used by the patient, should be **discussed with the local public health unit**. Once

the patient with suspected EVD has been transferred, other patients and staff should not use the room in which the patient has been isolated or any other potentially contaminated areas (this includes toilets and other high contact surfaces) until advised by the local public health unit regarding cleaning and decontamination.

*For urgent advice and cannot reach your local public health unit, please contact the Ministry of Health on 0800 GET MOH (0800 438 664).*

People infected with the EVD are infectious only once they develop symptoms. Once symptomatic, all body fluids and secretions such as blood, faeces, saliva, vomitus, and urine should be considered infectious. The level of infectiousness increases as the illness progresses.

**You will be advised by your local public health unit** appropriate measures for cleaning and disinfection and they will consult with the Ministry of Health. The following are general guidelines:

- If the patient has **limited symptoms, such as fever**, with no vomiting or diarrhoea, then the room in which the patient was assessed, toilet facilities (where appropriate) and all high contact surfaces such as door handles or touch screens can be cleaned, with reference to 'guidance if undertaking environmental cleaning' below. **The primary care facility does not need to be closed.**
- The general practitioner may continue to consult if a different room is available, but should ensure they have washed their hands thoroughly with soap and water or alcohol based hand rub.
- If the patient has symptoms such as vomiting, diarrhoea and / or bleeding, the **local public health unit will conduct a risk assessment** and advise on appropriate decontamination and consideration of closure of the facility.

***Guidance if undertaking environmental cleaning:***

Perform hand hygiene before donning the appropriate Personal Protective Equipment (PPE), including gloves, gown, apron, surgical mask, and eye protection. Gather equipment:

- bucket of warm water and detergent
- disposal cloths
- yellow Bio-hazard bags (double bagging required)
- fresh bleach solution from a household bleach product =5.25%, diluted to 1:50 (20 mls bleach made up to a litre with water). This gives a 0.1% solution or 1000ppm. EVD is susceptible to chlorine; therefore **bleach** is a suitable disinfectant for cleaning purposes. Typical household bleach (5.25%) needs to be diluted before use.

***Areas not visibly soiled:***

Surfaces and objects which are not visibly soiled should be wiped over with detergent and water, allowed to dry then disinfected with bleach solution and allowed to dry. Place all cloths into yellow bio-hazard bag.

***Public areas passed through:***

Public areas where the suspected EVD case has passed through and spent minimal time in (such as corridors) but are not visibly contaminated with body fluids do not need to be specifically cleaned and disinfected.

***Final steps:***

- remove PPE and place into yellow bio-hazard bags - perform hand hygiene.
- put on fresh set of PPE and tie off yellow bags – place one bag into another and tie this off also.
- place sealed bag into locked area away from public spaces. (See **Appendix 2** (following) for further guidance).
- empty out used cleaning solution – rinse with clean water, wipe inside and outside of buckets

- with bleach solution, invert and allow to dry.
- remove PPE and dispose of using normal waste management processes, then perform hand hygiene.

**APPENDIX 1:**

**Summary table of Personal Protective Equipment (PPE) for primary care**

Standard precautions apply to all

All items should be single use

Always perform hand hygiene with soap & water or alcohol based hand rub before putting on gloves and after removing items of PPE

If unfamiliar with PPE, a 'buddy' system may be used in which a colleague who is familiar with PPE can assist you to ensure your PPE is put on and removed in a correct and safe manner

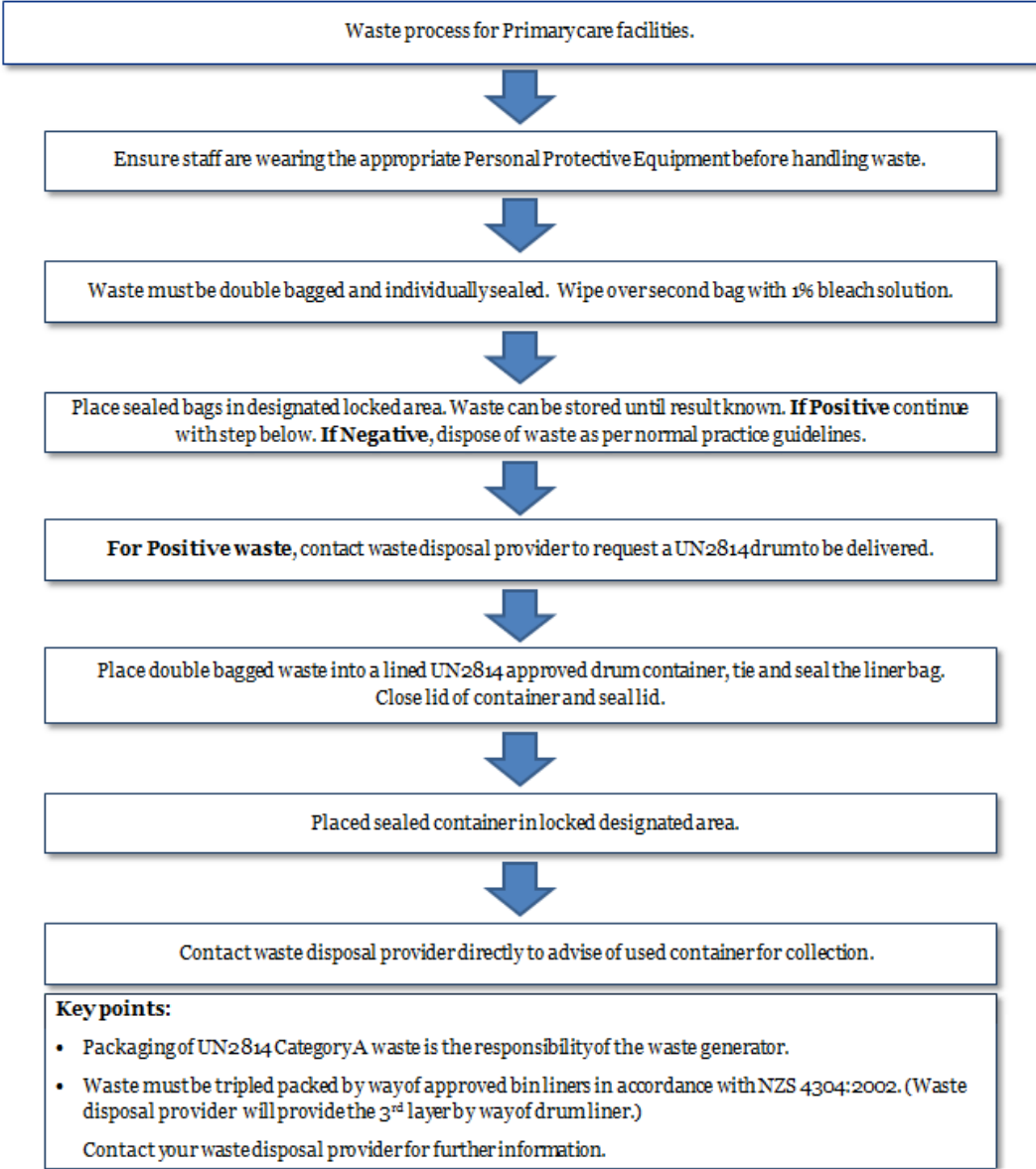
PPE should be readily available in a designated area.

PPE item	Additional comments
Gloves	Disposable nitrile or latex gloves (not vinyl)
Long sleeved gown+/- plastic apron	Semi-impervious or impervious long-sleeved single use isolation gown
Surgical face mask	Must comply with AS/NZS 1716:2012 Standards. (Either ear loops or ties)
Eye protection	Goggles or Full face shield (not both)

*Appendix 2 follows*

**APPENDIX 2:**

**Waste procedure for packaging of class UN2814 Category A waste in primary care (in accordance with NZS5433:2012)**



*For urgent advice and the local public health unit cannot be reached, contact the Ministry of Health on 0800 GET MOH (0800 438 664).*

*For non-urgent queries contact the local public health unit or email: [ebolareadiness@moh.govt.nz](mailto:ebolareadiness@moh.govt.nz)*



**Management Of A Suspected/Probable Case In Hospital<sup>1</sup>**

**Immediate actions on identification of a suspected case**

- Place the suspected case in a single room. Place in a negative pressure room, if available.
- Use standard precautions plus droplet transmission-based precautions, including the use of personal protective equipment (PPE). See Appendix G for detailed Infection Prevention and Control Guidance.
- Suspected cases of EVD should only be managed by senior members of staff.
- Suspected cases of EVD must be notified immediately to the local Medical Officer of Health. EVD is notifiable as a viral haemorrhagic fever under the Health Act 1956. The public health unit will coordinate next steps and notify the Ministry of Health. It is important that health professionals phone their local public health unit for advice regarding any person with symptoms that raise concern, even if they do not formally meet the suspected case definition.
- Local readiness and response plans should be initiated. A suspected or confirmed case of EVD should ideally be managed in a tertiary care facility. Local readiness and response plans should include identification and initial management of a suspected EVD case, as well as transport of a suspected case from the community, or a primary or secondary care facility to a tertiary care facility. Relevant ambulance services should be involved in making these arrangements.
- The preferred tertiary facilities for the management of a suspected or confirmed case of EVD are Auckland, Middlemore, Wellington or Christchurch Hospitals, however other tertiary facilities may also be utilised if required (Appendix H).
- The Ministry of Health will provide advice, support and coordination. The Ministry will be able to call on additional expert advice from the ETAG, as required.
- If transportation to hospital via ambulance is required ensure St John staff are aware of the need to take appropriate infection prevention and control measures.
- Besides the Medical Officer of Health and Ministry of Health ensure the following are also telephoned and informed of the situation:
  - The Emergency Department
  - The on-call Infectious Disease physician
  - The Microbiologist
  - The Chief Medical Officer, CDHB.

**Other Aspects Of The Management Of A Suspected Case<sup>1</sup>**

- Initial assessment of cause of symptoms should include a risk assessment for EVD and for other diagnoses which may present in similar ways. These include exotic infections more common in countries where EVD is circulating such as malaria, typhoid fever, rickettsiosis, leptospirosis, dengue, or cosmopolitan infections common worldwide including bacterial sepsis (meningococemia, pneumococcal infection, Gram negative sepsis), infective gastroenteritis and influenza.
- Based on clinical assessment and discussion, it may be appropriate to treat for other diseases empirically whilst awaiting diagnostic test results. Recommended approaches may include use of a third generation cephalosporin and empiric malaria treatment.
- Consideration must be given to the possibility of co-infection – the presence of malaria, typhoid or other disease does not rule out EVD, and vice versa.
- Care for EVD is supportive as there is no specific approved vaccine or therapeutic (antiviral drug) options currently available. Early morbidity from EVD is usually due to fluid and electrolyte loss. Adequate hydration and electrolyte replacement is a management priority.

**Refer also to: General recommendations for clinicians and laboratory staff managing suspected EVD cases and samples<sup>1</sup> (Laboratory Testing section above).**

<b>Management of a confirmed EVD case<sup>1</sup></b>	
	<ul style="list-style-type: none"> <li>Care for EVD is supportive, as there is no specific approved vaccine or therapeutic (antiviral drug) options available.</li> <li>The Ministry of Health will continue to provide advice, support and coordination. The Ministry will be able to call on additional expert advice from the ETAG, which includes expertise in the management of viral haemorrhagic fevers. For a confirmed case in the convalescent phase, the need for PPE may be reviewed as the patient’s clinical state improves.</li> <li>Recovered confirmed cases may be released from isolation in consultation with an infectious diseases physician and allowed to return home once well.</li> </ul> <p><b>Counselling</b></p> <ul style="list-style-type: none"> <li>Advise the case and their caregivers of the nature of the infection and its mode of transmission. A pamphlet is available (Appendix I, CFS\ProtectionTeam\FinalDocs\NotifiableConditions\Viral HaemorrhagicFever\FactSheets\EbolaVirusDisease.pdf).</li> <li>Advise on measures to reduce transmission to household or other close contacts</li> <li>Convalescent patients must be meticulous about personal hygiene due to the possibility of the presence of virus in bodily fluids including semen for 3 months after illness</li> <li>Cases should be advised not to have sexual activity (or use condoms) for 3 months after illness</li> <li>Cases must not donate blood for at least 3 months.</li> </ul>
<b>Infection Prevention And Control</b>	
	<ul style="list-style-type: none"> <li>◇ Infection prevention and control guidance has been developed by the Ministry of Health for close contact with a patient suspected or confirmed to have viral haemorrhagic fever (refer to Appendix G)<sup>1</sup>.</li> <li>◇ For Infection prevention and control guidance relating to airline cleaning and advice to baggage handlers see Appendix C and references.</li> </ul>
<b>Management Of Community Contacts<sup>1,2</sup></b>	
	<p><b>Purpose of contact tracing</b></p> <ul style="list-style-type: none"> <li>Contact tracing is required for the prevention of onward transmission, awareness-raising and early detection of suspected cases. This will be coordinated by the local public health unit.</li> <li>People infected with EVD are not infectious before symptoms develop. The risk of transmission increases in later stages of the disease, with increasing viral titres. Physical contact with infected body fluids is necessary for transmission.</li> </ul> <p><b>Categories and management of contacts of Ebola cases</b></p> <ul style="list-style-type: none"> <li>Contacts should be categorised, advice provided and monitoring conducted aligned with the guidance in Table 1. ‘Categories and management of contacts’ (following). Personal circumstances and other relevant concerns should always be considered as part of the risk assessment informing appropriate advice, actions and monitoring. The public health unit will liaise closely with the Ministry of Health regarding contact tracing and management of identified contacts.</li> <li>Contact tracing and management of identified contacts should also consider that it may take several days for confirmatory testing of an EVD case and depending on the time since last potential exposure and the stage of illness, repeat testing may be necessary.</li> </ul> <p><i>See next page for Definition of Contacts and requirements for investigation and restriction</i></p>

**Table 1. Categories and management of contacts of Ebola cases<sup>1</sup>**

Category of contact/risk	Definition	Advice/action	Monitoring
Casual contact, no risk	No direct contact with an EVD case* or body fluids but may have been in the near vicinity of the patient, eg, travelling on same aeroplane or public transport, residing in same hotel, visiting the cases home, sitting in the same room.	Provide advice about absence of risk.  Provide fact sheet and health advice (Appendices K and I)	Nil required.
Direct contact, low risk	Flatting or living in a household with an EVD case* but no direct contact with body fluids (eg, not sharing toothbrush, not kissing, not breastfed, no sexual contact). Close contact in a health care or community setting – where close contact is defined as: <ul style="list-style-type: none"> <li>• being within 1 metre of an EVD case* for a prolonged length of time while <b>NOT</b> wearing personal protective equipment (PPE).</li> <li>• brief direct skin to skin contact (eg, hugging) while <b>NOT</b> wearing PPE.</li> <li>• Health care workers (next page)</li> </ul>	Conduct risk assessment. Personal and other relevant circumstances should be considered as part of the risk assessment informing actions and monitoring.  Public health unit staff should liaise closely with the Ministry of Health regarding contact tracing and management of identified contacts.  Most people will have no limitations to daily living activities provided they are asymptomatic.  Provide advice about likely low level of risk. Provide fact sheet and health advice.	Report immediately to local public health unit staff if symptoms develop, including fever.  Public health unit staff will make an assessment and notify the Ministry of Health on 0800 GET MOH (0800 438 664)
Direct contact, high risk	Direct contact with body fluids from EVD case* without appropriate PPE. This includes percutaneous injury, sexual contact, being breastfed by a case, laboratory processing of body fluids of suspected EVD cases without appropriate PPE.  Direct contact with dead body of an EVD case* without PPE.  Preparing and/or eating bushmeat in affected countries.	Conduct risk assessment. Personal and other relevant circumstances should be considered as part of the risk assessment informing actions and monitoring.  Public health staff may require additional controls or restrictions, or consider quarantine (home or facility) dependant on risk assessment and compliance with monitoring.  Public health unit staff should liaise closely with the Ministry of Health regarding contact tracing and management of identified contacts.  Most people will have no limitations to daily living activities provided they are asymptomatic and adhering to monitoring.  Provide support and advice about higher level of risk. Provide fact sheet and health advice (App..L)	Twice daily monitoring for fever and other symptoms from first possible exposure to 21 days from last possible exposure.  At least daily phone call or visit from local public health unit staff.  Contact public health unit staff immediately if symptoms develop, including fever.  Public health unit staff will make an assessment and notify the Ministry of Health on 0800 GET MOH (0800 438 664)

\* Meeting any of the EVD case definitions (suspected, probable, confirmed). *Table 1 continued next page*



Table 1 continued

Category of contact/risk	Definition	Advice/action	Monitoring
People who have been assisting in the EVD response in EVD affected countries	People returning from assisting in the EVD response in an EVD affected country (please refer to the full protocol on the Ministry of Health website: <a href="http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-updates/protocol-individuals-entering-new-zealand-after-assisting-ebola-virus-disease-response-affected">http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-updates/protocol-individuals-entering-new-zealand-after-assisting-ebola-virus-disease-response-affected</a> )	<p>Conduct risk assessment. Personal and other relevant circumstances should be considered as part of the risk assessment informing actions and monitoring.</p> <p>People returning from assisting in the EVD response in EVD affected countries should discuss with their local public health unit whether they are able to return to work (stand down of 21 days for healthcare workers).</p> <p>Public health staff may require additional controls or restrictions, or consider quarantine (home or facility) dependant on risk assessment (including assessment of exposure risk, such as possible PPE breaches) and compliance with monitoring. Most people will have no limitations to daily living activities provided they are asymptomatic and adhering to monitoring.</p> <p>Provide support and advice about higher level of risk. Provide fact sheet (Appendix L).</p>	<p>Twice daily monitoring for fever and other symptoms. Contact the public health unit immediately if any symptoms develop.</p> <p>At least daily phone calls or visits from local public health unit staff until 21 days after leaving EVD-affected country.</p> <p>Public health unit staff will immediately notify the Ministry of Health on 0800 GET MOH (0800 438 664) of any person with concerning history of symptoms, or who formally meets the suspected case definition</p>
Healthcare workers working in New Zealand	Healthcare workers caring for an EVD case working in a New Zealand clinical or laboratory setting who have taken recommended infection control precautions, including use of appropriate PPE while caring for an EVD case* or a staff member with unprotected percutaneous or mucocutaneous exposure to body fluids from an EVD case.*	Refer to 'occupational health and blood and body fluid exposure' in Appendix G for further details on advice and actions.	<p>Twice daily monitoring for fever and other symptoms from first potential exposure to 21 days after last possible exposure.</p> <p>Refer to 'occupational health and blood and body fluid exposure' in Appendix G for further details on monitoring.</p>

\* Meeting any of the EVD case definitions (suspected, probable, confirmed).

**Counselling**

Provide advice on the situation and public health risks;

- For contacts contaminated by body fluids from a case, adapt infection prevention and control guidelines page 26 Appendix G<sup>1</sup>
- For Disinfection advice refer to Other Control Measures section below.
- Advise that laboratory testing will be undertaken on the suspected case and results will be available and communicated to them in approximately 72 hours.

	<ul style="list-style-type: none"> <li>– Advise direct contacts that Ebola virus disease cannot be passed on to others if a person is asymptomatic, but if any symptoms develop over the next 21 days they should isolate themselves from others and phone Healthline on 0800 611 116, advising they are a contact of a suspected Ebola case.</li> <li>– Advise contacts of the nature of the infection and its mode of transmission. A pamphlet is available depending on the circumstances and risk:             <ul style="list-style-type: none"> <li>• Appendix I. Fact sheet - Ebola Virus Disease</li> <li>• Appendix J. Fact sheet for Screening of Travellers at Airports</li> <li>• Appendix K. Health Advice card</li> <li>• Appendix L. Fact sheet for Direct Contacts (High Risk) and People Who Have Been Assisting in the Ebola virus disease Response in the Affected Countries</li> <li>• Appendix M. Fact Sheet for Casual Contacts or Direct Contacts (Low Risk)</li> </ul> </li> <li>– (CFS\ProtectionTeam\FinalDocs\NotifiableConditions\ViralHaemorrhagicFevers\Fact Sheets\EbolaVirusDisease.pdf).</li> </ul>
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**Other Control Measures**

	<p><b>Identification of other cases</b></p> <ul style="list-style-type: none"> <li>• Check for other cases in the household and community.</li> </ul> <p><b>Disinfection</b></p> <ul style="list-style-type: none"> <li>• Clean and disinfect surfaces and articles soiled with the case’s excretions or blood or that the case has had contact with. Refer to the Infection Prevention And Control section for details.</li> </ul> <p><b>Health education</b></p> <ul style="list-style-type: none"> <li>• Consider a media release and direct communication with local health professionals to encourage prompt reporting of symptoms.</li> <li>• In communications with doctors, include recommendations regarding diagnosis, treatment and infection control.</li> </ul>
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**Special Situations<sup>1</sup>**

	<p><b>Outbreaks in health care facilities</b></p> <p>If one or more suspected, probable or confirmed EVD cases are identified in a healthcare facility, an outbreak management team should be convened; including a senior facility manager, an infection control practitioner and appropriate clinical staff, in consultation with the local public health unit.</p> <p>Control measures may include:</p> <ul style="list-style-type: none"> <li>• identification and monitoring of close contacts</li> <li>• active case finding and treatment</li> <li>• isolation and/or cohorting</li> <li>• work restriction for health care workers who have had close contact (ie, unprotected exposure) with a suspected, probable or confirmed case</li> <li>• distribution of fact sheets and other information</li> <li>• epidemiological studies to determine risks for infection.</li> </ul> <p><b>Outbreaks in residential care facilities or other residential institutions (eg, prisons or boarding schools)</b></p> <ul style="list-style-type: none"> <li>• There have been few if any reports of EVD outbreaks in institutions other than in healthcare facilities. Nevertheless, it is assumed that fellow residents in an institution may be at greater risk of infection if there has been a confirmed case living at the institution while infectious, particularly if there are shared bathroom/toilet facilities.</li> <li>• If one or more probable or confirmed EVD cases are identified in a residential care facility or institution, an outbreak management team should be convened, including public health staff.</li> </ul>
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	<p><b>Other factors to consider in the event of local transmission</b></p> <ul style="list-style-type: none"> <li>Where local transmission of EVD is thought to have occurred, a thorough review of contributing environmental factors should be undertaken. This should include a review of infection control procedures, and opportunities for exposure to environments contaminated by body fluids.</li> <li>If a case has had exposure to animals in New Zealand, it may be appropriate to consult with the Ministry for Primary Industries to assess the risk that animals could have become infected.</li> </ul>
<p><b>Reporting</b></p>	
	<ul style="list-style-type: none"> <li>Ensure complete case information is entered into EpiSurv.</li> <li>On receiving a notification, Medical Officers of Health should immediately notify the Director of Public Health at the Ministry of Health.</li> <li>The International Health Regulations (IHR) National Focal Point in the Ministry must use the IHR Decision Instrument for any event involving cholera, pneumonic plague, yellow fever, viral haemorrhagic fevers, West Nile fever or any unusual or potentially serious public health event, and then notify the World Health Organization if required.</li> </ul>
<p><b>References</b></p>	
	<ol style="list-style-type: none"> <li>NZ Ministry of Health, Ebola virus disease (EVD) Updated information for health professionals, 16 December 2014. Available at the MoH website <a href="http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-updates">http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-updates</a></li> <li>NZ Ministry of Health, Risk Assessment Framework for Managing Ill Travellers with Suspected Symptoms of Ebola Virus Disease Arriving in New Zealand, 9 Nov 2015: K:\CFS\EBOLA\4_Operations\BorderControl\Ill traveller EVD risk assessment - Final.docx</li> <li>C&amp;PH Border Health Protocols for a Public Health Response to Public Health Risks at Christchurch International Airport v1, 13 Sep 2012. K:\CFS\ProtectionTeam\FinalDocs\Emergencies\Preparedness\Christchurch Airport\CIALBorderHealthProtocolsv1Draft.Ink</li> <li>NZ Ministry of Health, Communicable Diseases Control Manual 2012, Appendix 1: Disinfection, <a href="http://www.health.govt.nz/publication/communicable-disease-control-manual-2012">http://www.health.govt.nz/publication/communicable-disease-control-manual-2012</a></li> <li>NZ Ministry of Health, Patient management guideline for Primary Care Ebola Virus Disease (EVD) Updated 16 December 2014. <a href="http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-updates">http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-updates</a></li> </ol>

*Appendices follow*

**Appendix A:**  
**Outline Of The Management Of A Symptomatic Traveller<sup>2</sup>**

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**Manage Suspected Case**

- obtain case history + complete assessment
- isolate + ensure infection control measures implemented
- arrange transport to medical facility
- arrange laboratory testing

**Identify direct contacts**

- passengers or crew who reported direct contact with bodily fluids of suspected case
- passengers seated +/- 1 seat in all directions from suspected case
- crew who have provided in-flight service in section of craft where index case was seated
- possible family/friends travelling with case depending on nature of contact during symptomatic period

**Manage direct contacts**

- confirm contact history
- provide general advice and health card
- emphasise low risk to contacts
- ensure passenger arrival cards completed to advise of case results within 72hrs
- once general information provided then release

**Manage other travellers**

- provide health card
- advise no risk as they have not had direct contact with case
- ensure passenger arrival cards completed for subsequent communication if needed

**Manage airport /airline staff**

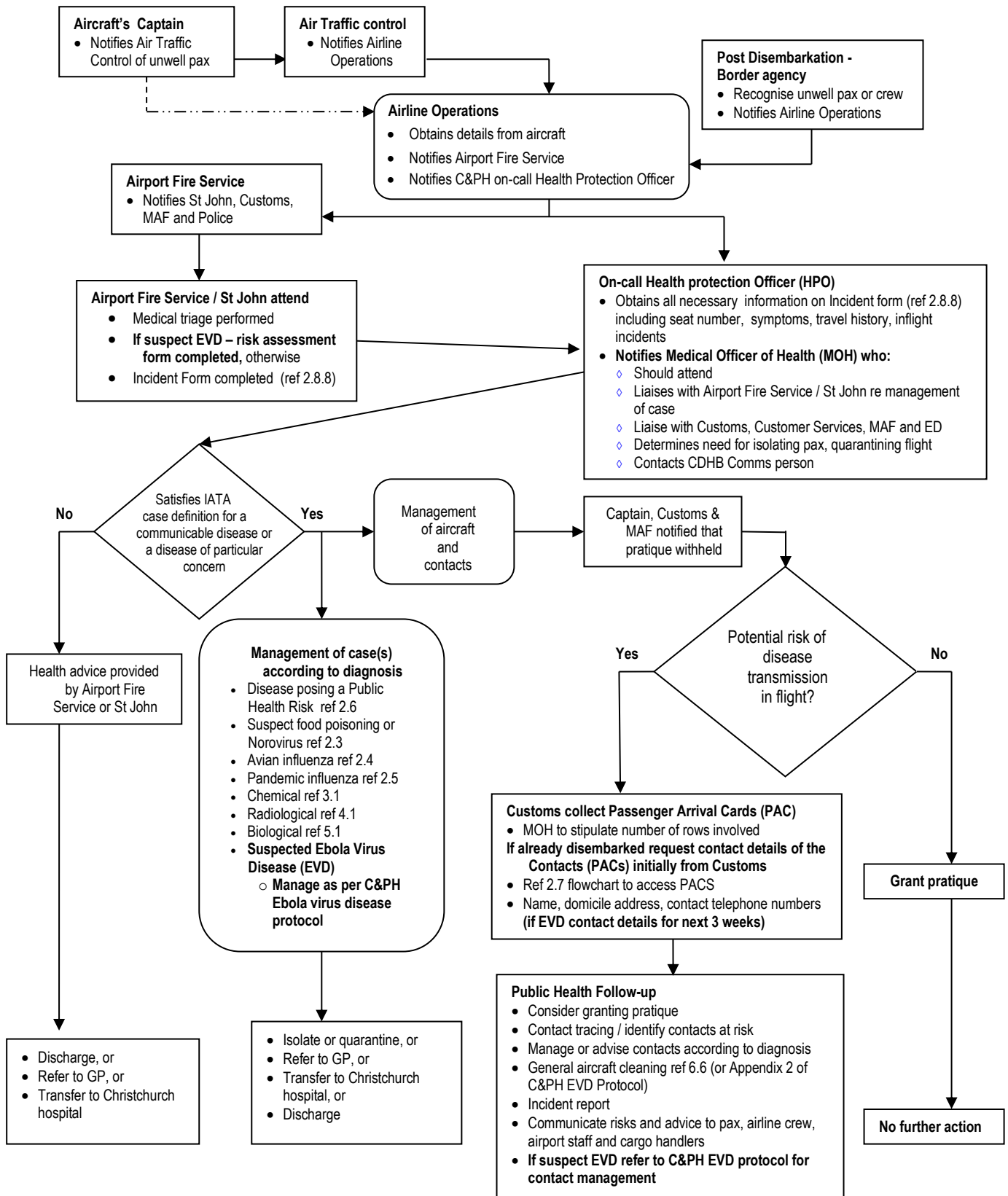
- provide advice on aircraft cleaning
- provide advice on terminal cleaning
- provide advice on baggage handling

**Manage public and media**

- see key messages

**Appendix B. Public health response flow diagram for managing an unwell passenger at CIAL including a suspected case of Ebola Virus Disease (EVD)<sup>3</sup>**

*(‘ref numbers’ in text boxes refer to specific sections in the CIAL Border Health protocols<sup>7</sup>)*



**Appendix C:**  
**Cleaning Advice for Aircraft and Baggage Handlers<sup>2</sup>**

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The health and safety of airport and airline staff is the responsibility of their respective employers in conjunction with Worksafe New Zealand, however public health staff can give general advice about Ebola and the Ministry of Health's general risk assessment for the disease.

The International Airline Travel Association (IATA) and the World Health Organization have provided advice on aircraft sanitation, as it is imperative that any cleaning products are safe and appropriate to use on aircraft (as well as effective in disinfecting and decontaminating aircraft). This link to IATA's website includes a link to the World Health Organization Guide on Hygiene and Sanitation in Aviation: <http://www.iata.org/whatwedo/safety/health/Pages/index.aspx>. Please also see Ebola Guidance for Airlines from CDC:

<http://www.cdc.gov/quarantine/air/managing-sick-travelers/ebola-guidance-airlines.html>

The general advice can include the following. Ebola is transmitted by [direct contact\\*](#) with a person who has symptoms of Ebola. Treat any body fluid as though it is infectious. Blood or body fluids on surfaces can spread Ebola if they get into your eyes, nose, or mouth, or through cuts or wounds. Therefore, [hand hygiene](#) is the most important infection control measure. Wear disposable impermeable gloves when cleaning visibly contaminated surfaces.

For any ill traveler on board an aircraft, even if Ebola is not considered, the airline's ground and cleaning crews should be notified so that preparations can be made to clean the aircraft after passengers have disembarked.

**Guidance for Air Cargo Personnel:** There is no risk to baggage handlers from suspected unwell passengers on the aircraft. Handling of baggage should not pose a risk unless it is visibly contaminated. It is good practice for cargo handlers to [wash their hands](#) frequently to prevent exposure to other infectious diseases or contamination.

As noted above, Ebola is spread through direct contact with blood or body fluids (such as faeces, urine, vomit or saliva) from an infected person. Baggage or packages visibly soiled with blood or body fluids should be handled as little as possible and set aside in a secure area. PPE (disposable gloves, mask and apron) must be worn by any staff who do handle any soiled packages or baggage. All biohazardous material should be disposed of using infectious waste procedures.

**Appendix D:**  
**MPI Process for Cleaning Residually Treated (Disinsected) Aircraft<sup>2</sup>**

Where an aircraft has been residually treated for the purposes of disinsection and the certificate is still current, a touch up spray will be required to be applied to areas where the residual insecticide has been removed due to cleaning. Advice from Ministry for Primary Industries officials should be obtained if aircraft staff are unsure of the correct procedures.

When specific areas require wet cleaning, (e.g. to sanitise a small section of wall lining, bulkhead, overhead locker or toilet), permethrin must be reapplied to those areas using a permethrin aerosol touch up spray (as is normally carried out for any area subject to repeated substantial cleaning).

Currently there are only two brands of touch up (pre-embarkation) aerosol approved for use in NZ (Arandee and Callington).

The pre-embarkation aerosol (green top, 2% permethrin) should be directed to the cleaned surface at close range (around 300mm away) so the droplets of spray adhere to the cleaned surface. Food preparation areas, food trays, bench tops and electronic equipment (such as video monitors and controls) should **not** be treated.

When entire walls or sections of carpet are replaced or the aircraft has undergone a deep clean, it will be necessary for the usual treatment applicator to reapply a permethrin coating to those areas.

The steps are as follows:

Step	Action
1	The aerosol can must be directed at the cleaned surface and discharged approximately 30 cm away in a method that ensures that the droplets of the spray cover all cleaned surfaces.
2	Interior cleaning and soiled item replacement of a relatively minor nature are considered negligible in the overall context of the program, and will not require re-spraying during turn around, but should be treated at the first available opportunity to ensure compliance.
3	It will be necessary for the residual spray to be reapplied when fixtures such as entire walls or large sections of carpet are replaced or have undergone a deep clean.
4	Fixtures used for replacement purposes may be treated off aircraft, but these items must be treated either on the same day or on a date after the aircraft disinsection is carried out in order for the certificate to comply.
5	Any non-compliance in procedures should be reported to the intended first port of arrival as soon as possible.



**Appendix E.**  
**Communications<sup>2</sup>**

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Key messages should include:

- It is very unlikely that New Zealand will have a case of Ebola virus disease (EVD), because of our geographic isolation and the lack of direct flights from the affected countries. Additionally, the affected countries are not common destinations for New Zealand travellers.
- In the event that there was a case of Ebola in New Zealand, it would be highly unlikely that this would cause an outbreak.
- Ebola is not easy to catch; it is not spread through the air, it's not as infectious as the flu or measles. You cannot get Ebola just from sitting next to someone on a plane - it requires contact with infected bodily fluids. People with Ebola virus disease are not infectious until they have symptoms.
- Local and international expert advice, together with international experience of managing other viral haemorrhagic diseases, is that the Ebola virus disease would be well contained in countries with health services like ours.
- The health sector is very familiar with controlling and managing cases of infectious diseases. If there was a suspected case of Ebola virus disease, the person would be treated in hospital isolation. Isolation facilities and existing infection control protocols in NZ hospitals are adequate for treating an imported case. Given the serious nature of the disease, samples would be sent to a high security reference laboratory overseas.
- The Ministry of Health is closely monitoring the advice from, and actions being taken by, the World Health Organization and other countries in relation to the Ebola outbreak in West Africa.
- Thermal screening of passengers at points of entry is not recommended by the WHO. The WHO considers thermal screening very unlikely to detect anyone arriving with Ebola virus disease, which has an incubation period of two to 21 days and symptoms that are not specific.
- The Ministry has recently reminded border agencies of the protocols around dealing with ill travellers. Up-to-date clinical information on Ebola has also been sent to District Health Boards and other health services. This is something the Ministry does as required.
- Any response to national health emergencies is led by the Ministry of Health and involves all DHBs, which are familiar with the established protocols and processes in the National Health Emergency Plan (NHEP). The NHEP is an overarching framework for the health and disability sector to work together to respond to any health emergencies.

**Specific information resources**

- ⇒ For examples of *Standard Messaging* (see Appendix F)
- ⇒ Advice to the public and health professionals is available on the Ministry's website - <http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-virus-disease>
- ⇒ Up-to-date information for travellers is also available on the Safe Travel website - <https://safetravel.govt.nz/>
- ⇒ The Ministry of Health advises any traveller who feels unwell after returning home to call Healthline on 0800 611 116.

**Appendix F:**  
**Examples of Standard Messaging<sup>2</sup>**

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**Passengers**

Before disembarking and clearing any quarantine area it may be necessary for cabin crew to make a general announcement to advise travellers, as follows:

Standard information:

*Ladies and gentleman, thank you for your cooperation. As you may know, some passengers on this flight were ill with a condition that may be infectious and subject to the International Health Regulations.*

*Public Health Authorities may need to contact you should there be a need for any further action. Can you please complete your customs arrival cards as thoroughly and accurately as possible? Please ensure your writing is legible. Depending on where you were seated on the aircraft, you may be directed to a separate Immigration and Customs line, and may receive written information. Please follow the directions of airport staff.*

If verbal briefing required:

*Public Health Authorities will provide a briefing to those of you who could have had direct contact with the unwell passenger. Please follow directions of airport staff and wait for the briefing if required.*

For all passengers:

*Should you develop an illness with fever in the next month please keep yourself separate from others and call the free Healthline 0800 611 116.*

**Public in Arrivals Hall**

*Attention Please. Attention Please. This announcement concerns the arrival of flight {flight number} from {flight origin} scheduled to arrive at {ETA}. Some passengers on this flight have presented with symptoms of ill health. Health authorities are assessing the situation and there may be delays with processing passengers from this flight.*

*We will provide you with regular updates on the status of this flight.*

**Media**

*{number of ill PAX} passengers on {flight number} from {flight origin} scheduled to arrive at {..... Airport} at {ETA} have presented with symptoms of ill health. Health authorities are assessing the situation and are working quickly to process passengers from this flight. We will provide you with more details as soon as reasonably possible, once the initial public health risk assessment is complete.*

Key messages (for media spokesperson)

- *The \_\_\_\_\_ Public Health Unit is following its standard protocols and procedures in relation to an incident of this nature. This involves working with and communicating with other appropriate agencies as relevant, including {the airport, Air NZ, the Ministry of Health, etc}*
- *Specific details of the case(s) cannot be disclosed due to patient confidentiality.*
- *For further media enquiries please contact our Media Spokesperson on \_\_\_\_\_.*

**Appendix G:**  
**Infection prevention and control management plan for suspected cases of viral haemorrhagic fever caused by filoviruses (Ebola and Marburg viruses)<sup>1</sup>**

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**Purpose**

This guideline outlines the management of patients with known or suspected viral haemorrhagic fever within New Zealand district health board hospitals. This includes, but is not limited to, pathogens such as the Ebola and Marburg viruses. For details on infection prevention and control management in primary care facilities, refer to the separate document 'Patient Management Guideline for Primary Care Ebola virus disease'.

These guidelines are based on the available information and the following considerations:

- the lack of a safe and effective vaccine for EVD
- a suspected high rate of morbidity and mortality among EVD infected patients
- absence of confirmed or probable EVD case in New Zealand
- the rapidly evolving international situation
- initial diagnosis not likely to be known and patient may have airborne disease rather than EVD.

**Guideline principles and goals**

This guideline takes a precautionary approach and recommends a higher level of infection prevention and control measures than required for the reasons listed above. As more information becomes known about the situation, changes may be made to the infection prevention recommendations.

The guideline provides infection prevention and control guidance for all staff members when in close contact with a **patient either suspected or confirmed to have a viral haemorrhagic fever**.

**Key documents this guidance is based on**

1. CDC. Infection prevention and control recommendations for hospitalised patients with known or suspected Ebola Haemorrhagic Fever in US hospitals. Updated 20 October 2014. [www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html](http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html)
2. Public Health Agency of Canada. Pathogen Safety Data Sheet – Infectious Substances – Ebola Virus. Ebola Virus. Updated 1 August 2014. [www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/ebola-eng.php](http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/ebola-eng.php)
3. WHO. Infection prevention and control guidance for care of patients in health-care settings, with focus on Ebola. September 2014. [www.who.int/csr/resources/publications/ebola/filovirus\\_infection\\_control/en](http://www.who.int/csr/resources/publications/ebola/filovirus_infection_control/en)
4. UK Department of Health. HSE Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence. November 2014. [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/377143/VHF\\_guidance\\_document\\_updated\\_19112014.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/377143/VHF_guidance_document_updated_19112014.pdf)

**Infection prevention and control**

This infection is spread via direct contact and indirect contact with infectious body fluids including secretions and excretions. Droplet spread may occur. Spread by small particle aerosols has not been conclusively demonstrated. The concern and safety of health care workers related to the high mortality rate has been taken into consideration for infection prevention and control measures and a precautionary approach is therefore recommended. For this reason the following personnel restrictions should be put in place.

1. Restrict all non-essential staff from entering the clinical care area.
  - Use of signage.
  - Use of security personnel.
2. Maintain a log of all staff and non-staff (family, friends and whānau) entering the room.
  - Use of a checklist to ensure that all staff and non-staff entering the clinical care area use personal protective equipment (PPE) correctly – the wearing of correct PPE and the safe removal of PPE.
3. Visitors restricted.

Standard Precautions and Transmission-based Precautions should be applied.

## Contact and droplet precautions

### Patient placement

- The patient should be placed in an airborne infection isolation room (negative pressure room) because of the high mortality associated with this infection. An ante room and en-suite bathroom is highly desirable. NB: If a negative pressure room is not available, at a minimum a single room, with the door closed, should be used until transfer to a negative pressure room is possible.
- It is important that there is adequate space to allow for placement of PPE, infectious waste bins and disposable/single-patient use equipment for use with patient care. Discuss with IPC staff the optimal set up of 'clean' and 'dirty' areas.
- DHBs should refer to local infection prevention and control guidelines/policy on placement of PPE and waste bins.

### Hand hygiene

- Staff should wash their hands with soap and water if any visible soiling, or use alcohol-based hand rubs in accordance with the '5 moments for hand hygiene'
- Hand hygiene should precede the donning of PPE and during the removal of contaminated PPE, as specified in the instructions on donning and removing.

### Personal protective equipment (PPE)

- The donning and removal of PPE should be supervised by a trained observer. Ensure that trained observer is wearing PPE to protect themselves from accidental transmission when assisting in the removal of used PPE, to reduce the risk of accidental skin exposure or self-contamination when removing used PPE.
- Staff should be trained in procedures to put on and take off PPE. Clear instructions should be available on what PPE should be used and for the disposal of used PPE. Training should be held regularly.
- **Gloves** – Two pairs of gloves should be worn. Single use Nitrile examination gloves with extended cuffs. At a minimum, outer gloves should have extended cuffs. Perform hand hygiene before putting on gloves and after removal of outer gloves. This should occur before leaving the patient's room, and ABHR should be applied to gloved hands. The inner gloves should remain on until outside of the patient room where the correct doffing procedure will occur. The use of tape to secure gloves to gowns/coveralls should be avoided, as this may interfere with safe removal of gown/coverall because of the need for additional manipulation and the risk of tearing of the gown/coverall, potentially resulting in contamination.
  - If, inadvertently, gloves were not worn by a person providing patient care or during the handling of contaminated patient care equipment or linen, then they must immediately wash their hands with soap and water. They should also inform Occupational Health and Safety.
- **Gowns** – wear a semi-impervious splash-resistant disposable isolation gown or an all-in one disposable coverall<sup>1</sup> (consideration should be given to selecting gowns or coveralls with thumb hooks to secure sleeves over inner glove). If there is a risk of significant exposure to blood or body fluids then wear a disposable plastic apron over the gown or coverall.
- **Masks** – Use a fluid resistant surgical mask that does not collapse against the mouth. For all aerosol-generating procedures wear a particulate respirator (N95/P2 mask)<sup>2</sup> (see Airborne Precautions below). Ensure that all staff who will be wearing such masks are familiar with 'fit checking'. Guidance should be sought from IPC personnel if staff have any queries. Masks should comply with AS/NZS 1716:2012 respiratory protective devices.
- **Face shield** – wear a disposable single use full facial shield (surgical masks with integral eye shields do not protect the entire face). Goggles can be used in place of face shield if face shield not available.
- **Surgical hood** – disposable single use hood that extends to the shoulders and fully covers the neck.
- **Boot covers** – wear disposable single use fluid resistant or impermeable boot covers that extend to at least mid-calf. Boot covers should allow for ease of movement and not present a hazard to the wearer. (Not required if coveralls have integral shoe covers).
- **Hair covers** – disposable single use hair cover can be worn under surgical hood.

Ensure that all PPE is donned and removed adhering to best practice. Removed PPE should be placed in an infectious waste bin.

<sup>1</sup> The use of coveralls rather than long-sleeved disposable gowns should only be considered for staff trained and competent in using such attire.

<sup>2</sup> A P2/N95 respirator must comply with AS/NZS 1716:2012. The difference between N95 and P2 classification for respirator face masks is the N95 classification means the masks complies with USA testing requirements and the P2 classification indicates compliance with European testing requirements.

**Airborne precautions**

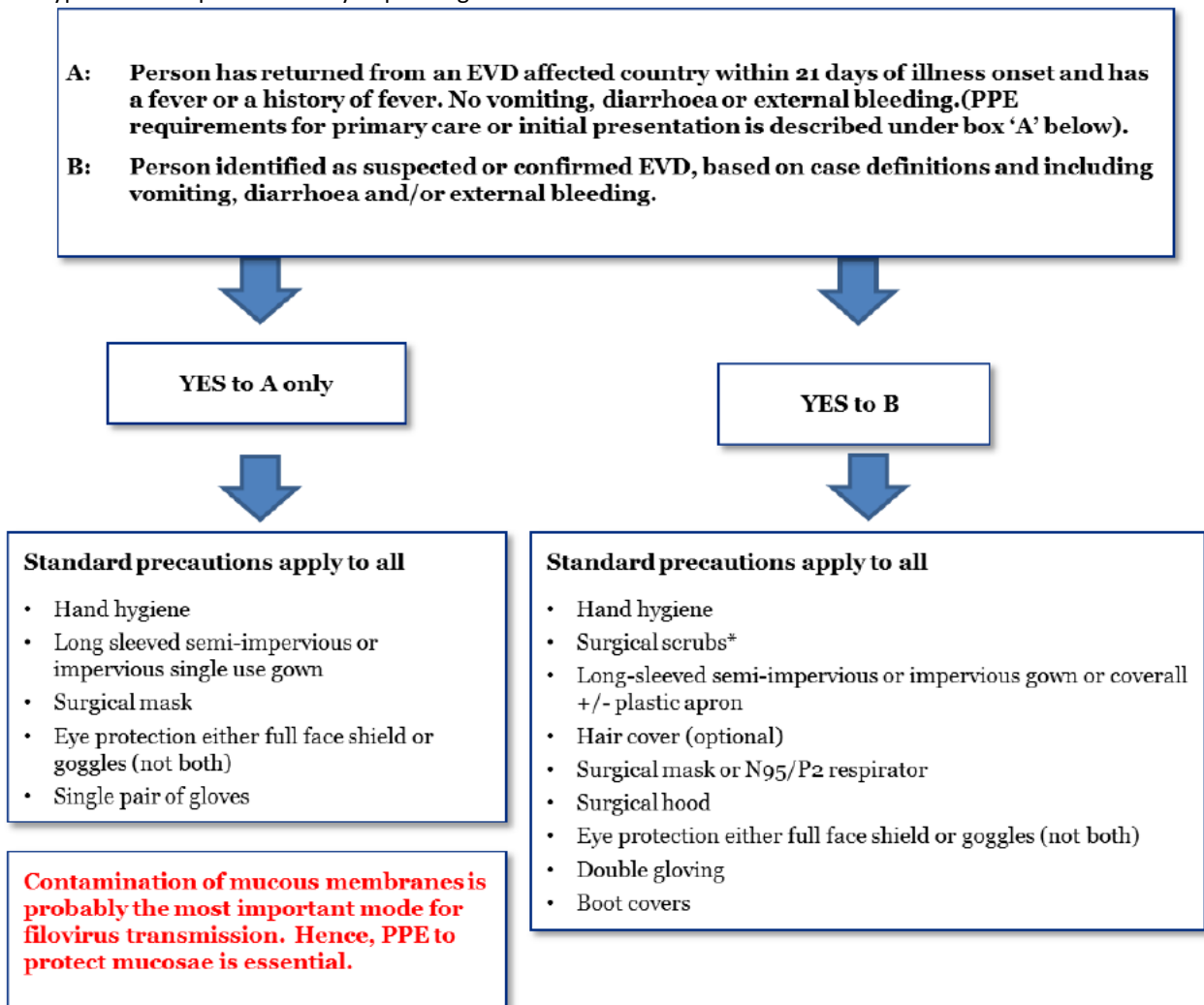
Airborne precautions are to be used in addition to standard and contact precautions for aerosol generating procedures.

Airborne precautions require the wearing of a particulate respirator (often referred to as a N95/P2 mask) and should be followed for all aerosol generating procedures.

Aerosol generating procedures at the bedside include bronchoscopy, open suctioning of airway secretions, resuscitation involving emergency intubation or CPR, bilevel positive airway pressure (BiPAP), sputum induction and endotracheal intubation.

**Summary of personal protective equipment requirements**

The type of PPE required will vary depending on the level of infectiousness and clinical assessment.



NB: \*Consideration should be given to the use of surgical scrubs by staff members who have direct patient contact and a process in place for the laundering of these garments.

Refer to <http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html> for descriptive advice of donning and removal of PPE. For a video demonstration for the donning and doffing (removal) of PPE procedures, please refer to: <http://www.cdc.gov/vhf/ebola/hcp/ppe-training/equipment.html>

Please note that the CDC training video is based on PPE being used Johns Hopkins hospital, and there are likely to be variations in local PPE equipment. Discuss any queries with your IPC nurse specialist for clarification.

**Patient-care equipment**

Dedicate the use of non-critical patient-care equipment to the patient.

Where possible, use single-patient use equipment. All patient-care equipment that is not single-patient use should be thoroughly decontaminated and disinfected before being reused. If it cannot be adequately disinfected then it should be discarded into the appropriate receptacle. Follow the manufacturers' instructions for disinfecting re-useable equipment.

**Patient transport**

Limit the movement and transport of the patient from the room to essential purposes only. If the patient is to be transported out of the room, ensure that the staff assisting with the transfer wears PPE (gloves, gown, shoe and hair covers and face shield). The patient is to wear a surgical mask. Avoid transporting the patient through high patient flow or public access areas. If necessary, cordon off the route. Ensure that the clinical area receiving the patient is informed about the timing of the transfer.

**Environmental control**

It is important that the patient environment remains clean; who undertakes the task should be determined in consultation with the local Infection Prevention and Control Specialists. Staff performing environmental cleaning should be appropriately trained. Care should be taken to avoid contact with blood and body fluids including secretions and excretions.

Ensure that the appropriate procedures for the routine care, cleaning and disinfection of environmental surfaces, beds, bedrails, bedside equipment and 'high-touch' surfaces are followed.

Heavily soiled areas need to be cleaned with warm water and detergent before disinfection.

Typical household bleach is a solution of sodium hypochlorite containing 50,000 ppm available chlorine. It is important to check the concentration in the formulation before use. The following table is a guide to bleach dilution.

*Bleach dilution concentration*

Uses	Concentration (%)	Parts-per-million (ppm) available chlorine	How to prepare the right concentration of bleach
<b>Household bleach</b>	≈5.25%	50,000	
Blood and body fluid spills	1%	10,000	Make a 1:5 dilution (200 mls made up to 1 litre with water)
Environmental cleaning of high exposure surfaces, ie, bathrooms, bed rails etc	0.05%–0.1%	500 to 1000	For a 0.05% solution make a 1:100 dilution of bleach (10mls made up to 1 litre with water) For a 0.1% solution make a 1:50 dilution of bleach (20ml made up to 1 litre with water)

A fresh bleach solution should be made up every 24 hours.

**Disposal of body fluids**

Safe handling of commode bowls, urinals and bed pans is essential. Full PPE must be worn when handling commode bowls, urinals and bed pans.

Where possible, empty the urinal and the bed pan contents into the ensuite toilet bowl, close the lid and flush the toilet. If no ensuite toilet is available, transport the commode bowl, urinal or bed pan safely in a plastic bag to the dirty utility room and either:

- carefully empty the contents down the sluice sink
- place the commode bowl, urinal or bed pan directly into the flusher sanitiser and run a cleaning cycle
- place contents and cardboard insert directly into macerator and run cycle.

Care must be taken to avoid excessive splashing.



Disinfect the sluice sink are with 1% bleach solution after disposal of contents.

### **Linen**

All linen (disposable or otherwise) will need to be disposed of. Used linen should be placed in an infectious waste bag in the infectious waste bins. If disposable linen is not available then the normal reusable linen should be used and disposed of in the infectious waste bin after use.

See 'Management of waste' for full protocol on disposal. Do not send linen to be laundered.

### **Occupational health and blood and body fluid exposure**

#### *Occupational health*

- A record of all staff providing care to a suspected, confirmed or probable EVD case should be maintained. This includes all staff who are providing care and adhere to infection prevention and control best practices.
- All such staff should be provided with written information about the symptoms associated with viral haemorrhagic fevers that they need to watch out for, including fever and should be advised to monitor their temperature twice daily. There should be clear instructions regarding who they should contact if symptoms occur. All staff will be monitored by hospital Occupational Health and Safety and/or the local public health unit daily.
- Staff who become unwell during the incubation period (from first possible exposure to 21 days after last possible exposure to the patient with suspected or confirmed viral haemorrhagic fever) should isolate themselves contact hospital Occupational Health and Safety and/or the local public health unit. Depending on their symptoms, unwell staff may meet the case definition so will need to be discussed with the local Medical Officer of Health (if this has not already occurred), who would then notify the Ministry of Health 0800GET MOH (0800 438 664).
- Any staff member with unprotected percutaneous or mucocutaneous exposures to blood, body fluids, secretions or excretions from a patient with suspected viral haemorrhagic fever should immediately stop working. Mucous membrane exposures should be rinsed with copious amounts of water. For cutaneous exposures, the affected area should be washed with soap and water. They should inform their immediate supervisor who will contact hospital Occupational Health and Safety for assessment of the risk and access to post exposure management for blood borne viruses including HIV, Hepatitis B and C, etc.
- A plan should be put into place for daily monitoring for symptoms consistent with viral haemorrhagic fever (including twice daily temperature recordings) of the staff member who has had unprotected. The staff member should not return to clinical work for one full incubation period (21 days) and have daily contact from the local public health unit. The staff member should immediately notify the local public health unit if they develop any symptoms. Public health unit staff would immediately notify the Ministry of Health on 0800GET MOH (0800 438 664).

#### *Avoiding blood and body fluid exposure*

- Take care to avoid injuries when using needles, scalpels and other sharp injuries. Never recap a needle.
- Place sharp objects in a puncture resistant container after use.
- If a needle stick injury is sustained by a staff member then they must immediately rinse the wound with copious amount of water and wash vigorously with medicated soap. They should seek assistance from their colleagues and inform their immediate manager.
- Collect all solid, non-sharp, medical waste using leak-proof waste bins with covers.
- Manage all spills according to routine policy. Wear appropriate PPE when cleaning up after a spill.
- Limit the use of phlebotomy and keep laboratory testing to the minimum necessary for essential diagnostic evaluation and patient care.

**Management of waste**

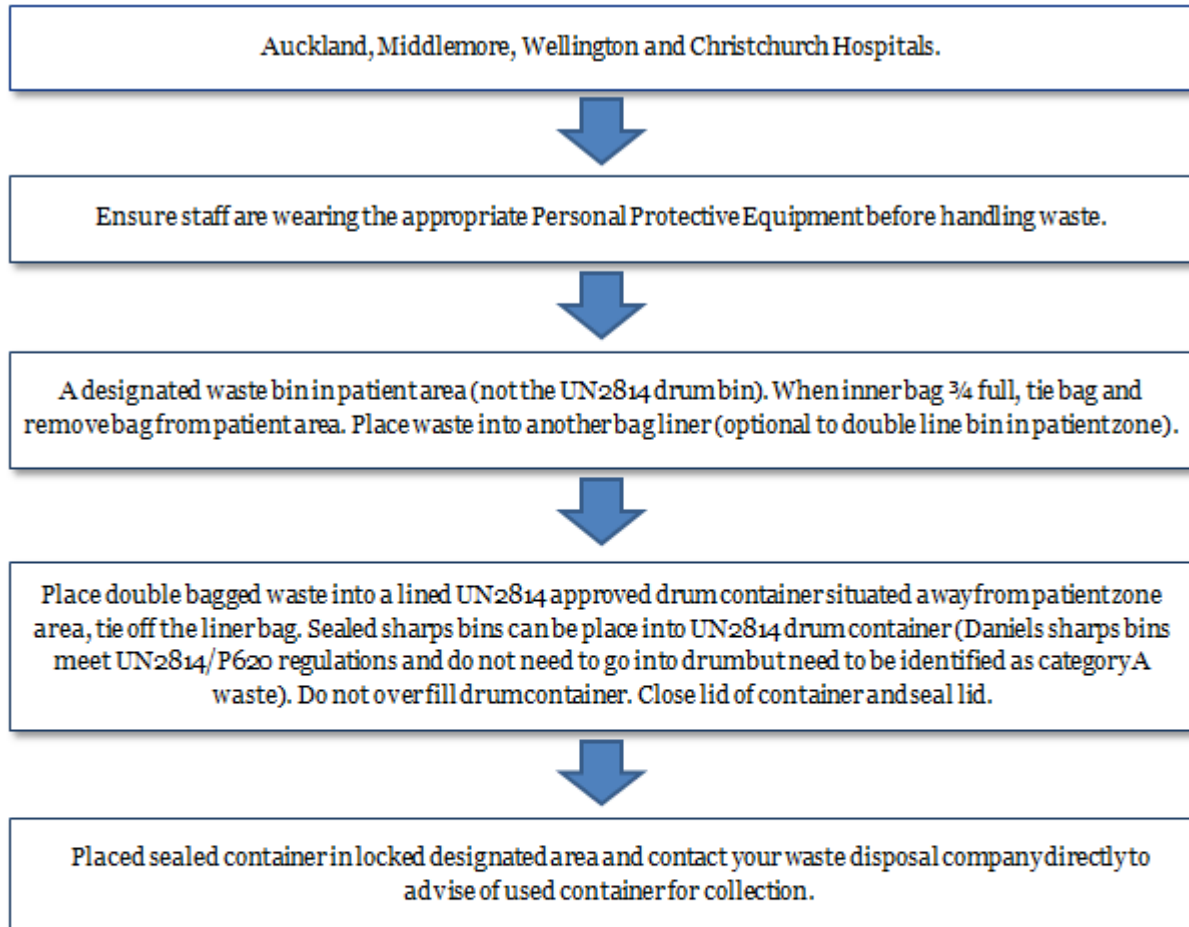
**A risk assessment and management plan should be made for the safe storage and disposal of all waste. Discuss with your local IPC specialist for advice.**

**All EVD waste is categorised as UN 2814 Infectious Substance – Category A. For waste packaging procedures, see Figure 1 and 2.**

- Refer to NZS 4304:2002 Management of Healthcare Waste for guidance on the disposal of infectious waste.
- Prior to removal of a bin from the room or anteroom, the outside of the bin should be wiped with a 1% bleach solution.
- Prior to removal of a bag from the room the bag should be placed in another infectious waste bag.
- All waste should be placed into an infectious (lined) waste bin or bag – this ensures that the waste is contained within three bags, in accordance with waste standards.
- The opening of the bag or the lid of the bin should be sealed so that they cannot be inadvertently opened prior to disposal.
- The bags and bins should be identified and stored in a secured locked area, prior to collection by the waste management service.
- Sharps bins should be sealed and placed into approved drum containers that have been provided by waste disposal provider.

*Refer next page for Figure 1: Waste procedure for packaging of class UN2814 Category A waste in accordance with NZS5433:2012*

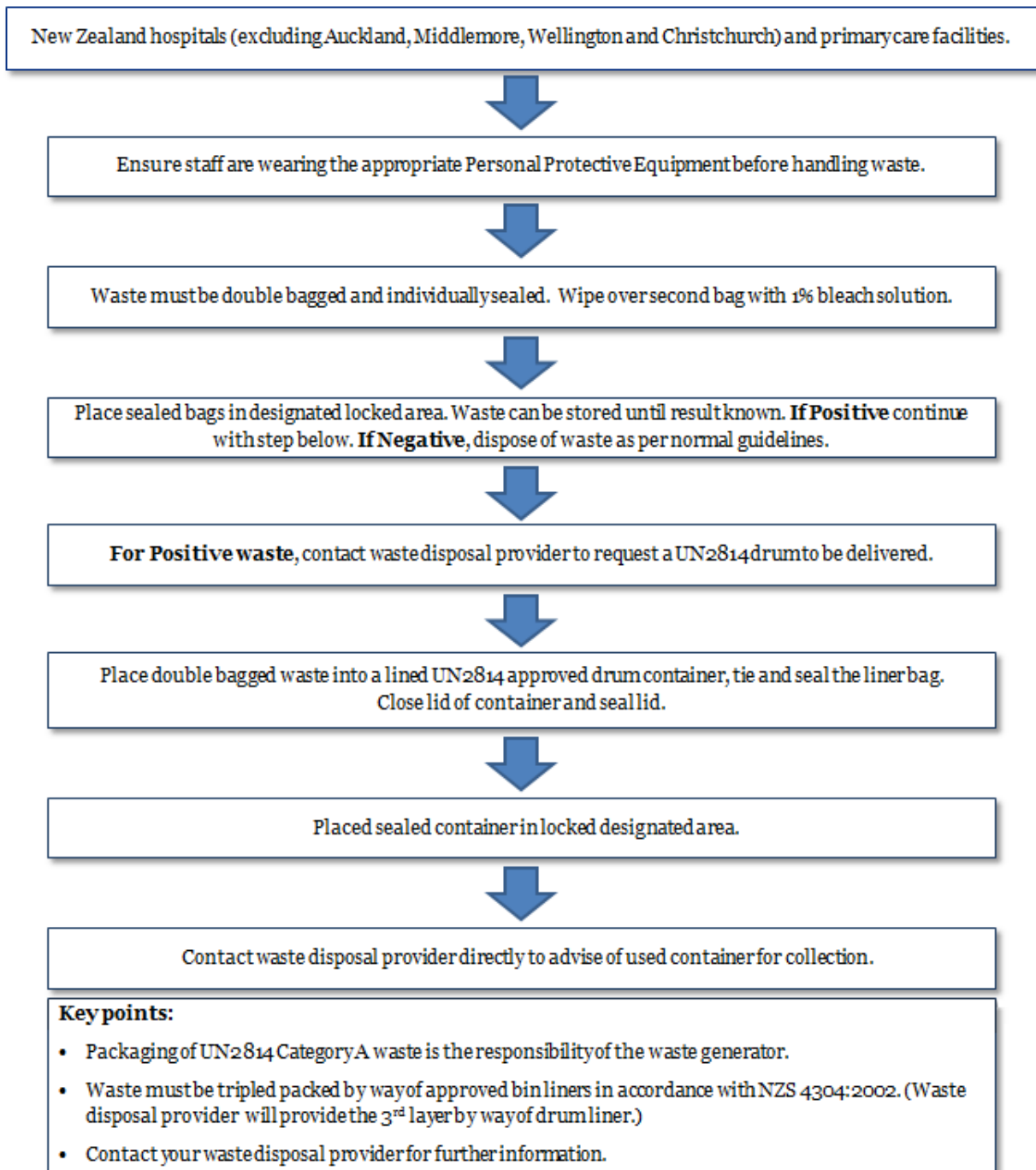
**Figure 1: Waste procedure for packaging of class UN2814 Category A waste in accordance with NZS5433:2012**  
Summary for designated referral hospitals (other New Zealand hospitals and primary care facilities should refer to Figure 2).



**Key points:**

- Packaging of UN2814 Category A waste is the responsibility of the waste generator. A dangerous goods docket (DG) must be completed in the normal manner.
- Waste must be triple packed by way of approved bin liners in accordance with NZS 4304:2002/P620 (waste disposal company will provide the 3<sup>rd</sup> layer by way of drum liner).
- Drum container must not be kept in the patient zone area.
- Contact your waste disposal provider for further information.

**Figure 2: Waste procedure for packaging of class UN2814 Category A waste in accordance with NZS5433:2012**  
Summary for New Zealand hospitals (excluding the designated referral hospitals of Auckland, Middlemore, Wellington and Christchurch) and primary care facilities.



**Movement of deceased bodies**

The handling of deceased bodies should be kept to a minimum. Staff handling the deceased body should wear the appropriate PPE (and should be trained in the donning and removing of PPE).

The deceased patient should be placed in a sealed, leak-proof body bag.<sup>3</sup> Unfortunately, leakage may still occur with these bags and for this reason the body bag should be placed inside another body bag and sealed and wiped over with 1000 ppm available chlorine. Body should be transported to the mortuary. Removal of PPE and hand hygiene should be performed once the task completed.

The Funeral Director should be informed in advance that the body is infectious so the appropriate arrangements by the funeral director can be made.

#### **Post-mortem examinations**

- A post-mortem examination on a person known to have died of EVD exposes staff to unwanted risk and **should not be performed**.
- Where a patient has died prior to a definitive diagnosis of EVD, advice should be sought from the local Medical Officer of Health.

#### **Visitors**

- Visitors (family, friends and whānau) should not be allowed into the patient care area. However, exceptions may be made on a case by case basis.

#### **Release of cases from isolation**

A suspected case may be released from isolation and discharged if the medical condition allows after testing negative for EVD, unless a high index of suspicion remains (such as in the absence of an alternative diagnosis). They should be given a fact sheet and contact details for their local public health unit.

#### **Cleaning of the room after patient discharge**

- Discuss cleaning requirement with IPC or refer to DHB policy.

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<sup>3</sup> Body bags should be of a good quality, zips should have a material underside as vinyl is more likely to tear.

Absorbent material should be placed between each bag.

**Appendix H:**  
**National referral pathways – Ebola virus disease (EVD)<sup>1</sup>**

This guideline has been developed to guide decision making on the most effective clinical management of a suspect EVD Case.<sup>4</sup> This document should be read in conjunction with the Ministry of Health's *Updated information for health professionals: Ebola virus disease (EVD)* guidance document which has more detailed information and will be updated on the Ministry's website on a regular basis: [www.health.govt.nz/ebolaguidance](http://www.health.govt.nz/ebolaguidance)

**Guiding principles**

- The four referral hospitals identified for suspect EVD, or other highly infectious disease are: **Auckland, Middlemore, Wellington and Christchurch.**
- Every secondary and non-referral tertiary hospital in the country is expected to be able to identify a suspected EVD case and provide patient care until the patient is transferred to one of the four referral tertiary hospitals.
- If a suspected case presents in a primary care setting, the local Medical Officer of Health must be contacted immediately. They will liaise with relevant ambulance services and the most appropriate receiving hospital.
- Suspect EVD cases should be transferred as early as possible to one of the four referral hospitals.
- If a suspect case is too ill to be transferred, the four referral hospitals, supported by the Ministry of Health and the Ebola Technical Advisory Group, will provide support and equipment to the treating hospital.

Hospitals must recognise that any suspected case of EVD will create a unique range of challenges for the clinical team and the incident management team involved. These include potentially managing a severely ill patient, staff concern, community concern and considerable media interest.

Whilst all facilities must have a safe system of work for any infectious disease presentation managed in a negative pressure room, the four referral hospitals identified have additional capacity to manage a suspected/confirmed EVD case.

**Aeromedical transfers**

Aeromedical transfers introduce additional risks to flight crew who cannot wear effective PPE and the aircraft which may be difficult to disinfect if grossly contaminated by a severely ill patient.

St John Ambulance is working with aeromedical providers, Auckland and Middlemore hospitals to place four Isopod Air Isolator Patient Transporters into service to facilitate the emergency transfer of a symptomatic highly infectious patient, if required.

The policy and protocols for use of such equipment are being developed concurrently with other jurisdictions, especially Australia. Nonetheless it is evident that managing a severely ill EVD case during transfer will be difficult.

Where a clinical decision is made by ambulance services and treating clinicians that transfer by Isopod is required, St John or Wellington Free Ambulance will organise and provide appropriately trained retrieval staff. This may include personnel from ambulance services, the referral hospital and aeromedical providers. Referring hospitals are not required to have trained transfer staff.

Therefore:

- early transfer of a suspect EVD case is required where possible
- ambulance services also need to plan for long road transfers in the event of inability to fly.

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<sup>4</sup> Most recent case definitions are located at: [www.health.govt.nz/ebolacasedefinition](http://www.health.govt.nz/ebolacasedefinition).



**Adult Referral Pathway**

Referral hospital*	Relevant point of contact in referral hospital	Transferring DHB catchments
Auckland	On-call Infectious Diseases Specialist	Northland Waitemata Auckland
Middlemore	On-call Infectious Disease Specialist	Counties Manukau Waikato Bay of Plenty Taranaki Tairāwhiti Lakes
Wellington	On-call Infectious Disease Specialist	MidCentral Hawke's Bay Whanganui Wairarapa Hutt Valley Capital and Coast Nelson Marlborough (where air transfer is available)
Christchurch	On-Call Infectious Disease Specialist	Nelson Marlborough (where air transfer is NOT available to Wellington) Canterbury West Coast South Canterbury Southern

**Paediatric Referral Pathway**

Referral pathways for suspected paediatric EVD cases will be determined on a case-by-case basis, based on the clinical presentation, likelihood of requiring Paediatric Intensive Care Unit (PICU) level care and other circumstances. Referral and potential for transfer should be discussed between the hospital at which the patient has presented (and paediatricians at their adult referral hospital\* as outlined above, if these are not the same) and Starship Hospital (General Paediatrician or PICU consultant if PICU level care is anticipated).



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**Appendix I.**  
**Ebola Fact Sheet**

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**Key facts**

- Ebola virus disease (EVD), formerly known as Ebola haemorrhagic fever, is a severe, often fatal illness in humans.
- EVD outbreaks have a case fatality rate of up to 90%.
- EVD outbreaks occur primarily in remote villages in Central and West Africa, near tropical rainforests.
- The virus is transmitted to people from wild animals and spreads in the human population through human-to-human transmission.
- Certain fruit bats are considered to be the natural host of the Ebola virus.
- Severely ill patients require intensive supportive care. No licensed specific treatment or vaccine is currently available for use in people or animals.

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**Introduction**

Ebola first appeared in 1976 in two simultaneous outbreaks, in Sudan and in the Democratic Republic of Congo. The latter was in a village situated near the Ebola River, from which the disease takes its name.

There are different species of Ebola virus. The species found in the Philippines and China, can infect humans, but no illness or death in humans from this species has been reported to date.

**Transmission**

Ebola is introduced into the human population through close contact with the blood, secretions, organs or other bodily fluids of infected animals. In Africa, infection has been documented through the handling of infected chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines killed or found ill in the rainforest.

Ebola then spreads in the community through human-to-human transmission, with infection resulting from direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and indirect contact with environments contaminated with such fluids. Men who have recovered from the disease can still transmit the virus through their semen for up to 7 weeks after recovery from illness.

**Signs and symptoms**

EVD is a severe acute viral illness often characterized by the sudden onset of fever, intense weakness, muscle pain, headache and sore throat. This is followed by vomiting, diarrhoea, rash, impaired kidney and liver

function, and in some cases, both internal and external bleeding.

The time interval from infection with the virus to onset of symptoms is 2 to 21 days.

**Diagnosis**

Ebola virus infections can be diagnosed from samples sent to laboratories in Australia.

**Vaccine and treatment**

Several vaccines are being tested, but none are available for clinical use.

No specific treatment is available. New drug therapies are being evaluated.

**Reducing the risk of Ebola infection in people**

In the absence of effective treatment and a vaccine, raising awareness of the risk factors for Ebola infection and the protective measures individuals can take is the only way to reduce human infection and death.

During EVD outbreaks, educational public health messages for risk reduction are important

**Controlling infection in health-care settings**

Human-to-human transmission of the Ebola virus is primarily associated with direct or indirect contact with blood and body fluids.

Transmission to health-care workers has been reported when appropriate infection control measures have not been observed. It is not always possible to identify patients with EBV early because initial symptoms may be non-specific. For this reason, it is important that health-care workers apply standard precautions consistently with all patients in all work practices at all times.

Laboratory workers are also at risk. Samples taken from suspected human and animal Ebola cases for diagnosis should be handled by trained staff and processed in suitably equipped laboratories.

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**Acknowledgement:**

Edited from the World Health Organisation, Ebola virus disease:

Fact sheet N°103, Updated April 2014

<http://www.who.int/mediacentre/factsheets/fs103/e>

Appendix J:

## Fact Sheet: Screening of Travellers at Airports<sup>2</sup>



### Screening of travellers at airports

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25 November 2014

This factsheet helps explain the measures being taken at airports in New Zealand and in affected countries in West Africa to prevent the spread of Ebola.

#### General risk of transmission of Ebola

The Ministry of Health considers that it is highly unlikely that anyone with Ebola will arrive in New Zealand, and extremely unlikely that any case of Ebola would spread. People with Ebola are not infectious before symptoms develop. Even once symptoms develop (between 2 and 21 days after exposure) the person is not very infectious until the later stages of the disease. To get infected, you need to have physical contact with infected body fluids or heavily contaminated objects. To date, no one has caught Ebola from travelling on an aircraft with an infected person.

#### Exit screening in countries with Ebola outbreaks

Since the beginning of August, the World Health Organization has been working with airlines, airports, ministries of health, and other partners to provide technical assistance to countries with Ebola outbreaks. The World Health Organization has recommended affected countries screen departing travellers (exit screening). Exit screenings are conducted at airports in these outbreak-affected countries to look for sick travellers or travellers exposed to Ebola and to delay them from boarding an airplane until it is safe for them to travel.

Exit screening might look a little different in each country but contains the same basic elements.

1. All travellers:

- have their temperature taken
- answer questions about their health and exposure history
- are visually assessed for signs of potential illness.

2. Travellers with symptoms or possible exposures to Ebola are separated and assessed further.

3. This assessment determines whether they are:

- allowed to travel
- not allowed to travel on a commercial flight and referred to public health authorities for further evaluation.

#### Entry screening in New Zealand

##### Looking for sick travellers on aircraft flying to New Zealand

The captain of an international flight is required to tell public health officers if anyone on board the aircraft has 'symptoms of concern'. These are an internationally agreed set of symptoms that may indicate a person has a disease of public health concern. The symptoms are a fever (temperature of 38°C or greater) **and** one or more of the following symptoms: persistent coughing, impaired breathing, persistent diarrhoea, persistent vomiting, skin rash, bruising or bleeding without previous injury, and/or confusion of recent onset.

Once the captain reports an ill passenger, the public health officers will make sure the sick person is assessed and referred for treatment. They will then talk to the people on the aircraft to identify anyone travelling with the patient and anyone else who may have had contact with the patient.

##### Looking for sick travellers at New Zealand airports

Because of the Ebola outbreak, the Ministry of Health and New Zealand Customs are undertaking additional entry screening of travellers who have travelled from or through the countries in West Africa which are affected by the Ebola outbreak: Guinea, Liberia and Sierra Leone. Our staff at all airports remain trained and ready to respond to any reports of ill travellers, and our robust public health system is prepared to respond and assist.

**What New Zealand entry screening looks like**

Customs officers are checking arrival cards and identifying travellers who list Guinea, Sierra Leone, or Liberia as countries visited in the past 30 days. Any travellers identified who have visited the Ebola-affected countries will be asked the following questions by Customs officers.

1. Are you experiencing any symptoms of fever, muscle aches, vomiting or diarrhoea?
2. Have you been in direct contact with someone who has had Ebola or was suspected of having the disease?
3. Were you living in a household with someone who has had Ebola?
4. Were you providing medical care to an Ebola patient?
5. Were you working in a laboratory and having exposure to Ebola samples?
6. Have you attended a funeral?

If the traveller answers 'no' to all six questions, they will be given the Ministry of Health advice card.

If the traveller answers 'yes' to any of these questions, the traveller will be isolated and public health officers will undertake a health assessment of the traveller to see if they meet the case definition or may be a contact of a suspected case. If the Customs officer has any cause for concern, regardless of the responses to these questions, they will seek advice from their local public health unit.

**People who may have been in contact with Ebola**

People who may have been in contact with an Ebola case in one of the affected countries, or on an aircraft, will be given information about the disease by a public health officer. The travellers will be assessed to see how they may have been exposed and how likely it is that they may get sick. If necessary, they will be asked to take their temperature twice a day, and will be visited or phoned each day by a public health officer to see how they are feeling. Public health officers can also place people in quarantine if needed.

For further background information on Ebola see [www.health.govt.nz/ebolaguidance](http://www.health.govt.nz/ebolaguidance)



New Zealand Government

HP6065

Appendix K  
**Health Advice Card<sup>2</sup>**

Limited supplies of the Ministry of Health's health advice card have been distributed to the NZ Customs Service.



The card is also available in the following languages :

Arabic, Czech, Dutch, Farsi, French, German, Greek, Hebrew, Hindi, Indonesian, Italian, Japanese, Korean, Malay, Portuguese, Punjabi, Russian, Samoan, Chinese (traditional and simplified), Spanish, Tongan, Thai, Vietnamese.

PDF versions are available on request from Sally Gilbert (sally\_gilbert@moh.govt.nz) or Sally Giles (sally\_giles@moh.govt.nz).

PDF versions are available in English on the Ministry of Health's website: [www.health.govt.nz/ebolaguidance](http://www.health.govt.nz/ebolaguidance)

Appendix L  
Fact Sheets for Contacts

**Fact Sheet for Direct Contacts (High Risk) and People Who Have Been Assisting  
in the Ebola virus disease Response in the Affected Countries<sup>2</sup>**



**Information for people who have had direct contact with a suspected case of Ebola**

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November 2014

**This information is being provided to you because you have been identified by a public health unit as having had direct contact with someone who is suspected of having Ebola. Such contact could include direct physical contact with an ill person, their body fluids, their clothes or linens during their illness or their body after death.**

If the person who is unwell is confirmed as having Ebola, there is a possibility that the illness could have been passed on to you. If they are in New Zealand, a blood sample will be taken from them and tested for the Ebola virus. We will be in regular communication with you, and once we have confirmed whether the person has Ebola or not, will inform you.

**What is Ebola?**

Ebola is a disease caused by a virus. There is no vaccine against Ebola at this time. Ebola virus can cause a serious illness but if the disease is identified and treated early then recovery is more likely.

**How is it spread?**

- Ebola virus spreads from person to person by contact with the blood and body fluids of an infected person.
- The virus can also be spread through semen for up to seven weeks following recovery.
- Ebola can also be caught by preparing or eating the meat of wild African animals known as 'bushmeat'.

**Am I at risk of catching Ebola?**

As you have been identified as having contact with a person suspected of having Ebola it is important that you are monitored, so that any early symptoms of Ebola can be detected and treated.

**How is my health monitored and for how long?**

Your health will need to be monitored until Ebola is ruled out, or until 21 days since your last contact with the suspected case. Monitoring your health involves:

- Having your temperature taken twice daily. Do not take any medicine that may reduce fever (eg Panadol, Paracetamol) for four hours before taking your temperature. If your temperature is higher than 38.0 °C, or you begin feeling unwell, limit your contact with people and ring your local Public Health Unit.
- Someone from the Public Health Unit will make contact with you each day to check on you and answer any questions you might have.

**What are the symptoms?**

- The early symptoms of Ebola are a sudden onset of fever, muscle and joint aches, weakness and headache.
- Other symptoms can include diarrhoea, vomiting and a skin rash.
- Note that the early symptoms of Ebola are similar to a lot of other illnesses, so having these symptoms does not necessarily mean that you have Ebola. However, it is important that you let Public Health Unit staff know as soon as you start to feel unwell as although Ebola virus can cause a serious illness, early identification and treatment makes recovery more likely.

**Is there anything else I should know or do?**

Public Health Unit staff will tell you if you should not return to work or school. As long as you are well you can stay at home, meet people, catch public transport, go to the shops and otherwise continue your daily activities.

**More information**

You can find out more information at <http://www.health.govt.nz/ebola>

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Appendix M

**Fact Sheet for Casual Contacts or Direct Contacts (Low Risk)<sup>2</sup>**



New Zealand Government

**Information for people who have been on an aircraft with an unwell person**

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October 2014

**This information is being provided to you because you have been on an aircraft with someone who has been unwell.**

**The person who is unwell is receiving medical treatment, and because of their recent travel, is also being tested for the Ebola virus. This does not mean the person has Ebola.**

It is not easy to catch Ebola. It is not spread through the air and it's not as infectious as the flu or measles. You cannot get Ebola just from sitting next to someone on a plane – it requires direct contact with infected body fluids. You are not at high risk of catching Ebola.

There are a lot of diseases you can catch overseas. If you do become unwell within a month of returning to New Zealand, it is important you phone Healthline (0800 611 116) and let them know that you have received this letter. Healthline can also provide general health advice.

For further background information on Ebola see: <http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-virus-disease>

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Te Mana Ora | Community and Public Health,  
Phone 03 364 1777  
After Hours 03 337 7899  
Fax 03 379 6484

**SUSPECT EBOLA CASE  
RISK ASSESSMENT FORM**

Name of person ..... Contact phone no. in NZ.....

Age ..... days / months/ years      Date of birth ...../...../.....      Nationality .....

Date of incident ...../...../.....      Time informed ..... hrs

**Notification Type**

Ill traveler on aircraft notified prior to landing	<input type="checkbox"/>	MoH National Focal Point	<input type="checkbox"/>
Customs notification on screening	<input type="checkbox"/>	Ebola assistance planned return	<input type="checkbox"/>
Presentation to a medical Centre	<input type="checkbox"/>	Presentation to Emergency Department	<input type="checkbox"/>
Other	<input type="checkbox"/>	Specify other:	
Name of Notifier:		Contact Details of Notifier:	

**Risk Assessment**

<b>In the 21 Days prior to onset of symptoms:</b>		
History of travel	Yes / No (If yes to travel in an Ebola affected country then complete rest of risk assessment. If no treat as normal ill traveler protocol)	If yes which countries:
If yes to travel in West Africa where and when did you visit?	1.	Dates:
	2.	Dates:
	3.	Dates:
History of contact with any suspect or confirmed Ebola Cases?	Yes / No	Details of contact:
History of exposure to blood or body tissue?	Yes / No	Specify:
History of exposure to bats or primates?	Yes / No	Specify:
History of eating bush meat?	Yes / No	Specify:
Breastfed by a case?	Yes / No	Details of person:
Participated in funeral that involved direct contact with the deceased body?	Yes / No	Details of funeral and contact:
Direct contact with others since onset of symptoms?	Yes / No	Details of contact:
Have you been assisting with the Ebola response?	Yes / No	Nature of work:

Does the risk assessment meet the case definition for Ebola   **YES**   **NO**

Major Symptoms	Duration	Duration
Fever [especially with chills, rigors or headache]		Persistent diarrhoea
Persistent coughing		Obviously unwell
Impaired breathing		Skin rash
Abdominal pain		Abnormal bleeding
Persistent vomiting		Reduced mental capacity
Myalgia		Headache
Other (give details)		

Do the symptoms meet the case definition for Ebola   **YES**   **NO**

Was there any contamination of the environment (cabin/toilet) with body fluids (vomit, diarrhoea, urine, blood)?  
**YES**   **NO**

**Category of Contact:**

Casual/No Contact	<input type="checkbox"/>	Direct Contact (Low Risk)	<input type="checkbox"/>
Direct Contact (High Risk)	<input type="checkbox"/>	Ebola response assistance	<input type="checkbox"/>

Refer to the MoH Risk Assessment Framework for Ill Travellers Table 1. Categories and management of contacts for guidance on further actions.

Comments

.....

.....

.....

...../...../.....   **Time:** ..... Hrs  
**Name**                      **Date**

Appendix O  
Ebola First Contact form<sup>1</sup>

CMT003

<b>EBOLA FIRST CONTACT FORM:</b>		<b>C&amp;PH CONTACT No:</b>	
Surname: _____		Age: (in years) _____	Gender: Male <input type="checkbox"/>
First name: _____			Female <input type="checkbox"/>
Address: _____		<b>Category of Contact:</b>	
_____		Casual/No Contact <input type="checkbox"/>	Direct Low Risk <input type="checkbox"/>
_____		Direct High Risk <input type="checkbox"/>	Ebola Assistance <input type="checkbox"/>
Phone: _____		<b>Interpreter required:</b> Yes No	
Landline: _____		Language: _____	
Cellphone: _____		Interpreter's name: _____	
Email: _____		Contact details: _____	
GP Name and Medical Centre: _____		_____	
<b>BASELINE MEDICAL INFORMATION</b>			
Fever	Yes No	Myalgia	Yes No
Headache	Yes No	Weakness	Yes No
Diarrhoea	Yes No	Vomiting	Yes No
Skin Rash	Yes No	Weakness	Yes No
Other, specify: _____		Current Temp: _____	
Have you taken fever reducing medicine?		Yes	No
Date and Time last dose taken: _____			
(If yes to any of these a refer to Medical Officer of Health required)			
<b>TRAVEL DETAILS</b>			
Flight No: _____		Origin of Flight: _____	
Date of Arrival: _____		Date of Departure: _____	
Seat No: _____		Contact with sick person Yes / No	
Contact with body fluids of sick case Yes / No			
If yes, specify: _____			
<b>Previous Countries visited with dates:</b>			
_____			
-			
_____			
_____			
_____			
_____			

<b>EBOLA RESPONSE ASSISTANCE</b>	
Affected Country assisting: _____ Location/s in Country: _____ Nature of Work: _____ _____ _____ Dates assisting from ____ / ____ / ____ to ____ / ____ / ____	Stand-down measures taken before returning to NZ: _____ _____ _____ Stand-down from ____ / ____ / ____ to ____ / ____ / ____
<b>OTHER CONTACT</b>	
Nature of Contact with confirmed or probable case: _____ _____ _____	Dates of Contact with confirmed/probable case: ____ / ____ / ____ to ____ / ____ / ____ (e.g. crew, travelling companion)
<b>CONTACT CATEGORY</b>	
Casual Contact, No risk <input type="checkbox"/> Direct Contact (Low Risk) <input type="checkbox"/> Direct Contact (High Risk) <input type="checkbox"/> Ebola Response Assistance Healthcare Workers in NZ <input type="checkbox"/>	Refer to SOP002: Ebola Contact Definitions
<b>PERSONAL SITUATION</b>	
<b>Living Circumstances</b> Alone <input type="checkbox"/> With family <input type="checkbox"/> Flatmates <input type="checkbox"/> Hostel <input type="checkbox"/> Other <input type="checkbox"/> Specify: _____ Occupation: _____ Workplace: _____ Work Commitments: _____ _____	Able to self-isolate:    Yes / No If no, specify: _____ Able to self-monitor:    Yes / No If no, specify: _____ Employer letter/phone call required: Yes / No Employer Contact Details: _____ _____
<b>QUARANTINE</b>	
Agrees to Quarantine: Quarantine type: Home <input type="checkbox"/> Facility <input type="checkbox"/> Name of facility: _____ Quarantine Address (if different from above): _____ _____	Refuses to go into Home Quarantine: Refer Immediately to Operations Manager Quarantine dates: From:    ____ / ____ / ____ To:        ____ / ____ / ____

<b>VERBAL INFORMATION</b>			
<b>Explanation of quarantine purpose and expectations:</b>	<input type="checkbox"/>	<b>Welfare provisions explained:</b>	<input type="checkbox"/>
<b>ADMINISTRATION</b>			
<b>Interviewed by:</b> _____ <b>Date:</b> ___ / ___ / ___ <b>Time:</b> _____			

1 Ref: Y:\CFS\ProtectionTeam\FinalDocs\notifiableConditions\EBOLA\...\CMT003EbolaFirstContactFORM.doc