

Ebola Virus Disease

What Health Professionals Need to Know

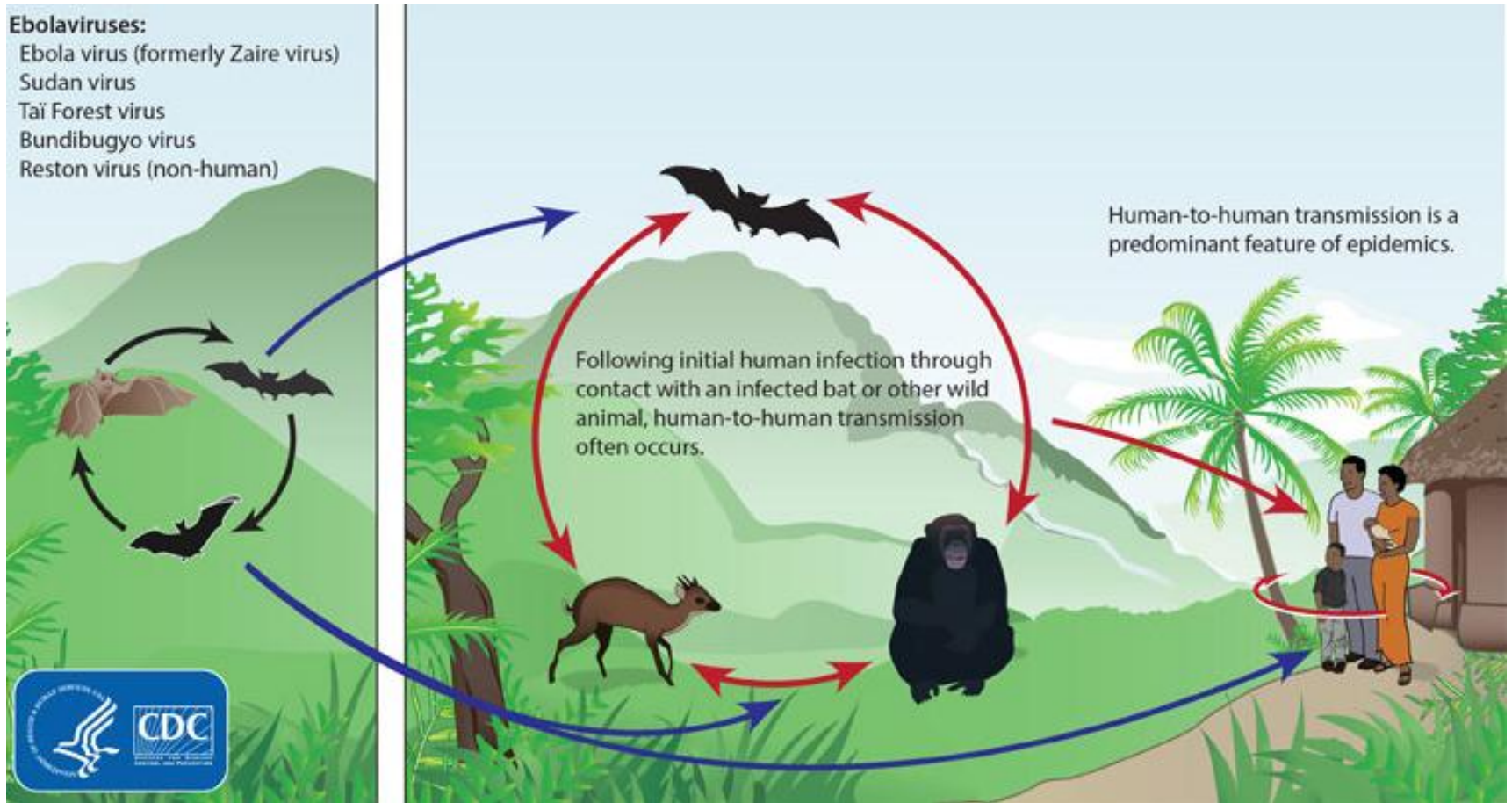
Last updated 4 December 2014



What is Ebola?

- Viral Haemorrhagic Fever
- A severe and often fatal viral infection
- Five Ebola strains; four known to cause infection in humans

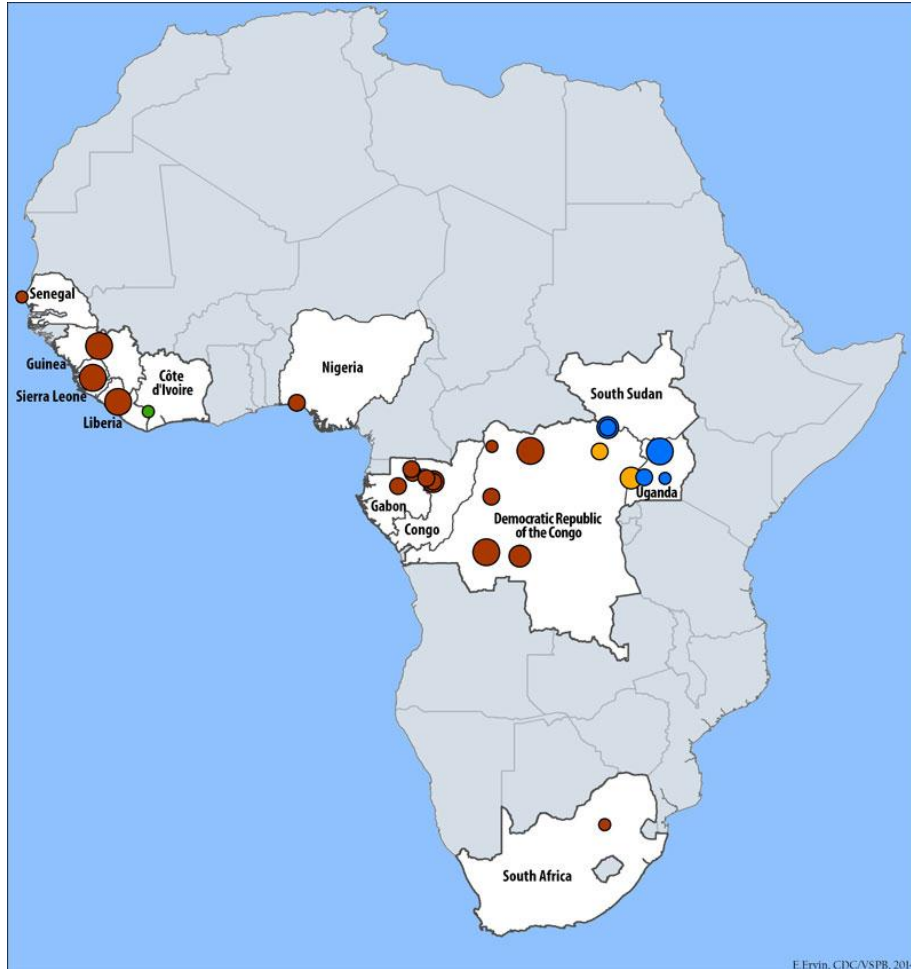
Ebola ecology



Yambuku, Zaire – 1976



Ebola outbreaks



EBOLAVIRUS OUTBREAKS BY SPECIES AND SIZE, 1976 - 2014

Species

- Zaire ebolavirus
- Sudan ebolavirus
- Tai Forest ebolavirus
- Bundibugyo ebolavirus

Number of Cases

- 1 - 10
- 11 - 100
- 101 - 300
- Greater than 300 reported cases



E.Ervin, CDC/VSPB, 2014

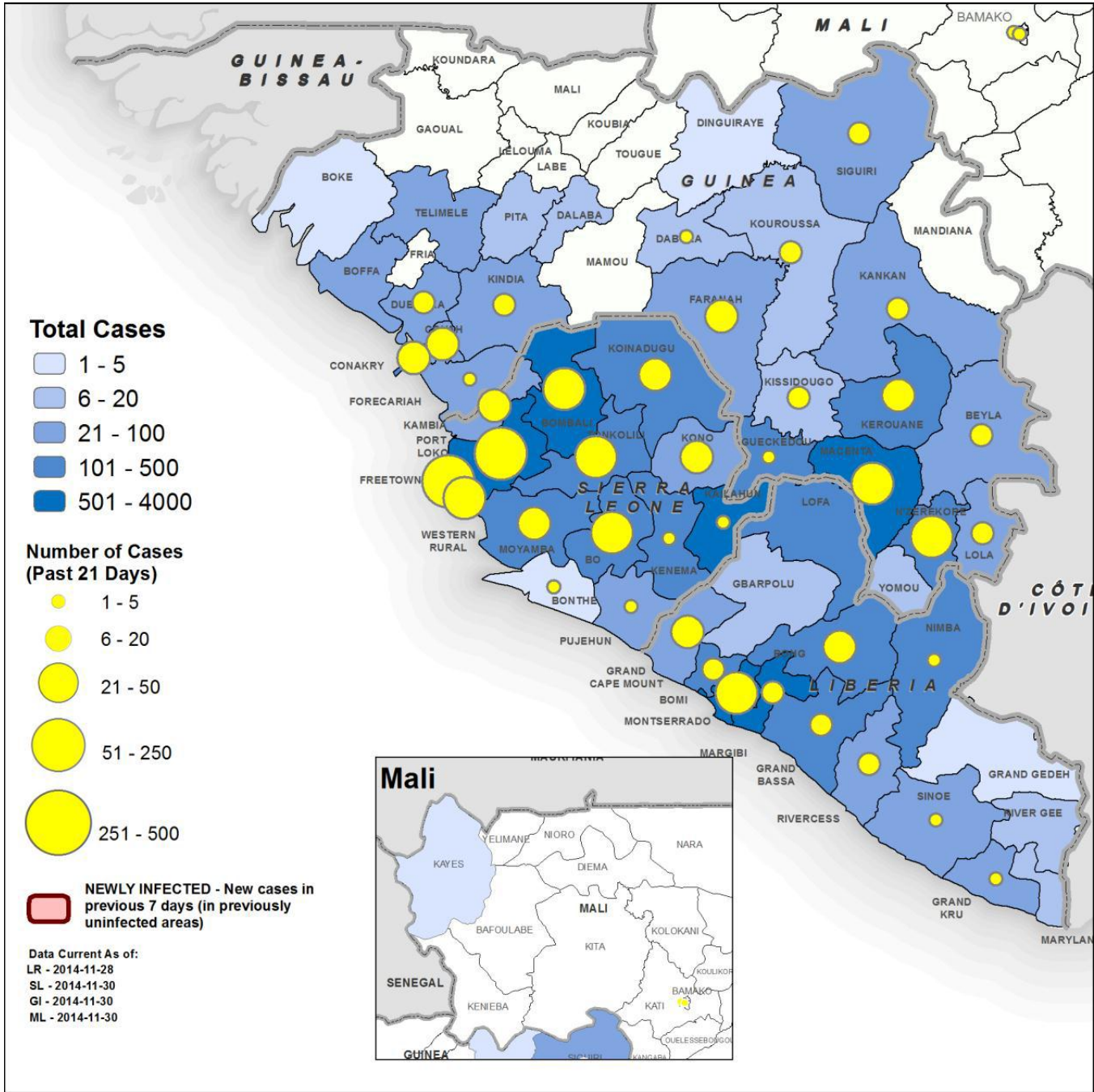
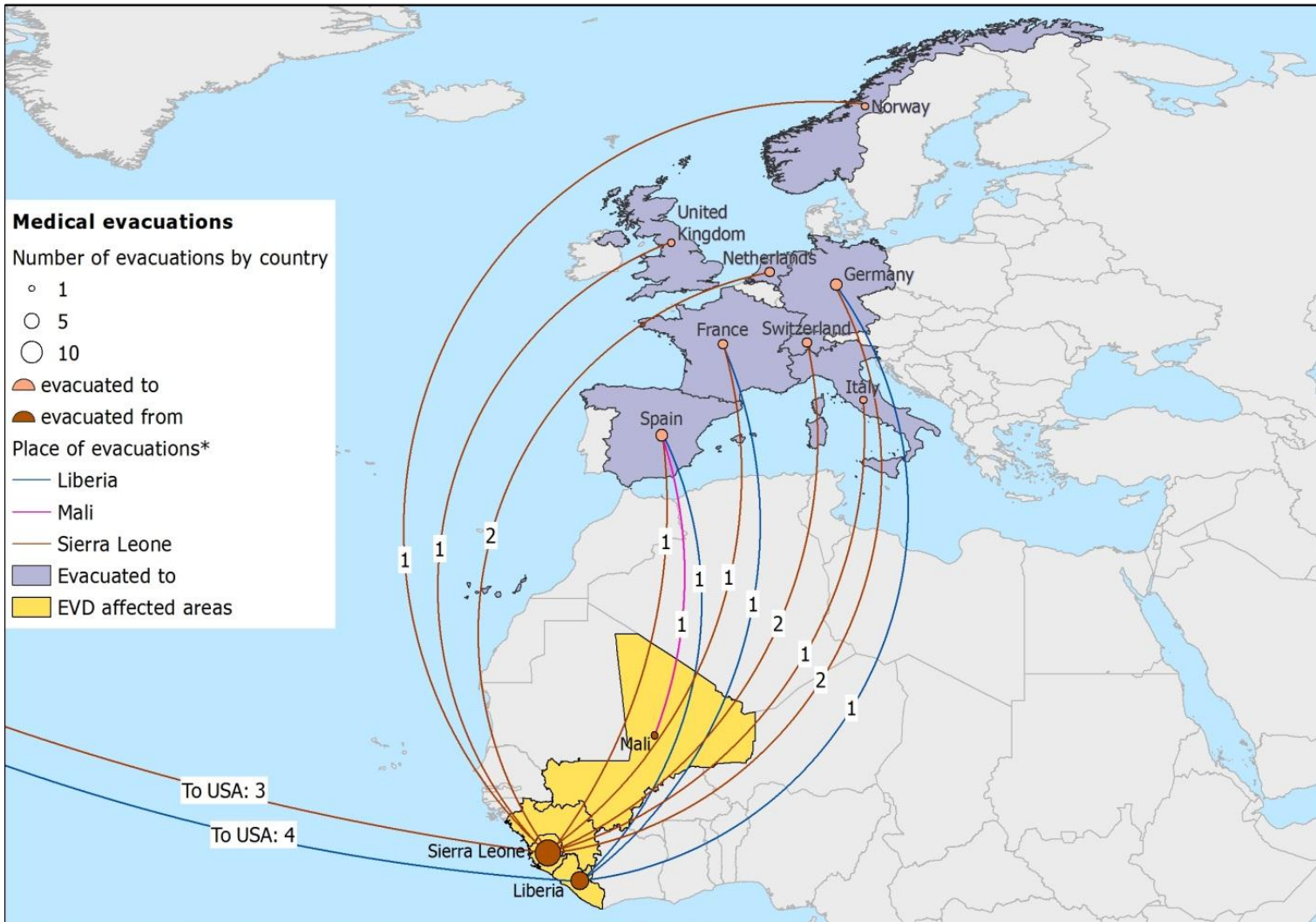


Image source: World Health Organisation

Medical evacuations



*Numbers displayed over the connection lines are referring to number of medical evacuations.

ECDC. Map produced on 27 Nov 2014

How is Ebola transmitted?

- Ebola is spread through **direct contact**
- This means contact through broken skin or mucous membranes (e.g. eyes, nose, or mouth) with:
 - blood or body fluids (including urine, saliva, sweat, faeces, vomit, breast milk, and semen) of an Ebola patient
 - objects (like needles and syringes) that have been contaminated with the virus
 - infected fruit bats or primates (apes and monkeys)
- Ebola is not spread through the air or by water

Early symptoms

Ebola can only be spread to others after symptoms begin.

Symptoms usually appear after 8-10 days; rarely up to 21 days

- Fever
- Severe headache
- Muscle pain
- Lethargy
- Anorexia
- Diarrhea
- Vomiting
- Abdominal pain
- Unexplained bleeding or bruising *

Treatment



Image source: Centers for Disease Control and Prevention, Office of the Associate Director for Communications, Division of Public Affairs

Ebola Preparedness in NSW



Image source: Western Sydney LHD. Available at: <http://www.wslhd.health.nsw.gov.au/News-room/Westmead-Hospital-conducts-ebola-training-sessions>

Prevention of Ebola

- No vaccine available yet but in rapid development by WHO
- Advice for Travellers
- Detailed advice for healthcare workers developed regarding
 - High-level PPE and infection control
 - Patient isolation
 - Laboratory infection control
 - Safe linen and waste disposal
 - Safe management of the deceased
- Contact identification and management

Border measures

- Exit screening in Ebola affected countries
- Enhanced border screening in place in Australia – contact public health if any concern
- 1 800 number on all incoming passenger cards



 Australian Government
Department of Health

**PROTECT YOURSELF
PROTECT OTHERS**

EBOLA

Information Card
KEEP THIS CARD FOR 21 DAYS

Arrival Date

Your personal information is protected by law, including the Privacy Act 1988, and is being collected by the Australian Government Department of Agriculture to protect the Australian public by minimising the entry of quarantinable diseases and diseases with pandemic potential.

If you do not provide the health information requested penalties authorised under the Quarantine Act 1908 may apply.

You can get more information about the way in which your personal information will be managed at www.health.gov.au/quarantine

Please keep this information for 21 days after arrival

**PROTECT YOURSELF
PROTECT OTHERS**

An outbreak of Ebola has originated in West Africa. Ebola is a severe, often fatal disease.

SYMPTOMS INCLUDE

 Fever
Headache

 Muscle
Aches

 Vomiting
or Diarrhoea

 If you visited a country affected by the outbreak and develop any symptoms within 21 days, **call 1800 186 815** for help 24 hours a day.

They will help you and help protect others

All information in this publication is correct as at November 2014

KEEP INFORMED
check www.health.gov.au/ebola
for regular updates

Image Sources: Australian Department of Health (top) and Australian Customs and Border Protection Service (bottom)

Surveillance

National (CDNA) Public Health Guidelines

- Active public health monitoring for:
 - Returning HCWs and
 - Humanitarians arrivals from affected countries
- Immediate notification of any suspect cases under investigation to PHUs by Ambulance, GPs and hospitals
- Notification from HealthDirect

Public Health Laboratory Guidelines

- Collection, transport & testing of specimens



Image Source: Australian Department of Health

Response planning – Health Services

- **Viral Hemorrhagic Fever Contingency Plan**
 - How to conduct a risk assessment
 - Infection control measures
 - Diagnostic procedures and tests
 - Management of low, high probability and confirmed cases
- Designated hospitals
- Designated laboratories



NSW CONTINGENCY PLAN FOR VIRAL HAEMORRHAGIC FEVERS

Health Protection NSW
Email: cdp@doh.health.nsw.gov.au
Phone: (02) 9391 9195
Last updated 22 October 2014



Response planning – Hospitals/EDs

EBOLA VIRUS DISEASE (EVD) PATIENT RISK ASSESSMENT

Advice for NSW in the event that patient presents to Emergency Departments

1. Does the patient:

Report having a fever or history of fever in the past 24 hours? **AND**

- Report returning from a country where there is a current EVD outbreak within 21 days of illness onset (see EVD Outbreak Country List →)
- **OR** Report having had contact with a known or highly suspected case of EVD within 21 days of illness onset

NO

EVD highly unlikely
Manage locally

NO

YES

- NO STAFF MEMBER TO HAVE CONTACT WITH PATIENT UNLESS WEARING FULL PPE (see PPE Box →)
- PROVIDE PATIENT WITH A SURGICAL MASK (Provide a vomit bag if vomiting)
- ESCORT TO FACILITY'S DESIGNATED ISOLATION ROOM FOR ASSESSMENT (single room with door closed, with own bathroom and negative pressure if available)
- URGENT DISCUSSION WITH LOCAL ID PHYSICIAN (OR WESTMEAD HOSPITAL ID PHYSICIAN) AND PHU

2. Has the patient:

- Come into contact with body fluids (blood, urine, faeces, tissues, laboratory specimens) from an individual or animal known or strongly suspected to have EVD?
- Participated in a funeral which involved direct contact with the deceased body?
- Presented with vomiting OR diarrhoea OR bruising OR bleeding?
- Been assessed by ID Physician and/or PHU as having increased possibility of EVD

YES TO ANY

LOW POSSIBILITY OF EVD
Discuss with local laboratory

URGENT MALARIA SCREEN
AND other local investigations as appropriate

Malaria Positive

EVD unlikely

Patient Improving

Malaria Negative

Alternative diagnosis?

YES

NO

REVIEW EVD RISK ASSESSMENT

- Discuss with ID Physician + PHU + Local Laboratory
- Consider re-categorising as *Increased Possibility of EVD*

INCREASED POSSIBILITY OF EVD

- URGENT DISCUSSION WITH LOCAL LAB, WH/CHW (ID + ICU) AND CIDMLS-ICPMR Lab
- REVIEW diagnosis, clinical status and need for transfer to WH or CHW for management and EVD testing
- Collect specimens for testing based on advice received
- Liaise with NSW Ambulance and WH or CHW for transfer

COMMENCE PUBLIC HEALTH ACTION

- Work with the PHU to identify close contacts
- Further actions depend upon results of EVD testing

Last updated: 21 October 2014. Health Protection NSW, NSW HEALTH H14/71029

*Where a surgical hood is not available, a balaclava is an acceptable alternative

NSW Public Health Units (PHU) 1300 066 055 (24 hours)
Westmead Hospital (WH) (02) 9845 6609; ask for ID physician
Children's Hospital Westmead (CHW) (02) 9845 0000; ask for ID physician
CIDMLS-ICPMR Laboratory (02) 9845 6255; AH: Call WH - Ask for Clinical Micro on-call

WESTMEAD HOSPITAL (WH) and the
CHILDREN'S HOSPITAL WESTMEAD (CHW)
are the designated hospitals for the
management of EVD Patients

Alertez le personnel immédiatement si...



vous avez de la
fièvre et vous
avez voyagé en
Afrique de l'Ouest
le mois dernier

www.health.nsw.gov.au



Response planning - GPs

Ebola Virus Disease

Advice about Febrile Returned Travellers from West Africa

Key points for GPs:

1. The outbreak of Ebola virus disease (EVD) in West Africa is continuing
2. The risk of EVD infection is extremely low unless there has been direct exposure to the body fluids of an infected person
3. Be alert for febrile travellers with a history of travel to **GUINEA, LIBERIA** or **SIERRA LEONE** in the 21 days prior to illness onset
4. Seek urgent advice from an infectious diseases physician at your nearest tertiary referral hospital and from your local public health unit on **1300 066 055**

Travel to **GUINEA, LIBERIA** or **SIERRA LEONE** within 21 days of onset of illness
AND
History of **FEVER** or other symptoms consistent with Ebola
(e.g. myalgia, severe headache, pharyngitis, conjunctival injection, flushing, vomiting, diarrhoea)

Isolate patient in single room
Restrict access to the room
Keep at least 1m away from the patient and avoid direct contact


Seek urgent advice from Infectious Diseases Physician and
call your local Public Health Unit on **1300 066 055**

DO NOT COLLECT BLOOD OR OTHER CLINICAL SAMPLES





- GPs to remain alert to possibility of Ebola in unwell travelers returning from West Africa
- Engagement with AMA, RACGP and Medicare Locals
- GP fact sheet
- GP algorithm



Resources – Infection Control



RESTRICTED ENTRY ESSENTIAL STAFF ONLY

Before entering room: DON PPE WITH SUPERVISION		On leaving room: REMOVE ALL PPE WITH SUPERVISION & USE ALCOHOL BASED HAND RUB BETWEEN EACH STEP	
1	 Remove all jewellery	1	 Remove plastic apron
2	 Put on surgical scrubs	2	 Remove boots
3	 Put on inner gloves	3	 Remove outer gloves
4	 Put on disposable below the knee surgical boots	4	 Remove face shield
5	 Put on long sleeve impervious gown	5	 Remove surgical hood
6	 Put on P2/N95 mask & perform fit check	6	 Remove gown
7	 Put on outer layer of gloves	7	 Remove inner gloves
8	 Put on surgical hood and face shield	8	 Don fresh gloves, then remove P2/N95 Mask
9	 Put on apron over gown and hood	9	 Perform hand hygiene up to the elbows
CHECK PPE FITTED CORRECTLY		SHOWER WITH SOAP, CHANGE SCRUBS	

Abridged version of P2 mask
(See VHF Plan for all steps)



- Isolation room posters
- PPE videos
- Cleaning videos
- Role of PPE buddy video

EVD INFECTION CONTROL / PPE

ENSURE THAT STAFF ARE:

- Rigorously and repeatedly trained
- Donning & doffing PPE in designated area outside of the patient's room
- Not exposing any skin when wearing PPE
- Monitored by a trained PPE observer for donning & doffing compliance; observer must not touch PPE.

Education and training – Infection Control & PPE

Infection Control Practitioner (ICP) Train the Trainer Program

- Donning/doffing PPE
- Role of trained observer
- Environmental cleaning
- Competency assessment and credentialing
- Regular auditing every week during preparedness phase

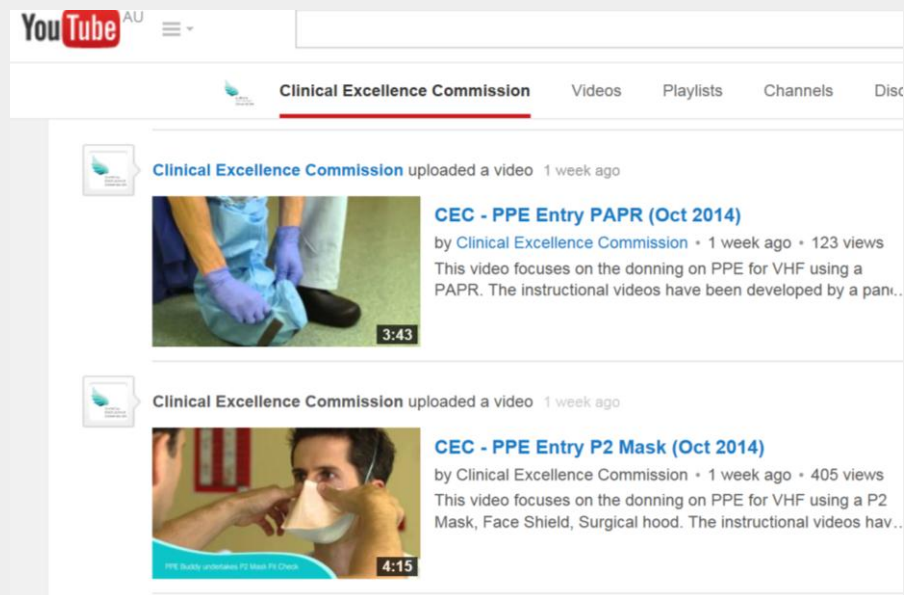


Image Source: Clinical Excellence Commission private YouTube Channel

Exercises

- Public Health Units
- Designated Hospitals re: Westmead Adults and Children's Hospitals
- Ambulance Service NSW re: patient transfer
- Border screening – SES LHD, Police and Air Services



Communication

- Hospitals/ EDs
- Primary Care
- Refugee Health Service
- Laboratories
- Ambulance
- HealthDirect
- Emergency responders
- Cross-govt agencies
- Other states & territories, Commonwealth



Image Source: HealthLink, Mid North Coast LHD

Communications

Public information

- Regularly update NSW Health Ebola webpage
- Ebola factsheets
- FAQs

NSW GOVERNMENT Health

Search...

PUBLIC PROFESSIONALS HEALTHY LIVING ABOUT MEDIA PUBLICATIONS CAREERS MINISTERS

Home > Infectious Disease > Alerts > Ebola virus disease

Ebola virus disease

Global situation update

- ▶ The largest outbreak of Ebola virus disease (EVD) ever reported is continuing in **Guinea, Liberia and Sierra Leone** in West Africa.
- ▶ Total EVD cases reported (as of 27 October) **13,703** with **4,922** deaths
- ▶ The EVD outbreaks are over in **Senegal and Nigeria**.
- ▶ Contacts of Ebola cases are being monitored in Spain, the United States and Mali.

[WHO Ebola situation reports](#)

NSW situation update

- ▶ NSW Health is well-prepared to identify and respond to any suspected cases of Ebola and prevent transmission should a case occur. **There are currently no cases of Ebola in Australia.**
- ▶ NSW Health has developed a Contingency Plan to ensure potential cases can be treated and outbreaks prevented.
- ▶ Systems are in place to ensure NSW Health is notified immediately if anyone entering Australia from affected countries shows symptoms of Ebola.

Info for the Community and Travellers

- ▶ Ebola virus disease is a serious infection that is spread through direct contact with people who are sick with the infection, or with their blood or other body fluids, or with infected animals.
- ▶ At present there is no Ebola in Australia, so there is no risk of catching the infection here.
- ▶ People who travel in affected countries in West Africa need to minimise their risk of exposure to the Ebola virus.

[More information](#)

Ebola Resources

- ▶ [Ebola Factsheet](#)
- ▶ [Ebola Patient Risk Assessment Algorithm](#)
- ▶ [VHF Contingency Plan](#)
- ▶ [Hospital EVD Preparedness Checklist](#)
- ▶ [Ebola PHU Control Guidelines](#)
- ▶ [Ebola PPE and infection control training resources \(from the Clinical Excellence Commission\)](#)

Summary of preparedness

- Risk is low, but consequences are serious
- Comprehensive planning at National, State and Local levels
- Key measures:
 - Early case finding and isolation
 - Protection of staff: PPE
 - Clear management protocols
 - Exercises
 - Communication