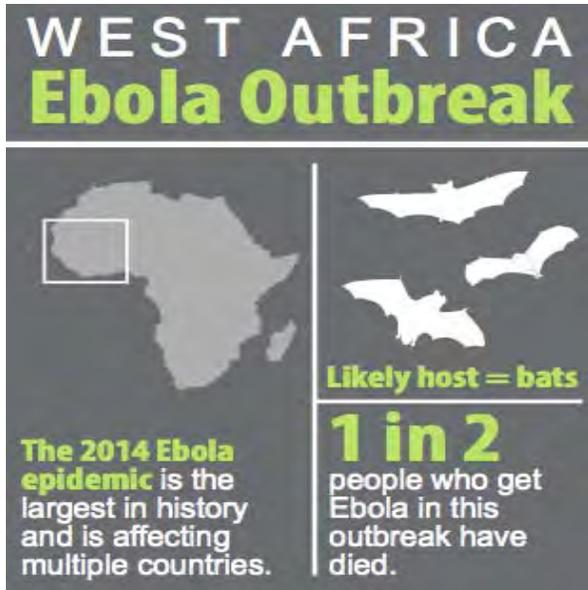


12 June 2015

EBOLA VIRUS PATIENT ADVISORY

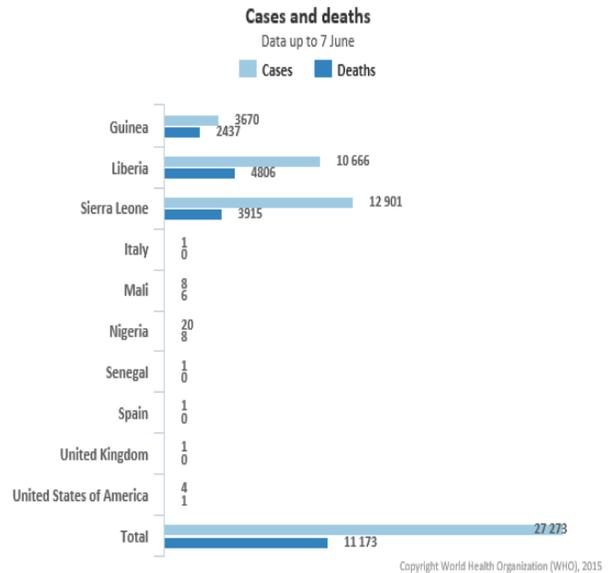


**WEST AFRICA
Ebola Outbreak**

Likely host = bats

1 in 2 people who get Ebola in this outbreak have died.

The 2014 Ebola epidemic is the largest in history and is affecting multiple countries.



INTRODUCTION

Ebola virus was first identified in Sudan and Zaire in 1976. It belongs to the family of Filoviridae. It causes Ebola Virus Disease (EVD), formerly known as Ebola Hemorrhagic Fever. EVD is a rare disease which causes severe, often fatal illness in humans. There are five different species of Ebola virus identified and isolated from different regions in Africa. The different species has different infectivity and mortality in humans. The *Zaire* species is the most virulent and can result in up to 90 per cent mortality in humans who are infected with it.

The current outbreak in West Africa, (first cases notified in March 2014), is the largest and most complex Ebola outbreak since the Ebola virus was first discovered in 1976. There have been more cases and deaths in this outbreak than all others combined. It has also spread between countries starting in Guinea then spreading across land borders to Sierra Leone and Liberia, by air to Nigeria and USA and by land to Senegal and Mali.

The most severely affected countries, Guinea, Liberia and Sierra Leone, have very weak health systems, lack human and infrastructural resources, and have only recently emerged from long periods of conflict and instability.

The average EVD case fatality rate has been around 50 per cent.

On August 8 2014, the World Health Organization (WHO) Director-General declared the West Africa outbreak a Public Health Emergency of International Concern under the International Health Regulations (2005).

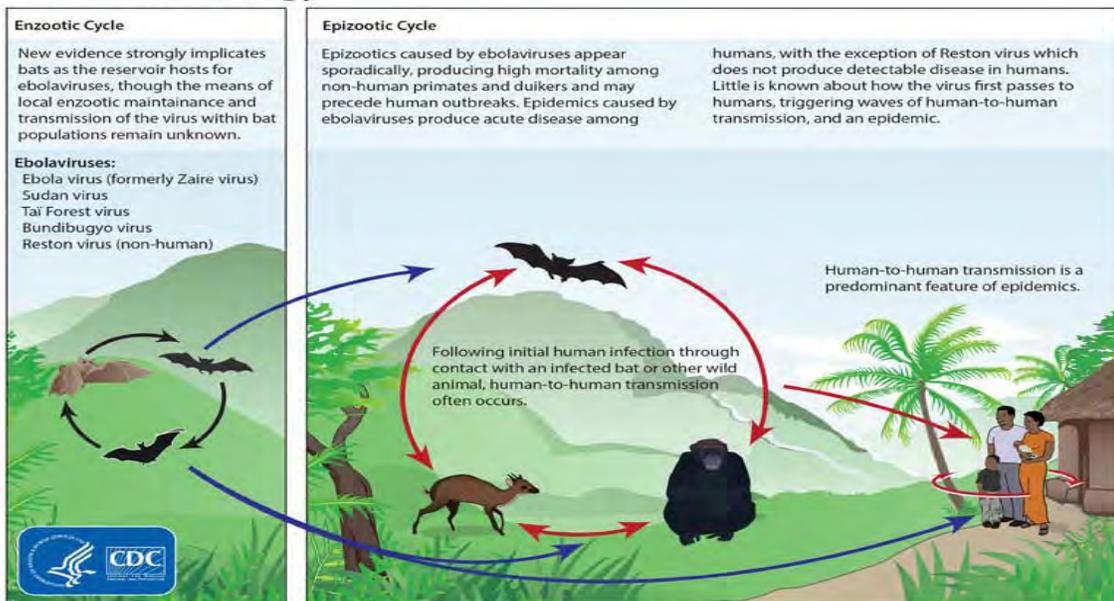
The WHO has declared the outbreaks in Nigeria and Senegal officially over, as there have been no new cases reported since 5 September, 2014.

The outbreak in Liberia, which has had the highest number of deaths out of all the countries affected, was declared over on 9 May, 2015. The WHO said that at the peak of transmission, during August and September 2014, the country was reporting between 300 and 400 new cases every week. The last official victim in the country was buried on 28 March 2015.

The remaining countries still affected by Ebola Virus disease are **Guinea and Sierra Leone**.

TRANSMISSION

Ebolavirus Ecology



(Adapted from <http://www.cdc.gov/vhf/ebola/resources/virus-ecology.html>)

In an Ebola virus outbreak, the virus is transmitted through direct contact of broken skin or mucous membranes with blood, stool, vomitus, urine, saliva and tissues of symptomatic persons or animals, or indirect contact with environments contaminated with such fluids. Humans may also be infected through exposure to secretions or excretions of **bats**. Infection can also be acquired through ingesting the meat of infected **primates (apes, gorillas, and chimpanzees)** and **animals**.

GROUPS AT RISK OF INFECTION

Those at highest risk of infection are:

- health workers;
- family members or others in close contact with infected people;
- mourners who have direct contact with the bodies of the deceased as part of burial ceremonies.

Other risk factors include:

- hunters in the rain forest who come into contact with dead animals found lying in the forest.

SYMPTOMS AND ILLNESS PROGRESSION

The incubation period of EVD varies from 2 to 21 days, usually 5 to 10 days. Patients are not contagious during the incubation period. Infected individuals become contagious only when they manifest symptoms.

Symptoms usually begin as a flu-like syndrome (sudden onset of fever, chills, general malaise, muscle pain, joint pain, headache, non-productive cough and sore throat).

Other symptoms that may follow include nausea, vomiting, diarrhea, abdominal pain, and a non-itchy rash.

As the illness progresses, kidney and liver functions become impaired and in some cases, patients start developing internal or external bleeding.

DIAGNOSIS

Ebola virus infections can only be confirmed through laboratory testing, which detects:

- antibodies,
- viral antigen (ELISA assays),
- Ebola RNA by reverse-transcription polymerase chain reaction (PCR).

Viral cultures and isolation may also be performed with infected material / specimens.

Ebola: fighting a killer virus
There is no vaccine and no cure for the disease

Symptoms

- Early stage (orange)
- Advanced (red)

Symptoms:

- Headache
- Sore throat
- Muscle pain
- Sudden fever
- Intense weakness
- Impaired kidney and liver
- Rash
- Vomiting
- Internal and external bleeding
- Diarrhoea

Preventive measures

- Stop the consumption of animal meat
- Isolate the sick
- Prompt disposal of victims' bodies
- Trace those who had contact with infected
- Disinfect homes of the dead and the sick
- Protective clothing for health care workers, anyone handling infected animals

Source: WHO

AFP



TREATMENT

There is currently no specific treatment for Ebola virus infection. Management is supportive, which may include oxygen, blood transfusion and fluids.

EBOLA FAQs

(1) Can I still travel to Africa or any of the affected countries?

You are encouraged to refer to the MOH web page on Ebola for the latest Health Advisory, before travelling to West Africa. You should consider postponing travel to countries with reported Ebola Virus Disease activity, if it is non-essential.

(2) How do I prevent myself from being infected?

There is currently **no** vaccine against Ebola virus infection available. The risk of infection can be significantly reduced by barrier techniques; through the use of wearing appropriate protective equipment, such as masks, gloves, and gowns, eye shields, and regular hand washing.

How not to spread and/or catch Ebola

- Strict isolation of the infected patients.
- Avoid direct contact with sick patients as the virus is spread through contaminated body fluids.
- Proper wearing of personal protective equipment for people in contact with the patients.
- Proper handling and disposal of remains. Clothing and clinical waste should be incinerated and any medical equipment that needs to be kept should be decontaminated.
- Maintain good personal hygiene.
- People who recover from Ebola should abstain from sex or use condoms for three months.

(3) What's the situation in Singapore?

There have been no reported cases of Ebola in Singapore to date.

MOH continues to maintain close contact with the World Health Organisation (WHO) and our overseas counterparts to monitor the situation closely and ensure that public health is safeguarded.

The Ministry's assessment continues to be that the Ebola outbreak in West Africa poses a low public health risk to Singapore. This is because person-to-person transmission results from direct contact with bodily fluids of those infected, and the current outbreak is limited to West Africa, and travel connectivity between Singapore and West Africa is low.

(4) What is Singapore doing to control the spread of Ebola?

Nationals and travellers arriving from countries with reported Ebola Virus Disease activity (currently Guinea, Sierra Leone) will continue to require a VISA to enter Singapore. Upon arrival they will be directed to a screening station, where they will be screened for temperature and exposure to Ebola through a Health Declaration Card, which will include their contact details in Singapore.

Travellers who are cleared will then be directed to the duty desk at the arrival hall, where they will clear immigration control. Those who are found to have a fever will be transported in an appropriate ambulance transport to Tan Tock Seng Hospital for further medical assessment. Travellers who are well but who are identified as having possible exposure to Ebola virus infection will be quarantined or put under surveillance depending on the risk assessment. Measures are in place to carry out contact tracing and quarantine of all close contacts, in the event of an imported case.

Aside from Singapore Changi Airport, Health Declaration Cards have also been implemented at land and sea checkpoints, as well as at Seletar Airport.

(4) What should I look out for if I need to travel to Africa or any of the affected countries?

If your travel to these countries is necessary, it is advisable that you closely monitor the advice provided by local health authorities and the WHO.

You must maintain strict hygiene standards such as hand hygiene and avoid any direct contact with patients with Ebola or unknown illnesses and any objects that may be contaminated with bodily fluids. Hospital visits are strongly discouraged.

You must also avoid contact with wild animals such as chimpanzees or gorillas (especially if the animal has been sick) and avoid eating or handling raw or undercooked animal products, such as blood and meat. Exploration of caves that may be inhabited by bats should be avoided.

If you should fall ill with symptoms described above and you have possible exposure history, do consult the doctor immediately.

(5) What should I do if I fall ill after returning from Africa or any of the affected countries?

Returning travellers from countries with reported Ebola Virus Disease activity or travellers who suspect that they have been exposed to Ebola virus should seek immediate medical attention, if they develop any disease symptoms within 3 weeks of their return. They should inform their doctor of their recent travel or contact history.

EVD should be considered as a possible diagnosis in individuals who presented with the following symptoms and travel history:

- A person with a **fever** (>38 C) or history of sudden onset of high fever **AND** has travelled in particular regions with EVD activity (currently Guinea and Sierra Leone) **within 21 days, OR**
- A person with fever (>38 C) or history of sudden onset of high fever **AND** has cared for or come into **contact with body fluids** (blood, urine, faeces, tissues, laboratory cultures) from an individual known or strongly suspected to have EVD.

Facts about Ebola

Ebola virus is **not** spread through

- **Casual contact**
- **Air**
- **Water**

Early Symptoms

Ebola can only be spread to others after symptoms begin. Symptoms can appear from 2 to 21 days after exposure.

- **Fever**
- **Stomach pain**
- **Headache**
- **Unexplained bleeding or bruising**
- **Diarrhea**
- **Vomiting**
- **Muscle pain**

How do you get the Ebola virus?

Direct contact with

- 1 Body fluids of a person who is sick with or has died from Ebola.** (blood, vomit, urine, feces, sweat, semen, spit, other fluids)
- 2 Objects contaminated with the virus** (needles, medical equipment)
- 3 Infected animals** (by contact with blood or fluids or infected meat)

When is someone able to spread the disease to others?

Ebola only spreads when people are sick.

A patient must have symptoms to spread the disease to others.



MONTH						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

After 21 days, if an exposed person does not develop symptoms, they will not become sick with Ebola.

FOR INDIVIDUAL ENQUIRIES, VISIT OUR TRAVEL CLINICS AT:

Clinic **RAFFLES MEDICAL AT RAFFLES HOSPITAL**
585 North Bridge Road, Level 2
Raffles Hospital, Singapore 188770

Contact Tel: 6311 2233
Fax: 6311 2123

Operating Hours Daily 8.00am - 10.00pm

Clinic **RAFFLES MEDICAL AT TERMINAL 3**
Raffles Medical @ T3
Singapore Changi Airport
65 Airport Boulevard, B2-01
Singapore 819663

Contact Tel: 6241 8818
Fax: 6241 3498

Operating Hours Daily 24 Hours

FOR CORPORATE ENQUIRIES, CONTACT US AT 6557 6861 OR RAFFLESONE@RAFFLESMEDICAL.COM

