

EBOLA: WHAT YOU NEED TO KNOW

OUTBREAK!

With the Ebola virus death toll increasing daily, WHO asks an expert to sort fact from fiction



Infected US doctor Kent Brantly was flown to the US in this modified Gulfstream aircraft.



The Aeromedical Biological Containment System installed in the aircraft carrying Brantly.

As a fresh outbreak of the deadly Ebola virus grips parts of West Africa, and the rest of the world nervously watches on as the death toll—edging close to 900 at press time—mounts, fears are growing that the virus will travel out of Africa. But what exactly is the Ebola virus, and does it really have a 90 per cent mortality rate? How easily can it spread? To get the facts on the outbreak, WHO's Louise Talbot spoke with Dr Ian Mackay, of the Australian Infectious Diseases Research Centre with the University of Queensland.

What is Ebola?

Ebola is a haemorrhagic fever virus. There are a few different species of these Ebola viruses. The one that is outbreaking at the moment in western Africa is a variant of the Zaire Ebola virus. These viruses are usually contracted from animals, in particular, we think, bats. Also from gorillas and chimpanzees. It usually is a single transmission ... from eating or coming into contact with these animals or perhaps from the saliva that fruit bats drop on the ground. Humans then get infected and it spreads in the human groups.

Does the human contact have to be specific?

It does. It's called direct contact and it really involves contact with blood, vomit, saliva; but from someone who is badly infected or quite advanced in their disease. The other method associated with infection is coughing from a very sick person. It's not the same as a flu cough, it's the wet drops that get propelled out of your mouth. It's not an aerosol, it's bigger, chunkier stuff that's being coughed up, but coughing can be a route [to becoming infected] and the World Health Organisation has said that is something to be aware of in the risk-management analysis.

"It progresses to death in a lot of cases"

—Dr Ian Mackay

How many people have already died from this outbreak?

We are now at 887 deaths; 1,603 total cases, which includes ones that are lab-confirmed and ones that are not confirmed by a laboratory. So, of the 1,603 cases at the moment, 1,009 have been lab confirmed. The proportion of cases that are fatal is 55 per cent, so it's not 90 per cent that we often hear about from some outbreaks of Zaire virus. If you go on average of all the numbers in history, it's about a 60–70 per cent death rate. So it's not quite as horrible, but still horrible.

What are the symptoms?

The problem is it starts off looking like a lot of things that we might just get here: fever, muscle weakness, tiredness, headache. It could be a case of flu. But then it progresses to a more serious thing and you end up bleeding internally—in some cases externally, from the ears and eyes, [like] you see in all the movies—but your capillaries tend to leak and there is vomiting and diarrhoea and the tiredness and weakness gets much more severe. You end up being laid out and it progresses to death in a lot of cases.

What are the treatment options?

Early treatment is helpful. There is no drug or vaccine, but there is rehydration with fluids and electrolytes, and pain relief. That has shown that it can help improve that number of deaths if administered very early on.

So if it is attacked early, there's a possibility of coming out the other side?

There is a 45 per cent possibility at the moment, but that can vary. If you get treatment early on, there is a much better chance—not a fantastic chance—but a much better chance you'll live and come out the other end.

Would it be fair to say that this strain of Ebola is one of the world's most deadly viruses?

I would call it that, based on the proportion of people who do not survive infection in those regions where the virus outbreaks mostly occur.

What can authorities do to contain the virus?

To contain it within Africa, what is being done is to get more resources, to get more people on the ground. To make sure there is plenty of personal protective equipment like gloves, masks, gowns and eye protection. All this stuff can be in short supply when these things escalate quickly. At the moment it's horrible heat over there, dressed up in all this gear, mistakes can happen and we've seen the outcome of some of those mistakes among health-care workers.

Is Australia at risk?

Australia could see a case arrive on its shores—perhaps more than one case. Just like anywhere in the world could, if a flight lands from that region. There is a risk that a case could come into the country. Would it then result in an outbreak? Very, very unlikely, because we don't have the same resource problems that the western-African region does. If a case

came here it would be isolated and quarantined. People looking after the patient would have all the equipment needed and we'd be safe.

Should Australians cancel trips to West Africa?

The World Health Organisation tends to not agree with the travel restrictions. As long as you are not coming into contact with those animals that I talked about—be it alive or dead, or an ill or deceased person who has died from that virus—there is no risk that you are going to pick this up from the side of the road. There is a very minimal risk that you're going to pick this up from some casual contact walking down a street, so continue as you were, but don't put yourself in a situation where you're going to be in contact with any of those infected people.

When Hollywood makes movies about outbreaks, there's usually a vaccine found in the end ...

Damn those movies for doing that! There is great pressure on science and scientists to have these vaccines in the fridge, ready to go, or have an outbreak where one monkey saves the world. That is not realistic to believe that. It's interesting and popular, but it takes a lot of work to make a vaccine, and it has to be put through all the phases of a clinical trial to make sure [it's] safe and that is why we're not seeing drugs and vaccines that are in the pipeline just dumped into West Africa now. Their standards of safety are the same as our standards of safety and they should be. These drugs are all in the pipeline. ■

BATTLE TO SURVIVE

US doctor Kent Brantly, 33, and missionary Nancy Writebol, 59, have become the faces of the outbreak in West Africa, where they contracted the virus. Brantly was flown on a specially modified plane to an isolation unit at Atlanta's Emory University Hospital on Aug. 2, and Writebol is set to follow. Both patients have reportedly improved after they were given an experimental serum not yet trialled on humans.

"He was in good spirits," said Brantly's wife, Amber, when he arrived in the US on Aug. 2.



Brantly

Writebol has been caring for orphans in Africa since 1998.



A 10-year-old boy is hosed down on July 24 after his Ebola-infected mother died in Liberia.



AGAINST THE ODDS

The current Ebola outbreak was first reported to WHO in March. Mackay noted that WHO and Médecins Sans Frontières (right, doctors removing bodies on April 1 in Guinea) responded promptly, but "it was going faster than could be controlled by their essentially quite meagre resources."



CLOCKWISE FROM TOP RIGHT: AAP; GETTY IMAGES; AAP (3); PICTURE MEDIA