

4 **INTERNATIONAL ALERTS**

Ebola haemorrhagic fever outbreak in Guinea, West Africa

Summary of current outbreak in Guinea

The Ebola virus has been confirmed as the cause of an outbreak of haemorrhagic fever in Guinea, West Africa. This is the first recorded outbreak of Ebola haemorrhagic fever in Guinea, where Lassa fever is commonly reported. The most recent outbreaks of Ebola haemorrhagic fever were reported from the Democratic Republic of Congo and Uganda in 2012. This outbreak is reported to have started in early February 2014. According to the World Health Organization (WHO), as of 26 March 2014, a total of 86 cases including 62 deaths have been reported (case fatality rate: 72%). Eleven of the cases have been confirmed by the Pasteur Institute (Lyon, France) using RT-PCR assays. Preliminary molecular sequencing of the virus has shown a high level of homology with the Ebola Zaire virus, suggesting that this species is responsible for the outbreak. Ebola Zaire virus is highly lethal with CFR of up to 90% reported in previous outbreaks.

The WHO and a number of international organizations, including MSF France/Belgium are supporting government authorities. To date, all cases have been in persons or healthcare workers attending to cases or attending burials from three districts (Guekedou, Macenta and Kissidougou) in the forested, mostly rural areas of south eastern Guinea (Figure 1). The WHO has confirmed that suspected cases in Conakry (the capital city) have tested negative for Ebola virus. At present, suspected cases in the border areas of Sierra Leone and Liberia are also under investigation.

Ebola haemorrhagic fever: the basics

The ecology of the Ebola virus is not completely understood. The current prevailing hypothesis is that the virus is introduced into the human population through close contact with infected animals (including chimpanzees, gorillas, bats, monkeys, forest antelope and porcupines). The likely reservoir of the virus includes specific species of arboreal bats, and contact with these animals and/or their excretions/secretions may also result in transmission of the virus to humans. Human-to-human transmission often occurs, and is a predominant feature of outbreaks. The disease can be spread from person to person through contact with blood, secretions, organs, or other body fluids. Ebola haemorrhagic fever outbreaks have been reported most commonly from the Democratic Republic of Congo, Uganda, South Sudan, Congo and Gabon.

The incubation period of the disease is 2 - 21 days. An acute onset of prodromal symptoms which include fever, malaise, myalgia, diarrhoea, vomiting and abdominal pain is usual, followed by progressive multisystem disease with bleeding as a cardinal feature in the majority of patients. Currently, there is no known specific treatment or preventative vaccine for this highly contagious virus.

Risk of imported Ebola haemorrhagic fever cases

Since the current outbreak is reported in predominantly rural areas which are not frequented by many tourists or travellers, the risk of Ebola haemorrhagic fever cases being imported into South Africa is low. However, healthcare or international agency workers etc. involved in the outbreak response may travel to and present in South Africa for medical care, and a high index of suspicion is important for such cases. A detailed history regarding travel and level of contact with suspected/confirmed Ebola haemorrhagic fever cases is extremely important.

Recommendations for travel to/from Guinea and West Africa

The World Health Organization (WHO) does not recommend that any travel or trade restrictions are applied to Guinea. There are no special precautions or directives for commercial flights, passengers or crew departing on flights bound for Guinea or returning from Guinea. The regulations for evidence of a valid yellow fever vaccination certificate apply. Any ill persons reported on flights from Guinea and neighbouring countries will need to be evaluated by the relevant Port Health officials. All requests for medical evacuation of persons from Guinea with febrile illness or suspected infectious disease will need careful evaluation by the Port Health officials. While the risk of introduction of Ebola virus into South Africa is considered low, we strongly recommend that surveillance for viral haemorrhagic fevers (and at present, particularly Ebola haemorrhagic fever), be strengthened. This should be done primarily through Port Health services, but it is also extremely important that public and private practitioners are on the alert for any ill persons that have travelled to viral haemorrhagic fever risk areas. There needs to be a high index of suspicion for Ebola haemorrhagic fever in health workers from the affected region with unexplained fever.

Evaluation of illness in travellers from Guinea and West Africa

It is critical to maintain a very high index of suspicion for common causes of febrile illness in persons who have travelled to Guinea and surrounding countries, including: malaria, dengue fever, Lassa fever and other endemic diseases (e.g. typhoid fever). These may be severe and life-threatening, and healthcare workers are urged to do appropriate tests and institute appropriate therapy as a matter of urgency. Malaria is the most likely cause of an acute febrile in returning travellers from most African countries and has to be prioritised for testing. However, Lassa fever is endemic in certain West African countries, including Nigeria, Sierra Leone, Guinea and Liberia - and needs to be considered in the differential diagnosis for any traveller from these countries who has unexplained febrile illness and has visited rural areas.

Lassa fever virus is transmitted to humans through direct contact with urine and droppings of infected multimammate rats, which contaminate the

environment and food items. Transmission can also occur through the inhalation of aerosolised infected rodent excreta. Person-to-person transmission is also important, being common in both village and healthcare settings, and occurs through direct contact with blood, tissue, secretions or excretions of an infected person; therefore, VHF isolation precautions are recommended for nursing patients with Lassa fever. The incubation period is 1-3 weeks; symptoms include fever, retrosternal pain, sore throat, back pain, cough, abdominal pain, vomiting, diarrhoea, facial swelling and mucosal bleeding. Mortality rates approach 20%, with pregnant women in their third trimester being at highest risk for severe disease and death. Given that the incubation periods and clinical presentations of Lassa fever and Ebola haemorrhagic fever may overlap, both diseases must be excluded in persons who have a suggestive travel history and present with a febrile illness.

Suspected Ebola haemorrhagic fever case definition and laboratory testing

The case definition for suspected Ebola haemorrhagic fever is as follows:

Any person* presenting with an acute onset of fever who has:
 Visited or been resident in Guinea** in the 21 days prior to onset of illness
 AND
 had direct contact or cared for suspected/confirmed Ebola haemorrhagic fever cases in the 21 days prior to onset of illness, or been hospitalised in Guinea
 OR
 Has unexplained multisystem illness that is malaria-negative

*Healthcare workers in particular are at high risk

**Although suspected cases in the neighbouring areas of Sierra Leone and Liberia are still under investigation, travel to/from these areas must also be regarded as extremely high risk

Testing for viral haemorrhagic fever viruses (including Ebola virus) in South Africa is only available at the NICD.

Ebola haemorrhagic fever testing is neither warranted nor useful for persons that are not suffering from a clinical illness compatible with Ebola haemorrhagic fever, even in the event of compatible travel histories. The tests cannot be used to determine if the patient has been exposed to the virus and may develop the disease later.

Requests for testing (with a detailed clinical, travel and exposure history) should be directed to the NICD Hotline at 082 883 9920 (a 24-hour service, for healthcare professionals only).

Source: Centre for Emerging and Zoonotic Diseases and Division of Public Health Surveillance and Response, NICD-NHLS; World Health Organization



Geographic distribution of Ebola hemorrhagic fever in Guinea

Figure 1. Geographic distribution of Ebola haemorrhagic fever in Guinea, as at 25 March 2014, World Health Organization Regional Office for Africa.