

Assunto: Alerta de Saúde Pública n.º 5/2014
Ébola

Para: Profissionais de Saúde, Autoridades de
Saúde, Serviços de Medicina do
Viajante e Médicos afetos às Unidades
de Hotelaria da RAM

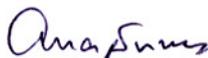
O IASAÚDE, IP-RAM através do presente *ALERTA DE SAÚDE PÚBLICA* vem divulgar a informação recente veiculada pela Direção-Geral da Saúde, que se transcreve:

“Um surto de febre hemorrágica Ébola decorre, aparentemente pela primeira vez, na Guiné-Conacry (país fronteiriço com a Guiné-Bissau), manifestando-se com elevada letalidade. Até 23 de março foram reportados 80 casos dos quais 59 resultaram em óbito.

Uma vez que o período de incubação da doença pode durar até 3 semanas é provável que novos casos venham a ser identificados naquele país. No entanto, as medidas de controlo implementadas (com o apoio de parceiros internacionais), tais como isolamento e monitorização ativa dos casos, bem como a vigilância reforçada nas fronteiras, poderão conter este surto e prevenir a disseminação da doença.

O risco de disseminação da doença à União Europeia é considerado baixo. No entanto, podem procurar os serviços de saúde os viajantes regressados daquela região há menos de 3 semanas e que apresentem sintomas inespecíficos de doença, tais como febre, cefaleia e mal-estar geral (ou sintomas mais graves tais como vômitos, diarreia, falência renal, hepática e diátese hemorrágica). Nestas circunstâncias os médicos devem inquirir acerca da realização de viagem ou de estadia naquela região durante o período de incubação da infeção.”

A Presidente do Conselho Diretivo



Ana Nunes

Em anexo: Avaliação de risco da situação do Centro Europeu de Prevenção e Controlo de doenças (ECDC): RAPID RISK ASSESSMENT - Outbreak of Ebola haemorrhagic fever in Guinea, 23 March 2014 (6 págs.)

DSPAG - AC/IM



RAPID RISK ASSESSMENT

Outbreak of Ebola haemorrhagic fever in Guinea

23 March 2014

Main conclusions and recommendations

An outbreak of Ebola haemorrhagic fever is currently ongoing in Guinea with 80 cases reported, including 59 deaths. As of 23 March, the situation in Sierra Leone in districts bordering a Guinea affected prefecture is under investigation. No similar outbreaks have been seen in the past in Guinea.

As the incubation period can be up to three weeks, it is likely that additional cases will be identified in the coming weeks in Guinea and potentially in bordering districts in the region. However, control measures, such as isolation of cases and active monitoring of contacts, currently implemented with the support of international partners should be able to control this outbreak and prevent further spread of the disease.

It is unlikely, but not impossible, that travellers infected in Guinea could arrive while incubating the disease and develop symptoms while in the EU. These cases should immediately seek medical attention and be isolated, preventing further transmission. Returning visitors from tropical countries that develop infectious disease symptoms such as fever, headache, diarrhoea or general malaise within three weeks after return should always seek rapid medical attention and mention their recent travel to the attending physician.

EU citizens in Guinea are not at risk of becoming infected unless they are in direct contact with body fluids of dead or living infected persons or animals. Avoiding such contact would effectively mitigate this risk. The risk related to seeking medical care in Guinea depends on the implementation of precautionary measures in those settings.

Source and date of request

ECDC internal decision, 22 March 2014.

Public health issue

To assess the risk at EU level associated with the current Ebola haemorrhagic fever outbreak in Guinea.

Consulted experts

ECDC experts (Hervé Zeller, Bertrand Sudre and Denis Coulibaly).

Disease background information

Infection with Ebola viruses originating from Africa causes severe disease in humans. The onset of symptoms is sudden and includes fever, muscle aches, weakness, headache and sore throat. The next stage is characterised by vomiting, diarrhoea, rash and malfunction of liver and kidneys. Some cases present with profuse internal and external bleeding. [1,2] In final stage, patients are developing multi-organ failure.

The incubation period varies from 2 to 21 days. The case-fatality ratio is estimated to be between 50% and 90%. There are no specific prophylactic (vaccine) or therapeutic (antiviral drugs) options available.

Ebola viruses are highly transmissible by direct contact with blood, secretions, organs or other body fluids of dead or living infected persons. Transmission through sexual contact may occur up to seven weeks after clinical recovery as observed for Marburg filovirus. [3] Transmission can also occur by contact with dead or living infected animals, e.g. monkeys, chimpanzees, forest antelopes and bats. [2] Airborne transmission, as in measles or smallpox, has never been documented.

A review of the literature indicated a low risk of transmission in the early phase of symptomatic patients, even with high-risk exposure. Risk of transmission may increase with transition to later stages of the disease with increasing viral titres. [4] In a household study, secondary transmission only took place if direct contact occurred. No transmission was reported without direct physical contact. [5] In an outbreak in 2000 in Uganda, the most important risk factor was direct repeated contact with a sick person's body fluids during the provision of care. The risk was higher when exposure took place during the late stages of the disease. Simple physical contact with a sick person appeared not to be sufficient for contracting Ebola infection. Transmission through heavily contaminated fomites is apparently possible [6].

For viral haemorrhagic fever like Marburg or Ebola infection, the main goal of outbreak control is to stop direct human-to-human transmission by early identification and systematic isolation of cases, timely contact tracing, proper personal protection, safely conducted burials, and enhancement of community awareness about risk factors of Ebola infection and individual protective measures. [7,8] Guidelines for tracing contacts of Ebola or Marburg Haemorrhagic fever cases on airplanes have been developed by ECDC. [9]

Nosocomial transmission can occur. Healthcare workers can become infected through close contact with infected patients. The risk for infection can be significantly reduced through the appropriate use of infection control precautions and adequate barrier procedures. [2,10]

Five species of Ebola virus have been identified, namely Zaire, Sudan, Reston, Tai Forest and Bundibugyo, from samples collected during humans and non-human primates outbreaks since the first outbreak in DRC. [11,12] Surveillance of viral haemorrhagic fevers has been enhanced in several African countries. [13] In 2013, there has been no report of outbreaks of Ebola or Marburg viral infections in Africa. The present event is the first human outbreak of Ebola in West Africa with the exception of a non-fatal human case reported in November 1994 after conducting a necropsy on a wild chimpanzee in Tai forest, Côte d'Ivoire. [14] However, Guinea is at the Western end of the rain forest belt and some limited serological evidence of ebolavirus infections in humans has been documented in Guinea even though no human cases had been reported. [15,16]

There is currently no approved therapies and vaccines available to treat human infections despite recent progress in research. [17,18]

Event background information

As of 22 March 2014, 80 cases of febrile illness, including 59 deaths (case-fatality ratio of 74%), were reported in Guinea. These suspected cases were recorded in the south-eastern prefectures of Guéckédou and Macenta bordering Sierra Leone and Liberia, Kissidougou and Conakry prefectures.



Source: [google maps](https://www.google.com/maps).

This disease is characterized by fever, diarrhoea, vomiting, pronounced fatigue and haemorrhagic symptoms in some cases. On 22 March, the Ebola viral etiology was confirmed by the biosafety level 4 laboratory in Lyon, France, according to the Guinean Minister of Health. [19]

Since 9 February 2014, Guinea has experienced febrile diseases in some districts of the Forested Guinea region. [19,20] It remains difficult to document the initial phase of the outbreak and the following information should be considered with caution as it has not been confirmed by official sources. According to media reports quoting health authorities in Guinea, suspected deaths of a three-year-old child and an 18-year-old young adult were reported in Baladou, Guéckédou Prefecture on 12 and 14 March 2014 respectively. Around this period, nine deaths occurred in Guéckédou commune. [21] Subsequently, a medical staff from Guéckédou hospital with unknown exposure died. The director of the neighbouring Macenta hospital, who attended his funeral ceremony and was probably exposed there, later developed the disease and died. Ten secondary cases were reported around this case in Guéckédou, mainly among medical and laboratory staff and relatives. On 15 March, two additional suspected cases were hospitalised in Kissidougou and N'Zérékoré prefectures. [22-24]

The origin of this outbreak is currently unknown. However, exposure to bush meat has been suspected for primary cases, as well as transmission through close contact with blood, secretions, organs or other biological fluids of infected animals. Most of secondary cases who developed the disease participated in funeral ceremonies and among them, most had been in direct contact with infected or deceased patients or had handled their bodies. This resulted in considering human-to-human transmission as the main mode of transmission according to local health authorities.

Six of seven samples of clinical cases tested positive by RT-PCR assays for Ebola virus in the National Reference Centre for Viral Haemorrhagic Fevers (Institut Pasteur - INSERM BSL4 Laboratory, Lyon, France). Another five samples from contacts tested negative. Viral isolation and sequencing are in progress. Initial sequencing of a fragment from L gene has shown a strong homology to Zaire Ebolavirus. [8,19,25-27]

The Guinean MoH declared on 21 March an outbreak of viral haemorrhagic fever involving 59 suspected cases, including 25 deaths. It issued recommendations for early case detection, prevention of transmission in health care settings and preventive individual and community measures (educational public health messages for risk reduction) to prevent further transmission. [20] Control activities supported by WHO, UNICEF and MSF are being implemented, including contact tracing, enhanced surveillance and strengthening of infection control practices, free-of-charge access to health care for suspected cases, case isolation and management, and social mobilisation.

Media quoting World Health Organization officials reports that cases showing similar symptoms, including fever, diarrhoea, vomiting and bleeding, have also been reported in an area of Sierra Leone near the border with Guinea; on 22 March, a 14-year-old suspected case who died in the town of Buedu in the eastern Kailahun District is under investigation in Sierra Leone. He had travelled to Guinea to attend the funeral of one of the outbreak's earlier victims. The health authorities in Sierra Leone are tracing contacts around the case. [26]

The French Ministry of Foreign Affairs issued travel advisory warning French citizens against travel to the affected parts of Guinea or areas of northern Liberia near the border between the countries. [28,29]

ECDC threat assessment for the EU

The presentation of this outbreak is consistent with Ebola haemorrhagic fever. Six cases have been confirmed by RT-PCR and therefore, there is no doubt on the causative organism. The observed case-fatality ratio of 74% is consistent with what has been documented in previous *Zaire ebolavirus* outbreaks. Similarly, suspicion of transmission to primary cases by exposure to animal fluids, and to secondary cases by exposure to body fluids of patients at the occasion of burials are well known risk factors associated with such outbreaks.

This is the first *ebolavirus* outbreak in Western Africa. However, this is not unexpected as Guinea shares the rain forest ecological system known to be associated with *ebolavirus* outbreaks and some limited serological evidence of ebolavirus infections in humans has been documented. Currently, four prefectures are involved in Guinea, including the capital Conakry, and one district in Sierra Leone with suspected cases. Such an extension is a concern, especially in a country with no previous experience with managing such outbreaks. Furthermore, Guéckédou is a trading node connecting Guinea with neighbouring countries and cases may therefore travel to neighbouring countries potentially spreading further the outbreak.

Therefore, it is likely that more cases will be identified in the coming weeks, as active case-finding and contact monitoring is taking place, given the duration of the incubation period of up to three weeks and the challenges in ensuring rapid containment the outbreak.

Risk for the EU

The capacity in the EU to detect and confirm an infection with Ebola viruses is appropriate. The risk that patients may develop symptoms of Ebola haemorrhagic fever in the EU can be assessed as follows.

Tourists returning from Guinea

Direct international destinations from Conakry international airport to the EU are Paris and Brussels. However, other EU destinations can be accessed through the Royal Air Maroc hub in Casablanca, such as Paris, Nice, Lyon, Marseille and Toulouse in France, Barcelona in Spain and Milano in Italy. Additional direct destination to non-EU countries from Conakry include Dakar in Senegal, Côte d'Ivoire, Mali, The Gambia, Mauritania and Guinea-Bissau [30].

The risk that tourists having visited Guinea have been infected and will develop symptoms while back in the EU is extremely low, even if they visited affected prefectures, as transmission can only occur in the context of direct contact with blood, secretions, organs or other body fluids of dead or living infected persons or animals.

Visiting families and friends

The risk for travellers visiting friends and relatives is similarly low, unless they have been in close physical contact with sick or dead persons or animals. In such case, the active contact tracing implemented would be effective to identify such exposure and to prevent further spread of the disease through active contact monitoring.

Exposed persons seeking medical attention in the EU

There is a possibility that persons suspecting that they have been exposed to a patient might seek medical attention in the EU while potentially incubating the disease. This can be the case, for example, of EU volunteers working in healthcare settings in the affected districts. In such situation, these persons are likely to seek immediate medical attention, and could therefore be dealt with in order to prevent any further spread, should they develop symptoms.

Patients presenting symptoms and seeking medical attention in the EU

There is a possibility that a person having been exposed and starting developing symptoms would use a commercial flight to seek medical attention in the EU. Such patients would certainly seek immediate medical attention upon arriving in the EU and be isolated to prevent further transmission. Regarding the risk for co-passengers in the commercial flight, ECDC published a guidance document stressing the very low level of risk in such a situation. [9]

Laboratory samples shipped to EU laboratories

There is a theoretical risk that a biological sample could be sent to EU laboratories for further testing, without indication of a possible association with an *ebolavirus* infection. However, compliance with sample shipment regulations and universal precautions in the receiving laboratory should mitigate such risk. [31]

Risk for EU residents in Guinea

The risk for EU residents in Guinea can be considered as very low, unless they would be directly exposed to body fluids of dead or living infected persons or animals. Avoiding such contact is an appropriate precautionary measure

in this context. The risk of acquiring the disease through exposure to contaminated fluids or equipment in healthcare settings in Guinea depends on the implementation of precautionary measures those settings, e.g. isolation of cases, universal infection control measures.

There is a specific risk for healthcare workers, especially if involved in caring for Ebola haemorrhagic fever patients (e.g. volunteers). However, the level of precaution taken in such settings should effectively prevent the transmission of the disease.

There is a risk of transmission through unprotected sexual contact with a patient that has recently recovered from the disease.

Main conclusions and recommendations

An outbreak of Ebola haemorrhagic fever is currently ongoing in Guinea with 80 cases reported, including 59 deaths. As of 23 March, the situation in Sierra Leone in districts bordering a Guinea affected prefecture is under investigation. No similar outbreaks have been seen in the past in Guinea.

As the incubation period can be up to three weeks, it is likely that additional cases will be identified in the coming weeks in Guinea and potentially in bordering districts in the region. However, control measures, such as isolation of cases and active monitoring of contacts, currently implemented with the support of international partners should be able to control this outbreak and prevent further spread of the disease.

It is unlikely, but not impossible, that travellers infected in Guinea could arrive while incubating the disease and develop symptoms while in the EU. These cases should immediately seek medical attention and be isolated, preventing further transmission. Returning visitors from tropical countries that develop infectious disease symptoms such as fever, headache, diarrhoea or general malaise within three weeks after return should always seek rapid medical attention and mention their recent travel to the attending physician.

EU citizens in Guinea are not at risk of becoming infected unless they are in direct contact with body fluids of dead or living infected persons or animals. Avoiding such contact would effectively mitigate this risk. The risk related to seeking medical care in Guinea depends on the implementation of precautionary measures in those settings.

References

1. Roddy P, Howard N, Van Kerkhove MD, Lutwama J, Wamala J, Yoti Z, et al. Clinical manifestations and case management of Ebola haemorrhagic fever caused by a newly identified virus strain, Bundibugyo, Uganda, 2007-2008. *PloS one*. 2012;7(12):e52986.
2. Control ECfDPa. ECDC fact sheet: Ebola and Marburg fever: ECDC; 2014 [20 March 2014]. Available from: http://www.ecdc.europa.eu/en/healthtopics/ebola_marburg_fever/pages/index.aspx.
3. Martini GA, Schmidt HA. [Spermatogenic transmission of the "Marburg virus". (Causes of "Marburg simian disease")]. *Klinische Wochenschrift*. 1968 Apr 1;46(7):398-400.
4. Colebunders R, Borchert M. Ebola haemorrhagic fever--a review. *The Journal of infection*. 2000 Jan;40(1):16-20.
5. Dowell SF, Mukunu R, Ksiazek TG, Khan AS, Rollin PE, Peters CJ. Transmission of Ebola hemorrhagic fever: a study of risk factors in family members, Kikwit, Democratic Republic of the Congo, 1995. *Commission de Lutte contre les Epidemies a Kikwit. The Journal of infectious diseases*. 1999 Feb;179 Suppl 1:S87-91.
6. Francesconi P, Yoti Z, Declich S, Onok PA, Fabiani M, Olango J, et al. Ebola hemorrhagic fever transmission and risk factors of contacts, Uganda. *Emerging infectious diseases*. 2003 Nov;9(11):1430-7.
7. Raabea VN, Borcherta M. Infection control during filoviral hemorrhagic Fever outbreaks. *Journal of global infectious diseases*. 2012 Jan;4(1):69-74.
8. World Health Organization. Ebola haemorrhagic fever - Fact sheet: WHO Media centre; 2012 [20 March 2014]. Available from: <http://www.who.int/mediacentre/factsheets/fs103/en/>.
9. European Centre for Disease Prevention and Control. Risk assessment guidelines for diseases transmitted on aircraft. 2010. Report No.
10. Ftika L, Maltezou HC. Viral haemorrhagic fevers in healthcare settings. *The Journal of hospital infection*. 2013 Mar;83(3):185-92.
11. Li YH, Chen SP. Evolutionary history of Ebola virus. *Epidemiology and infection*. 2013 Sep 16:1-8.
12. Emond RT, Evans B, Bowen ET, Lloyd G. A case of Ebola virus infection. *British medical journal*. 1977 Aug 27;2(6086):541-4.
13. Mbonye A, Wamala J, Winyi K, Tugumizemo V, Aceng J, Makumbi I. Repeated outbreaks of viral hemorrhagic fevers in Uganda. *African health sciences*. 2012 Dec;12(4):579-83.

14. Formenty P, Hatz C, Le Guenno B, Stoll A, Rogenmoser P, Widmer A. Human infection due to Ebola virus, subtype Cote d'Ivoire: clinical and biologic presentation. *The Journal of infectious diseases*. 1999 Feb;179 Suppl 1:S48-53.
15. World Health Organization. Ebola haemorrhagic fever - Global Alert and Response (GAR). 2014 [cited 2014 22 March 2014]. Available from: <http://www.who.int/csr/disease/ebola/en/>.
16. Feldmann H, Jones S, Klenk HD, Schnittler HJ. Ebola virus: from discovery to vaccine. *Nature reviews Immunology*. 2003 Aug;3(8):677-85.
17. Marzi A, Feldmann H. Ebola virus vaccines: an overview of current approaches. *Expert review of vaccines*. 2014 Apr;13(4):521-31.
18. Saphire EO. An update on the use of antibodies against the filoviruses. *Immunotherapy*. 2013 Nov;5(11):1221-33.
19. Agence France Presse. Guinea confirms Ebola as source of deadly epidemic 2014 [22 March 2014]. Available from: <http://www.google.com/hostednews/afp/article/ALeqM5jJ28KtrT1yNN3h8En0M965MhNVXQ?docId=d1ac2db4-7d42-45d8-9130-daf4f0bd1f4c&hl=en>.
20. Bureau de Presse de la Présidence. Epidémie de fièvre virale hémorragique en Guinée : déclaration du ministère de la sante 2014 [21 March 2014]. Available from: <http://www.lexpressguinee.com/fichiers/blog16-999.php?pseudo=rub2&code=calb4122&langue=fr>.
21. Africatime.com - Guinée. Guinée forestière: une maladie inconnue en Guinée tue plusieurs personnes à Guéckédou 2014. Available from: <http://fr.africatime.com/guinee/articles/guinee-forestiere-une-maladie-inconnue-en-guinee-tue-plusieurs-personnes-queckedou>.
22. Afriqinfos.com. Guinée : Une étrange fièvre fait 8 morts à Macenta 2014 [14 March 2014]. Available from: <http://www.afriqinfos.com/articles/2014/3/14/guinee-etrange-fievre-fait-morts-macenta-247658.asp>.
23. GuinéeNews. Une étrange maladie fait 9 morts dont 4 agents de santé en Guinée Forestière 2014 [15 March 2014]. Available from: <http://guineenews.org/2014/03/une-etrange-maladie-fait-9-morts-dont-4-agents-de-sante-en-guinee-forestiere-declare-dr-sakoba-keita/>.
24. Afrik.com. Guinée : une mystérieuse épidémie tue 25 personnes 2014 [21 March 2014]. Available from: <http://www.afrik.com/guinee-une-mysterieuse-epidemie-fait-25-morts>.
25. Sylvain Baize and Delphine Pannetier (National Reference Center for Viral Hemorrhagic Fevers - Institut Pasteur / INSERM BSL4 Laboratory). Ebola virus disease - West Africa: Guinea, Zaire Ebola virus suspected.: *Promed*; 2014 [cited 2014 23 March 2014]. Available from: <http://www.promedmail.org/direct.php?id=2349865>.
26. Reuters. Guinea confirms fever is Ebola, has killed up to 59 2014 [22 March 2014]. Available from: <http://in.reuters.com/article/2014/03/22/us-guinea-ebola-idINBREA2L0MI20140322>.
27. Muyembe-Tamfum JJ, Mulangu S, Masumu J, Kayembe JM, Kemp A, Paweska JT. Ebola virus outbreaks in Africa: past and present. *The Onderstepoort journal of veterinary research*. 2012;79(2):451.
28. The French Ministry of Foreign Affairs. Conseils aux voyageurs (Travel Advice) 2014 [22 March 2014]. Available from: <http://www.diplomatie.gouv.fr/fr/conseils-aux-voyageurs/conseils-par-pays/guinee-12255/>
29. Ambassade de France en Guinée. Message de sécurité : fièvre Ebola en Guinée Forestière 2014. Available from: <http://www.ambafrance-gn.org/Message-de-securite-fievre>.
30. Kinkaa.fr. Conakry Airport 2014 [22 March 2014]. Available from: http://www.kinkaa.fr/aeroports/Conakry_CKY.
31. World Health Organization. A Guide for Shippers of Infectious Substances, 2013 2014 [cited 2014 22 March 2014]. Available from: http://www.who.int/ihr/infectious_substances/en/.