

## Ebola and Marburg fevers

Reporting on 2014 data retrieved from TESSy\* on 19 November 2015

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### Key facts

- Eight confirmed cases of Ebola viral haemorrhagic fever infections were reported in EU/EEA countries in 2014. No cases of Marburg haemorrhagic fever were reported.
- 2014 was the first year that Ebola viral haemorrhagic fever infections were notified in TESSy, prompted by an outbreak in West Africa.
- Seven cases were travel related, one case was locally acquired in Spain. Three of these patients died.

### Methods

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- Surveillance of Ebola was mainly conducted through epidemic intelligence activities, including the collection of extensive information on infected EU citizens.
- This report is based on information reported to TESSy and additional information available from epidemic intelligence.
- 26 EU/EEA countries reported data to TESSy in 2014.
- 18 countries use the EU case definition, four countries (the Czech Republic, Denmark, Germany and the United Kingdom) used different case definitions, and Belgium, Cyprus, Finland and France did not specify the case definition they used.
- Reporting is compulsory in 24 countries, on a voluntary basis in the United Kingdom, and 'not specified' in Cyprus. Surveillance is comprehensive ('not specified' in Cyprus) and mostly passive (22 countries, except for the Czech Republic, Slovakia and the United Kingdom; 'not specified' in Cyprus) (Annex 1). Reporting is case based and done at the national level.

### Epidemiology

In 2014, eight cases were reported in EU/EEA countries, five males and three females. Five cases were in the age group 25–44 years, one in the age group 45–64 years, and two patients were over 65 years old. 2014 was the first year that Ebola viral haemorrhagic fever infections were reported in TESSy.

The cases were reported by Germany (n=2), Norway (n=1) Spain (n=3) and United Kingdom (n=2). Seven of the cases were travel related, probably infected in Sierra Leone (n=5) and Liberia (n=2). One case, a woman in Spain, was locally infected (nosocomial infection). Three of these patients died.

### Discussion

In March 2014, an outbreak of Zaire Ebola virus was reported in eastern Guinea. The disease spread rapidly to neighbouring countries (Sierra Leone and Liberia) and on to Nigeria and Senegal [1]. On 8 August 2014, WHO declared the Ebola epidemic in West Africa a Public Health Emergency of International Concern [2]. As of 2 December 2015, WHO reported 28 601 cases of Ebola virus disease related to the outbreak in West Africa, including 11 300 deaths. The number of cases in the most affected countries peaked in autumn 2014 and slowly decreased after that. WHO declared Sierra Leone 'Ebola-free' on 7 November 2015.

The risk of spread, regionally and globally, remains until all countries in West Africa are declared Ebola-free. However, long-term persistence of the virus in survivors may cause a number of late infections which could occur several months after a country has been declared Ebola-free [3].

Although exposure to infected wildlife animals or animal products is the usual source of infection and the start of the chain of transmission, the initial source of infection of this outbreak remains unknown.

This is the first outbreak of Ebola virus in West Africa and the worst Ebola outbreak ever reported. Another unrelated outbreak, also due to Zaire Ebola virus, was reported from 26 July to 7 October 2014 in Equateur province, Democratic Republic of Congo. A total of 69 cases were reported, eight among healthcare workers. The death toll was 49 [4].

Many healthcare workers were infected while treating patients with Ebola or Marburg infection. As of 21 June 2015, 872 confirmed cases among healthcare workers were reported in Guinea, Liberia and Sierra Leone since the start of the outbreak, 507 of these cases (58%) were fatal.

Outside of the three most-affected countries, infected healthcare workers were reported from Mali (2), Nigeria (11), Spain (1, infected while caring for an evacuated Ebola patient), UK (two, both infected in Sierra Leone), USA (two infected in Sierra Leone, two in Liberia, and two while caring for a confirmed Ebola case in a Texas hospital), and Italy (one, infected in Sierra Leone) [5].

Multiple outbreaks of Ebola virus and Marburg virus infection have been identified since their initial discovery. From 1976 to 2012, 2 387 cases of Ebola virus infections and 1 590 deaths were reported (case fatality rate [CFR] 66.6%). From 1967 to 2012, 571 cases of Marburg virus infections were reported, including 470 deaths (CFR 82.3%). Outbreaks of Ebola virus disease were reported mainly in the Democratic Republic of Congo, Congo, Gabon and Sudan. Outbreaks of Marburg virus disease occurred in Kenya, Uganda and Angola. In 2008, two tourists (one from the USA and one from the Netherlands) became infected after visiting, several months apart, a cave in Maramagambo forest in Uganda. One of the cases died [3,6,7].

### Public health conclusions

There are currently no licensed Ebola vaccines but several potential candidate vaccines are undergoing evaluation [8].

The goal of outbreak control is to interrupt direct human-to-human transmission through the early identification and systematic isolation of cases, timely contact-tracing, proper personal protection, safely conducted burials, improved community awareness about risk factors of viral infection, and individual protective measures. Quarantine of infected patients has been shown to effectively stop the spread of the disease in previous outbreaks.

Many healthcare workers were infected while treating patients with Ebola or Marburg infection because of close contact with patients when infection control precautions were not strictly practiced or haemorrhagic viral aetiology was not recognised. Implementation of appropriate infection control measures in healthcare settings, including use of personal protective equipment, is effective in minimising the risk for transmission of filoviruses [5,9].

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### Additional information

[ECDC Surveillance Atlas of Infectious Diseases](#)

### Annex

**Table. Ebola or Marburg viral haemorrhagic fever disease, surveillance systems overview, 2014**

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\* The European Surveillance System (TESSy) is a system for the collection, analysis and dissemination of data on communicable diseases. EU Member States and EEA countries contribute to the system by uploading their infectious disease surveillance data at regular intervals.