

Ebola and Marburg virus diseases

Annual Epidemiological Report for 2019

Key facts

For 2019, no cases of Ebola virus disease or Marburg virus disease were reported in the EU/EEA.

Introduction

Ebola and Marburg virus diseases are caused by the Ebola and Marburg viruses respectively, and are members of the *Filoviridae* family. The natural reservoir host of these viruses is bats. They can cause disease mainly in primates. Both remain rare diseases, but have the potential to cause outbreaks with high case fatality rates. Ebola and Marburg viruses have caused outbreaks in the past, mostly in sub-Saharan tropical countries, notably in central and western Africa.

Methods

This report is based on data for 2019 retrieved from The European Surveillance System (TESSy) on 9 October 2020. TESSy is a system for the collection, analysis, and dissemination of data on communicable diseases.

For a detailed description of methods used to produce this report, refer to the *Methods* chapter [1].

An overview of the national surveillance systems is available online [2].

A subset of the data used for this report is available through ECDC's online *Surveillance atlas of infectious diseases* [3].

For 2019, 29 EU/EEA countries reported case-based data (Liechtenstein and the Netherlands did not report). Twenty-one countries used the EU case definition, five countries (Czechia, Denmark, Germany, Italy and the United Kingdom) used an alternative case definition, and three countries (Belgium, Cyprus and France) did not specify the case definition used. Reporting is compulsory in 27 countries, 'not specified' in Cyprus, and voluntary in the United Kingdom. Surveillance is mostly comprehensive ('not specified' in Cyprus) and passive.

Epidemiology

For 2019, no cases of Ebola virus disease or Marburg virus disease were reported in the EU/EEA.

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Discussion

On 1 August 2018, the Ministry of Health of the Democratic Republic of the Congo (DRC) declared the 10th outbreak of Ebola virus disease affecting North Kivu, South Kivu and Ituri provinces in the north-east of the country, close to the border with Uganda [4]. The outbreak continued throughout 2019. In total, 3 470 cases and 2 287 deaths were reported according to the Ministry of Health of the DRC. This outbreak of Ebola virus disease was the largest ever recorded in DRC and the second largest worldwide [5]. One case in connection with the 10th Ebola outbreak in the DRC was confirmed in Uganda [6].

No travel-associated Ebola virus disease cases were reported among travellers returning to Europe from the DRC in 2019.

Significant developments for the prevention of Ebola virus disease have been made, with two vaccines now licensed for use in several countries [7]. The first of these vaccines is the Ervebo vaccine, which is a recombinant rVSVΔG-ZEBOV-GP live vaccine manufactured by Merck. It is administered as a single-dose by intramuscular injection, and was prequalified by the World Health Organization (WHO) on 12 November 2019, meaning that the vaccine meets WHO standards on quality, safety and efficacy, and therefore allows its procurement for at-risk countries [8]. The EU has authorised the use of the vaccine [9], as has the United States (US) [10], Burundi, the Democratic Republic of the Congo, Ghana and Zambia [11]. Over 40 000 individuals in the DRC were vaccinated with Ervebo during the 10th and 11th Ebola outbreaks, which occurred respectively between August 2018 and June 2020 and between June and November 2020 [12].

The second of these vaccines is a two-component vaccine manufactured by Janssen: the prime component is Zabdeno (Ad26.ZEBOV) and the booster component is Mvabea (MVA-BN®-Filo) [13,14]. This two-dose vaccine regimen was licensed for use in the EU on 1 July 2020.

Furthermore, advances have also been made in the treatment of the Ebola virus disease. The first of the two treatments, Inmazeb (formerly REGN-EB3), is manufactured by Regeneron Pharmaceuticals, and is a mixture of three monoclonal antibodies (atoltivimab, maftivimab, and odesivimab-ebgn). The drug was approved for use in the US in October 2020 [15].

Ebanga (Ansuvimab-zykl), the second of the two treatments, is manufactured by Ridgeback Biotherapeutics and is a human monoclonal antibody (mAb114). The drug was approved for use in the US on 21 December 2020 [16].

For further information on vaccines and treatments for Ebola virus disease, please visit the [ECDC webpage](#).

Public health implications

The main goal of Ebola virus disease and Marburg virus disease outbreak control is to interrupt direct human-to-human transmission through the early identification and isolation of cases, timely contact tracing, proper personal protection, safely conducted burials, and improved community awareness about risk factors of infection.

The isolation of infected patients, in addition to the other non-pharmaceutical countermeasures mentioned above, has been shown to effectively stop the spread of Ebola and Marburg viruses in previous outbreaks [17,18]. The implementation of appropriate infection prevention and control measures in healthcare settings, including the use of personal protective equipment, is effective in minimising the risk of the transmission of filoviruses [17].

Since the Ebola virus disease outbreak in West Africa, ring vaccination has become a relevant additional tool for preventing and controlling this disease. Use of the vaccine needs to be adapted to local conditions and the vaccine supply available. It can include, but is not limited to, contacts and contacts of contacts of Ebola virus disease cases, local and international healthcare and front-line workers in affected areas and healthcare and front-line workers in areas at risk of expansion of the outbreak [19].

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