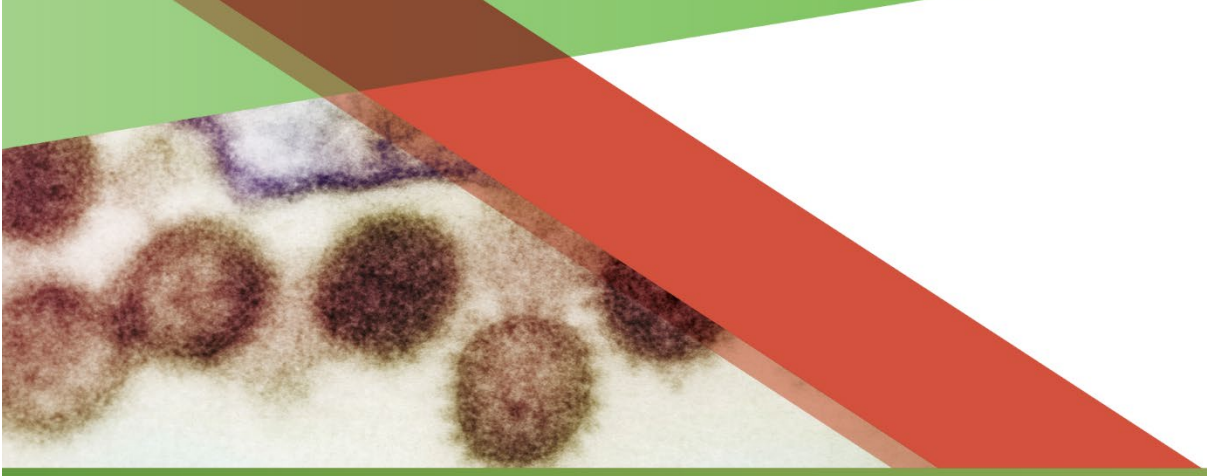

SURVEILLANCE REPORT

Crimean-Congo haemorrhagic fever

Annual Epidemiological Report for 2022

Key facts

- For 2022, 28 European Union/European Economic Area (EU/EEA) countries reported data on Crimean-Congo haemorrhagic fever (CCHF) and two countries reported a total of four cases.
- Bulgaria and Spain each reported two confirmed cases of CCHF, including one death each.

Introduction

Crimean-Congo haemorrhagic fever (CCHF) is a tick-borne viral disease characterised by a sudden onset of flu-like symptoms (fever, headache, myalgia and malaise), photophobia, abdominal pain, diarrhoea and vomiting. Haemorrhagic manifestations can be present in severe cases. CCHF virus infections in wild and domestic animals are generally asymptomatic and difficult to detect. The virus is primarily transmitted via tick bites, particularly those of the *Hyalomma* genus. Direct transmission via bodily fluids – from animal to human or human to human – can also occur. Hospital-acquired infections can occur due to direct contact with blood or tissues of viraemic patients or improperly sterilised medical devices. Evidence of virus circulation has been found in Africa, Asia and southern Europe [1]. See the 'Factsheet about Crimean-Congo haemorrhagic fever' for more information.

Methods

This report is based on data for 2022 retrieved from The European Surveillance System (TESSy) on 19 January 2024. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases.

For a detailed description of the methods used to produce this report, refer to the Methods chapter of the 'ECDC Annual Epidemiological Report' [2]. An overview of the national surveillance systems is available online [3].

A subset of the data used for this report is available through ECDC's online 'Surveillance Atlas of Infectious Diseases' [4].

Twenty-eight EU/EEA countries reported data on CCHF for 2022. Denmark and Finland did not report data on CCHF. Twenty-five countries used the EU case definition, two used an alternative case definition (Germany and Italy), and one did not specify the definition they used (Belgium). Surveillance was comprehensive and case-based in all reporting countries, and was mostly passive.

Suggested citation: European Centre for Disease Prevention and Control. Crimean-Congo haemorrhagic fever. In: ECDC. Annual epidemiological report for 2022. Stockholm: ECDC; 2024.

Stockholm, April 2024

Epidemiology

For 2022, Bulgaria and Spain each reported two confirmed cases of CCHF (Table 1). The first case in Bulgaria was exposed in Haskovo province and was probably infected through a tick bite. The second case in Bulgaria was exposed in Kardzhali province, was infected via tick bite and died from the disease. The two cases in Spain both occurred in León province, located in the autonomous community of Castile-León, in the north-western part of Spain. Both cases were infected via ticks bites, and one case died from the disease. No other EU/EEA countries reported cases in 2022 (Table 1). Between 2018 and 2022, 21 cases of CCHF were reported, most of which were reported by Bulgaria (n = 11; 52%) and Spain (n = 9; 43%). Greece reported one case in 2018, which was imported from Bulgaria.

Table 1. Number of Crimean-Congo haemorrhagic fever cases by country and year, EU/EEA, 2018–2022

Country	Number of cases				
	2018	2019	2020	2021	2022
Austria	0	0	0	0	0
Belgium	0	0	0	0	0
Bulgaria	6	2	1	0	2
Croatia	0	0	0	0	0
Cyprus	0	0	0	0	0
Czechia	0	0	0	0	0
Denmark	NDR	NDR	NDR	NDR	NDR
Estonia	0	0	0	0	0
Finland	NDR	NDR	NDR	NDR	NDR
France	0	0	0	0	0
Germany	0	0	0	0	0
Greece	1	0	0	0	0
Hungary	0	0	0	0	0
Iceland	0	0	0	0	0
Ireland	0	0	0	0	0
Italy	0	0	0	0	0
Latvia	0	0	0	0	0
Liechtenstein	NDR	NDR	NDR	NDR	0
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Malta	0	0	0	0	0
Netherlands	0	0	0	0	0
Norway	0	0	0	0	0
Poland	0	0	0	0	0
Portugal	0	0	0	0	0
Romania	0	0	0	0	0
Slovakia	0	0	0	0	0
Slovenia	0	0	0	0	0
Spain	2	0	3	2	2
Sweden	0	0	0	0	0
EU/EEA (30 countries)	**9**	**2**	**4**	**2**	**4**
United Kingdom	0	0	NDR	NDR	NDR
EU/EEA (31 countries)	**9**	**2**	**4**	**2**	**4**

Source: Country reports. NDR: No data reported.
No data from 2020 onwards were reported by the United Kingdom, due to its withdrawal from the EU on 31 January 2020.

Discussion

Sporadic cases and outbreaks of CCHF have been reported in several regions of Asia and Africa. In Europe, reports have so far been restricted to the Balkan region, Spain, Russia and Türkiye.

CCHF was first diagnosed in Bulgaria, in the mid-1950s, and became endemic in some regions of the country. In Greece, the first and so far only autochthonous case was reported in 2008 [5].

Spain reported its first autochthonous CCHF cases in 2016 in the province of Ávila, Castile-León. A retrospective study, conducted in 2020 and published in 2021, showed that another case had occurred in the same province in 2013 [6]. Between 2013 and 2022, 12 cases of CCHF were reported in Spain [7].

The main vector transmitting the virus, the *Hyalomma marginatum* tick, is widely distributed in southern and eastern Europe [8]. In Spain, CCHF virus was detected in *H. lusitanicum* ticks before the identification of the first human case. *H. lusitanicum* is widely distributed in Spain [8], and this tick species may play an important role in virus circulation in this country [9,10].

Public health implications

Groups at risk in endemic areas include people doing outdoor activities, farmers, animal breeders, veterinarians, people engaged in informal slaughtering, hunters and healthcare workers. People in risk groups should apply personal protective measures to avoid tick bites, including wearing protective clothing and using chemical tick repellent such as N,N-diethyl-m-toluamide (DEET) and icaridin.

There is no vaccine against CCHF licensed by the European Medicines Agency for the EU/EEA market. However, a vaccine derived from inactivated CCHF virus, propagated in mouse brain, is used in Bulgaria [11]. Several studies on vaccine development are in progress [12-14].

No specific safety measures with regard to substances of human origin are recommended.

For infection control, education of personnel in healthcare settings is needed. This includes training in barrier nursing procedures and the use of personal protective equipment (e.g. gloves, respiratory masks, waterproof gowns, goggles). Contact tracing is critical to prevent further spread of the virus.

CCHF outbreak response relies on early pathogen identification and application of infection control measures that integrate laboratory, clinical and public health personnel [15]. CCHF is an excellent example of a disease that is well-suited to the One Health approach and, as such, collaboration and networking play an essential role in strengthening the preparedness, capacity and capability to respond to an outbreak.

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