

## SURVEILLANCE REPORT

# Crimean-Congo haemorrhagic fever

## Annual Epidemiological Report for 2021

### Key facts

- For 2021, 26 European Union/European Economic Area (EU/EEA) countries reported data on Crimean-Congo haemorrhagic fever (CCHF) and only one country reported any cases.
- Spain reported two confirmed cases of CCHF in 2021.

### 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.

See the ['Factsheet about Crimean-Congo haemorrhagic fever'](#) for more information.

### Methods

This report is based on data for 2021 retrieved from The European Surveillance System (TESSy) on 25 October 2022. 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' [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].

Twenty-six EU/EEA countries reported data on CCHF for 2021. Denmark, Finland, Malta and Liechtenstein did not report data. Twenty-two countries used the EU case definition, two used an alternative case definition (Germany and Italy), and two did not specify the definition they used (Belgium and France). Surveillance is comprehensive and case-based in all reporting countries, and is mostly passive.

The United Kingdom (UK) contributed surveillance data up to 2019. No data were reported by the UK for 2020 or 2021 due to its withdrawal from the EU on 31 January 2020. The UK data that were reported up to 2019 are not included in the analysis of trends.

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## Epidemiology

For 2021, Spain reported two confirmed cases of CCHF (Table 1). The first case was a 59-year-old man who was exposed in Salamanca province, located in the autonomous community of Castile-León, in the north-western part of Spain. The second case was a 29-year-old woman who was exposed in León province, also in Castile-León. Both cases were infected via tick bites and survived the infection. No other EU/EEA countries reported any cases.

Between 2017 and 2021, 19 cases of CCHF were reported, the majority of which were reported by Bulgaria (11 cases; 58%) and Spain (7 cases; 37%). 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, 2017–2021**

Country	2017	2018	2019	2020	2021
	Number	Number	Number	Number	Number
Austria	0	0	0	0	0
Belgium	0	0	0	0	0
Bulgaria	2	6	2	1	0
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	0	1	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	NDR
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Malta	0	0	0	0	NDR
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	0	2	0	3	2
Sweden	0	0	0	0	0
United Kingdom	0	0	0	NDR	NDR
<b>EU/EEA</b>	<b>2</b>	<b>9</b>	<b>2</b>	<b>4</b>	<b>2</b>

Source: country reports.

NDR: no data reported.

## 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 Europe 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 [4].

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 [5]. Between 2013 and 2021, 10 CCHF cases were reported in Spain [6].

The main vector transmitting the virus, the *Hyalomma marginatum* tick, is widely distributed in southern and eastern Europe [7]. 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 [7], and this tick species may play an important role in virus circulation in this country [8,9].

## 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 [10]. Several studies on vaccine development are in progress [11,12].

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 [13]. 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.

## References

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