



## SURVEILLANCE REPORT

Annual Epidemiological Report for 2016

# Crimean–Congo haemorrhagic fever

### Key facts

- For 2016, two countries reported a total of six cases of Crimean-Congo haemorrhagic fever (CCHF).
- For the first time, Spain reported two confirmed autochthonous cases.
- Bulgaria reported the remaining four cases (CCHF is endemic in the Balkan region).

### Methods

This report is based on data for 2016 retrieved from The European Surveillance System (TESSy) on 4 April 2018. 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, please 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 2016, 25 EU/EEA countries reported case-based data and one (Bulgaria) reported aggregated data. Denmark, Finland, Malta and the Netherlands did not report data on CCHF. Twenty-one countries used the EU case definition, three countries used an alternative case definition (Germany, Italy and the UK), and two countries (Belgium and France) did not specify the definition they used. Surveillance is comprehensive in all reporting countries and mostly passive. The Czech Republic, Portugal, Slovakia and the United Kingdom conduct active disease surveillance.

### Epidemiology

For 2016, Bulgaria reported four cases, three of which were classified as confirmed and one as probable; Spain reported two confirmed cases. In August 2016, the autonomous Community of Madrid reported two cases of CCHF, of which one was fatal [4,5]. The primary case most likely got infected through contact with a tick (either being bitten by or crushing a tick) while hiking in Ávila province. The secondary case was a healthcare worker who looked after the patient while in intensive care. Neither case had any recent travel history outside Spain before the onset of symptoms.

---

Suggested citation: European Centre for Disease Prevention and Control. Crimean–Congo haemorrhagic fever. In: ECDC. Annual epidemiological report for 2016. Stockholm: ECDC; 2018.

Stockholm, December 2018

© European Centre for Disease Prevention and Control, 2018. Reproduction is authorised, provided the source is acknowledged.

CCHF is endemic in the Balkan region, where Bulgaria regularly reports a small number of cases (four cases each in 2012, 2015 and 2016, and eight cases each in 2013 and 2014, respectively). The UK reported one case each in 2012 and 2014, respectively.

## Discussion

The first autochthonous human cases in Europe were reported in 2016 in south-western Europe: the first case was reported in Spain; the second patient was a nurse who became infected while caring for the index patient [4]. In 2010, CCHF virus was detected for the first time in ticks in Spain [6]. A few sporadic cases are reported on a regular basis from Bulgaria [7]. Using an ecological niche modelling approach, most suitable areas for CCHF transmission in the Balkans have been identified [8].

CCHF is endemic in Africa, the Balkans, the Middle East, and western and south-central Asia. The main vector transmitting the virus, the tick *Hyalomma marginatum*, is widely distributed in Europe [9]. The limit of its habitat lies south of the 50th northern parallel. Humans may also become infected through direct or indirect contact with the blood or organs of infected animals. In the WHO European Region, cases of human CCHF infection have been reported from Albania, Bulgaria, Greece, Kosovo, Serbia, Turkey, Armenia, Georgia, Ukraine, Federation of Russia, as well as from Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan, with Turkey having been the most affected country [10].

## Public health implications

CCHF has the potential for human-to-human transmission. Early clinical diagnosis and laboratory confirmation of cases is essential for initiation of treatment and the implementation of protective measures [11]. Prevention of CCHF infection is achieved by avoiding or minimising exposure to infected ticks by using tick repellents, wearing protective clothing and early and correct removal of ticks. Contact with the blood or tissues of infected animals should be avoided.

## References

1. European Centre for Disease Prevention and Control. Introduction to the Annual epidemiological report for 2016. In: ECDC. Annual epidemiological report for 2016. Stockholm: ECDC; 2017. Available from: <http://ecdc.europa.eu/annual-epidemiological-reports/methods>.
2. European Centre for Disease Prevention and Control. Surveillance systems overview [internet, downloadable spreadsheet]. Stockholm: ECDC; 2018. Available from: <https://ecdc.europa.eu/en/publications-data/surveillance-systems-overview-2016>.
3. European Centre for Disease Prevention and Control. Surveillance atlas of infectious diseases [Internet]. Stockholm: ECDC; 2017 [accessed 30 Jan 2018]. Available from: <http://atlas.ecdc.europa.eu>.
4. Negredo A, de la Calle-Prieto F, Palencia-Herrejon E, Mora-Rillo M, Astray-Mochales J, Sanchez-Seco MP, et al. Autochthonous Crimean-Congo hemorrhagic fever in Spain. *N Engl J Med*. 2017 Jul 13;377(2):154-161.
5. European Centre for Disease Prevention and Control. Crimean-Congo haemorrhagic fever in Spain – 8 September 2016. Stockholm: ECDC; 2016. Available from: <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/crimean-congo-haemorrhagic-fever-spain-risk-assessment.pdf>.
6. Estrada-Pena A, Palomar AM, Santibanez P, Sanchez N, Habela MA, Portillo A, et al. Crimean-Congo hemorrhagic fever virus in ticks, Southwestern Europe, 2010. *Emerging infectious diseases*. 2012 Jan;18(1):179-80.
7. Papa A, Pappa S, Panayotova E, Papadopoulou E, Christova I. Molecular epidemiology of Crimean-Congo hemorrhagic fever in Bulgaria – An update. *Journal of medical virology*. 2016 May;88(5):769-73.
8. Messina JP, Pigott DM, Golding N, Duda KA, Brownstein JS, Weiss DJ, et al. The global distribution of Crimean-Congo hemorrhagic fever. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. 2015 Aug;109(8):503-13.
9. European Centre for Disease Prevention and Control. Tick maps [Internet]. Stockholm: ECDC; 2018 [8 June 2018]. Available from: <https://ecdc.europa.eu/en/disease-vectors/surveillance-and-disease-data/tick-maps>.
10. World Health Organization. Geographic distribution of Crimean-Congo haemorrhagic fever [map on the internet]. Geneva: WHO; 2017 [accessed 2 Dec 2018]. Available from: [http://www.who.int/emergencies/diseases/crimean-congo-haemorrhagic-fever/Global\\_CCHFRisk\\_2017.jpg](http://www.who.int/emergencies/diseases/crimean-congo-haemorrhagic-fever/Global_CCHFRisk_2017.jpg).
11. Roy KM, Ahmed S, Inkster T, Smith A, Penrice G, Incident Management T. Managing the risk of viral haemorrhagic fever transmission in a non-high-level intensive care unit: experiences from a case of Crimean-Congo haemorrhagic fever in Scotland. *The Journal of hospital infection*. 2016 Jul;93(3):304-8.