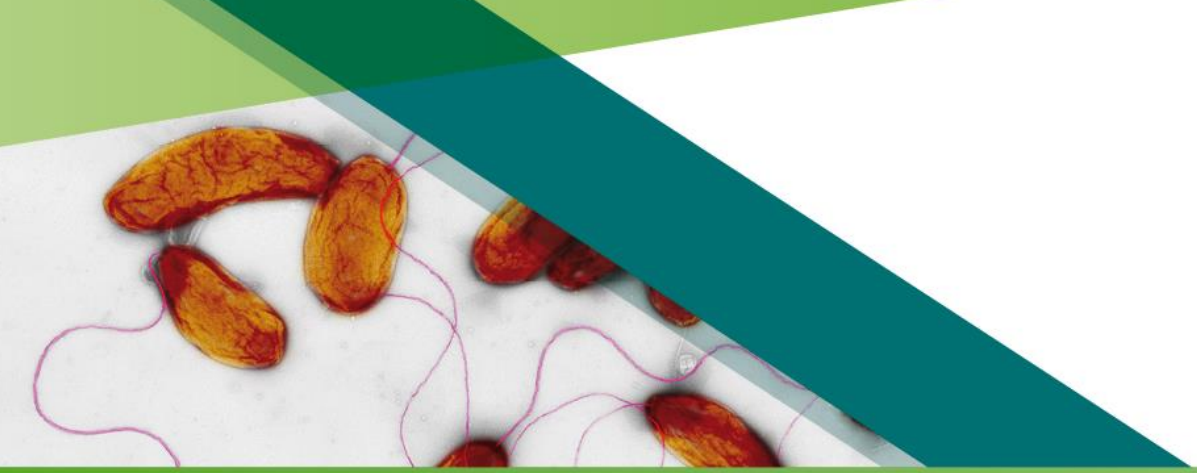

ECDC SURVEILLANCE

Cholera

Annual Epidemiological Report for 2022

Key facts

- In the European Union/European Economic Area (EU/EEA), cholera is a rare disease associated with travel outside the EU/EEA.
- In 2022, nine countries reported a total of 29 confirmed cases of cholera. The majority (79%) of cases were reportedly linked to travel from the United Arab Emirates, Bangladesh, Cameroon, India, Iraq, the Philippines and Pakistan.
- 31% of the cases were hospitalised, and one death was reported.
- The number of reported cholera cases in the EU/EEA increased from two cases in 2021 to 29 cases in 2022.
- This represented the highest number of cholera cases reported since 2011.

Introduction

Cholera is an acute diarrhoeal infection caused by the bacterium *Vibrio cholera* of serogroups O1 or O139. These two serogroups produce cholera toxin, which is responsible for the severe symptoms of cholera. Humans are the only relevant reservoir, even though infection is unlikely to spread directly from person to person.

Infection results from the consumption of water or food (especially seafood eaten raw or under-cooked), contaminated with cholera bacteria from the faeces of an infected person. Typical symptoms such as vomiting and watery diarrhoea usually develop after a short incubation period of two hours to less than five days. In most cases symptoms are mild or absent and it is possible for infected individuals to become carriers while showing no symptoms.

In severe cases, rapid loss of body fluids can quickly lead to dehydration and shock. Without treatment, death can occur within hours. With timely treatment (fluid replacement and antibiotics), fewer than 1% of symptomatic patients die.

The disease has not been endemic in Europe for many years, and due to the availability of safe water, basic sanitation and high hygiene standards, the potential for imported cases to generate further ones is low.

Methods

This report is based on data for 2022 retrieved from The European Surveillance System (TESSy) on 2 February 2024. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases.

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Stockholm, November 2024

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].

Twenty-five countries applied EU case definitions and the remaining five used other/unspecified case definitions. In all countries, the reporting of cholera was compulsory. All countries had comprehensive surveillance systems and reported case-based data. No data for 2020-2022 were reported by the United Kingdom (UK) due to its withdrawal from the EU on 31 January 2020.

Epidemiology

For 2022, all 30 EU/EEA countries reported data on cholera. Among these, ten countries reported 29 confirmed cases (Table 1). Twenty countries reported zero cases. Twenty-two out of the 29 cases (79%) were reportedly linked to travel outside of the EU/EEA with the highest number of cases having travelled to Iraq (15 cases). Other countries visited were Bangladesh and Cameroon (two cases each), India, Pakistan and Philippines (one case each). The possible country of infection was unknown for the remaining three cases reported by Germany (two cases) and Italy (one case). France reported four domestic cases of cholera.

Nine of the 29 cases in the EU/EEA (31%) were hospitalised, and one death was reported in an elderly male.

Table 1. Confirmed cholera cases by country and year, EU/EEA, 2018–2022

Country	2018	2019	2020	2021	2022
Austria	0	0	0	0	1
Belgium	1	0	0	0	0
Bulgaria	0	0	0	0	0
Croatia	0	0	0	0	0
Cyprus	0	0	0	0	0
Czechia	0	0	0	0	0
Denmark	0	1	0	0	2
Estonia	0	0	0	0	0
Finland	0	0	0	0	1
France	2	5	0	0	7
Germany	0	1	0	0	6
Greece	0	0	0	0	1
Hungary	0	0	0	0	0
Iceland	0	0	0	0	0
Ireland	0	0	0	0	0
Italy	0	1	0	0	1
Latvia	0	0	0	0	0
Liechtenstein	NDR	NDR	NDR	0	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	2	3
Poland	0	1	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	0	0	0
Sweden	1	0	0	0	7
EU/EEA (30 countries)	**6**	**9**	**0**	**2**	**29**
United Kingdom	20	16	NDR	NA	NA
EU/EEA (31 countries)	**26**	**25**	**0**	**NA**	**NA**

Source: Country reports.
NDR: No data reported.
NA: Not applicable.
No data from 2020 onwards were reported by the United Kingdom, due to its withdrawal from the EU on 31 January 2020.

Outbreaks and other threats

Two cholera outbreaks were reported through EpiPulse in 2022. One was launched by ECDC to collect ad hoc reports on cholera cases to support WHO in their assessment of the impact of the disease in the WHO Euro region from the worsening cholera situation globally. The other event was launched by a country to highlight the risk of private importation of food from endemic countries.

ECDC monitors cholera outbreaks globally through epidemic intelligence activities to identify significant changes in epidemiology and to inform public health authorities. Reports are published monthly on ECDC's website at https://www.ecdc.europa.eu/en/all-topics-z/cholera/surveillance-and-disease-data/cholera-monthly.

Discussion

In the EU/EEA, cholera is rare and primarily associated with travel to endemic countries. Despite the high number of cholera outbreaks reported worldwide, few cases are reported annually among returning EU/EEA travellers [4]. Cholera is endemic in many countries in Asia and Africa and was reintroduced into the Caribbean region in Haiti in 2010 after nearly a century during which the disease had not been reported in that country [5,6].

In 2022, the number of reported cholera cases in the EU/EEA increased to 29 cases compared to two cases in 2021. This represented the highest number of cholera cases reported since 2011 when 36 cases of cholera were reported (out of which UK accounted for nine). France reported three epidemiologically-linked domestic cases following consumption, at a family gathering, of food imported from a country where there was an epidemic at the time, and a fourth domestic case for which no source of contamination has been formally identified (personal communication J. Figoni, Santé Publique, France, 2 July 2024) [7]. Of the 22 cholera cases related to travel outside of the EU/EEA, fifteen were people who travelled to Iraq. WHO reported a cholera outbreak in Iraq in 2022 from week 24 till 32 [8]. These events highlight the importance of taking the required protective measures when travelling to endemic areas and the risk of importing food from endemic countries.

Public health implications

Cholera can be prevented by adhering to safe water and sanitation measures [9]. Cholera vaccination is safe and moderately effective for at least five years depending on the vaccine [5]. WHO recommends considering cholera vaccination of specific populations at risk to prevent the spread of outbreaks to new areas during humanitarian emergencies where there is a risk of cholera [10].

Cholera vaccination is not recommended for travellers and international workers in general [10]. Travellers who plan to visit cholera-endemic areas should seek advice from travel health clinics ahead of their journey to assess their personal risk and be informed on precautionary sanitary and hygiene measures to help prevent infection. Such measures include drinking bottled water or water treated with chlorine, carefully washing fruit and vegetables with bottled or chlorinated water before consumption, regularly washing hands with soap, eating thoroughly cooked food, and avoiding the consumption of raw seafood products [4].

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