

Cholera

Annual Epidemiological Report for 2021

Key facts

- In the European Union/European Economic Area (EU/EEA), cholera is a rare disease associated with travel outside the EU/EEA.
- In 2021, only Norway reported confirmed cases of cholera (two), which was a decrease of over 90% of reported cases compared to the pre-pandemic years of 2017–2019. This was due to two factors: COVID-19 pandemic travel restrictions, and the United Kingdom (UK) not reporting data in 2020–2021.

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.

Consumption of water or food, especially seafood eaten raw or under-cooked, contaminated with cholera bacteria from the faeces of an infected person results in infection. After a short incubation period of two hours to less than five days, the typical symptoms might develop, characterised by vomiting and watery diarrhoea. In most cases, though, symptoms are mild or absent and infected individuals can become carriers with 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), however, fewer than 1% of patients with symptoms die. The disease has not been endemic in Europe for a long time, and thanks to high hygiene standards the potential for imported cases to generate further ones is low.

Methods

This report is based on data for 2021 retrieved from The European Surveillance System (TESSy) on 9 October 2022. 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].

Suggested citation: European Centre for Disease Prevention and Control. Cholera. In: ECDC. Annual epidemiological report for 2021. Stockholm: ECDC; 2023.

Stockholm, June 2023

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In 2021, all EU/EEA countries reported cholera notifications. 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 2020-2021 were reported by the United Kingdom (UK) due to its withdrawal from the EU on 31 January 2020.

Epidemiology

In 2021, one country (Norway) reported two confirmed cases of cholera (Table 1). These two cases were reportedly linked to travel in Pakistan; both cases were hospitalised, but no deaths were reported.

Table 1. Number of confirmed cholera 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	1	0	0	0
Bulgaria	0	0	0	0	0
Croatia	0	0	0	0	0
Cyprus	0	0	0	0	0
Czechia	1	0	0	0	0
Denmark	0	0	1	0	0
Estonia	0	0	0	0	0
Finland	0	0	0	0	0
France	0	2	5	0	0
Germany	2	0	1	0	0
Greece	0	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	1	0	0
Latvia	0	0	0	0	0
Liechtenstein	ND	ND	ND	ND	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	2
Poland	0	0	1	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	1	2	0	0	0
Sweden	1	1	0	0	0
United Kingdom	12	20	16	ND	ND
EU-EEA	17	26	25	0	2

Source: Country reports. ND: no data reported.

Outbreaks and other threats

In the summer of 2021, there was a transition at ECDC from the Epidemic Intelligence Information System for Food and Waterborne Diseases (FWD-EPIS) to the new EpiPulse system for the reporting of outbreaks/unusual events of food- or waterborne diseases. No cholera outbreaks or threats were reported through EpiPulse in EU Member States in 2021.

ECDC monitors cholera outbreaks globally through epidemic intelligence activities in order to identify significant changes in epidemiology and to inform public health authorities. Reports are published on a monthly basis 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 tropical countries in Asia and Africa, and was reintroduced into the Caribbean region in Haiti in 2010 after nearly a century during which cholera had not been reported in that country [5,6].

In 2020–2021, the number of reported cholera cases in the EU/EEA was reduced by over 90% compared with the previous three years. This represented the lowest number of cholera cases reported since the EU surveillance of cholera began in 2007. Zero cases were reported in 2020, and only two cases in 2021. This was due to the COVID-19 pandemic, which heavily reduced international travel, as well as the UK not reporting data in 2020–2021 due to its withdrawal from the EU. Between 2017 and 2019, the UK contributed to the majority (up to 70%) of the reported cholera cases in the EU/EEA, among which all cases had travel history to cholera-affected areas.

Public health implications

Cholera can be prevented by adhering to safe water and sanitation measures [7]. Cholera vaccination is safe and moderately effective for at least five years depending on the vaccine [5]. The World Health Organization (WHO) recommends considering cholera vaccination to prevent the spread of outbreaks to new areas during humanitarian emergencies with a risk of cholera and vaccination of specific populations at risk [8]. Cholera vaccinations are not recommended for travellers and international workers in general, but only for emergency and relief workers who are likely to be directly exposed to cholera patients or to potentially contaminated food or water, particularly those staying in areas with poor access to healthcare facilities [8].

Travellers who plan to visit cholera-endemic areas should seek advice from travel health clinics ahead of their travel 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].

References

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