

SURVEILLANCE

Giardiasis

Annual Epidemiological Report for 2020

Key facts

- In 2020, 6 555 confirmed giardiasis cases were reported in the EU/EEA.
- The EU/EEA notification rate was 2.5 cases per 100 000 population. The highest notification rates were reported in Belgium and Luxembourg.
- The highest notification rate per 100 000 population was observed in the age group 0–4 years.
- There was a sharp decrease in the EU/EEA notification rate in 2020 compared with 2016 to 2019 (range: 5.2–5.8 cases per 100 000 population). This may have been due to the COVID-19 pandemic combined with the absence of data from the United Kingdom, after its withdrawal from the European Union in 2020.

Introduction

Giardiasis is a common parasitic infection worldwide, caused by the protozoan Giardia lamblia (syn. G. duodenalis, G. intestinalis). Giardia spp. live in the intestines of humans and animals. The parasite spreads through durable cysts that are excreted in the hosts' faeces. These cysts can persist in the environment for several months.

The disease may be asymptomatic and self-limiting, or lead to symptoms (3–25 days after infection) such as fatigue, bloating, acute diarrhoea, stomach pain and nausea. Prolonged disease can lead to chronic gastrointestinal symptoms such as nutrient malabsorption [1]. Infection commonly occurs via ingestion of cysts found in contaminated surface water (e.g. via water-themed recreational activities, swimming pools or drinking water) or through consumption of contaminated food. Faecal-oral transmission is possible through contaminated surfaces (hands or fomites). Person-to-person transmission, e.g. through sexual transmission [2] or poor hygiene practices [3], may also occur.

Methods

This report is based on data for 2020 retrieved from The European Surveillance System (TESSy) on 5 November 2021. 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 'Introduction to the ECDC Annual Epidemiological Report' [4]. An overview of the national surveillance systems is available online [5]. A subset of the data used for this report is available through ECDC's online 'Surveillance Atlas of Infectious Diseases' [6].

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Epidemiology

For the purposes of this report, only tables and figures are presented. Please refer to the giardiasis Annual Epidemiological Report for 2022 or more recently published annual epidemiological reports for this disease for the most up-to-date information relating to giardiasis.

Table 1. Confirmed	giardiasis cases and rates per	100 000 population by	country and year, EU/EEA,
2016–2020			

	2016		2017		2018		2019		2020	
Country	Number	Rate								
Austria	NDR	NRC								
Belgium	1 998	17.7	1 996	17.6	2 376	20.8	2 062	18.0	1 384	12.0
Bulgaria	1 367	19.1	788	11.1	1 058	15.0	1 141	16.3	500	7.2
Croatia	50	1.2	51	1.2	50	1.2	62	1.5	34	0.8
Cyprus	1	0.1	5	0.6	3	0.3	2	0.2	0	0.0
Czechia	45	0.4	28	0.3	34	0.3	50	0.5	21	0.2
Denmark	NDR	NRC								
Estonia	187	14.2	161	12.2	107	8.1	121	9.1	86	6.5
Finland	282	5.1	278	5.1	291	5.3	296	5.4	211	3.8
France	NDR	NRC								
Germany	3 480	4.2	3 337	4.0	3 407	4.1	3 291	4.0	1 661	2.0
Greece	NDR	NRC	NDR	NRC	61	0.6	51	0.5	29	0.3
Hungary	108	1.1	73	0.7	59	0.6	56	0.6	61	0.6
Iceland	19	5.7	26	7.7	25	7.2	16	4.5	8	2.2
Ireland	202	4.3	239	5.0	271	5.6	253	5.2	160	3.2
Italy	NDR	NRC								
Latvia	76	3.9	49	2.5	92	4.8	64	3.3	39	2.0
Liechtenstein	NDR	NRC								
Lithuania	10	0.3	9	0.3	18	0.6	18	0.6	11	0.4
Luxembourg	0	0.0	6	1.0	0	0.0	3	0.5	93	14.9
Malta	4	0.9	4	0.9	6	1.3	2	0.4	10	1.9
Netherlands	NDR	NRC								
Norway	343	6.6	485	9.2	465	8.8	578	10.8	299	5.6
Poland	1 445	3.8	1 229	3.2	928	2.4	781	2.1	357	0.9
Portugal	30	0.3	45	0.4	34	0.3	43	0.4	31	0.3
Romania	892	NRC	1 060	NRC	1 270	NRC	1 089	NRC	8	NRC
Slovakia	284	5.2	190	3.5	156	2.9	146	2.7	102	1.9
Slovenia	54	2.6	64	3.1	47	2.3	39	1.9	18	0.9
Spain	2 069	NRC	2 953	NRC	3 536	NRC	1 633	NRC	762	NRC
Sweden	1 491	15.1	1 000	10.0	1 252	12.4	1 102	10.8	670	6.5
United Kingdom	4 723	7.2	5 225	7.9	5 510	8.3	5 105	7.7	NA	NA
EU/EEA (31 countries)	19 160	5.8	19 301	5.4	21 056	5.6	18 004	5.2	6 555	2.5

Source: Country reports

NA: not applicable; NDR: no data reported; NRC: no rate calculated.



Figure 1. Confirmed giardiasis cases per 100 000 population by country, EU/EEA, 2020

Source: Country reports

Figure 2. Number of confirmed giardiasis cases by month, EU/EEA, 2016–2020



Source: Country reports from Cyprus, Czechia, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Malta, Norway, Poland, Portugal, Slovakia, Slovenia, Spain and Sweden.



Figure 3. Number of confirmed giardiasis cases by month, EU/EEA, 2020 and 2016–2019

Source: Country reports from Cyprus, Czechia, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Malta, Norway, Poland, Portugal, Slovakia, Slovenia, Spain and Sweden.





Source: Country reports from Belgium, Bulgaria, Croatia, Cyprus, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Luxembourg, Malta, Norway, Poland, Portugal, Romania, Slovakia, Slovenia and Sweden.

Public health implications

Giardiasis remains the most commonly reported food- and waterborne parasitic disease in the EU/EEA. More studies are needed to understand the epidemiology and determinants of this disease and its long-term outcomes. Parasites have complex lifecycles, often with long incubation periods and asymptomatic or subclinical manifestations, making diagnosis based on clinical symptoms alone challenging. All human stool samples submitted for diagnostic testing, irrespective of travel history, should be screened for *Giardia* cysts to facilitate the accurate reporting of locally acquired cases. Laboratories should have adequate methods to confirm suspected cases.

While characterisation in parasitology is not as well developed as in bacteriology or virology, several studies have documented the added value of molecular techniques. The use of advanced molecular characterisation in giardiasis diagnostics, such as MLST, would enable a more granular subtyping of isolates, which could be useful for epidemiological studies of outbreaks [7]. Considering the high likelihood of under-reporting and under-ascertainment, giardiasis is a public health concern because of the occurrence of drug-resistant *Giardia* spp. and their potential to cause outbreaks. There is also potential for climate change to increase the spread of the disease.

References

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