

SURVEILLANCE REPORT

Giardiasis

Annual Epidemiological Report for 2018

Key facts

- In 2018, 21 049 confirmed giardiasis cases were reported in the EU/EEA.
- The EU/EEA notification rate was 5.6 cases per 100 000 population. The highest notification rates were reported in Belgium, Bulgaria and Sweden.
- The highest notification rate per 100 000 population was observed in the age group 0–4 years (17.2 for males and 14.4 for females).
- While the EU/EEA notification rate was stable from 2014 to 2018, the annual number of cases has increased steadily.

Introduction

Giardiasis is a common parasitic infection worldwide, caused by the protozoan *Giardia lamblia* (syn. *G. duodenalis*, *G. intestinalis*). The disease may be asymptomatic and self-limiting, or characterised by fatigue, bloating, acute diarrhoea and other chronic gastrointestinal symptoms [1]. Infection commonly occurs via ingestion of cysts found in contaminated water (via water-themed recreational activities, swimming pools or drinking water) or food, but person-to-person transmission may also occur, e.g. through sexual transmission [2].

Methods

This report is based on data for 2018 retrieved from The European Surveillance System (TESSy) on 17 September 2019. 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' [3].

An overview of the national surveillance systems is available online [4].

A subset of the data used for this report is available through ECDC's online 'Surveillance atlas of infectious diseases' [5].

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Epidemiology

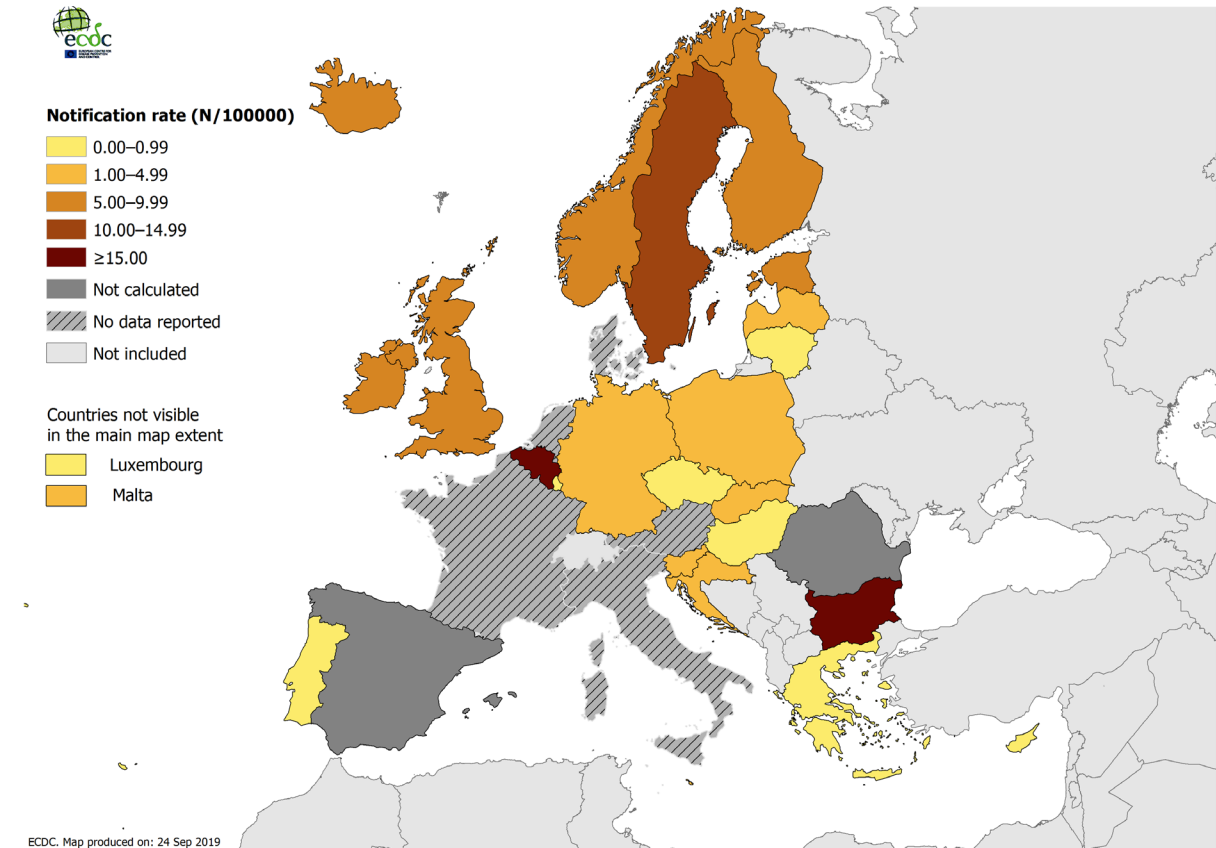
For the purposes of this report, only tables and figures are presented. Please refer to the giardiasis Annual Epidemiological Report for 2019 or more recently published annual epidemiological reports for this disease for the most up-to-date information relating to giardiasis.

Table 1. Confirmed giardiasis cases and rates per 100 000 population by country, EU/EEA, 2014–2018

Country	2014		2015		2016		2017		2018			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Confirmed cases	Rate	ASR	Reported cases
Austria	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Belgium	1 144	NRC	1 270	11.3	1 998	17.7	1 996	17.6	2 376	20.8	21.0	2 376
Bulgaria	1 731	23.9	1 245	17.3	1 367	19.1	788	11.1	1 058	15.0	16.6	1 058
Croatia	80	1.9	93	2.2	50	1.2	51	1.2	50	1.2	1.3	50
Cyprus	3	0.3	6	0.7	1	0.1	5	0.6	3	0.3	0.3	3
Czechia	42	0.4	33	0.3	45	0.4	28	0.3	34	0.3	0.3	42
Denmark	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Estonia	221	16.8	181	13.8	187	14.2	161	12.2	107	8.1	8.1	107
Finland	287	5.3	259	4.7	282	5.1	278	5.1	291	5.3	5.5	291
France	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Germany	4 013	5.0	3 584	4.4	3 479	4.2	3 336	4.0	3 400	4.1	4.3	3 411
Greece	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	61	0.6	NRC	61
Hungary	59	0.6	130	1.3	108	1.1	73	0.7	59	0.6	0.6	59
Iceland	22	6.8	25	7.6	19	5.7	26	7.7	25	7.2	7.0	25
Ireland	71	1.5	145	3.1	202	4.3	239	5.0	271	5.6	5.6	271
Italy	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Latvia	73	3.6	184	9.3	76	3.9	49	2.5	92	4.8	4.7	92
Liechtenstein	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Lithuania	13	0.4	9	0.3	10	0.3	9	0.3	18	0.6	0.7	18
Luxembourg	3	0.5	2	0.4	0	0.0	6	1.0	0	0.0	0.0	0
Malta	2	0.5	0	0.0	4	0.9	4	0.9	6	1.3	1.4	6
Netherlands	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR	NDR
Norway	264	5.2	247	4.8	343	6.6	485	9.2	465	8.8	8.8	465
Poland	1 871	4.9	1 687	4.4	1 445	3.8	1 229	3.2	928	2.4	2.5	928
Portugal	NDR	NDR	26	0.3	30	0.3	45	0.4	34	0.3	0.3	34
Romania	796	NRC	959	NRC	892	NRC	1 060	NRC	1 270	NRC	NRC	1 270
Slovakia	166	3.1	228	4.2	284	5.2	190	3.5	156	2.9	2.9	156
Slovenia	38	1.8	30	1.5	54	2.6	64	3.1	47	2.3	2.4	47
Spain	1 487	NRC	1 627	NRC	2 069	NRC	2 953	NRC	3 536	NRC	NRC	3 536
Sweden	1 260	13.1	1 473	15.1	1 491	15.1	1 000	10.0	1 252	12.4	12.3	1 252
United Kingdom	3 628	5.6	4 536	7.0	4 723	7.2	5 225	7.9	5 510	8.3	8.5	5 510
EU/EEA	17 274	5.4	17 979	5.5	19 159	5.8	19 300	5.4	21 049	5.6	5.7	21 068

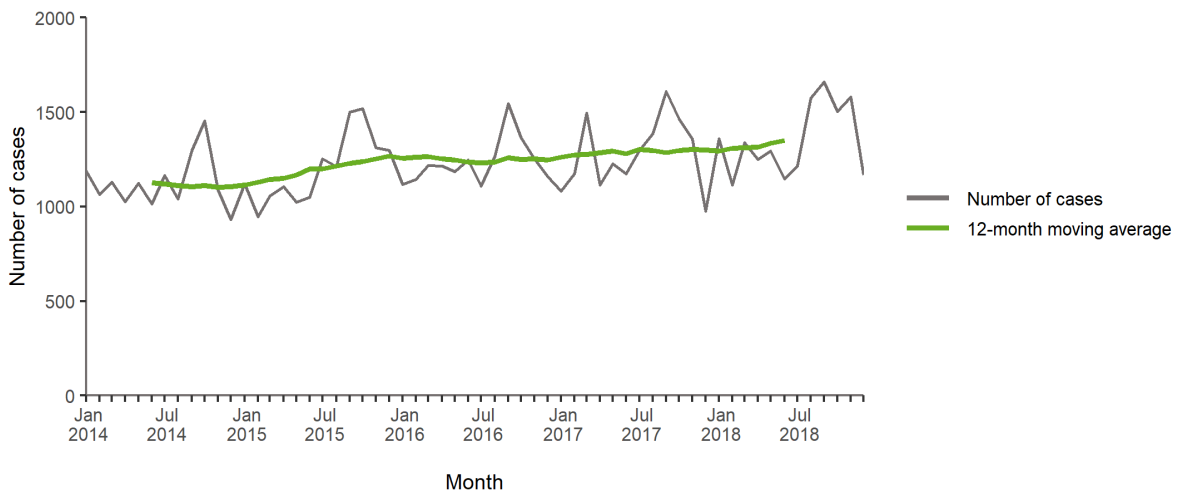
Source: Country reports
 ASR: age-standardised rate
 NDR: no data reported
 NRC: no rate calculated

Figure 1. Confirmed giardiasis cases per 100 000 population by country, EU/EEA, 2018



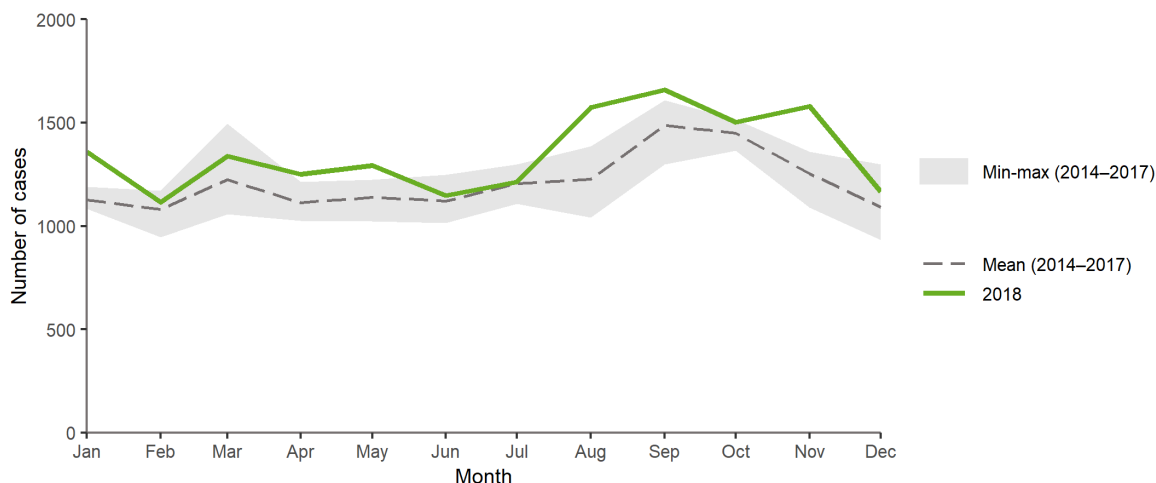
Source: Country reports from Belgium, Bulgaria, Croatia, Cyprus, Czechia, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, Norway, Poland, Portugal, Slovakia, Slovenia, Sweden and the United Kingdom

Figure 2. Confirmed giardiasis cases by month, EU/EEA, 2014–2018



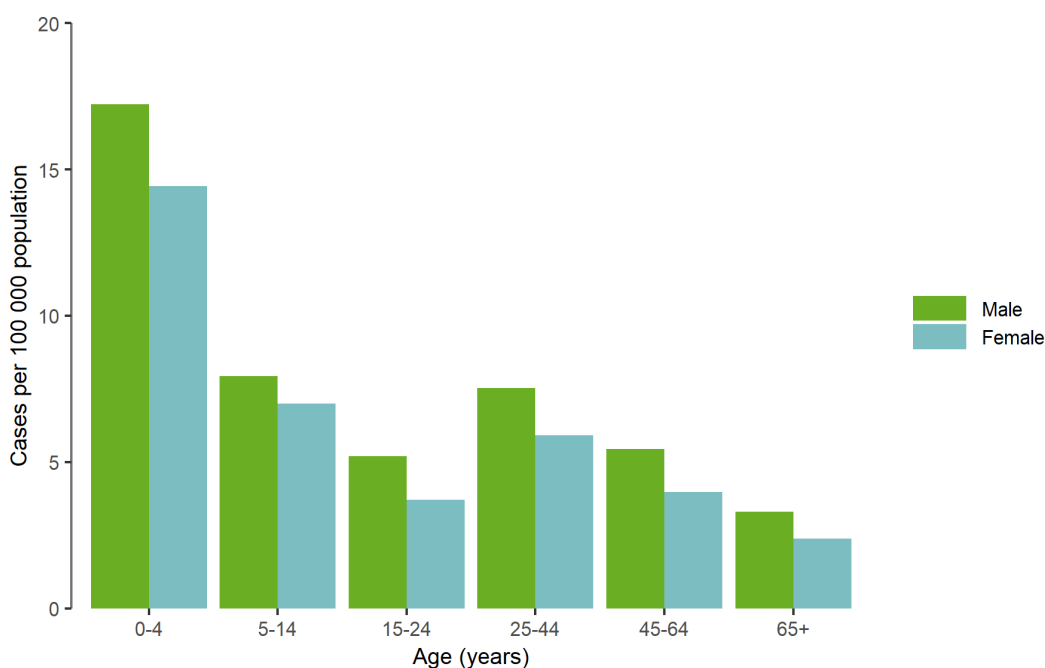
Source: Country reports from Cyprus, Czechia, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Malta, Norway, Poland, Slovakia, Slovenia, Spain, Sweden and the United Kingdom

Figure 3. Confirmed giardiasis cases by month, EU/EEA, 2018 and 2014–2017



Source: Country reports from Cyprus, Czechia, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Malta, Norway, Poland, Slovakia, Slovenia, Spain, Sweden and the United Kingdom

Figure 4. Confirmed giardiasis cases per 100 000 population, by age and gender, EU/EEA, 2018



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 life cycles, 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 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. Advances in the molecular characterisation of giardiasis diagnostics would enable more granular subtyping of isolates with large genetic differences, particularly in outbreak situations. Considering the likely degree of under-reporting and under-ascertainment, giardiasis is a public health concern because of the occurrence of drug resistance and its potential to cause outbreaks and spread due to climate change.

References

1. Halliez MC, Buret AG. Extra-intestinal and long term consequences of *Giardia duodenalis* infections. World Journal of Gastroenterology. 2013 Dec 21;19(47):8974-85. Available at: <https://www.wjgnet.com/1007-9327/full/v19/i47/8974.htm>
2. Escobedo AA, Almirall P, Alfonso M, Cimerman S, Chacín-Bonilla L. Sexual transmission of giardiasis: a neglected route of spread? Acta tropica. 2014 Apr;132:106-11. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/24434784>
3. European Centre for Disease Prevention and Control (ECDC). Introduction to the Annual Epidemiological Report. In: ECDC. Annual epidemiological report. Stockholm: ECDC; 2020. Available at: <https://www.ecdc.europa.eu/en/surveillance-and-disease-data/annual-epidemiological-reports/introduction-annual>
4. European Centre for Disease Prevention and Control (ECDC). Surveillance systems overview. Stockholm: ECDC; 2019. Available at: <https://www.ecdc.europa.eu/sites/default/files/documents/surveillance-systems-overview-2018.xlsx>
5. European Centre for Disease Prevention and Control (ECDC). Surveillance atlas of infectious diseases. Stockholm: ECDC. Available at: <https://atlas.ecdc.europa.eu/public/index.aspx?Dataset=27&HealthTopic=20>