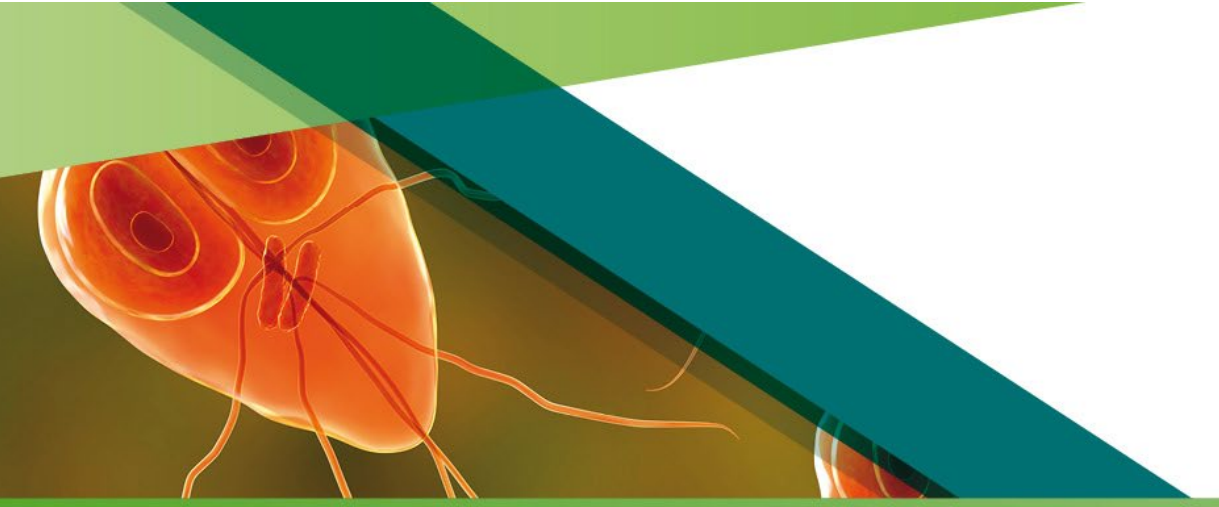


SURVEILLANCE

# Giardiasis

## Annual Epidemiological Report for 2021

## Key facts

- In 2021, 7 253 confirmed giardiasis cases were reported in the EU/EEA.
- The EU/EEA notification rate was 2.6 cases per 100 000 population. The highest notification rates were reported in Belgium, Bulgaria and Luxembourg.
- The highest notification rate per 100 000 population was observed in the age group 0–4 years.
- The EU/EEA notification rate in 2021 was consistent with 2020. However, there was a sharp decrease in 2020 (2.5 cases per 100 000 population) 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 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 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].

Suggested citation: European Centre for Disease Prevention and Control. Giardiasis. In: ECDC. Annual epidemiological report for 2021. Stockholm: ECDC; 2024.

Stockholm, December 2024

# Epidemiology

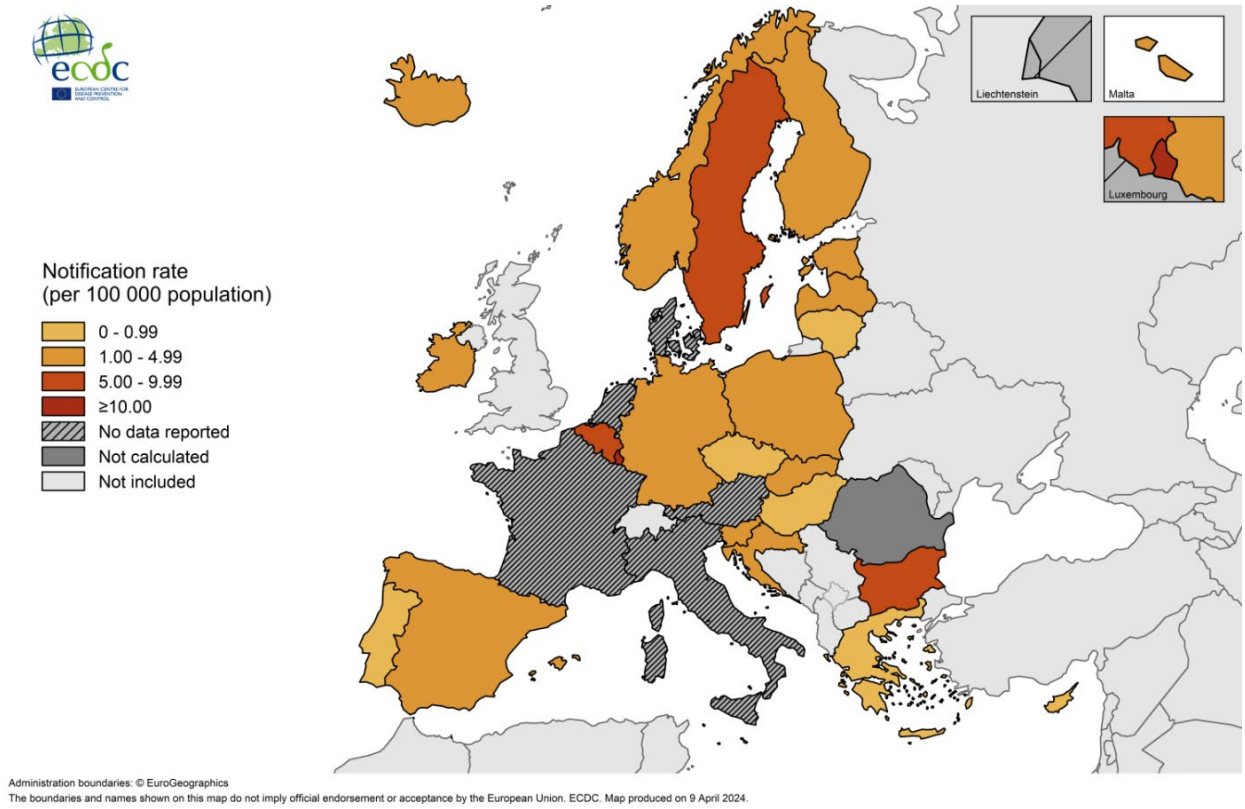
For the purposes of this report, only tables and figures are presented. Please refer to the giardiasis Annual Epidemiological Report for 2022 or more recently published annual epidemiological reports for this disease for the most up-to-date information relating to giardiasis.

**Table 1. Confirmed giardiasis cases and rates per 100 000 population by country and year, EU/EEA, 2017–2021**

| Country | 2017 | | 2018 | | 2019 | | 2020 | | 2021 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate |
| Austria | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC |
| Belgium | 1 996 | 17.6 | 2 376 | 20.8 | 2 062 | 18.0 | 1 384 | 12.0 | 1 042 | 9.0 |
| Bulgaria | 788 | 11.1 | 1 058 | 15.0 | 1 141 | 16.3 | 500 | 7.2 | 591 | 8.5 |
| Croatia | 51 | 1.2 | 50 | 1.2 | 62 | 1.5 | 34 | 0.8 | 40 | 1.0 |
| Cyprus | 5 | 0.6 | 3 | 0.3 | 2 | 0.2 | 0 | 0.0 | 2 | 0.2 |
| Czechia | 28 | 0.3 | 34 | 0.3 | 50 | 0.5 | 21 | 0.2 | 14 | 0.1 |
| Denmark | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC |
| Estonia | 161 | 12.2 | 107 | 8.1 | 121 | 9.1 | 86 | 6.5 | 44 | 3.3 |
| Finland | 278 | 5.1 | 291 | 5.3 | 296 | 5.4 | 211 | 3.8 | 133 | 2.4 |
| France | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC |
| Germany | 3 337 | 4.0 | 3 407 | 4.1 | 3 290 | 4.0 | 1 665 | 2.0 | 1 308 | 1.6 |
| Greece | 71 | 0.7 | 61 | 0.6 | 51 | 0.5 | 29 | 0.3 | 42 | 0.4 |
| Hungary | 73 | 0.7 | 59 | 0.6 | 56 | 0.6 | 61 | 0.6 | 53 | 0.5 |
| Iceland | 26 | 7.7 | 25 | 7.2 | 16 | 4.5 | 8 | 2.2 | 15 | 4.1 |
| Ireland | 239 | 5.0 | 271 | 5.6 | 253 | 5.2 | 160 | 3.2 | 160 | 3.2 |
| Italy | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC |
| Latvia | 49 | 2.5 | 92 | 4.8 | 64 | 3.3 | 39 | 2.0 | 36 | 1.9 |
| Liechtenstein | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC |
| Lithuania | 9 | 0.3 | 18 | 0.6 | 18 | 0.6 | 11 | 0.4 | 6 | 0.2 |
| Luxembourg | 6 | 1.0 | 0 | 0.0 | 3 | 0.5 | 93 | 14.9 | 81 | 12.8 |
| Malta | 4 | 0.9 | 6 | 1.3 | 2 | 0.4 | 10 | 1.9 | 5 | 1.0 |
| Netherlands | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC | NDR | NRC |
| Norway | 485 | 9.2 | 465 | 8.8 | 578 | 10.8 | 299 | 5.6 | 265 | 4.9 |
| Poland | 1 229 | 3.2 | 928 | 2.4 | 781 | 2.1 | 357 | 0.9 | 557 | 1.5 |
| Portugal | 45 | 0.4 | 34 | 0.3 | 43 | 0.4 | 31 | 0.3 | 48 | 0.5 |
| Romania | 1 060 | NRC | 1 270 | NRC | 1 089 | NRC | 8 | NRC | 339 | NRC |
| Slovakia | 190 | 3.5 | 156 | 2.9 | 146 | 2.7 | 102 | 1.9 | 100 | 1.8 |
| Slovenia | 64 | 3.1 | 47 | 2.3 | 39 | 1.9 | 18 | 0.9 | 33 | 1.6 |
| Spain | 2 952 | NRC | 3 536 | NRC | 1 633 | NRC | 762 | NRC | 1 679 | 3.9 |
| Sweden | 1 000 | 10.0 | 1 252 | 12.4 | 1 102 | 10.8 | 670 | 6.5 | 660 | 6.4 |
| United Kingdom | 5 225 | 7.9 | 5 510 | 8.3 | 5 105 | 7.7 | NA | NA | NA | NA |
| **EU/EEA (31 countries)** | **19 371** | **5.3** | **21 056** | **5.6** | **18 003** | **5.2** | **6 559** | **2.5** | **7 253** | **2.6** |

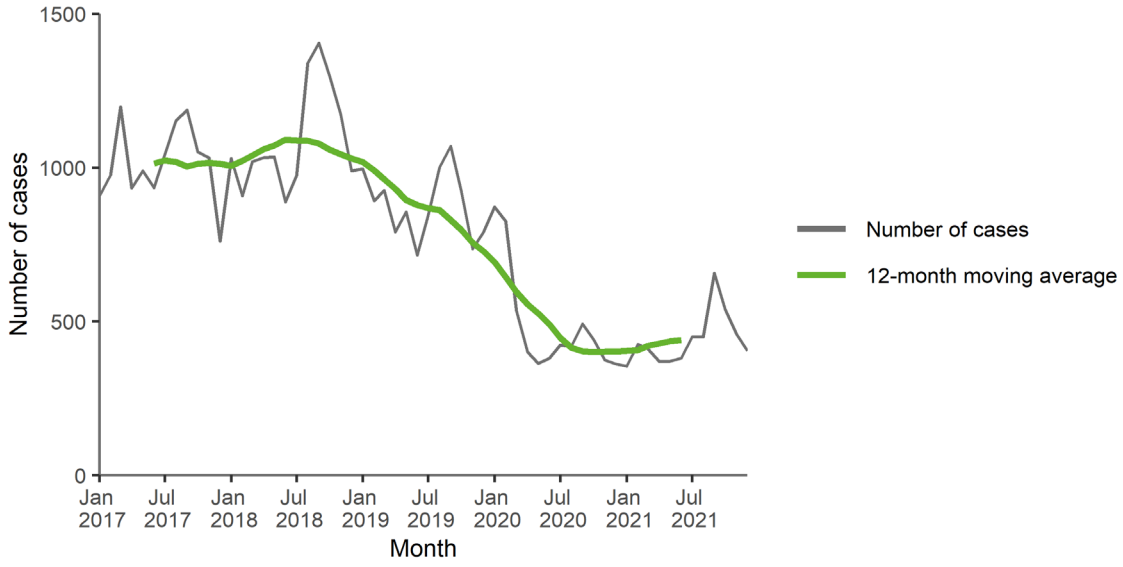
*Source: Country reports.*
*NA: not applicable; NDR: no data reported; NRC: no rate calculated.*

**Figure 1. Confirmed giardiasis cases per 100 000 population by country, EU/EEA, 2021**



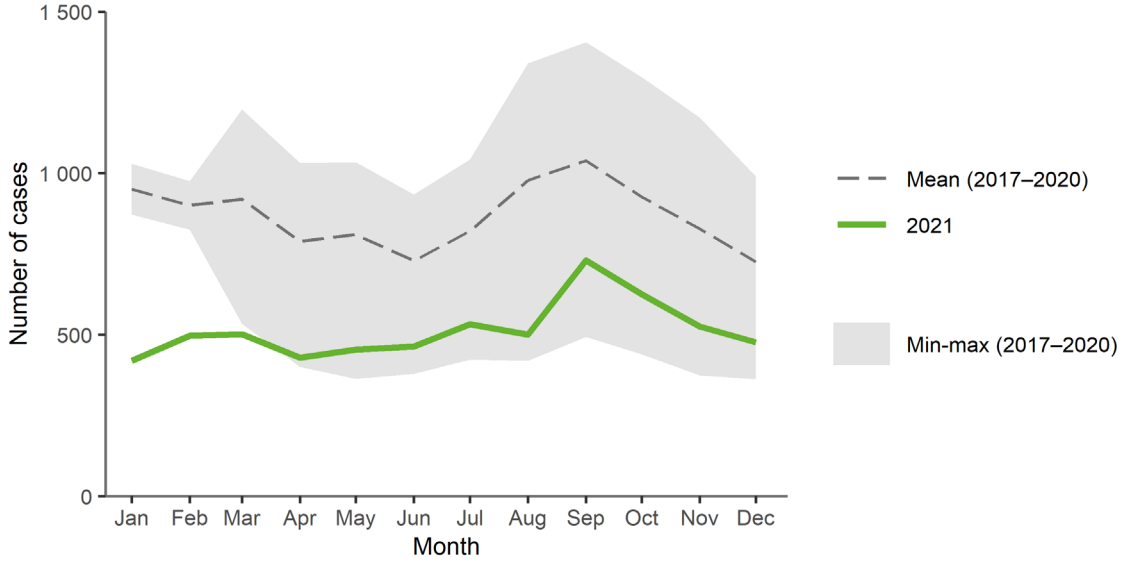

*Source: Country reports*

**Figure 2. Number of confirmed giardiasis cases by month, EU/EEA, 2017–2021**



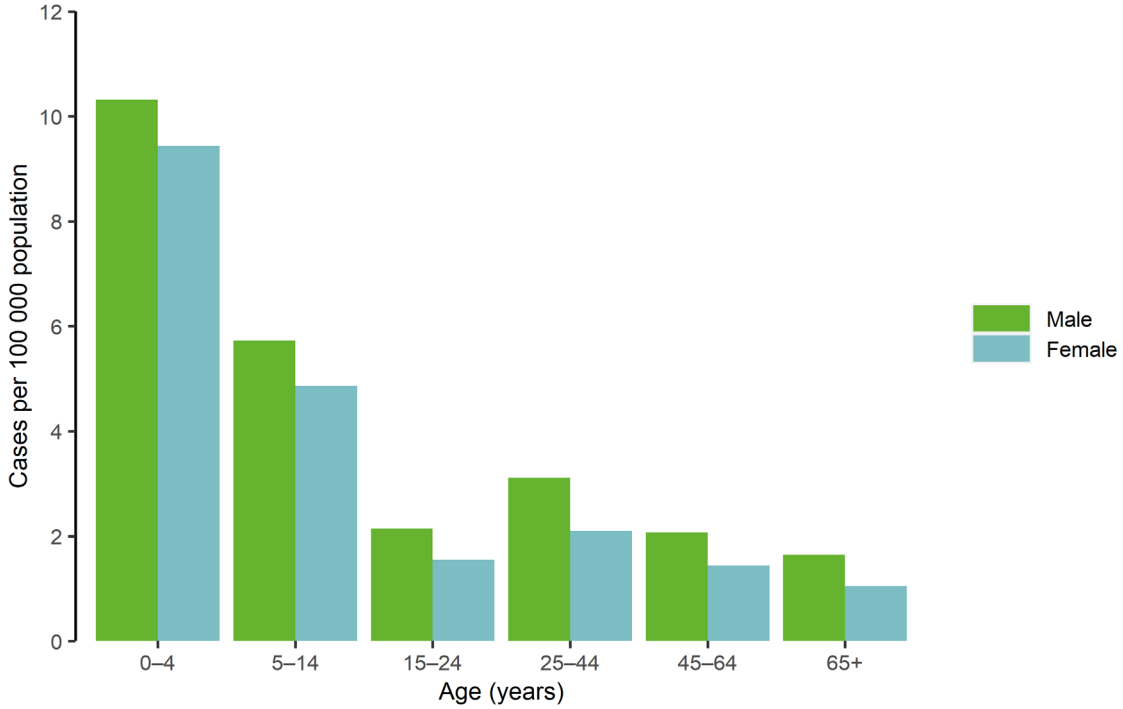

*Source: Country reports from Belgium, Cyprus, Czechia, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Malta, Norway, Poland, Portugal, Slovakia, Slovenia, Spain and Sweden.*

**Figure 3. Number of confirmed giardiasis cases by month, EU/EEA, 2021 and 2017–2020**




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

**Figure 4. Number of confirmed giardiasis cases per 100 000 population, by age and gender, EU/EEA, 2021**




*Source: Country reports from Belgium, Bulgaria, Croatia, Cyprus, Czechia, Estonia, Finland, Germany, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain 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 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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