

Leptospirosis

Annual Epidemiological Report for 2017

Key facts

- For 2017, 25 EU/EEA countries reported 931 confirmed cases of leptospirosis.
- The notification rate was 0.20 confirmed cases per 100 000 population in the EU/EEA.
- There was no obvious long-term trend as the notification rate fluctuated between 0.10 and 0.21 cases per 100 000 population, in the period from 2013–2017.
- Human leptospirosis was more common in adults, and notification rates were higher for males than females in all age groups.
- Leptospirosis cases show a strong seasonality, with higher rates in summer and autumn.

Introduction

Leptospirosis is a widespread zoonotic disease caused by spirochetes bacteria of the genus *Leptospira*, which live in the kidneys of their natural hosts, such as rodents. Humans are infected by contact with the carrier's urine or urine-contaminated environment [1]. Clinical presentation ranges from mild flu-like illness to severe disease with possible fatal outcome.

Methods

This report is based on data for 2017 retrieved from The European Surveillance System (TESSy) on 11 December 2018. 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, please refer to the 'Methods' chapter in the 'Introduction to the Annual Epidemiological Report' [2].

An overview of the national surveillance systems is available online [3].

A subset of the data used for this report is available through ECDC's online *Surveillance Atlas of Infectious Diseases* [4].

Epidemiology

For the purpose of this report, only tables and figures have been presented. Please refer to the more recent annual epidemiological reports (such as 2020 and 2019) for the most up-to-date information regarding leptospirosis.

Table 1. Distribution of confirmed leptospirosis cases by country and year, EU/EEA, 2013–2017

Country	2013		2014		2015		2016		2017			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Confirmed cases	Rate	ASR	Reported cases
Austria	15	0.18	9	0.11	12	0.14	14	0.16	68	0.78	0.80	68
Belgium	14	NR	21	NR	16	0.14	19	0.17	17	0.15	NR	21
Bulgaria	3	0.04	31	0.43	14	0.19	9	0.13	5	0.07	0.06	7
Croatia	0	0.00	105	2.47	36	0.85	11	0.26	24	0.58	0.55	30
Cyprus	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Czechia	6	0.06	35	0.33	17	0.16	18	0.17	21	0.20	0.19	21
Denmark	3	0.05	7	0.12	8	0.14	15	0.26	22	0.38	0.40	22
Estonia	2	0.15	2	0.15	2	0.15	3	0.23	5	0.38	0.35	5
Finland	1	0.02	2	0.04	2	0.04	1	0.02	0	0.00	0.00	0
France	36	0.05	96	0.15	58	0.09	79	0.12	134	0.20	NR	577
Germany	80	0.10	123	0.15	87	0.11	91	0.11	128	0.16	0.16	128
Greece	24	0.22	36	0.33	35	0.32	19	0.18	24	0.22	0.21	24
Hungary	7	0.07	31	0.31	10	0.10	15	0.15	14	0.14	0.14	14
Iceland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Ireland	13	0.28	22	0.47	16	0.34	26	0.55	19	0.40	0.41	20
Italy	33	0.06	42	0.07	38	0.06	54	0.09	32	0.05	0.05	32
Latvia	1	0.05	7	0.35	2	0.10	5	0.25	8	0.41	0.38	8
Liechtenstein	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithuania	10	0.34	3	0.10	10	0.34	18	0.62	16	0.56	0.52	16
Luxembourg	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Malta	3	0.71	0	0.00	2	0.45	1	0.22	2	0.43	0.43	2
Netherlands	26	0.15	100	0.59	86	0.51	95	0.56	77	0.45	0.48	77
Norway	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Poland	0	0.00	10	0.03	4	0.01	4	0.01	2	0.01	0.01	2
Portugal	37	0.35	65	0.62	44	0.42	101	0.98	117	1.13	1.11	118
Romania	65	0.32	92	0.46	37	0.19	65	0.33	44	0.22	0.22	49
Slovakia	5	0.09	12	0.22	7	0.13	10	0.18	7	0.13	0.13	7
Slovenia	0	0.00	31	1.50	11	0.53	17	0.82	24	1.16	1.14	24
Spain	0	NR	0	NR	3	NR	16	NR	19	NR	NR	23
Sweden	5	0.05	6	0.06	3	0.03	1	0.01	4	0.04	0.04	4
United Kingdom	50	0.08	78	0.12	67	0.10	76	0.12	98	0.15	0.15	98
EU/EEA	439	0.09	966	0.21	627	0.13	783	0.17	931	0.20	0.18	1397

Source: Country reports
 ASR: age-standardised rate
 ND: no data reported
 NR: no rate calculated

Figure 1. Distribution of confirmed leptospirosis cases per 100 000 population by country, EU/EEA, 2017

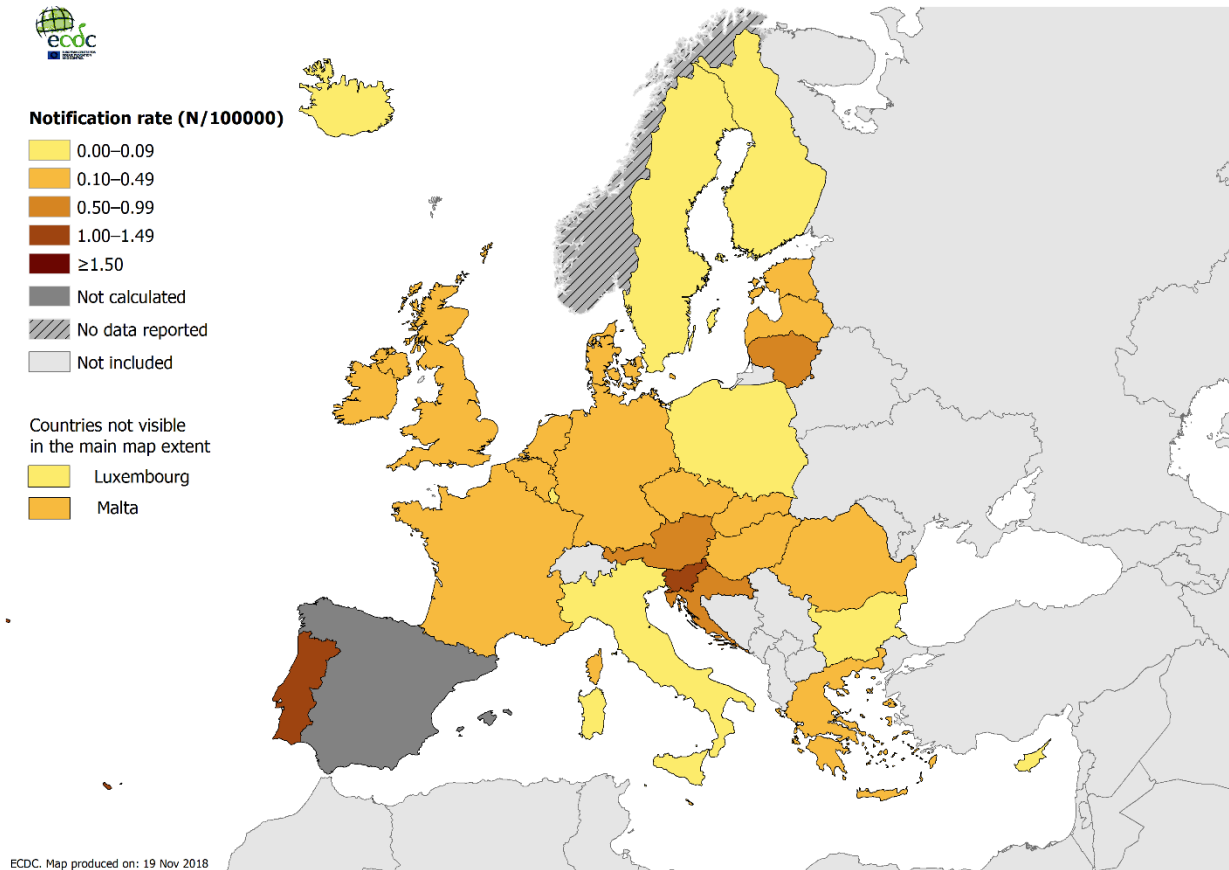
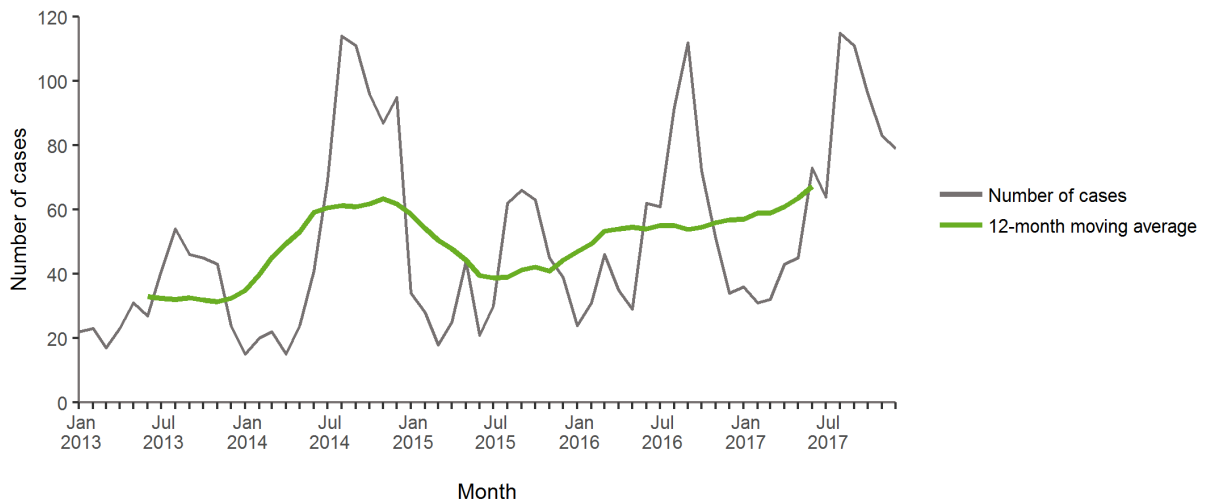
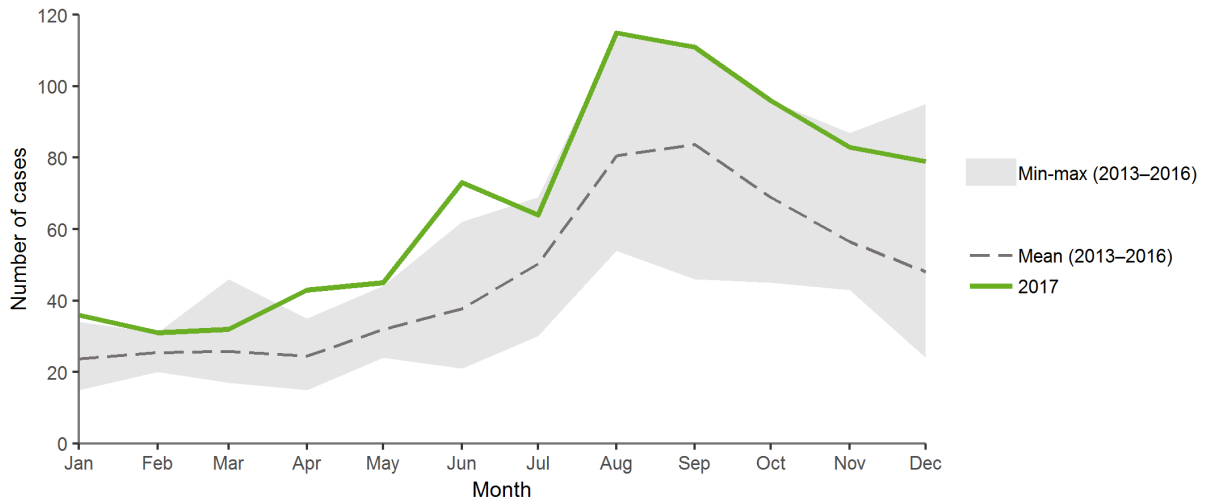


Figure 2. Distribution of confirmed leptospirosis cases by month, EU/EEA, 2013–2017



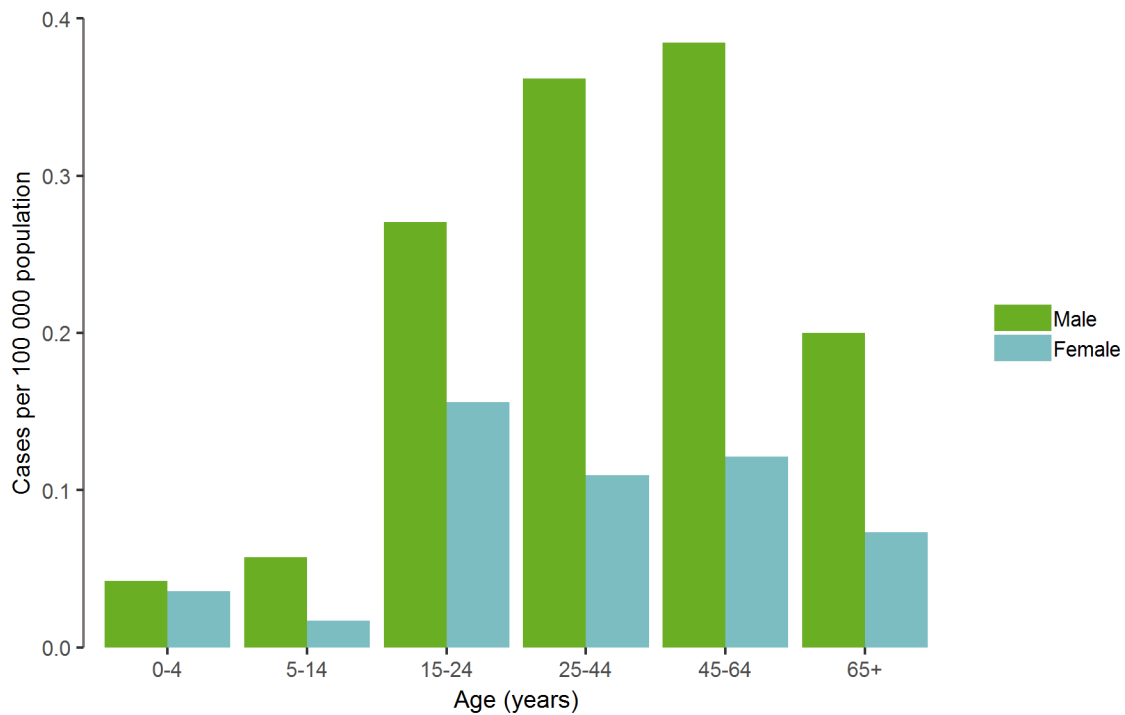
Source: Country reports from Austria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

Figure 3. Distribution of confirmed leptospirosis cases by month, EU/EEA, 2013–2016 and 2017



Source: Country reports from Austria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

Figure 4. Distribution of confirmed leptospirosis cases per 100 000 population, by age and gender, EU/EEA, 2017



Public health implications

Prevention of leptospirosis needs to take into account its complex and dynamic epidemiology, including environmental aspects (e.g. climate), presence of carriers (e.g. rodents), and human behaviours [1].

Prevention of leptospirosis in human starts by reducing the risk of exposure by avoiding contact with water contaminated with animal urine either by not wading or swimming in contaminated water, or wearing protective clothes for those with an occupational risk of exposure to contaminated water.

Treatment and/or vaccination of animal carriers (e.g. dogs) and control of rodents can also help reduce the risk of leptospirosis in humans [1].

Early diagnosis and adequate treatment of cases have been shown to decrease both morbidity and mortality of leptospirosis [1].

References

1. Hartskeerl RA, Collares-Pereira M, Ellis WA. Emergence, control and re-emerging leptospirosis: dynamics of infection in the changing world. Clin Microbiol Infect. 2011 Apr;17(4):494-501. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/21414083>
2. European Centre for Disease Prevention and Control. Introduction to the Annual Epidemiological Report. 2020. Stockholm: ECDC. Available at: <https://www.ecdc.europa.eu/en/surveillance-and-disease-data/annual-epidemiological-reports/introduction-annual>
3. European Centre for Disease Prevention and Control. Surveillance systems overview for 2017. Stockholm: ECDC. Available at: <https://www.ecdc.europa.eu/en/publications-data/surveillance-systems-overview-2017>
4. European Centre for Disease Prevention and Control. Surveillance Atlas of Infectious Diseases. Stockholm: ECDC; 2017. Available at: <http://atlas.ecdc.europa.eu/public/index.aspx?Dataset=27&HealthTopic=31>