

SURVEILLANCE REPORT

Annual Epidemiological Report for 2015

Tularaemia

Key facts

- In 2015, 1 327 cases were reported, 1 121 (84.5%) of which were confirmed.
- The EU/EEA notification rate in 2015 was 0.25 cases per 100 000 population.
- The number of confirmed cases has more than doubled compared with 2014.
- The highest rates were reported among middle-aged and older men.
- Sweden accounted for 66.8% of the reported cases in EU/EEA countries in 2015.

Methods

This report is based on data for 2015 retrieved from The European Surveillance System (TESSy) on 30 June 2017. 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].

In 2015, 27 EU/EEA countries provided information on tularaemia in humans.

All reporting countries have a comprehensive surveillance system, with the exception of the Netherlands, which did not provide specific information on the nature of its surveillance system.

Twenty-two countries used the EU case definition. Germany and Belgium used an alternative case definition. Finland, France and the Netherlands did not specify their case definitions or it was 'unknown'.

Reporting is compulsory in 24 countries, voluntary in two countries (Belgium and the United Kingdom) and 'not specified' in the Netherlands. Disease surveillance is mostly passive except in the Czech Republic, Portugal and Slovakia ('not specified' for the Netherlands) [2]. Disease surveillance for chikungunya is mostly passive except in the Czech Republic, Portugal, Slovakia and the United Kingdom, where active systems are in place. The type of system is not specified in Greece, Latvia and Sweden [2]. All countries report case-based data except Belgium.

Suggested citation: European Centre for Disease Prevention and Control. Tularaemia. In: ECDC. Annual epidemiological report for 2015. Stockholm: ECDC; 2018.

Stockholm, January 2018

© European Centre for Disease Prevention and Control, 2018. Reproduction is authorised, provided the source is acknowledged.

Epidemiology

In 2015, 1 327 cases were reported in the EU/EEA, 1 121 (84.5%) of which were confirmed. Ten countries (Cyprus, Estonia, Greece, Iceland, Ireland, Latvia, Luxembourg, Portugal, Romania and Slovenia) reported zero cases. The overall notification rate was 0.25 cases per 100 000 population, more than twice the rate reported in 2014 (0.11 cases per 100 000 population). As in the previous four years, the notification rate was highest in Sweden (7.4 per 100 000), significantly exceeding the rate of 2014 (1.6 per 100 000) but closer to the rate of 2012 (6.1 per 100 000). The highest increase in notification rates between 2014 and 2015 was seen in Finland (1.9 per 100 000) and Norway (0.8 per 100 000) (Table 1).

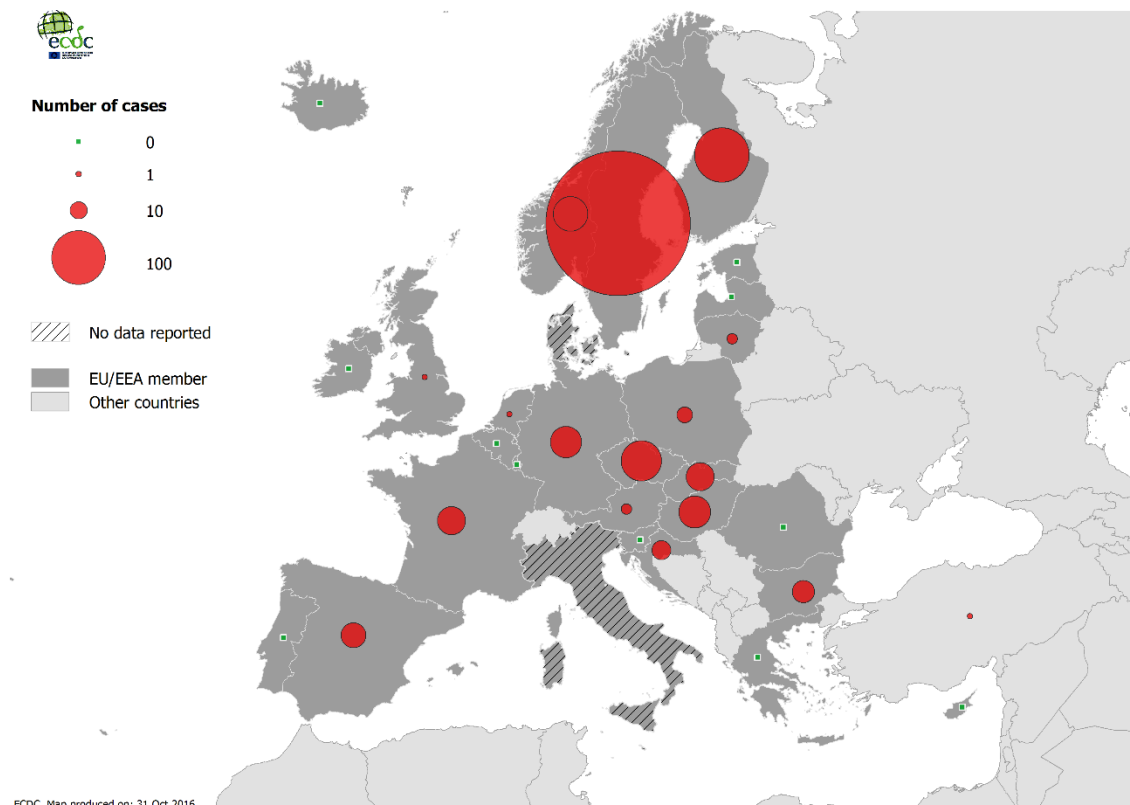
Most of the cases in 2015 were reported by Sweden (n=859) and Finland (n=104), followed by the Czech Republic (n=56) (Figure 1).

Table 1. Distribution of confirmed cases of tularaemia, EU/EEA, 2011–2015

Country	2011		2012		2013		2014		National coverage	Reported cases	2015		
	Confirmed cases		Confirmed cases		Confirmed cases		Confirmed cases				Confirmed cases		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate			Number	Rate	ASR
Austria	0	0.0	2	0.0	2	0.0	0	0.0	Y	4	4	0.0	0.0
Belgium	0	0.0	0	0.0	1	0.0	0	0.0	Y	1	0	0.0	0.0
Bulgaria	0	0.0	0	0.0	1	0.0	1	0.0	Y	22	17	0.2	0.2
Croatia	.	.	1	0.0	2	0.0	2	0.0	Y	13	13	0.3	0.3
Cyprus	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Czech Republic	57	0.5	42	0.4	36	0.3	48	0.5	Y	56	56	0.5	0.5
Denmark	.	.	.	.	.	.	.	.	.	.	.	.	.
Estonia	2	0.2	0	0.0	1	0.1	1	0.1	Y	0	0	0.0	0.0
Finland	75	1.4	233	4.3	15	0.3	9	0.2	Y	104	104	1.9	1.9
France	16	0.0	5	0.0	21	0.0	19	0.0	Y	87	28	0.0	0.0
Germany	17	0.0	21	0.0	20	0.0	21	0.0	Y	34	34	0.0	0.0
Greece	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Hungary	15	0.2	18	0.2	48	0.5	140	1.4	Y	36	35	0.4	0.3
Ireland	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Italy	1	0.0	4	0.0	1	0.0	0	0.0	.	.	.	.	.
Latvia	0	0.0	6	0.3	0	0.0	0	0.0	Y	0	0	0.0	0.0
Lithuania	0	0.0	3	0.1	4	0.1	4	0.1	Y	4	4	0.1	0.1
Luxembourg	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Malta	0	0.0	0	0.0	0	0.0	0	0.0	.	.	.	.	.
Netherlands	1	0.0	.	.	0	0.0	5	0.0	Y	1	1	0.0	0.0
Poland	6	0.0	6	0.0	8	0.0	11	0.0	Y	9	9	0.0	0.0
Portugal	.	.	.	.	.	.	.	.	Y	0	0	0.0	0.0
Romania	0	0.0	0	0.0	1	0.0	0	0.0	Y	1	1	0.0	0.0
Slovakia	5	0.1	8	0.1	9	0.2	6	0.1	Y	28	28	0.5	0.5
Slovenia	0	0.0	4	0.2	2	0.1	1	0.0	Y	0	0	0.0	0.0
Spain	1	0.0	1	0.0	0	0.0	62	0.1	Y	25	22	0.0	0.0
Sweden	350	3.7	590	6.2	108	1.1	150	1.6	Y	859	722	7.4	7.5
United Kingdom	0	0.0	0	0.0	0	0.0	0	0.0	Y	1	1	0.0	0.0
EU	546	0.1	944	0.2	280	0.1	480	0.1	.	1285	1079	0.2	0.2
Iceland	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.	.	.
Norway	180	3.7	50	1.0	28	0.6	46	0.9	Y	42	42	0.8	0.8
EU/EEA	726	0.1	994	0.2	308	0.1	526	0.1	.	1327	1121	0.3	0.3

Source: Country reports. Legend: Y = yes, N = no, C = case based, - = no report, ASR = age-standardised rate

Figure 1. Number of confirmed tularaemia cases, EU/EEA, 2015



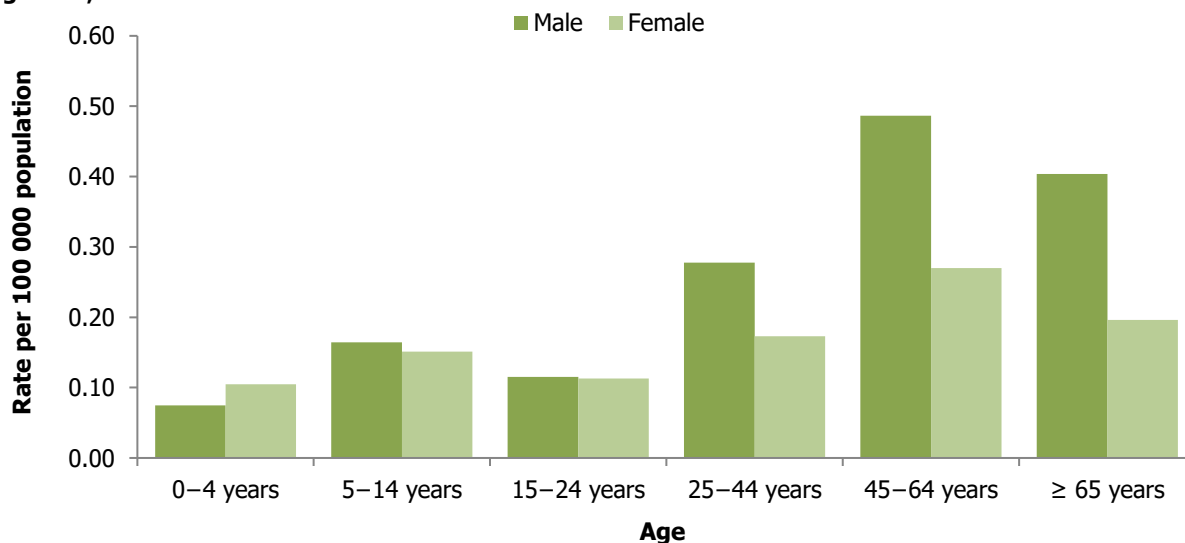
ECDC. Map produced on: 31 Oct 2016

Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

Age and gender distribution

As in previous years, the proportion of male cases was higher, with a male-to-female ratio of 1.6:1. The highest rates in males were observed in the age group 45–64 years (0.5 cases per 100 000 population). The rates among females were also highest among 45–64-year-olds (0.3 cases per 100 000 population).

Figure 2. Distribution of notification rate of confirmed tularaemia cases in EU/EEA by age and gender, 2015

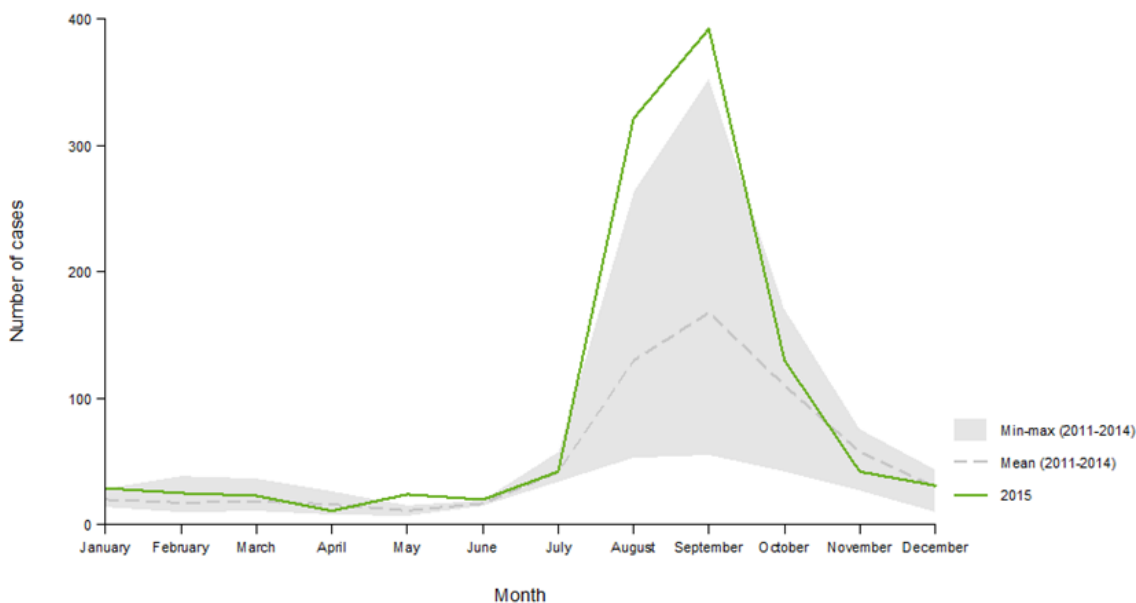


Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

Seasonality

Tularaemia shows a seasonal pattern, with most cases occurring between August and October, but some cases also occur in the winter. The 2015 peak of infections was recorded in September, which was consistent with previous years, although above the mean observed during the 2011–2014 period (Figure 3).

Figure 3. Seasonal distribution of confirmed tularaemia cases, EU/EEA, 2015 compared with 2011–2014



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

Discussion

Tularaemia is widely distributed throughout most of Europe and has repeatedly shown signs of local emergence and re-emergence in humans and wildlife. The disease shows clear seasonality in humans [4].

Notification rates of tularaemia vary considerably among Member States. In previous years, most cases were diagnosed in Sweden and Finland, followed by Norway, Hungary and the Czech Republic.

In 2015, Sweden experienced an outbreak of tularaemia. When using data from 1984–2012, high-risk regions in Sweden could be identified, with annual incidences ranging from 3.8 to 4.4/100 000. Most of the cases were reported in summer (July–September) [5].

France reported a high number of cases compared with 2014 but only 32% of the cases were confirmed (n=28).

Public health implications

Tularaemia is a zoonosis not transmissible from human to human [6]. Due to the variety of modes of transmission, several population groups are at potential risk of infection. Physicians should be aware of any clinical presentation of tularaemia in patients returning from endemic areas and should consider tularaemia as a possible diagnosis in case of culture-negative endocarditis.

Data on tularaemia surveillance in animals in European are available from a joint ECDC/EFSA report [7].

References

1. European Centre for Disease Prevention and Control. Introduction to the Annual epidemiological report for 2015. In: ECDC. Annual epidemiological report for 2015. Stockholm: ECDC; 2017. Available from: <https://ecdc.europa.eu/en/annual-epidemiological-reports-2016/methods>.
2. European Centre for Disease Prevention and Control. Surveillance systems overview [internet]. Stockholm: ECDC; 2017. Available from: https://ecdc.europa.eu/sites/portal/files/documents/Table-surveillance_systems_overview_0.xlsx
3. European Centre for Disease Prevention and Control. Surveillance atlas of infectious diseases [internet]. Stockholm: ECDC; 2017 [Cited 30 May 2017]. Available from: <http://atlas.ecdc.europa.eu/public/index.aspx?Dataset=27&HealthTopic=11>
4. Hestvik G, Warns-Petit E, Smith LA, Fox NJ, Uhlhorn H, Artois M, et al. The status of tularemia in Europe in a one-health context: a review. *Epidemiol Infect.* 2015 Jul;143(10):2137-60.
5. Desvars-Larrive A, Liu X, Hjertqvist M, Sjöstedt A, Johansson A, Rydén P. High-risk regions and outbreak modelling of tularemia in humans. *Epidemiol Infect.* 2016 Nov 3:1-9
6. European Centre for Disease Prevention and Control. Tularaemia: factsheet for health professionals [Internet]. Stockholm: ECDC; 2017 [cited 2 Jan 2017]. Available from: http://ecdc.europa.eu/en/healthtopics/Tularaemia/Pages/factsheet_health_professionals.aspx
7. EFSA (European Food Safety Authority) and ECDC (European Centre for Disease Prevention and Control), 2016. The European Union summary report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks in 2015. *EFSA Journal* 2016;14(12):4634, 231 pp. doi:10.2903/j.efsa.2016.4634 Available from: <http://ecdc.europa.eu/en/publications/Publications/EU-summary-report-trends-sources-zoonoses-2015.pdf>