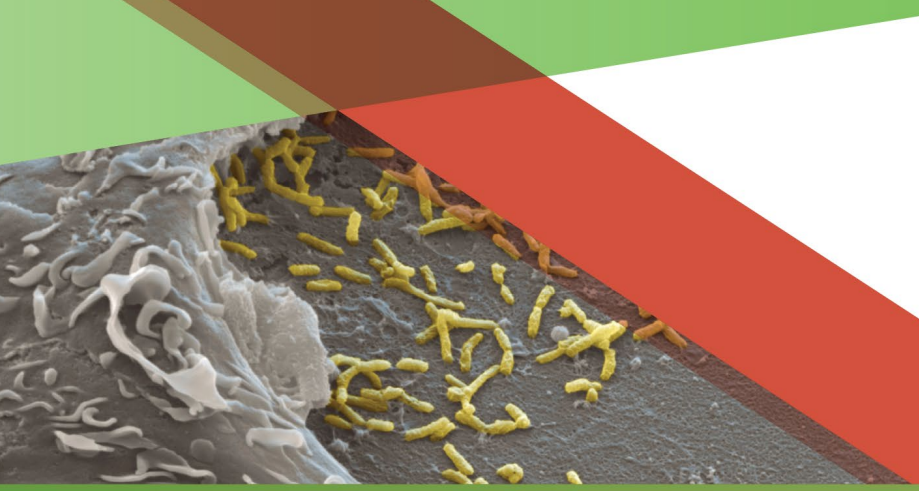


SURVEILLANCE REPORT

Q fever

Annual Epidemiological Report for 2017

Key facts

- For 2017, 1 023 cases of Q fever were reported in the EU/EEA, 932 (91%) of which were confirmed.
- The EU/EEA notification rate for 2017 was 0.2 cases per 100 000 population.
- In 2017, cases occurred all year round, showing the seasonality observed in previous years.
- The rate of reported Q fever cases increased with age up to 64 years and was higher among men than women.

Methods

This report is based on data for 2017 retrieved from The European Surveillance System (TESSy) on 10 December 2018. 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, 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].

For 2017, 29 EU/EEA countries reported Q fever data (Austria and Liechtenstein did not report). All data were case-based except for data from Belgium and Bulgaria. Twenty-two countries used the EU case definition, five countries used an alternative case definition (Denmark, France, Germany, Italy and Romania) and two countries did not specify the case definition they used (Belgium and Finland). Reporting was compulsory in 27 countries and voluntary in France and the UK. Surveillance was comprehensive in all reporting countries and mostly passive.

Epidemiology

For 2017, 29 countries reported 1 023 cases, 932 (91%) of which were classified as confirmed (Table 1). Ten countries reported mo cases compared with nine in 2016 and seven in 2015. As in previous years, the highest numbers of confirmed cases were reported by Spain, France and Germany (Table 1, Figure 1).

The number of notifications per 100 000 inhabitants in the EU/EEA was 0.2 for 2017, the same as the previous three years. The highest notification rate (0.8 cases per 100 000 population) was observed in Spain (Table 1).

Suggested citation: European Centre for Disease Prevention and Control. Q fever. In: ECDC. Annual epidemiological report for 2017. Stockholm: ECDC; 2019.

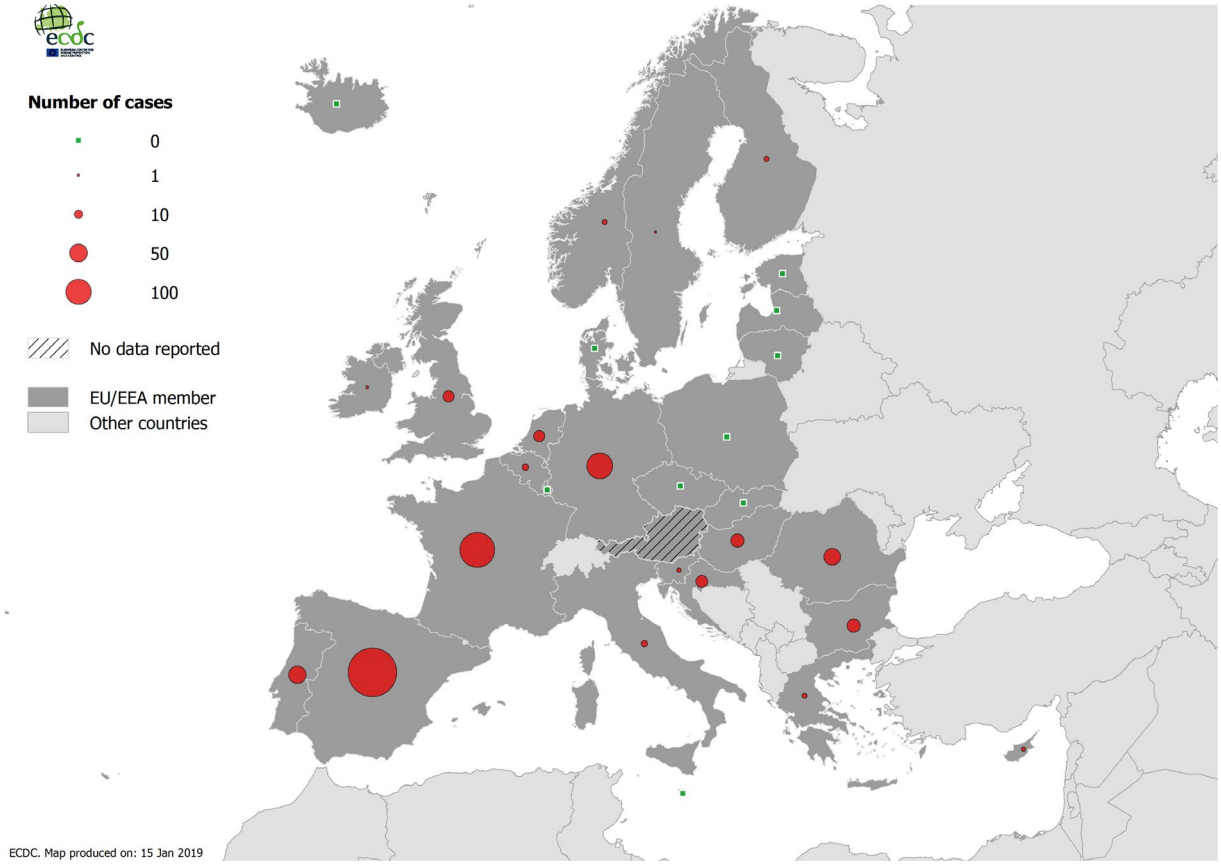
Stockholm, June 2019

Table 1. Distribution of confirmed Q fever cases and rates per 100 000 population 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	Reported cases
Austria	.	.	.	.	.	.	.	.	.	.	.
Belgium	5	0.0	3	0.0	8	0.1	16	0.1	7	0.1	15
Bulgaria	23	0.3	15	0.2	15	0.2	17	0.2	28	0.4	30
Croatia	0	0.0	21	0.5	14	0.3	8	0.2	23	0.6	29
Cyprus	3	0.3	1	0.1	4	0.5	2	0.2	3	0.4	4
Czech Republic	0	0.0	0	0.0	1	0.0	2	0.0	0	0.0	0
Denmark	.	.	.	.	0	0.0	0	0.0	0	0.0	0
Estonia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Finland	5	0.1	0	0.0	3	0.1	2	0.0	4	0.1	4
France	158	0.2	209	0.3	250	0.4	251	0.4	194	0.3	194
Germany	114	0.1	238	0.3	310	0.4	270	0.3	107	0.1	107
Greece	11	0.1	15	0.1	10	0.1	9	0.1	4	0.0	4
Hungary	135	1.4	59	0.6	35	0.4	39	0.4	29	0.3	29
Iceland	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Ireland	0	0.0	0	0.0	4	0.1	6	0.1	2	0.0	2
Italy	.	.	.	.	.	.	3	0.0	7	0.0	7
Latvia	1	0.0	3	0.1	1	0.1	0	0.0	0	0.0	0
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.
Lithuania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Luxembourg	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0
Malta	2	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0
Netherlands	20	0.1	26	0.2	20	0.1	14	0.1	22	0.1	22
Norway	4	0.1	1	0.0	1	0.0	2	0.0	4	0.1	4
Poland	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0
Portugal	21	0.2	25	0.2	20	0.2	17	0.2	48	0.5	49
Romania	24	0.1	21	0.1	3	0.0	32	0.2	46	0.2	48
Slovakia	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0
Slovenia	1	0.0	3	0.1	1	0.0	1	0.0	3	0.1	3
Spain	75	-	77	-	97	-	330	0.7	379	0.8	449
Sweden	3	0.0	2	0.0	4	0.0	3	0.0	1	0.0	2
United Kingdom	46	0.1	60	0.1	21	0.0	34	0.1	21	0.0	21
EU/EEA	**651**	**0.1**	**781**	**0.2**	**823**	**0.2**	**1 058**	**0.2**	**932**	**0.2**	**1 023**

.: no data reported
-: no rate calculated.

Figure 1. Distribution of confirmed Q fever cases by country, EU/EEA, 2017



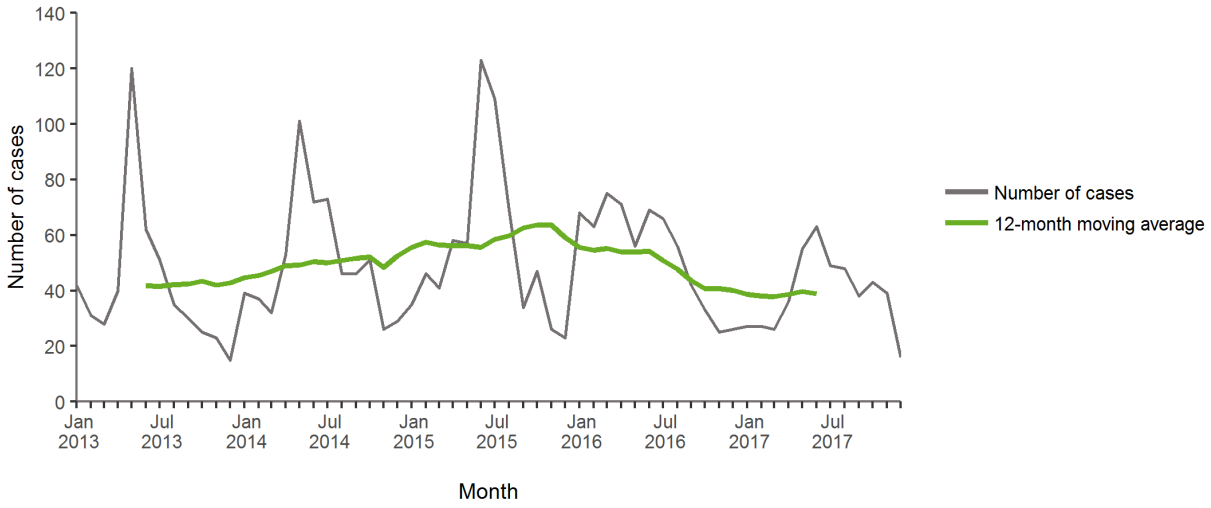
Source: Country reports from Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the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

The majority of Q fever cases in the EU/EEA were domestically acquired. Of the 41 travel-associated cases reported, 24 were acquired in other EU/EEA countries.

Seven deaths due to Q fever were reported in Germany (2), Portugal (2), Spain (2) and Hungary (1), resulting in an EU/EEA case fatality of 1.3% among the 520 confirmed cases with reported outcome.

The number of reported cases increased steadily over the 2013-2016 period, but slightly decreased in 2017 (Table 1). The trend for countries reporting consistently in the past five years increased from 2013 to 2015, but decreased in 2016 and 2017 (Figure 2).

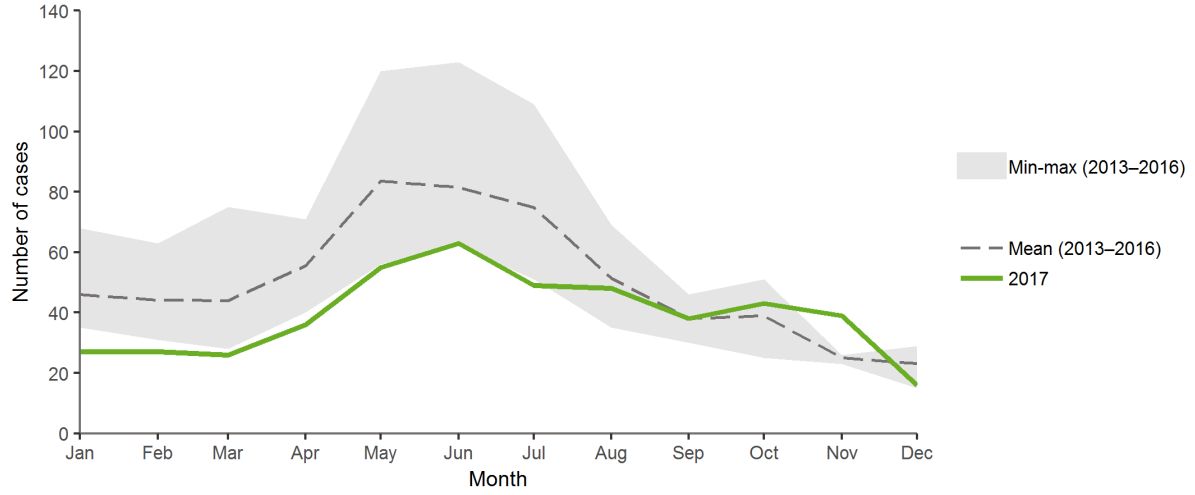
Figure 2. Distribution of confirmed Q fever cases by month, EU/EEA, 2013–2017



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

Cases occurred year-round (Figure 3). The distribution of confirmed cases by month for 2017 followed a similar seasonality as in previous years, although the number of cases by month were generally lower than during the 2013–2016 period. Higher case numbers were reported from May to July, with a peak in June. Spain reported its highest number of cases from February–July, while Germany reported its highest number of cases from May–August and France reported its highest case numbers in June.

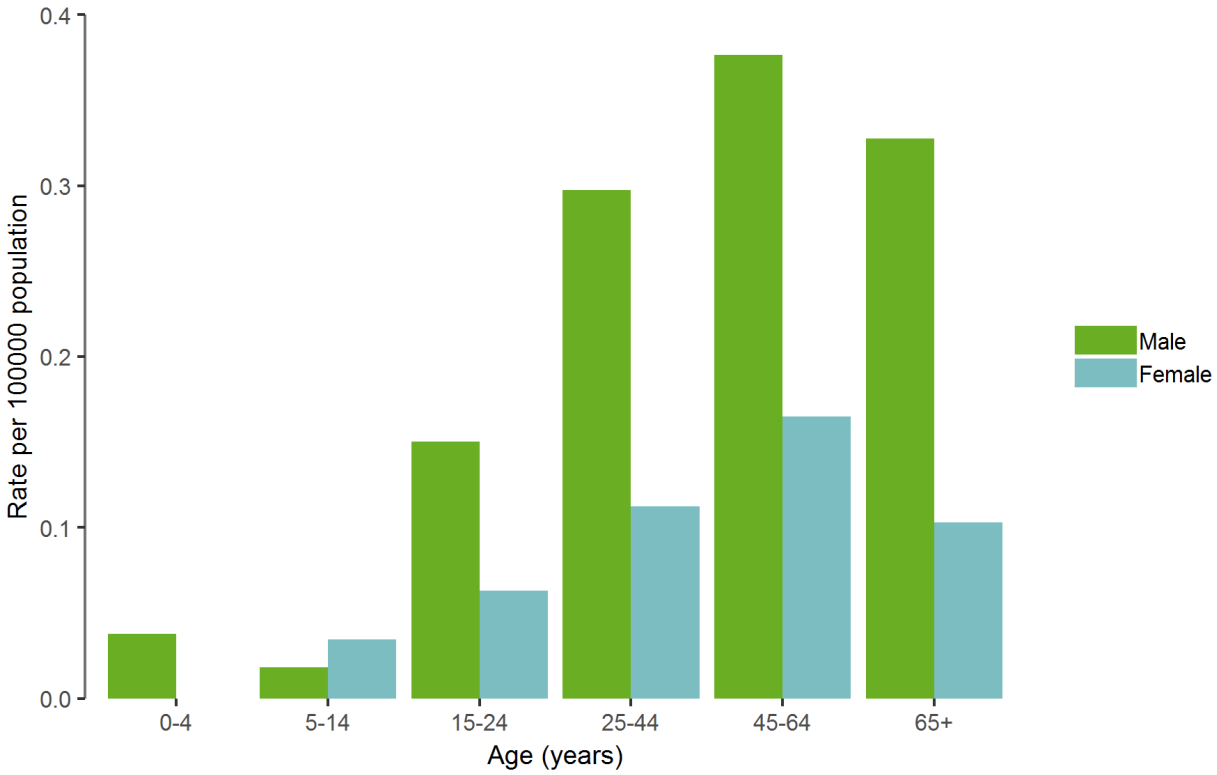
Figure 3. Distribution of confirmed Q fever cases by month, EU/EEA, 2013–2016 and 2017



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

In 2017, teenagers above 14 years of age and adults accounted for 910 of 932 cases (98%) with known age. The rate of confirmed human Q fever cases was higher among men than women in all age groups (0.3 cases vs 0.1 cases per 100 000 population) except for the age group 5–14 years. The male-to-female ratio was 2.3:1. Notification rates in men and women increased with age up to 64 years. The highest notification rate was among men in the age group 45–64 years (0.38 cases per 100 000 population), followed by the age group over 64 years (0.33 per 100 000). Among women, the highest notification rate was observed in the age group 45–64 years (0.16 per 100 000), followed by the 25–44 age group (0.11 per 100 000).

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



Discussion

Following an increasing trend of confirmed Q fever cases observed in the EU/EEA from 2012–2016, case numbers decreased in 2017. While France and Germany have reported the majority of confirmed human cases since 2013, Spain accounted for more than a third of the overall number of cases in 2017. Since 2013, the number of human cases reported by Spain has continuously increased, which is mostly explained by the reporting system changing from voluntary to compulsory.

Although the number of cases was higher in 2016 and 2017 compared with 2013–2015, the EU/EEA rate did not increase. This is due to Italy starting to report Q fever in 2016 with very few cases while impacting the population denominator. Besides the change in reporting systems in certain Member States, there is no obvious explanation for the remaining high number of cases compared with previous years.

Data on Q fever surveillance in animals in the EU/EEA are available in the EFSA/ECDC report on trends and sources of zoonoses, zoonotic agents and foodborne outbreaks [4].

Public health implications

Good hygiene practices in premises dealing with animals, particularly sheep and goats, help to prevent transmission of Q fever. Since the disease can be transmitted to humans through contaminated milk, the pasteurisation of milk and milk products prevents infection. Severe disease has been reported in foetuses and newborn babies; pregnant women and infants should therefore avoid contact with farm animals. Furthermore, transmission has occurred through so called 'fresh cell therapy' [5]. Countries may consider regulating such practices and establishing national systems to monitor xenotransplantation. In rare occasions, transmission can also occur through the bites of infected ticks [6]. Exposure to infected ticks should be avoided or minimised by using tick repellents, wearing protective clothing and early and correct removal of ticks.

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