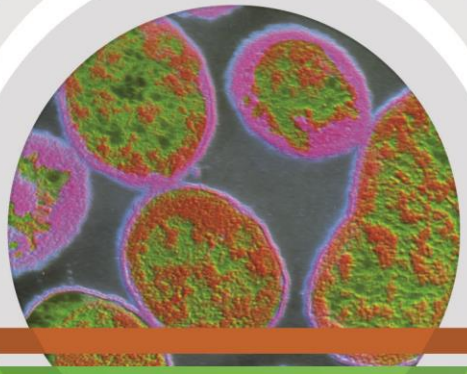


SURVEILLANCE REPORT

Annual Epidemiological Report for 2015

Brucellosis

Key facts

- In 2015, 439 confirmed brucellosis cases were reported in the EU/EEA.
- The notification rate in the EU/EEA was 0.1 cases per 100 000 population.
- The highest rate was detected in 25–64-year-old males (0.14 cases per 100 000 population).
- The notification rate was stable during the period 2011–2015.
- The highest rates were reported in southern Member States (Greece, Bulgaria, and Portugal).

Methods

This report is based on data for 2015 retrieved from The European Surveillance System (TESSy) on 30 September 2016. 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, 29 EU/EEA countries reported brucellosis data, all of them with national coverage. Twelve of the reporting 29 Member States used the 2012 EU case definition, 12 applied the one from 2008, and one used the 2002 case definition; two Member States reported using another case definition, and two did not specify which definition was used. The majority of countries (26 of 29) undertook passive surveillance, and in 15 countries, cases were reported by both laboratory and physicians and/or hospitals. Twenty-seven of the 29 countries reported case-based data.

Epidemiology

In 2015, 439 confirmed cases of brucellosis were reported by 15 EU/EEA countries, an overall rate of 0.1 cases per 100 000 population (Table 1). Fourteen Member States reported zero cases. Greece and Italy reported the highest numbers of confirmed cases (109 and 105 cases, respectively), corresponding to 48.7% of all cases reported in the EU/EEA. Greece had the highest rate, 1.0 cases per 100 000 population (Figure 1).

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

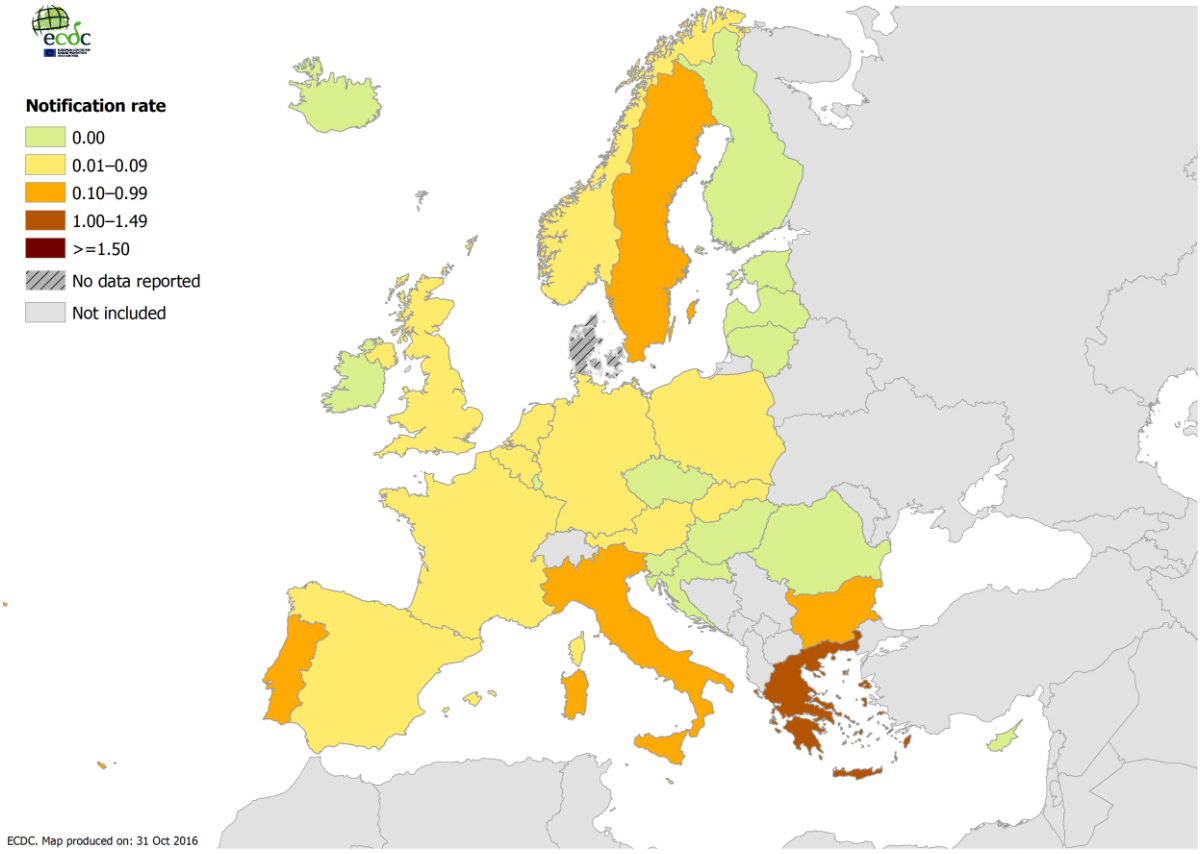
Stockholm, April 2018

Table 1. Distribution of confirmed brucellosis cases per 100 000 population, EU/EEA, 2011–2015

Country	2011		2012		2013		2014		2015				
	Confirmed cases		Confirmed cases		Confirmed cases		Confirmed cases		National coverage	Reported cases	Confirmed cases		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate			Number	Rate	ASR
Austria	5	0.1	2	0.0	7	0.1	1	0.0	Y	1	1	0.0	0.0
Belgium	5	0.0	4	0.0	0	0.0	2	0.0	Y	9	9	0.1	-
Bulgaria	2	0.0	1	0.0	0	0.0	2	0.0	Y	37	36	0.5	0.5
Croatia	.	.	0	0.0	0	0.0	1	0.0	Y	0	0	0.0	0.0
Cyprus	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Czech Republic	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Denmark	.	.	.	.	.	.	.	.	.	.	.	.	.
Estonia	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Finland	0	0.0	1	0.0	0	0.0	1	0.0	Y	0	0	0.0	0.0
France	21	0.0	28	0.0	19	0.0	14	0.0	Y	19	17	0.0	0.0
Germany	24	0.0	28	0.0	26	0.0	45	0.1	Y	44	44	0.1	0.1
Greece	98	0.9	123	1.1	159	1.4	135	1.2	Y	110	109	1.0	1.0
Hungary	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Ireland	1	0.0	2	0.0	1	0.0	3	0.1	Y	0	0	0.0	0.0
Italy	166	0.3	184	0.3	141	0.2	121	0.2	Y	106	105	0.2	0.2
Latvia	0	0.0	0	0.0	1	0.0	0	0.0	Y	0	0	0.0	0.0
Lithuania	0	0.0	0	0.0	2	0.1	0	0.0	Y	0	0	0.0	0.0
Luxembourg	1	0.2	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Malta	0	0.0	0	0.0	1	0.2	0	0.0	Y	0	0	0.0	0.0
Netherlands	1	0.0	3	0.0	5	0.0	1	0.0	Y	7	7	0.0	0.0
Poland	0	0.0	0	0.0	1	0.0	1	0.0	Y	4	4	0.0	0.0
Portugal	76	0.7	37	0.4	22	0.2	50	0.5	Y	47	46	0.4	0.4
Romania	1	0.0	0	0.0	0	0.0	2	0.0	Y	0	0	0.0	0.0
Slovakia	0	0.0	1	0.0	1	0.0	0	0.0	Y	1	1	0.0	0.0
Slovenia	1	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Spain	43	0.1	62	0.1	87	0.2	56	0.1	Y	39	33	0.1	0.1
Sweden	11	0.1	13	0.1	10	0.1	16	0.2	Y	13	13	0.1	0.1
United Kingdom	25	0.0	14	0.0	15	0.0	11	0.0	Y	12	12	0.0	0.0
EU	481	0.1	503	0.1	498	0.1	462	0.1	Y	449	437	0.1	0.1
Iceland	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.	.	.
Norway	2	0.0	4	0.1	2	0.0	2	0.0	Y	2	2	0.0	0.0
EU/EEA	483	0.1	507	0.1	500	0.1	464	0.1	.	451	439	0.1	0.1

Source: Country reports. Legend: Y = yes, N = no, C = case based, A = aggregated, · = no data reported, ASR = age-standardised rate, - = no notification rate calculated.

Figure 1. Distribution of confirmed brucellosis cases per 100 000 population, EU/EEA, 2015

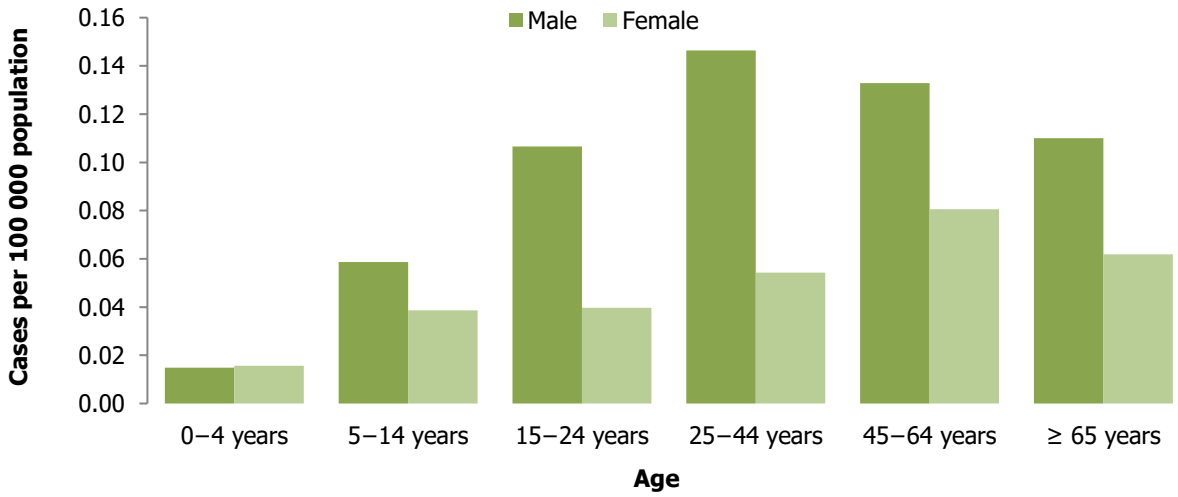


Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United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

Age and gender distribution

The gender distribution of confirmed brucellosis cases for which information was provided (N=439), was 65.4% for males and 34.6% for females in the EU and EEA countries, corresponding to a male-to-female ratio of 1.9:1. The highest rate was detected in 25–64-year-old males, 0.14 cases per 100 000 population (Figure 2).

Figure 2. Distribution of confirmed brucellosis cases per 100 000 population, by age and gender, EU/EEA, 2015



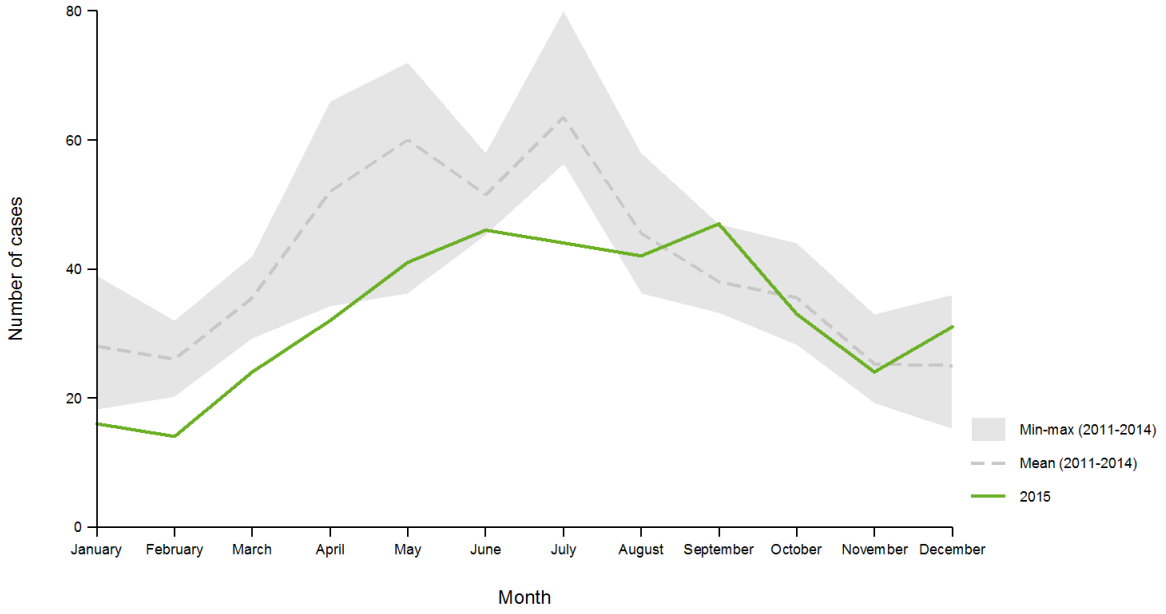
Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

Seasonal distribution and trend

In 2015, the usual seasonal peak occurred four to eight weeks later than in the four previous years (Figure 3). Overall, fewer cases were reported between January and August 2015 compared with the same months in the previous four years.

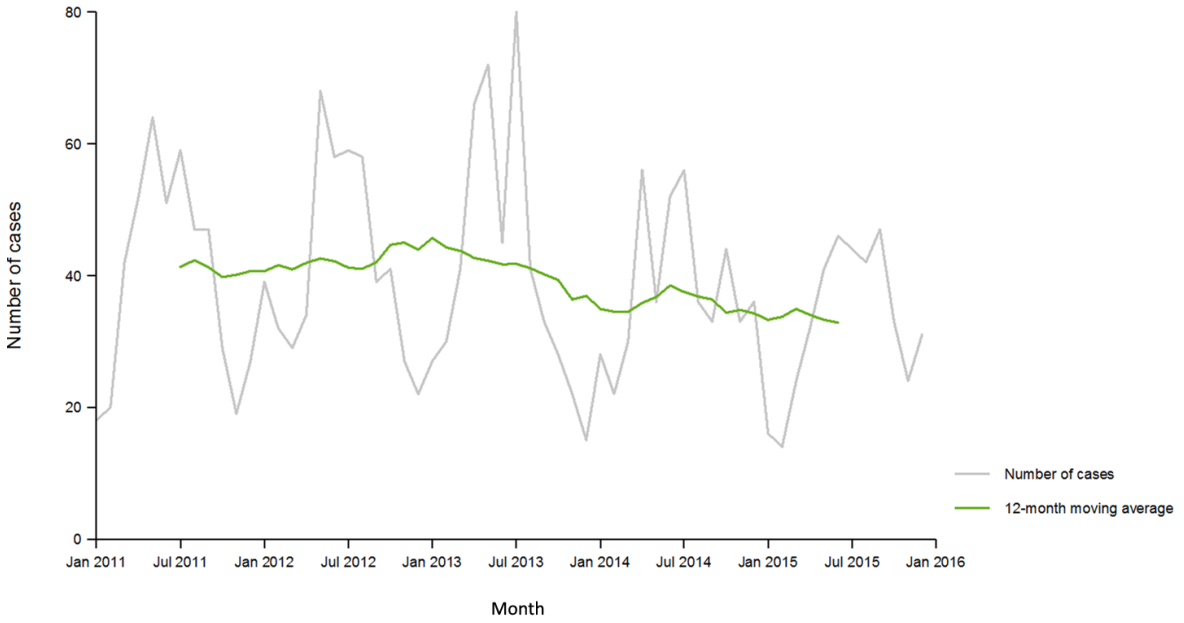
The number of brucellosis cases remained stable at the EU/EEA level between 2011 and 2015 (Figure 4). In 2015, two countries notified lower rates per 100 000 population compared with the previous year, while higher rates were observed in two countries.

Figure 3. Distribution of confirmed brucellosis cases by month, EU/EEA, 2015, compared with 2011–2014



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

Figure 4. Distribution of confirmed brucellosis cases by month and 12-month moving average, EU/EEA, 2011–2015



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

Threats description for 2014

No brucellosis-related multi-country threats were reported in 2015.

Discussion

Brucellosis remains a rare disease in the EU/EEA. During 2015, the number of reported brucellosis cases remained stable in the EU/EEA. A large proportion of the cases occurred in working-age males, possibly indicating an occupational exposure. Persons working with farm animals (e.g. farmers, livestock breeders, butchers, abattoir workers and veterinarians) are known to be at increased risk of brucellosis [4]. Food-borne exposure is normally limited to persons consuming unpasteurized milk and dairy products and is often the result of imported food products from countries where brucellosis in animals is endemic [5]. Imported cases from travellers are infrequent, although a higher disease incidence may occur in recently arrived migrants [5-8]. Laboratory personnel and persons handling medical waste may contract brucellosis due to accidental needle inoculation, especially when handling vaccine strains [6,9].

In 2015, the highest rates were reported by Greece, Bulgaria and Portugal. Of these three countries, Bulgaria was the only country where brucellosis rates increased compared with 2014. In Bulgaria, between zero and two brucellosis cases were reported per year during 2010–2014, but in July 2015 an outbreak linked to occupational exposure and consumption of unpasteurised dairy products led to double-digit case numbers [10]. A total of 33 cases was linked to the outbreak, with the first case reported at the end of February 2015 [personal communication T. Georgieva, National Centre of Infectious and Parasitic Diseases, Sofia, 20 Sep 2016]. Greece and Bulgaria are not yet officially free of bovine brucellosis and *Brucella melitensis*.

In 2015, Spain reported the first human brucellosis case due to *Brucella suis*. The case was detected in March 2014 in a medical waste treatment plant worker. With the exception of Croatia, *B. suis* biovar 1 strain had never been reported previously in any species in the European Union [9].

Public health implications

National brucellosis eradication programmes – partly funded by the EU – are essential to reduce the brucellosis rate in the EU/EEA [11], especially in those countries that are not free from ovine, caprine or bovine brucellosis. In addition to efforts to control brucellosis in animals, organised prevention efforts and raised awareness within an occupational health framework are needed [7], especially for the most vulnerable workers [4]. Surveillance schemes should consider collecting data on occupational history as part of their surveillance of human brucellosis.

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