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## Annual epidemiological report

### Brucellosis

Reporting on 2014 data retrieved from TESSy\* on 19 November 2015

Suggested citation: European Centre for Disease Prevention and Control. Annual Epidemiological Report 2016 – Brucellosis. [Internet]. Stockholm: ECDC; 2016 [cited YYYY Month DD]. Available from: <http://ecdc.europa.eu/en/healthtopics/brucellosis/Pages/Annual-epidemiological-report-2016.aspx>

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#### Key facts

- 354 confirmed brucellosis cases were reported in 2014 in EU/EEA.
- The EU/EEA case rate was 0.1 per 100 000 population.
- The highest rates were detected in 25–64-year-old males (0.1 per 100 000 population).
- The rate was stable during 2010–2014 in EU/EEA.
- The highest rates were reported in southern Member States.

#### Methods

[Click here for a detailed description of the methods used to produce this annual report](#)

In 2014, 29 EU/EEA Member States, one of which had only partial population coverage, reported brucellosis data. Ten of the 29 Member States used the EU case definition from 2012, 13 used the one from 2008, and one used the definition from 2002. Two Member States reported using another case definition, and three did not specify. The majority of the Member States (26 of 29) undertook passive surveillance. In 17 countries, cases were reported by both laboratory and physicians and/or hospitals. Twenty-eight of the 29 Member States reported case-based data.

#### Epidemiology

In 2014, 354 confirmed cases of brucellosis were reported by 18 EU/EEA countries, with an overall rate of 0.1 per 100 000 population (Table 1). Eleven Member States reported zero cases. Greece, Spain and Portugal reported the highest numbers of cases (135, 60 and 50, respectively), corresponding to 69.2% of all cases reported in EU and EEA. Greece had the highest rate, 1.2 per 100 000 population. Figure 1 illustrates the country-specific rates per 100 000 population.

Table 1. Reported confirmed brucellosis cases: number and rate per 100 000 population, EU/EEA, 2010–2014

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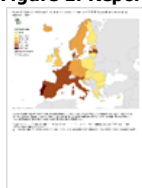
Country	2010		2011		2012		2013		2014					
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	National data	Report type	Reported cases	Confirmed cases	Rate	ASR
Austria	3	0.0	5	0.1	2	0.0	7	0.1	Y	C	1	1	0.0	0.0
Belgium	0	0.0	5	0.0	4	0.0	0	0.0	Y	C	1	1	0.0	-
Bulgaria	2	0.0	2	0.0	1	0.0	0	0.0	Y	A	2	2	0.0	0.0
Croatia	.	.	.	.	0	0.0	0	0.0	Y	C	1	1	0.0	0.0
Cyprus	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Czech Republic	1	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Denmark	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Estonia	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Finland	0	0.0	0	0.0	1	0.0	0	0.0	Y	C	1	1	0.0	0.0
France	20	0.0	21	0.0	28	0.0	19	0.0	Y	C	16	14	0.0	0.0
Germany	22	0.0	24	0.0	28	0.0	26	0.0	Y	C	47	45	0.1	0.1
Greece	97	0.9	98	0.9	123	1.1	159	1.4	Y	C	135	135	1.2	1.2
Hungary	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Iceland	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Ireland	1	0.0	1	0.0	2	0.0	1	0.0	Y	C	3	3	0.1	0.1
Italy*	171	0.3	166	0.3	184	0.3	137	0.2	N	C	8	8	-	-
Latvia	0	0.0	0	0.0	0	0.0	1	0.0	Y	C	0	0	0.0	0.0
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lithuania	0	0.0	0	0.0	0	0.0	2	0.1	Y	C	0	0	0.0	0.0
Luxembourg	1	0.2	1	0.2	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Malta	0	0.0	0	0.0	0	0.0	1	0.2	Y	C	0	0	0.0	0.0

Netherlands	6	0.0	1	0.0	3	0.0	5	0.0	Y	C	1	1	0.0	0.0
Norway	2	0.0	2	0.0	4	0.1	2	0.0	Y	C	2	2	0.0	0.0
Poland	0	0.0	0	0.0	0	0.0	1	0.0	Y	C	1	1	0.0	0.0
Portugal	88	0.8	76	0.7	37	0.4	22	0.2	Y	C	54	50	0.5	0.5
Romania	2	0.0	1	0.0	0	0.0	0	0.0	Y	C	2	2	0.0	0.0
Slovakia	1	0.0	0	0.0	1	0.0	1	0.0	Y	C	0	0	0.0	0.0
Slovenia	0	0.0	1	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Spain	78	0.2	43	0.1	62	0.1	87	0.2	Y	C	70	60	0.1	0.1
Sweden	12	0.1	11	0.1	13	0.1	10	0.1	Y	C	16	16	0.2	0.2
United Kingdom	12	0.0	25	0.0	14	0.0	15	0.0	Y	C	11	11	0.0	0.0
<b>EU/EEA</b>	<b>519</b>	<b>0.1</b>	<b>483</b>	<b>0.1</b>	<b>507</b>	<b>0.1</b>	<b>496</b>	<b>0.1</b>	.	<b>C</b>	<b>372</b>	<b>354</b>	<b>0.1</b>	<b>0.1</b>

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

\* Provisional data for 2014. Notification rates not calculated.

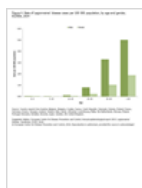
**Figure 1. Reported confirmed brucellosis cases: rate per 100 000 population, EU/EEA, 2014**



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.

Confirmed brucellosis cases for which information was provided (N=346) showed a gender distribution of 66.2% males and 33.8% females in the EU/EEA, corresponding to a male-to-female ratio of 2:1. The most affected age groups were the 25–64-year-olds (68.2%, 238 cases, 0.1 per 100 000 population); 61 (17.5%) cases belonged to the age group ≥65 years of age, 35 (10.0%) to the age group 15–24 years of age, 9 (2.6%) to the age group 5–14 years of age and 6 (1.7%) to the age group 0–4 years of age (age unknown for five cases) (Figure 2).

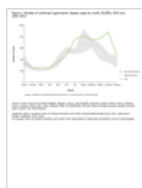
Figure 2. Reported confirmed brucellosis cases per 100 000 population, by age and gender, EU/EEA, 2014



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.

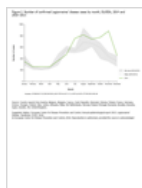
In 2014, cases of brucellosis did not show a clear seasonal pattern (Figure 3). The number of brucellosis cases remained stable at the EU/EEA level (Figure 4). In 2014, five countries notified lower rates per 100 000 population compared with the previous year, while higher rates were observed in four countries.

Figure 3. Reported confirmed brucellosis cases: seasonal distribution, EU/EEA, 2014 compared with 2010–2013



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

Figure 4. Reported confirmed brucellosis cases: trend and number, EU/EEA, 2010–2014



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

### Threats description for 2014

No brucellosis-related threats were reported in 2014.

### Discussion

Brucellosis remains a rare disease in EU/EEA. A large part of the cases in 2014 occurred in working-age males, possibly indicating an occupational exposure. Persons working with farm animals are known to be at increased risk of brucellosis [1].

In 2014, the highest rates were reported by southern Member States that have not yet obtained the official bovine brucellosis- and/or *Brucella melitensis*-free status, i.e. Greece, Portugal and Spain. Italy had not fully reported for 2014 at the time of this report. A recent study estimated that the underreporting of brucellosis in Italy was between 2 and 21 times the reported number of cases [2].

Of the countries with the highest rates, Portugal was the only one where the brucellosis rate increased compared with 2013. In 2014, a brucellosis outbreak with 13 cases transmitted by goat cheese occurred in northern Portugal [3]. A relatively high brucellosis rate was reported by Sweden, which is officially free of brucellosis, involving only travel-related cases [4]. In Germany, the number of reported brucellosis cases almost doubled in 2014 compared with the previous year. The reasons behind the increase remain to be investigated, but a link to Turkey was reported for a high proportion of cases [5].

France has been officially free of brucellosis in cattle since 2005. However, in 2012, an autochthonous case of human brucellosis originating from cattle was diagnosed [6]. The pathogen may have been re-introduced to domestic cattle from wild animal populations [7].

### Public health conclusions

The EU co-funded national brucellosis eradication programmes are important for reducing the brucellosis rate at the EU/EEA level, especially in the Member States that are not bovine brucellosis/*B. melitensis*-free. An effective implementation of these programmes should be ensured at country- and local levels [8].

### References

1. Corbel MJ. Brucellosis in humans and animals. Geneva: WHO; 2006.
2. Mancini FR, Bella A, Graziani C, Marianelli C, Mughini-Gras L, Pasquali P, et al. Trends of human brucellosis in Italy, 1998–2010. *Epidemiol Infect.* 2014 Jun;142(6):1188-95.
3. Gonçalves I. Treze infetados com brucelose. *Correio da Manhã*, 25 Nov 2014. Available from: [http://www.cmjornal.pt/portugal/detalhe/treze\\_infetados\\_com\\_brucelose](http://www.cmjornal.pt/portugal/detalhe/treze_infetados_com_brucelose).
4. European Food Safety Authority and European Centre for Disease Prevention and Control. The European Union summary report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks in 2014. *EFSA Journal* 2015; 13(12):4329. Available from: <http://ecdc.europa.eu/en/publications/Publications/zoonoses-trends-sources-EU-summary-report-2014.pdf>.
5. Robert Koch Institut. Infektionsepidemiologisches Jahrbuch meldepflichtiger Krankheiten für 2014. Berlin: RKI; 2015
6. Mailles A, Rautureau S, Le Horgne JM, Poignet-Leroux B, d'Arnoux C, Denetiere G, et al. Re-emergence of brucellosis in cattle in France and risk for human health. *EuroSurveill.* 2012;17(30).
7. Mick V, Le Carrou G, Corde Y, Game Y, Jay M, Garin-Bastuji B. *Brucella melitensis* in France: persistence in wildlife and probable spillover from *Alpine ibex* to domestic animals. *PLoS One.* 2014;9(4):e94168.
8. European Commission. Report from the Commission to the European Parliament and The Council on the outcome of the EU co-financed programmes for the eradication, control and monitoring of animal diseases and zoonosis over the period of 2005–2011. Brussels: European Commission; 2014.

### Additional information

[ECDC Surveillance Atlas of Infectious Diseases](#)

### Annex

Table. Brucellosis, surveillance systems overview, 2014

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\* The European Surveillance System (TESSy) is a system for the collection, analysis and dissemination of data on communicable diseases. EU Member States and EEA countries contribute to the system by uploading their infectious disease surveillance data at regular intervals.

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