

# Brucellosis

## Annual Epidemiological Report for 2018

### Key facts

- In 2018, 361 confirmed brucellosis cases were reported in the EU/EEA.
- The notification rate in the EU/EEA was 0.08 cases per 100 000 population. The highest rates were reported in southern EU Member States (Greece, Italy and Portugal).
- The notification rate was stable from 2014–2018 in the EU/EEA.
- The highest rate was observed in 25–44-year-old males (0.13 cases per 100 000 population).

### Introduction

Brucellosis is an infection caused by *Brucella* bacteria. Brucellosis occurs worldwide but the Mediterranean region has been particularly affected. Humans can get the disease when they are in contact with infected animals (sheep, goats, cattle, pigs and dogs) or contaminated animal products (unpasteurised milk and dairy products or undercooked meat). The symptoms are both general (fever, weakness, joint pain) and organ-specific (including infections in the brain and heart valves). Untreated, brucellosis can become chronic or lead to death.

### Methods

This report is based on data for 2018 retrieved from The European Surveillance System (TESSy) on 17 September 2019. 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' [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].

## Epidemiology

For the purpose of this report, only tables and figures are presented. Please refer to the 2019 and more recent annual epidemiological reports for the most up to date information relating to brucellosis.

**Table 1. Distribution of confirmed brucellosis cases and rates per 100 000 population by country, EU/EEA, 2014–2018**

Country	2014		2015		2016		2017		2018			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Confirmed cases	Rate	ASR	Reported cases
Austria	1	0.01	1	0.01	4	0.05	6	0.07	7	0.08	0.08	7
Belgium	0	0.00	9	0.08	4	0.04	8	0.07	9	0.08	-	9
Bulgaria	2	0.03	36	0.50	0	0.00	2	0.03	1	0.01	0.01	2
Croatia	1	0.02	0	0.00	2	0.05	1	0.02	3	0.07	0.07	3
Cyprus	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Czechia	0	0.00	0	0.00	1	0.01	1	0.01	4	0.04	0.05	4
Denmark	.	.	.	.	.	.	.	.	.	.	.	.
Estonia	0	0.00	0	0.00	0	0.00	0	0.00	1	0.08	0.08	1
Finland	1	0.02	0	0.00	0	0.00	1	0.02	0	0.00	0.00	0
France	14	0.02	17	0.03	19	0.03	21	0.03	26	0.04	0.04	28
Germany	45	0.06	44	0.05	36	0.04	41	0.05	37	0.04	0.04	37
Greece	135	1.24	109	1.00	119	1.10	94	0.87	97	0.90	0.91	97
Hungary	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Iceland	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Ireland	3	0.06	0	0.00	2	0.04	2	0.04	0	0.00	0.00	0
Italy	121	0.20	105	0.17	211	0.35	99	0.16	94	0.16	0.15	98
Latvia	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.	.
Lithuania	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Luxembourg	0	0.00	0	0.00	1	0.17	0	0.00	0	0.00	0.00	0
Malta	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
Netherlands	1	0.01	7	0.04	5	0.03	2	0.01	5	0.03	0.03	5
Norway	2	0.04	2	0.04	4	0.08	3	0.06	3	0.06	0.06	3
Poland	1	0.00	4	0.01	3	0.01	2	0.01	0	0.00	0.00	0
Portugal	50	0.48	46	0.44	50	0.48	16	0.16	19	0.18	0.18	19
Romania	2	0.01	0	0.00	1	0.01	3	0.02	1	0.01	0.00	1
Slovakia	0	0.00	1	0.02	1	0.02	1	0.02	0	0.00	0.00	0
Slovenia	0	0.00	0	0.00	1	0.05	1	0.05	3	0.15	0.14	3
Spain	56	0.12	33	0.07	37	0.08	63	0.14	40	0.09	0.09	45
Sweden	16	0.17	13	0.13	19	0.19	14	0.14	11	0.11	0.11	11

Country	2014		2015		2016		2017		2018			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Confirmed cases	Rate	ASR	Reported cases
United Kingdom	11	0.02	12	0.02	14	0.02	-	-	-	-	-	-
<b>EU/EEA</b>	<b>462</b>	<b>0.09</b>	<b>439</b>	<b>0.09</b>	<b>534</b>	<b>0.10</b>	<b>381</b>	<b>0.09</b>	<b>361</b>	<b>0.08</b>	<b>0.08</b>	<b>373</b>

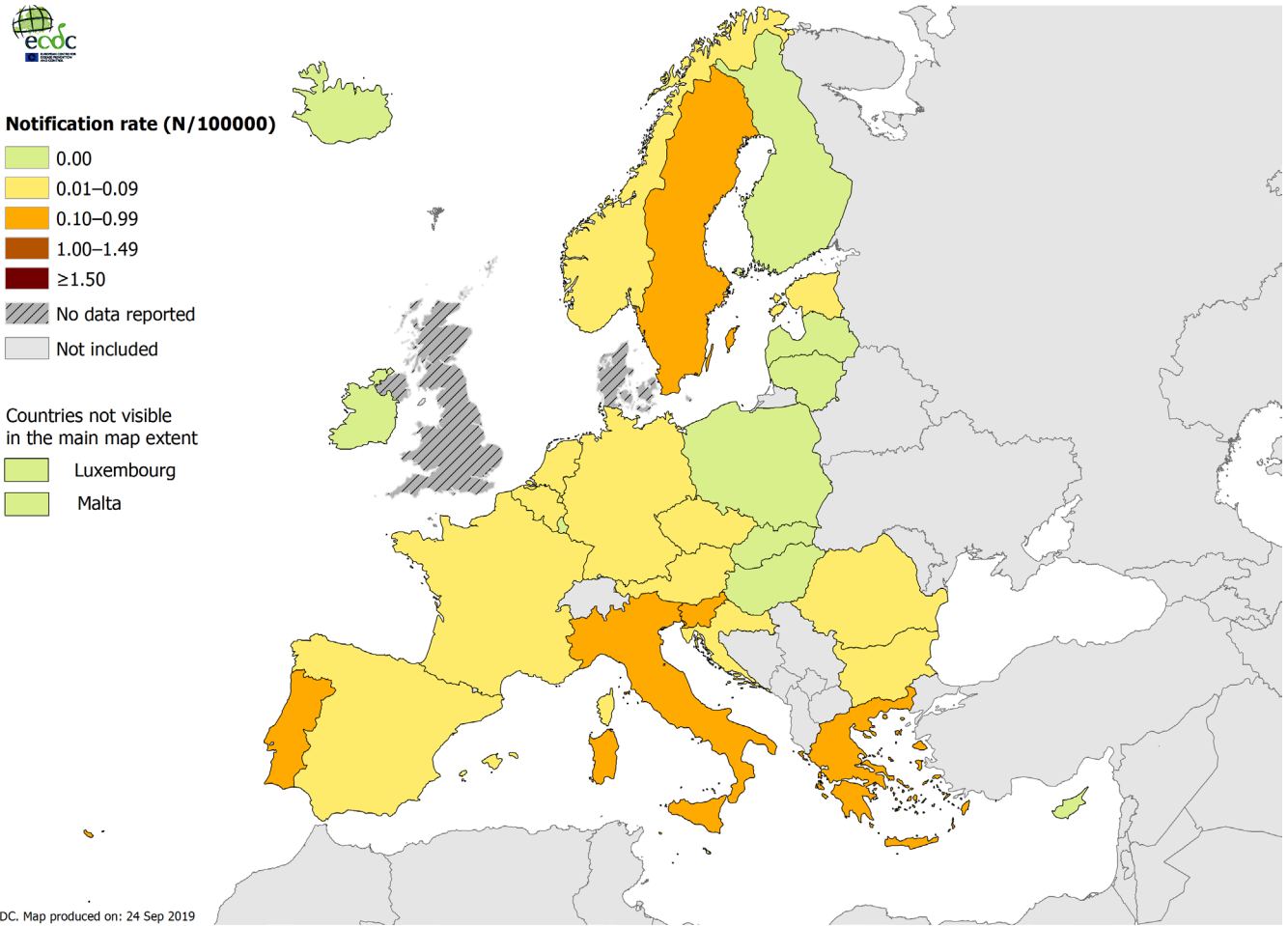
*Source: country reports*

*ASR: age-standardised rate*

*-: no rate calculated*

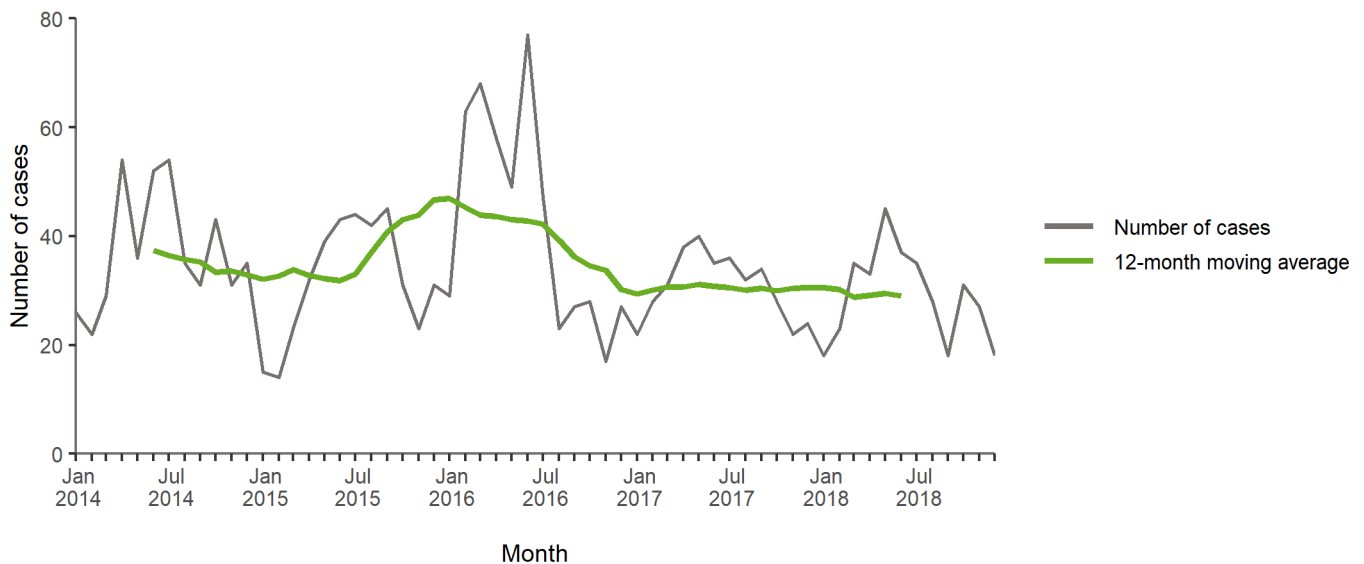
*∴: no data reported*

**Figure 1. Distribution of confirmed brucellosis cases per 100 000 population by country, EU/EEA, 2018**



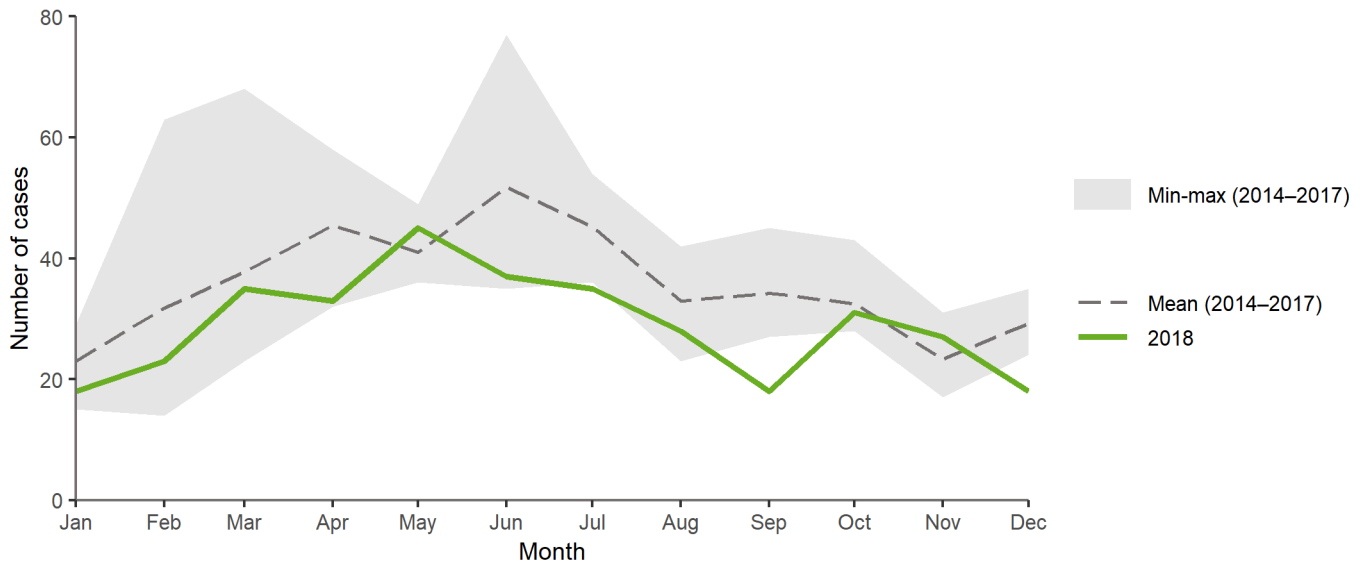
Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

**Figure 2. Distribution of confirmed brucellosis cases by month, EU/EEA, 2014–2018**



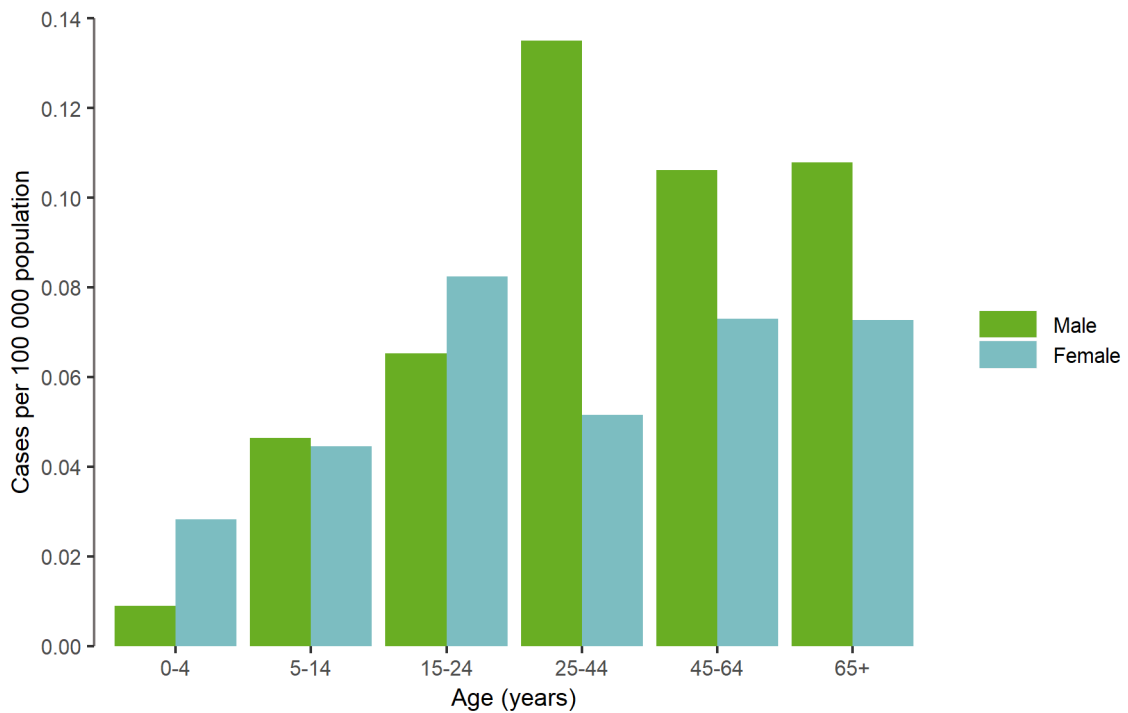
Source: Country reports from Austria, Cyprus, Czechia, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

**Figure 3. Distribution of confirmed brucellosis cases by month, EU/EEA, 2014–2017 and 2018**



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

**Figure 4. Distribution of confirmed brucellosis cases per 100 000 population, by age and gender, EU/EEA, 2018**



## Public health implications

In Member States that are not free from ovine and caprine or bovine brucellosis, EU-co-funded national brucellosis eradication programmes are important for reducing brucellosis in animals. Besides efforts to control brucellosis in animals, organised prevention efforts and raised awareness are needed within the occupational health framework. The migration of persons from endemic areas may cause an increase in the number of cases in countries where brucellosis was not previously prevalent. Physicians and diagnosing laboratories should be aware of the symptoms of the disease, which is caused by highly pathogenic bacteria. Information on occupational and travel-related history should be consistently collected as part of brucellosis surveillance in humans. The isolation of antibiotic-resistant *Brucella* strains highlights emerging challenges for treatment.

## References

1. European Centre for Disease Prevention and Control. Introduction to the Annual Epidemiological Report. Stockholm: ECDC. Available at: <http://ecdc.europa.eu/annual-epidemiological-reports/methods>
2. European Centre for Disease Prevention and Control. Surveillance systems overview for 2018. Stockholm: ECDC. Available at: <https://www.ecdc.europa.eu/en/publications-data/surveillance-systems-overview-2018>
3. European Centre for Disease Prevention and Control. Surveillance Atlas of Infectious Diseases. Stockholm: ECDC. Available at: <http://atlas.ecdc.europa.eu/public/index.aspx?Dataset=27&HealthTopic=8>