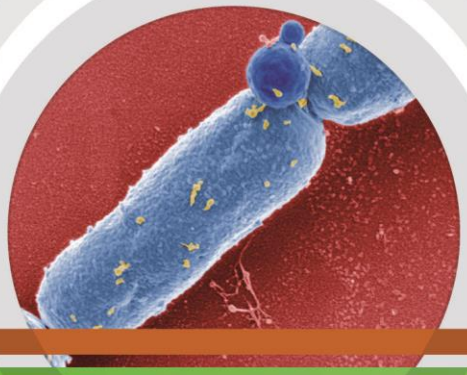

SURVEILLANCE REPORT

Annual Epidemiological Report for 2015

Anthrax

Key facts

- Anthrax continues to be a rare disease in humans in Europe, with only a few cases reported every year.
- In 2015, nine anthrax cases were reported by three EU/EEA countries. Four of these cases were confirmed. The remaining 27 reporting countries notified zero cases.

Methods

This report is based on data for 2015 retrieved from The European Surveillance System (TESSy) on 12 December 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, 30 EU/EEA Member States collected anthrax data through surveillance systems with national coverage. Twelve of the 30 Member States used the 2012 EU case definition while 11 used the one from 2008. Five Member States used another case definition, and two did not specify which case definition they used. The majority of the Member States (26 of 30) undertook passive surveillance. In 20 countries, cases were reported by both laboratory and physicians and/or hospitals. All Member States but one collected case-based data.

Epidemiology

In 2015, nine sporadic cases of anthrax were reported: four from Spain, three from Bulgaria and two from Romania.

In the period 2011–2015, only a few sporadic cases were reported every year (Table 1).

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

Stockholm, April 2018

Table 1. Distribution of confirmed cases of anthrax 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	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Belgium	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Bulgaria	1	0.0	1	0.0	1	0.0	0	0.0	Y	3	2	0.0	0.0
Croatia	.	.	.	.	1	0.0	0	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	0	0.0	2	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Estonia	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Finland	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
France	0	0.0	1	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Germany	0	0.0	4	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Greece	2	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Hungary	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Ireland	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Italy	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Latvia	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Lithuania	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
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	Y	0	0	0.0	0.0
Netherlands	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Poland	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Portugal	0	0.0	0	0.0	1	0.0	0	0.0	Y	0	0	0.0	0.0
Romania	2	0.0	0	0.0	1	0.0	0	0.0	Y	2	2	0.0	0.0
Slovakia	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Slovenia	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Spain	0	0.0	0	0.0	0	0.0	1	0.0	Y	4	0	0.0	0.0
Sweden	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
United Kingdom	0	0.0	6	0.0	2	0.0	0	0.0	Y	0	0	0.0	0.0
EU	5	0.0	14	0.0	6	0.0	1	0.0	Y	9	4	0.0	0.0
Iceland	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.	.	.
Norway	0	0.0	0	0.0	0	0.0	0	0.0	Y	0	0	0.0	0.0
EU/EEA	5	0.0	14	0.0	6	0.0	1	0.0	.	9	4	0.0	0.0

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

Threats description for 2015

On 21 July 2015, Bulgaria reported a fatal case of *Bacillus anthracis* infection in a 53-year-old breeder of sheep and cows; he died on 17 July in Varna after having slaughtered a sick cow. Further investigations revealed that a meat-processing plant used contaminated meat from the sick animal to prepare sausages. Bulgarian authorities implemented control measures, minimising the risk of further spread of the infection. Exposure to the infected animal or its meat occurred only at a local level, and there were no reports of international distribution of possibly contaminated meat. The event was rated as a negligible risk for other EU/EEA countries.

ECDC and EFSA published a joint update Rapid Outbreak Assessment on anthrax on 7 August 2015 [4].

Discussion

Anthrax is a rare disease in the EU/EEA countries. Between 2011 and 2015, EU/EEA countries reported 30 confirmed cases to the European Surveillance System (TESSy), ranging from one to 14 cases per year. At least two cases were associated with infected livestock. Cutaneous anthrax is usually the most common form of anthrax and can occur after contact with infected livestock [5].

Since 2009, anthrax has emerged among heroin users in Europe, presenting a novel clinical manifestation, 'injectional anthrax', which has been attributed to contaminated heroin. Before 2009, only one such case had been reported. In 2009–2010, Scotland experienced the largest ever outbreak of injectional anthrax, with 119 cases identified [6]. A few cases, most likely linked to the same contaminated batch of heroin, were also reported in Germany and the UK [7]. In 2012 and 2013, new cases of injectional anthrax were diagnosed in Denmark, France, Germany and the United Kingdom [8].

Public health implications

People most at risk of cutaneous anthrax are butchers, farmers, veterinarians or people working in the animal hide industry. Anthrax can be treated with antibiotics. Inhalational anthrax requires respiratory support in an intensive care unit.

Control measures include the appropriate handling of dead animals: disinfection, decontamination and disposal of contaminated materials and decontamination of the environment. Anthrax spores may remain infective for decades in the soil. Workers handling infected carcasses must use protective equipment [9,10].

The risk of exposure for heroin users in EU countries presumably remains, and it cannot be excluded that additional cases among injecting drug users will be identified in the future. Information on anthrax should be disseminated to healthcare workers, drug treatment and harm reduction centres, supporting an early diagnosis and treatment. The provision of appropriately dosed opiate substitution treatment could also prevent further anthrax cases [11].

Vaccines against anthrax are available. National and international guidelines recommend vaccination for veterinarians, abattoir workers, those working with animal hides or furs, laboratory workers and armed forces in areas with a high risk of exposure. Animals can be vaccinated to prevent them from being infected and passing the spores on to humans. In areas prone to the disease, particularly those that experience outbreaks or sporadic cases in livestock, annual vaccination of susceptible animals is commonly performed. The usually peracute clinical symptoms observed in unvaccinated animals lead to a rapid death and make it very unlikely that meat from such animals enters the food chain [12]. Meat-borne transmission of anthrax in the EU is considered a very rare event [13].

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