

Tetanus

Reporting on 2014 data retrieved from TESSy* on 7 July 2016

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Key facts

- In 2014, 84 cases of tetanus, including 48 confirmed cases, were reported to TESSy.
- The notification rate was 0.02 cases per 100 000 population, slightly lower than in previous years.
- Adults aged 65 and above were the most affected age group.
- Cases tended to occur more in warmer months when outdoor activity is higher.
- The current epidemiology of tetanus in the EU/EEA may be explained by a lack of vaccination or waning immunity in older populations.
- Due to the severity of tetanus, there is a need to maintain high vaccination coverage in all age groups and to implement catch-up/booster strategies in countries with higher rates of disease.

Methods

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

- In 2014, 26 EU/EEA Member States reported data on tetanus to TESSy; 11 of these 26 countries reported zero cases.

• All Member States except Denmark and France report data on tetanus in accordance with the 2008 or 2012 EU case definition (Commission Implementing Decision 2012/506/EU of 8 August 2012 of the European Parliament and of the Council).

• The majority of Member States report data from comprehensive, passive surveillance systems with national coverage. For a summary of the surveillance system characteristics, please refer to the Annex.

Epidemiology

In 2014, 84 cases, including 48 confirmed cases, were reported by 26 EU/EEA countries. Austria, Belgium, Finland, Germany and Liechtenstein did not report data.

Italy (n=35) reported 42% of all cases. The overall confirmed rate was 0.02 cases per 100 000 population. The highest rate was reported by Slovenia (0.3 cases per 100 000 population). Since 2011, there has been a decreasing trend in the notification rate in the EU/EEA.

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

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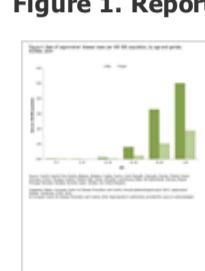
Country	2010		2011		2012		2013		2014					
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	National data	Report type	Reported cases	Rate	ASR	Confirmed cases
Austria	-	-	0	0.00	-	-	-	-	-	-	-	-	-	-
Belgium	0	0.00	0	0.00	0	0.00	0	0.00	-	-	-	-	-	-
Bulgaria	2	0.03	4	0.05	2	0.03	1	0.01	Y	C	0	0.00	0.00	0
Croatia	-	-	-	-	1	0.02	0	0.00	Y	C	1	0.02	0.02	0
Cyprus	0	0.00	0	0.00	0	0.00	0	0.00	Y	C	0	0.00	0.00	0
Czech Republic	0	0.00	0	0.00	0	0.00	0	0.00	Y	C	0	0.00	0.00	0
Denmark	0	0.00	0	0.00	0	0.00	1	0.02	Y	C	0	0.00	0.00	0
Estonia	0	0.00	2	0.15	0	0.00	1	0.08	Y	C	0	0.00	0.00	0
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-
France	15	0.02	9	0.01	5	0.01	10	0.02	Y	C	4	0.01	0.01	4
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	5	0.04	11	0.10	7	0.06	5	0.05	Y	C	2	0.02	0.02	0
Hungary	0	0.00	4	0.04	5	0.05	2	0.02	Y	C	2	0.02	0.02	0
Iceland	0	0.00	0	0.00	0	0.00	0	0.00	Y	C	0	0.00	0.00	0
Ireland	0	0.00	0	0.00	1	0.02	1	0.02	Y	C	1	0.02	0.02	0
Italy	57	0.10	58	0.10	54	0.09	51	0.09	Y	C	35	0.06	0.05	35
Latvia	0	0.00	0	0.00	0	0.00	0	0.00	Y	C	0	0.00	0.00	0
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	2	0.06	2	0.07	2	0.07	2	0.07	Y	C	1	0.03	0.03	0
Luxembourg	0	0.00	0	0.00	0	0.00	0	0.00	Y	C	0	0.00	0.00	0
Malta	3	0.72	0	0.00	0	0.00	0	0.00	Y	C	0	0.00	0.00	0
Netherlands	1	0.01	6	0.04	2	0.01	1	0.01	Y	C	0	0.00	0.00	0
Norway	0	0.00	0	0.00	1	0.02	0	0.00	Y	C	1	0.02	0.02	1
Poland	16	0.04	14	0.04	19	0.05	14	0.04	Y	C	13	0.03	0.04	0
Portugal	3	0.03	0	0.00	3	0.03	1	0.01	Y	C	2	0.02	0.02	0
Romania	9	0.04	20	0.10	7	0.03	6	0.03	Y	C	3	0.02	0.02	3
Slovakia	0	0.00	1	0.02	0	0.00	0	0.00	Y	C	0	0.00	0.00	0
Slovenia	0	0.00	2	0.10	1	0.05	1	0.05	Y	C	6	0.29	0.28	3
Spain	8	0.02	10	0.02	8	0.02	9	0.02	Y	C	4	0.01	0.01	2
Sweden	0	0.00	3	0.03	0	0.00	3	0.03	Y	C	2	0.02	0.02	0
United Kingdom	9	0.01	3	0.00	6	0.01	7	0.01	Y	C	7	0.01	0.01	0
EU/EEA	130	0.03	149	0.04	124	0.03	116	0.03	.	C	84	0.02	0.02	48

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

Age and gender distribution

The most affected group was the elderly (≥ 65 years) (0.08 cases per 100 000 population), which accounted for 74% of all cases reported (n=62), followed by those aged 45–64 years (0.01 cases per 100 000 population, n=11) (Figure 1). No cases were reported in the age group 0–4 years. The male-to-female ratio was 0.6:1. Sixty percent of the cases in males (18/30) and 81% of the cases in females (44/54) were in the age group 65 years and above.

Figure 1. Reported tetanus cases, by age and gender, EU/EEA, 2014

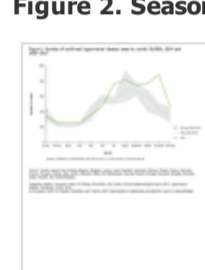


Source: Country reports from Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, France, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

Seasonality

Most cases were reported between May and September (Figures 2 and 3).

Figure 2. Seasonal distribution of reported, locally acquired Tetanus cases, EU/EEA, 2014 compared with 2010–2013



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

Figure 3. Trend and number of reported tetanus cases, EU/EEA, 2010–2014



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

Outcome

Of the 46 cases with data available, 12 (n=26%) were fatal. All fatal cases were in the age group 65 years and above.

Discussion

Tetanus is a sporadic and relatively uncommon infection in EU/EEA countries, caused by the bacterium *Clostridium tetani*. Contamination of wounds with tetanus spores in unvaccinated persons can cause an illness characterised by muscular spasms and sometimes death.

The notification rate for tetanus in the EU/EEA countries remains very low, thanks to the widespread use of tetanus vaccination, which is included in the primary vaccination schedule of all EU/EEA countries [1].

The number of reported cases shows a slightly decreasing trend. Most cases were reported in the elderly, probably related to lower vaccination coverage or waning immunity in this population [2]. The peak observed during the summer months may be related to more outdoor activities during this time of year.

Despite the small number of cases, tetanus is associated with high mortality, which could be prevented by vaccination or appropriate post-exposure prophylaxis.

Public health conclusions

Due to its severity, tetanus poses a risk to unvaccinated people. There is a need to maintain high vaccination rates in all age groups and to implement catch-up/booster strategies in countries with higher rates of disease.

References

1. European Centre for Disease Prevention and Control. Vaccine schedule. [Internet.] Stockholm: ECDC; 2016. Available from: <http://vaccine-schedule.ecdc.europa.eu/Pages/Scheduler.aspx>
2. Wassilak SGF, Roper MH, Kretsinger K, Orenstein WA. Tetanus toxoid. In: Plotkin SA, Orenstein WA, Offit PA, editors. Vaccines. 5th edition. Philadelphia: Saunders Elsevier; 2008. p. 805-39.

Additional information

ECDC Surveillance Atlas of Infectious Diseases

Annual Epidemiological Report 2014 – vaccine-preventable diseases: http://www.ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=1227

Annex

Table. Tetanus, 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.