

# Congenital toxoplasmosis

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

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

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## Key facts

- In 2014, 42 confirmed cases of congenital toxoplasmosis were reported in the EU/EEA.
- The notification rate was 1.6 per 100 000 live births, with a male-to-female ratio of 1.1:1.
- Reported cases appeared to peak in July and during the winter season.

## Methods

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- In 2014, 20 countries reported confirmed congenital toxoplasmosis cases; 14 of these 20 countries reported zero cases.
- Of the 20 reporting countries, 17 used the current EU case definition as published in 2008 and 2012. One country used the 2002 EU case definition, which stipulates reporting of toxoplasmosis cases, not only congenital. The remaining two countries used other/unknown case definitions (Annex).
- Active surveillance for congenital toxoplasmosis was used in two of the 20 reporting countries (Annex).
- In most EU/EEA Member States, toxoplasmosis is under mandatory notification (18/20).

## Epidemiology

In 2014, 42 confirmed congenital toxoplasmosis cases were reported by 20 EU/EEA countries (Table 1, Figure 1). This represents a fivefold decrease compared with 2013, which is mainly due to missing data from France. Excluding the French congenital toxoplasmosis data, the number of cases reported in 2014 is comparable to the annual number of cases reported between 2010 and 2014, i.e. an average of 34 cases/year (Table 1). Two countries reported the majority of cases in 2014, namely Poland (48%) and the United Kingdom (26%); see Figure 1.

Table 1. Reported confirmed congenital toxoplasmosis cases: numbers and rate per 100 000 live births, 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	
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	
Croatia	-	-	-	-	-	-	-	-	Y	C	0	0	0.0	
Cyprus	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	
Czech Republic	2	1.7	2	1.8	1	0.9	0	0.0	Y	C	1	1	0.9	
Denmark	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estonia	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	
Finland	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	
France	244	29.3	186	22.6	104	12.7	179	22.0	-	-	-	-	-	-
Germany	14	2.1	14	2.1	20	3.0	10	1.5	Y	C	6	6	0.9	
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	1	1.1	0	0.0	0	0.0	0	0.0	Y	C	3	3	3.2	
Iceland	-	-	-	-	-	-	0	0.0	Y	C	0	0	0.0	
Ireland	1	1.3	1	1.4	1	1.4	1	1.5	Y	C	0	0	0.0	
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	0	0.0	0	0.0	1	5.0	0	0.0	Y	C	0	0	0.0	
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	0	0.0	0	0.0	1	3.3	1	3.3	Y	C	0	0	0.0	
Luxembourg	0	0.0	0	0.0	1	16.6	0	0.0	Y	C	0	0	0.0	
Malta	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	7	1.7	3	0.8	10	2.6	18	4.9	Y	C	20	20	5.3	
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	1	1	0.5	
Slovakia	0	0.0	0	0.0	0	0.0	2	3.6	Y	C	0	0	0.0	
Slovenia	0	0.0	0	0.0	0	0.0	0	0.0	Y	C	0	0	0.0	
Spain	0	-	1	-	0	-	0	-	N	C	0	0	-	
Sweden	-	-	-	-	-	-	-	-	-	-	-	-	-	-
United Kingdom	9	1.1	7	0.9	5	0.6	2	0.3	Y	C	11	11	1.4	
<b>EU/EEA</b>	<b>278</b>	<b>7.9</b>	<b>214</b>	<b>6.2</b>	<b>144</b>	<b>4.2</b>	<b>213</b>	<b>6.3</b>	<b>-</b>	<b>C</b>	<b>42</b>	<b>42</b>	<b>1.6</b>	

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

Figure 1. Reported numbers of confirmed congenital toxoplasmosis cases, EU/EEA, 2014



Source: Country reports from Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, Poland, Romania, Slovakia, Slovenia, Spain, the United Kingdom.

## Notification rates

The notification rate for the EU/EEA in 2014 was 1.6 confirmed congenital toxoplasmosis cases per 100 000 live births (Table 1, Figure 2). This represents a decrease compared with 2013 when the notification rate was 6.3 cases per 100 000 live births. Poland reported the highest notification rate (5.3 cases per 100 000 live births), followed by Hungary (3.2 cases per 100 000 live births) and the United Kingdom (1.4 cases per 100 000 live births), Figure 2.

Figure 2. Reported confirmed congenital toxoplasmosis cases: rates per 100 000 live births, EU/EEA, 2014



Source: Country reports from Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, Poland, Romania, Slovakia, Slovenia, Spain, the United Kingdom.

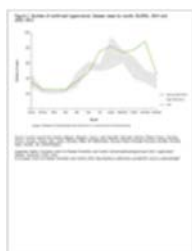
## Age and gender

Congenital toxoplasmosis is reported in infants (< 12 months of age) as per the EU case definition. In 2014, gender was reported for 90% of the congenital toxoplasmosis cases, with almost half of the reported cases in males (20/42). The male-to-female ratio was 1.1:1.

## Seasonal distribution

Reported cases of congenital toxoplasmosis in the EU/EAA in 2014 peaked in the winter season, specifically in January and February, when more countries reported cases than during the rest of the year (Figure 3). In July, another peak of cases could be observed due to a cluster of five cases reported by Poland and an additional two cases reported by the United Kingdom. The number of reported cases is too small to draw conclusions on a seasonal pattern. The cases of congenital toxoplasmosis are showing a random occurrence pattern over the years (Figure 3).

Figure 3. Reported confirmed congenital toxoplasmosis cases by month, EU/EEA, 2014 compared with 2010–2013



Source: Country reports from Bulgaria, Cyprus, the Czech Republic, Estonia, Finland, Germany, Hungary, Ireland, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, Spain, the United Kingdom.

## Multi-annual trend by month

The trend of reported congenital toxoplasmosis cases in the EU/EEA between 2010 and 2014 appears stable (Figure 4).

Figure 4. Reported confirmed congenital toxoplasmosis cases: numbers and trend, EU/EEA, 2010–2014



Source: Country reports from Bulgaria, Cyprus, the Czech Republic, Estonia, Finland, Germany, Hungary, Ireland, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, Spain, the United Kingdom.

## Threats description for 2014

No congenital toxoplasmosis threats were detected or reported to ECDC in 2014.

## Discussion

Based on the reported data in 2014, congenital toxoplasmosis in the EU/EEA shows a stable trend between 2010 and 2014 but remains a rare disease overall. The fourfold decrease in notifications of cases in 2014 is a surveillance artefact due to France not reporting toxoplasmosis data at the time of data collection for this report.

Very few EU/EEA countries have active surveillance for congenital toxoplasmosis, and 35% of the EU/EEA countries do not report toxoplasmosis data at the EU/level. Therefore a good estimate of the prevalence of this disease in the EU/EEA is not possible.

The cost-benefits of prenatal screening programmes have been questioned mainly because of the low prevalence of congenital toxoplasmosis in the EU/EEA and the lack of effective treatment [1]. However, considering recent epidemiological studies in non-reporting countries [2-7], changes in eating habits (e.g. the consumption of undercooked meat) [8], increased travel [9] and therapeutic developments [10], the significance of this infection in the EU/EEA warrants a better estimation.

In addition, the epidemiology of toxoplasmosis in humans in Europe might change with the introduction of exotic genotypes through imported food, causing severe disease in immunocompetent adults as already has been reported by France [11, 12].

## Public health conclusions

Toxoplasmosis should be monitored using a one-health approach. Diagnostic capabilities in the clinical as well as in the food sector should be regularly assessed against the changing epidemiology of the disease and circulating pathogen genotypes. Importantly, the random peaks of congenital disease should be better investigated to assess the severity, urban vs. rural setting and prevalent risk factors in a specific region.

Prevention options for congenital toxoplasmosis should be reinforced. Information for pregnant women should include information on toxoplasmosis risk exposure.

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## Additional information

ECDC [Surveillance Atlas of Infectious Diseases](#)

## Annex

Table. Toxoplasmosis, 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.