Annual epidemiological report

Listeriosis

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


Key facts

• 2194 confirmed listeriosis cases were reported in 2014 in EU/EEA countries.
• The EU/EEA case rate was 0.6 per 100 000.
• The highest rates were detected in infants below one year of age (2.8 per 100 000 population) and among elderly people over 64 years of age (1.9 per 100 000 population).
• The rate increased steadily during 2010–2014 in EU/EEA countries.

Methods

Click here for a detailed description of the methods used to produce this annual report

In 2014, 29 EU/EEA Member States reported listeriosis data, two of which had only a partial population coverage. Ten of the 29 Member States used the EU case definition from 2012, twelve used the one from 2008, four used another case definition, and three did not specify which case definition was used. The majority of Member States (25 of 29) conducted passive surveillance; in 21 countries, cases were reported by both laboratories and physicians and/or hospitals. Twenty-eight of the 29 Member States reported case-based data.

In addition to case-based TESSy surveillance, ECDC coordinates molecular typing-enhanced surveillance of listeriosis through isolate-based data collection. A typing-based multi-country cluster of L. monocytogenes is currently defined as at least two different countries reporting at least one isolate each with matching pulsotypes (both Apa and Asc restriction enzymes), with the reports a maximum of 16 weeks apart.

Epidemiology

In 2014, 2194 confirmed cases of listeriosis were reported by 28 EU/EEA countries, with an overall rate of 0.6 per 100 000 population (Table 1). Germany and France had the highest numbers of reported cases (597 and 374, respectively), corresponding to 44.3% of all cases reported in the EU/EEA. The highest age-standardised incidence rates were observed in Denmark (1.5/100 000), Iceland (1.5/100 000), Sweden (1.2/100 000), Finland (1.1/100 000) and Spain (1.1/100 000). Figure 1 illustrates the country-specific age-standardised rates per 100 000 population.

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

<table>
<thead>
<tr>
<th>Country</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Rate</td>
<td>Cases</td>
<td>Rate</td>
<td>Cases</td>
</tr>
<tr>
<td>Austria</td>
<td>34</td>
<td>0.4</td>
<td>26</td>
<td>0.3</td>
<td>36</td>
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<tr>
<td>Belgium</td>
<td>40</td>
<td>0.4</td>
<td>70</td>
<td>-</td>
<td>83</td>
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<tr>
<td>Bulgaria</td>
<td>4</td>
<td>0.1</td>
<td>10</td>
<td>0.1</td>
<td>10</td>
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<tr>
<td>Croatia</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>0</td>
</tr>
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<td>1</td>
<td>0.1</td>
<td>1</td>
<td>0.1</td>
<td>1</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>26</td>
<td>0.2</td>
<td>35</td>
<td>0.3</td>
<td>32</td>
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<tr>
<td>Denmark</td>
<td>62</td>
<td>1.1</td>
<td>49</td>
<td>0.9</td>
<td>50</td>
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<td>Estonia</td>
<td>5</td>
<td>0.4</td>
<td>3</td>
<td>0.2</td>
<td>3</td>
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<tr>
<td>Finland</td>
<td>71</td>
<td>1.3</td>
<td>43</td>
<td>0.8</td>
<td>61</td>
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<tr>
<td>France</td>
<td>312</td>
<td>0.5</td>
<td>282</td>
<td>0.4</td>
<td>348</td>
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<tr>
<td>Germany</td>
<td>377</td>
<td>0.5</td>
<td>331</td>
<td>0.4</td>
<td>414</td>
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<td>10</td>
<td>0.1</td>
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<td>11</td>
<td>0.1</td>
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<td>2</td>
<td>0.6</td>
<td>4</td>
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<td>Ireland</td>
<td>10</td>
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<td>7</td>
<td>0.2</td>
<td>11</td>
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<tr>
<td>Italy*</td>
<td>157</td>
<td>0.3</td>
<td>129</td>
<td>0.2</td>
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<td>Latvia</td>
<td>7</td>
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<td>7</td>
<td>0.3</td>
<td>6</td>
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<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>Lithuania</td>
<td>5</td>
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<td>6</td>
<td>0.2</td>
<td>8</td>
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<tr>
<td>Luxembourg</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>0.4</td>
<td>2</td>
</tr>
<tr>
<td>Malta</td>
<td>1</td>
<td>0.2</td>
<td>2</td>
<td>0.5</td>
<td>1</td>
</tr>
</tbody>
</table>

21 new isolates were reported during 2014 and a total of 36 isolates was reached by the end of 2014. In 2014, eleven countries submitted molecular typing-enhanced surveillance: Malta, the Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

The gender distribution of confirmed listeriosis cases for which information was provided (N=2 193), was 54.1% males and 45.9% females in the EU and EEA countries, corresponding to a male-to-female ratio of 1.2:1. The most affected age groups were under 1-year-olds (4.6%, 99 cases, 2.8 per 100 000 population) and over 64-year-olds (62.4%, 1 358 cases, 1.9 per 100 000 population). In addition, 455 (20.9%) cases belonged to the age group 45-64 years, 204 (9.4%) to the age group 25-44 years, 39 (0.2%) to the age group 0-4 years (age unknown for 19 cases).

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Listeriosis cases at the EU/EEA level show an increasing trend (Figure 4). In 2014, eighteen countries notified higher rates per 100 000 population compared with the previous year, while lower numbers were observed in three countries.

In 2014, cases of listeriosis showed a seasonal pattern similar to the previous years (Figure 3). The highest numbers of cases were reported in January and from July to September.

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Figure 4. Number of reported confirmed listeriosis cases, in EU/EEA by month, 2010−2014

In addition, there was one persistent pulsortype affecting eight Member States (TESSy reference types Apa1.0142/0147 and Asc1.0026), where 21 new isolates were reported during 2014 and a total of 36 isolates was reached by the end of 2014.

Figure 4. Number of reported confirmed listeriosis cases, in EU/EEA by month, 2010−2014

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

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

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In 2014, eleven countries submitted L. monocytogenes typing data to TESSy, based on which 12 molecular typing cluster investigations were initiated in ECDC’s Epidemic Intelligence information System. In addition, there was one persistent pulsortype affecting eight Member States (TESSy reference types Apa1.0142/0147 and Asc1.0026), where 21 new isolates were reported during 2014 and a total of 36 isolates was reached by the end of 2014.

Annual epidemiological report

Terms description for 2014
No listeriosis-related threats were reported in 2014.

Discussion

The EU/EEA surveillance of listeriosis focuses on severe, invasive forms of the disease, for which the risk groups are mainly elderly and immunocompromised persons as well as pregnant women and infants. In 2014, the majority of listeriosis cases were reported in persons over 64 years of age, especially males. Listeriosis case rate has been steadily increasing in EU/EEA in the past years. Almost all (98.9%) listeriosis cases in the EU were hospitalised in 2014 and 210 cases were fatal [1]. Listeriosis can also manifest in milder forms causing gastrointestinal symptoms, but these cases are usually not surveyed at country-level and are also not in the scope of the EU/EEA-level surveillance.

Only two Member States did not report listeriosis data, Liechtenstein and Portugal. In Portugal listeriosis has been a notifiable disease since April 2014, and a retrospective study covering 90% of the population was conducted. It led to the detection of an outbreak associated with fresh cheese from 2009 to 2012 [2]. During this same time period, a listeriosis outbreak involving another serotype occurred in Basque country, Spain, but this strain was not found in the suspected food product (cooked ham) [3]. This paper also reported a second listeriosis outbreak in Northern Spain in 2013-2014, associated with foie gras. In 2013, Scotland experienced their first listeriosis community outbreak since the start of the surveillance in 1996 [4].

Based on pulsed-field gel electrophoresis (PFGE) types of human L. monocytogenes isolates submitted to TESSy as part of the molecular typing-enhanced surveillance, more than one fifth of the pulsotypes circulating in the EU/EEA are reported by more than one country, which indicates that targeted investigations are needed at the EU/EEA level. ECDC, the European Food Safety Authority and EU reference laboratory for L. monocytogenes have set up a joint database enabling upload of human, food, animal and environmental isolates from public health institutes as well as food safety and veterinary authorities [5], and are defining processes for joint analysis of the data. Compared to PFGE, whole genome sequencing-based methods have demonstrated an improved discriminatory power in listeriosis outbreak investigations [6].

Public health conclusions

The increasing trend in the number of listeriosis cases in EU/EEA is worrying and calls for more attention to the prevention and control of the disease. Raising awareness on listeriosis and risky foods in risk groups is important, currently especially among the elderly, where the majority of cases occur. In addition, supranational cross-sectorial collaboration is essential for addressing the occurrence of persistent L. monocytogenes strains in humans.

References


Additional information

ECDC Surveillance Atlas of Infectious Diseases


Annex

Table. Listeriosis, 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.