

Report memo. Zoonoses, zoonotic agents and food-borne outbreaks in Europe in 2014

Note sur rapport. Zoonoses, agents zoonotiques et toxi-infections alimentaires collectives en Europe en 2014

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Every year for the past ten or so years, the European Food Safety Authority (EFSA) and the European Centre for Disease Prevention and Control (ECDC) have published a report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks. The report on the 2014 data is presented more concisely than the previous reports (EFSA & ECDC, 2015). Part of this report reviews the data collection background and is limited to a description of the most salient information and changes observed for certain zoonoses; the annexes contain hyperlinks providing access to data from various sectors (human, veterinary and food) used to write the annual reports. The data provided by each Member State (MS) (http://www.efsa.europa.eu/sites/default/files/scientific_output/files/main_documents/4329ax1.zip) as well as national reports (<http://www.efsa.europa.eu/en/biological-hazards-data/reports>) can be consulted on the EFSA website.

This report presents surveillance data from 32 countries (28 MSs and four non-EU countries). It provides a wealth of useful information regarding the epidemiological situation in Europe, at human and animal levels, and regarding the food chain. It describes over fifteen zoonotic agents and food-borne outbreaks, including eight regulated under Directive 2003/99/EC, in addition to rabies, toxoplasmosis, Q fever, infections related to the West Nile virus, yersiniosis, tularaemia, cysticercosis and sarcocystosis.

As in previous years, six food-borne zoonoses (campylobacteriosis, salmonellosis, yersiniosis, shigatoxin-producing *Escherichia coli* infections, listeriosis and echinococcosis) had the largest number of cases and the highest rate of incidence¹ for zoonotic infections in humans (Figure 1). Including trichinellosis and brucellosis, food-borne zoonoses accounted for 99.6% of the 343,256 human cases related to thirteen zoonoses reported in Europe.

Campylobacteriosis was the main cause of reported human cases; alone, it accounted for 69% of cases in 2014, with 236,851 confirmed cases and an incidence rate⁽¹⁾ of 71 per 100,000 inhabitants (Figure 1). This incidence has been on the rise since 2008, with a 9.4% higher incidence rate in 2014 than in 2013.

Salmonellosis was the second leading cause of reported human cases with 26% of cases, 88,715 confirmed cases, and an incidence rate of 23.4 cases per 100,000 inhabitants. For this zoonosis, the European surveillance data have shown a steady decrease in the number of human cases since 2008, which has been linked to the European *Salmonella* control policy in the poultry sector. However, the 2014 incidence rate was 15.3% higher than in 2013.

Of the significant trend analyses, there was also an increase in observed listeriosis cases from 2008 to 2014, but no connection was made to the level of food contamination. In 2014, 2,161 listeriosis cases were reported, with an incidence rate of 0.52 cases per 100,000 inhabitants. This incidence was 30% higher than in 2013.

These figures can be compared to the 0.4% of cases due to zoonoses that can be transmitted to humans through other routes (Q fever, West Nile virus, tularaemia, tuberculosis caused by *M. bovis*, rabies).

The mortality rate for the top twelve zoonoses (with the exception of tuberculosis caused by *M. bovis*), for confirmed cases, was 0.1% on average and generally below 1%, except for West Nile fever (3.4%), listeriosis (15.6%) and rabies (100%).

A total of 5,251 episodes of food-borne outbreaks, including those related to water, were reported in 2014. The causes, which were identified in almost two-thirds of cases, were mainly viruses, followed by *Salmonella*, bacterial toxins and *Campylobacter*. The foods most commonly associated with food-borne outbreaks were eggs and egg products, compound foods and seafood products (crustaceans, molluscs, shellfish and related products).

However, the limitations of this type of exercise should be considered. Furthermore, warning messages are reiterated all throughout the EFSA report, indicating that:

- the data come from surveillance systems of varying types and effectiveness between MSs,
- the sampling plans do not all rely on standardised sampling protocols, and the resulting data are not necessarily representative of national prevalence,
- not all MSs submit a comprehensive report to the European authorities.

Caution is thus required when interpreting the following:

- trends from one year to another, since procedures for reporting to the European authorities can vary and denominators are not adjusted for the age structure of populations, which also changes over time,
- relationships between cases of zoonoses in humans in a given country and the epidemiological situation of the corresponding zoonotic agent in the livestock of the same country, since it is impossible to distinguish between infections acquired in the country of origin and those acquired abroad or through the consumption of imported products,
- country's data in relation to the European data, since definitions are not always the same at national and European levels.

In any case, the information contained in this report is extremely useful for analysing and monitoring the epidemiological status of zoonoses and zoonotic agents in Europe. It is frequently referred to by the public authorities for defining or assessing the impact of management measures.

References

EFSA & ECDC (European Food Safety Authority and European Centre for Disease Prevention and Control), 2015. The European Union Summary Report on Trends and Sources of Zoonoses, Zoonotic Agents and Foodborne Outbreaks in 2014. EFSA Journal 2015;13(12):4329, 191 pp. doi:10.2903/j.efsa.2015.4329.

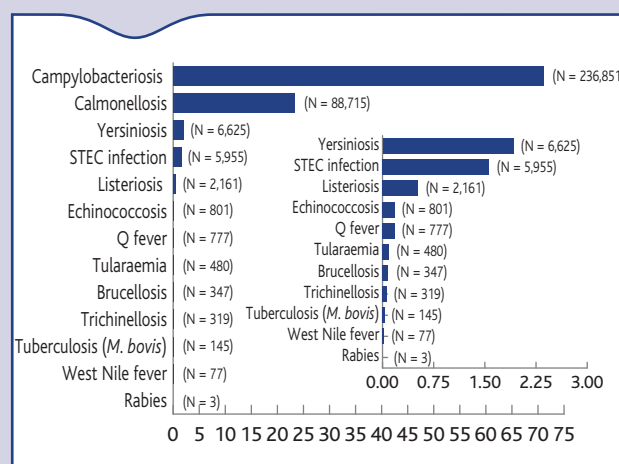


Figure 1. Number of human zoonosis cases, and incidence for 100 000 inhabitants, reported in Europe in 2017

1. It was assumed that these were incident cases and incidence (respectively "reported cases" and "notification rate" in the report).