



Foodborne disease data for the EU

Every year the European Food Safety Authority (EFSA) publishes data on zoonoses (diseases transmitted from animals) and foodborne disease outbreaks for member states of the EU, and the numbers for 2016 were released recently. The document is complex, contains many caveats, is 228 pages long and probably not meant to be read at one sitting, so **Andrew Hudson** of Jorvik Food and Environmental Microbiology has distilled a few points of interest.

IT SHOULD come as no surprise that campylobacteriosis remains the most common zoonotic disease in the EU, with the incidence at 66.3 cases/100,000 (around a quarter of a million cases). The range between member states is astonishing, with an incidence of 228.2 in the Czech Republic and 2.0 in Poland, which suggests that reporting may be less than uniformly applied. Turkeys were more frequently contaminated than broiler chickens, but the opposite was true for their meats. Perhaps broiler chicken processors

have lessons to learn from turkey processors or, possibly, chickens are contaminated with higher concentrations of *Campylobacter* than turkeys. Salmonellosis is next at 20.4, which serves to highlight the numerical dominance of *Campylobacter*.

However, the relative importance of agents could be measured in other ways, for instance by number of fatalities. Using this metric, listeriosis had the greatest impact, causing approximately twice as many deaths as salmonellosis. It is fortunate, then,



that the number of listeriosis cases was low; about 1% of those reported for *Campylobacter*.

The incidence of listeriosis is increasing, however, being 0.47 in 2016 compared to 0.36 in 2012. Food surveys did not identify any 'smoking gun' source (although fish products may warrant further consideration), but these data need to be considered alongside consumption data because an infrequently contaminated food eaten in high volume could still cause a problem.

Less than 40% of human Shiga toxin-producing *Escherichia coli* cases were caused by the O157 serotype, suggesting that excluding the other serotypes from HACCP verification testing may be unwise.

In respect of the outbreak data, salmonellosis was the main culprit, causing 22.3% of outbreaks

of known cause. There was a 23.6% increase in outbreaks caused by *Salmonella enteritidis* – a serovar conventionally associated with eggs and poultry meat but increasingly is being detected in laying hens. Caliciviruses, including Norovirus, caused the highest average number of cases per outbreak. The largest category of outbreak was, however, 'unknown', ie, no causative agent was identified. Another large contributor was bacterial toxins other than botulinum toxin.

Salmonella was the pathogen involved in outbreaks causing most hospitalisations and deaths, with *Salmonella* associated with eggs and egg products ranking first in both analyses, which would seem to fit with the increase in *S enteritidis* outbreaks. For 'strong evidence' outbreaks, 39.1% occurred in the home, but caused only 8.1% of the cases, with most cases (24.4%) attributed to outbreaks in canteens, etc. So, while most handling errors occur domestically, the consequences are reduced because the number of people exposed is small compared to that of other settings.

The primary message regarding the current state of zoonoses and foodborne disease outbreaks is that, by and large, it reflects a stable picture. Listeriosis, while still rare, is increasing in the elderly (and this is not a reflection of increased life expectancy) with no obvious food type manifestly requiring attention. There are many theories as to why this increase is happening, but control of *Listeria* in food needs to be enhanced to contain it. *Salmonella enteritidis* cases and outbreaks have increased and this seems to be linked to increasing flock prevalence in layer hens and hence is amenable to targeted control measures. If the trend has continued since 2016, manufacturers using eggs as an ingredient need to be aware! 📌

The full report can be read here:

www.efsa.europa.eu/en/efsajournal/pub/5077

“ *Salmonella* was the pathogen involved in outbreaks causing most hospitalisations and deaths ”

ABOUT THE AUTHOR



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