



Microbiology bulletin 56

August 2018

Cyclospora infections on the increase

Public Health England is investigating an increase in Cyclospora infections for the fourth successive year. So far this year 63 cases had been reported in England, Scotland and Wales, of which 49 had travelled to Mexico.

Between 2005 and 2014, an average of 32 Cyclospora cases were reported in England and Wales each year. However, in 2015, Cyclospora cayetanensis was identified in 176 returned travellers from the Riviera Maya region of Mexico between June and September; there were 79 in the United Kingdom and 97 in Canada.

In 2016 a similar outbreak in the UK involved 443 cases between June and October, 359 of whom reported travel to Mexico, mostly to the Riviera Maya and Cancun regions. In 2017, 78 cases were recorded in the UK, of which 37 travelled to Mexico.

The fact that these two resorts are responsible for the majority of cases suggests that the source is likely to be a foodstuff that has been distributed to hotels throughout the region. Foods commonly contaminated with the parasite are soft fruits such as raspberries and salad products such as coriander, basil, and lettuce.

The symptoms associated with Cyclosporiasis, include watery diarrhea, nausea, loss of appetite and abdominal cramps, usually within two to 14 days after the ingestion of oocysts.

In the United States, there are currently two ongoing multistate outbreaks of Cyclosporiasis. One is from a salad mix sold at McDonald's restaurants, where over 476 cases have been reported from 15 states including 16 hospitalisations. The second is linked to Del Monte fresh produce vegetable trays where 237 laboratory-confirmed

cases have been identified from four states. The trays contained broccoli, cauliflower, carrots, and dill dip.

EU data reveals Salmonella enteritidis on the rise for the first time in a decade

The European Centre for Disease Prevention and Control (ECDC) and European Food Safety Authority (EFSA) have published their annual summary of food borne infection data for 2016, and the summary has revealed two interesting trends.

The report revealed that after 10 years of declining Salmonellosis cases, the trend was reversed and the number increased by three percent in 2016.

Salmonella in eggs caused the highest number of outbreak cases (1,882), with Salmonella enteritidis being responsible for one in six foodborne disease outbreaks.

The same EU data publication also revealed that Germany and the United Kingdom accounted for almost half of STEC cases in 2016.

A total of 6,619 confirmed cases of infections with STEC were recorded in Europe. The highest number of confirmed cases was reported by Germany with 1,843 followed by the UK with 1,373. The two countries accounted for 47.7 percent of all EU cases.

Coincidentally, Health Protection Scotland have published a paper this month which shows how the number of reported STEC cases per head of population in Scotland is approximately double the figure of reported cases in England. The number of cases of STEC reported in Scotland decreased slightly in 2017 (both O157 and non-O157 reports), but the report stated that this was in keeping with normal variation expected from year to year.

BLEP urges consumers and manufacturers to buy British

In a direct response to the findings released by the EFSA, the British Lion Egg Processors (BLEP) said there are “serious question marks” over the future of imported eggs and egg products.

Although in the UK we produce 10.8 billion eggs, we still import 1.9 billion eggs. The majority of the imported eggs are used in processed food manufacturing.

The British Lion is a food safety project and more than 90 percent of UK eggs are now produced under its protocols. It claims to have reduced the presence of Salmonella in UK eggs since its launch in 1998.

All eggs that have the British Lion mark are produced under requirements of the British Lion Code of Practice. The code covers the production chain and includes the guarantee that hens are vaccinated against Salmonella. It also requires a passport system to ensure that all hens, eggs and feed are traceable.

There have been three separate recalls this month in Germany, Italy and Malta concerning Salmonella detections in eggs. There have been no reported illnesses associated with any of the recalls.

Meanwhile, the British Egg Industry Council has welcomed news that victims of a Salmonella outbreak in the UK linked to German eggs will be awarded £275,000 (\$350,000).

A total of 28 people fell ill after eating at a restaurant in Hampshire, in July 2014. They were part of a European multi-country outbreak of Salmonella associated with eating eggs involving more than 400 cases which were all linked to a Bavarian egg producer.

WHO and PHE advocate the use of WGS

The World Health Organization (WHO) is encouraging all countries to look at how whole genome sequencing (WGS) can be used to improve their foodborne disease surveillance and response system.

The WHO have recently stated that WGS can increase the speed with which illnesses and food contamination are detected and the detail in which they are understood, leading to quicker and more targeted interventions. Data from the European Food Safety Authority shows that by the

end of 2016, WGS was being used in labs in 17 out of 30 countries.

WGS is currently being used to identify what is thought to be the biggest STEC outbreak recorded so far in Sweden. To date, 54 cases linked to a specific STEC type by WGS have been identified, with an additional 50 cases under investigation. The Swedish public health agency have stated that there have been regional outbreaks during July that now seem to be connected according to cluster analyses by WGS. Since this link has been identified, the national outbreak team are investigating a possible common source linking all the cases together.

Additionally Public Health England (PHE) have produced a paper detailing the transition to the use of WGS. They claim that the introduction of routine WGS has improved national and local surveillance, increased the number of outbreaks being detected and has led to outbreaks being detected earlier than previously possible.

Study on Listeria monocytogenes in Northern Ireland

A risk profiling exercise carried out in Northern Ireland revealed that out of 1,594 food and environmental samples tested, 6.3% environmental swabs and 4.6% of the food samples tested positive for Listeria monocytogenes.

WGS analysis showed that 71.4% of isolates carried genes conferring resistance to quaternary ammonium compounds, which are used as the basis of many sanitisers. WGS also allowed Multi Locus Sequence Typing to be undertaken, which showed that recurrence of sequence types occurred in several premises, which suggested cross-contamination of the food product and the processing environment.

98% of all isolated also shared a sequence type with clinical cases, suggesting that most of the strains have the ability to act as pathogens.

More evidence on how our intestinal microbiome can influence our mental state

Further evidence on how our gut bacteria can influence our overall wellbeing and behaviour was referenced in our sister Chemistry Bulletin this month. It detailed research into how foods with high levels of Nitrates which are typically found in cured meats can have an effect on our gut bacteria which in turn influences our mental activity.

The Chemistry bulletins can be found in Webtrieve in the My Reports, Technical Bulletins section.