

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD**EPIDEMIOLOGY OF FOODBORNE INFECTIONS GROUP (EFIG)**

1. The group met on 5 June 2014 and the following is a combined summary of the animal and human data and other topics that were discussed at the meetings.

Animal data**Animal *Salmonella* data January – December 2013 (provisional data)**

2. Key points from the January – December 2013 data were highlighted. The data were provisional figures and relate to numbers of incidents rather than flocks or herds. The annual AHVLA reports on *Salmonella* in livestock provide further details including the reasons for collection of this data. The latest report (2012) is available at <http://www.defra.gov.uk/ahvla-en/publication/salm12/> and the report for 2013 is expected to be published later this year. Although not presented here, some data is available for other foodborne pathogens from confirmed clinical diagnoses of non-statutory zoonoses and infections shared between animals and humans from specimens submitted to AHVLA and SAC laboratories.
3. An isolation is defined as the report of the first isolate of a given *Salmonella* (defined by serovar, and/or phage type, if available) from the same group of animals on a given occasion. If two submissions from the same group of animals on different dates give the same serovar, this is reported as two isolations. An incident comprises the first isolation and all subsequent isolations of the same serovar or serovar and phage/definitive type combination of a particular *Salmonella* from an animal, group of animals or their environment on a single premises, within a defined time period (usually 30 days).
 - Between January – December 2013, there were a total of 1168 reports of *Salmonella* from livestock species not subject to *Salmonella* NCPs. This is similar to January – December 2012 (1153 reports) and a 7% decrease compared to the equivalent period in 2011 (1251 reports).
 - There were eleven reports of *S. Enteritidis* during January – December 2013 compared with 15 reports during January - December 2012. Two reports were from cattle.
 - There were also 108 reports of *S. Typhimurium* during January – December 2013, a 31% decrease compared with the equivalent period in 2012 (157 incidents). Phage types DT104, DT193 and U288 were, again, the most commonly reported phage types. DT104 and U288 were the predominant phage types in cattle and pigs respectively.
 - Reports of *Salmonella* 4,12:i:- decreased, by 7%, from 41 reports during January – December 2012 to 38 reports for the same period in 2013. There was a 5% increase in reports of *Salmonella* 4,5,12:i:-, from 55 incidents during January – December 2012 to 58 incidents during the same period of 2013.

Approximately half of the reports of 4,12:i,- and a third of the reports of 4,5,12:i,- in 2013 were from pigs.

Animal *Salmonella* data (non NCP species) January – March 2014 (provisional)

- Between January – March 2014, there were a total of 248 reports of *Salmonella* from livestock species not subject to *Salmonella* NCPs. This is a 17% decrease compared with January – March 2013 (298 reports) and an 11% decrease compared to the equivalent period in 2012 (278 reports).
- There was one report of *S. Enteritidis* during January – March 2014 the same as during January - March 2013.
- There were 25 reports of *S. Typhimurium* during January – March 2014, a slight increase compared with the equivalent period in 2013 (22 incidents). Phage types DT104, DT193 and U288 were, again, the most commonly reported phage types.
- Reports of *Salmonella* 4,12:i,- increased from six reports during January – March 2013 to nine reports for the same period in 2014. There was also an increase in reports of *Salmonella* 4,5,12:i,-, from 14 incidents during January – March 2013 to 17 incidents during the same period of 2014.

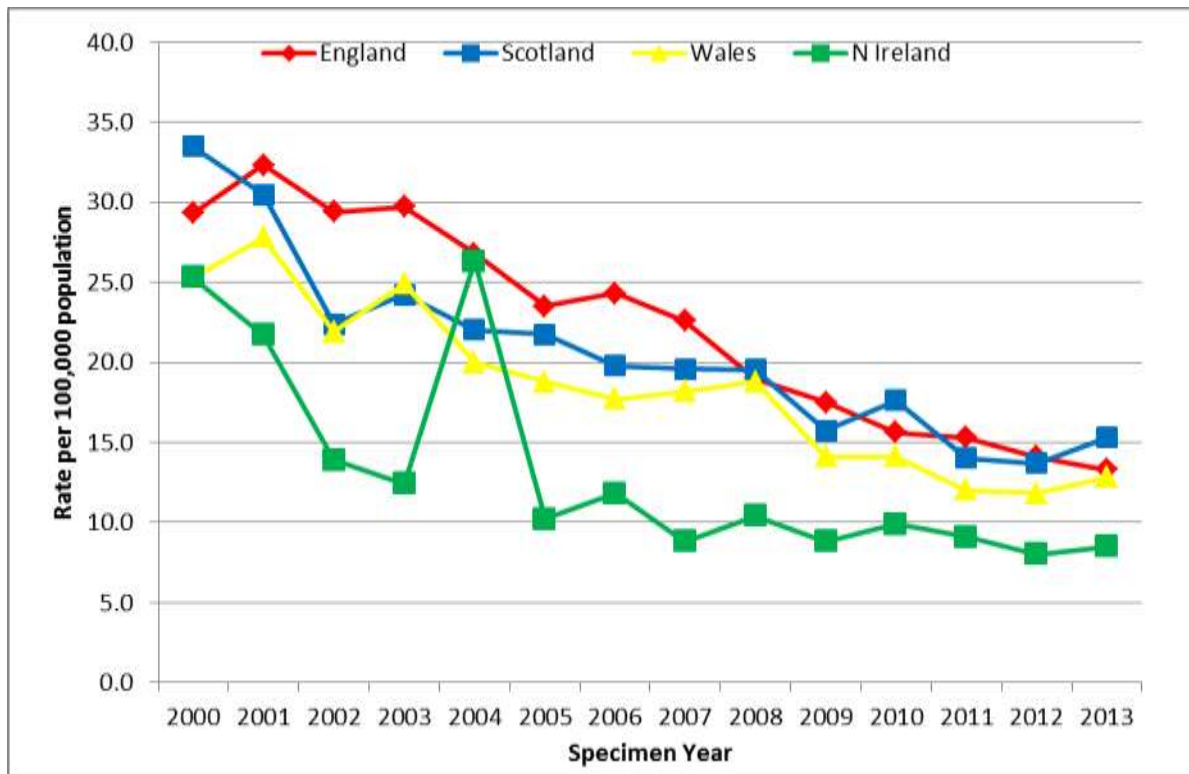
Human data

Summary for key pathogens for 2013 (January to December)

Trends in laboratory reports

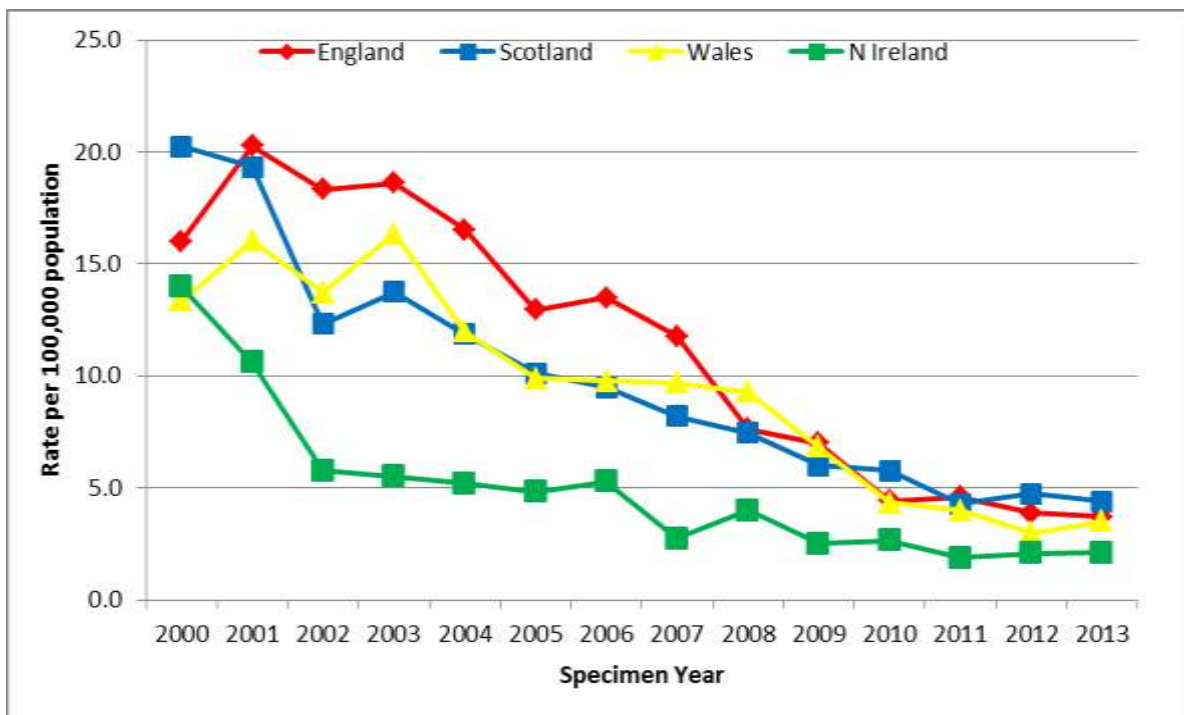
4. The following figures 1-7 show the trends in laboratory reports for non-typhoid *Salmonella*, *Campylobacter*, *Listeria monocytogenes* and *E.coli* O157 in the UK 2003-2013 based on date for January to December each year.
5. The decline in non-typhoidal *Salmonella* infections continues, with the numbers of cases and rates of infection remaining in decline for the past 10 years in UK (Figure 1). The decline in *S. Enteritidis* has continued in all countries (Figure 2), and this is presumed to be as a result of PT4 strains as this phage type continues to decline following interventions in the poultry and egg industries. Infections with *S. Typhimurium* overall (Figure 3) are only slightly lower than ten years ago, but would be lower still, were it not for the rise in *S. Typhimurium* Definitive Type 193 (DT 193) that has been seen in all countries in recent years (Figure 4).

Figure 1. Non Typhoidal Salmonellas



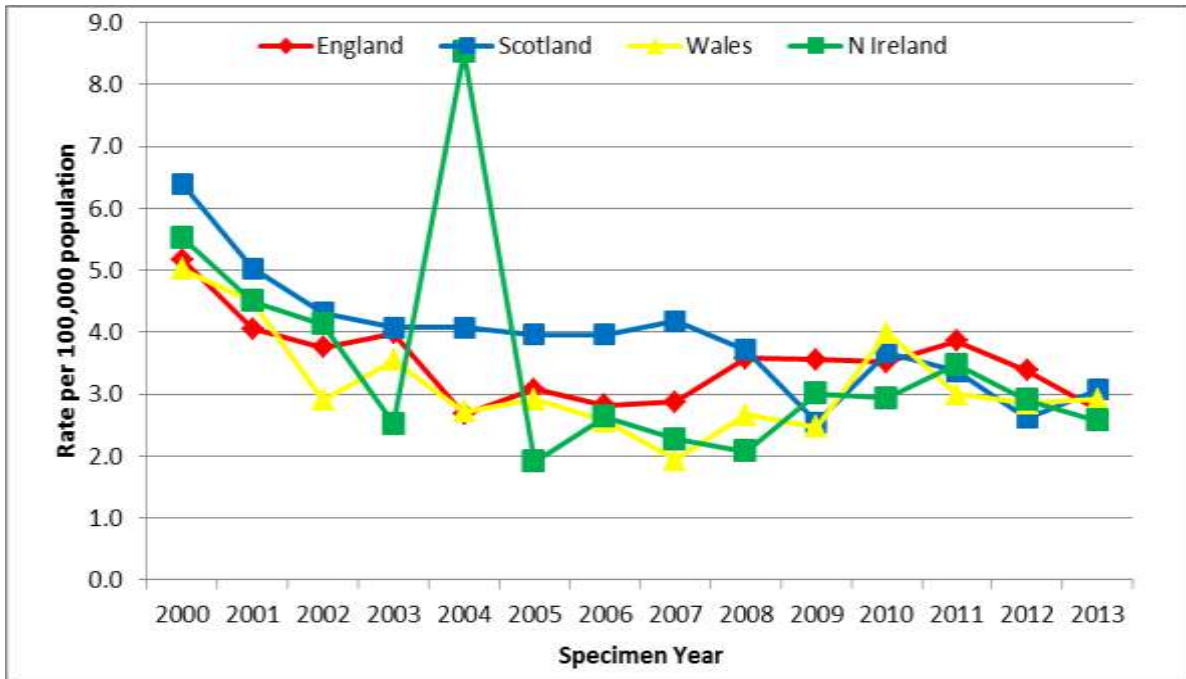
Source: PHE

Figure 2. *Salmonella* Enteritidis



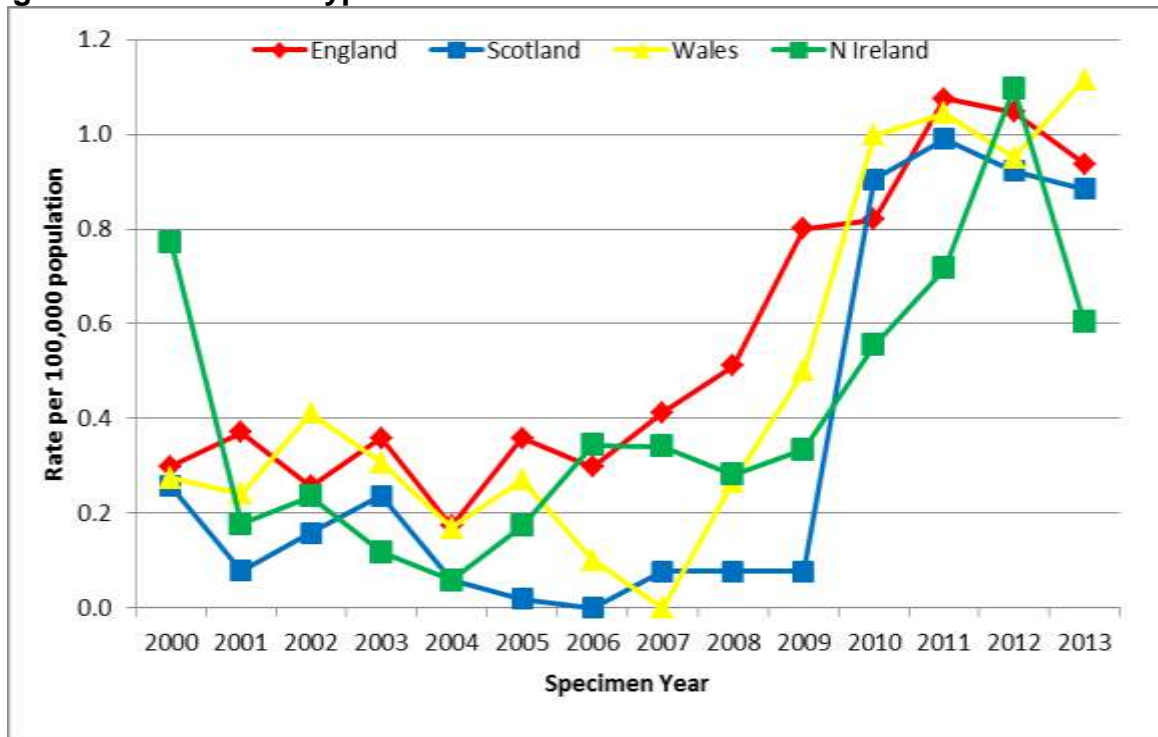
Source: PHE

Figure 3. *Salmonella* Typhimurium



Source: PHE

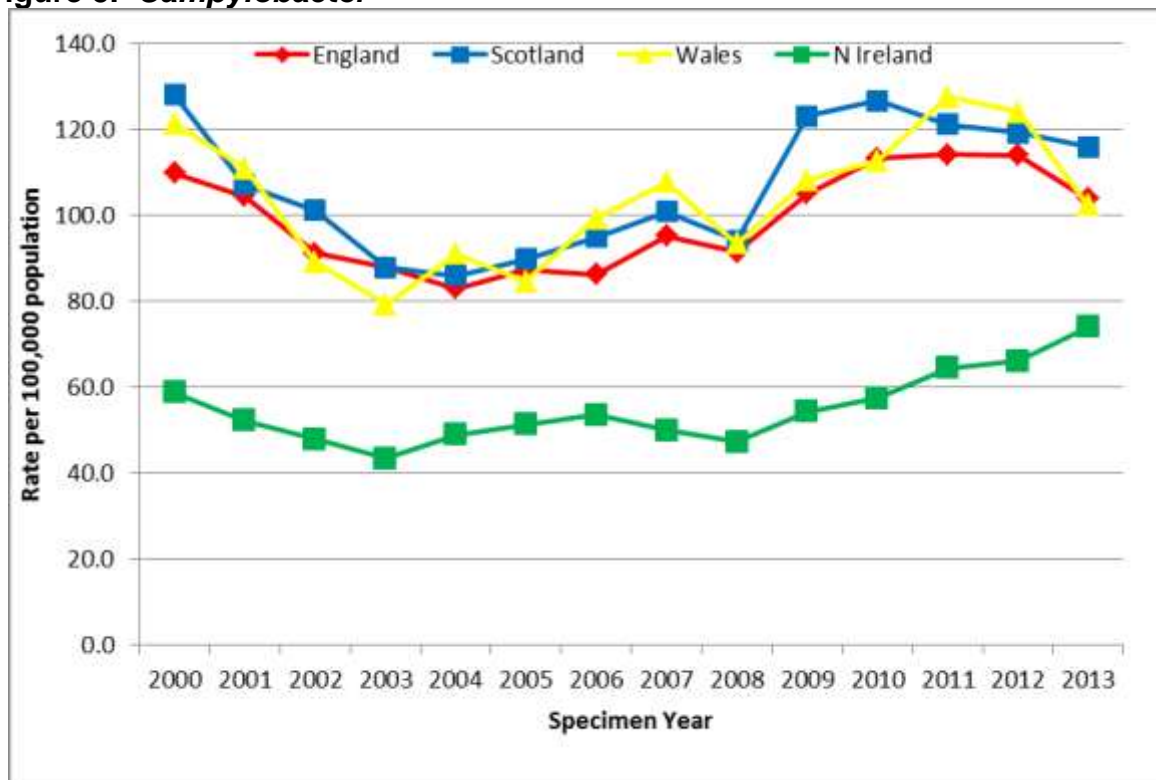
Figure 4. *Salmonella* Typhimurium DT193



Source: PHE

6. Reported *Campylobacter* infections continued to decline in England, Wales and Scotland, to levels seen in 2009 (Figure 5). Whilst Northern Ireland continue to report rates of infection considerably lower than those for the rest of UK, reports of *Campylobacter* continue to rise from 66 cases per 100,000 population to 74 / 100,000 population in 2013. There still remains a significant difference in the reporting rates for Northern Ireland against England, Scotland and Wales. Prior to 2009, the reported rate of campylobacteriosis in Northern Ireland was consistently around 50% of that in the other countries. Further work is underway to try and elucidate the reason(s) for the different rate in Northern Ireland.

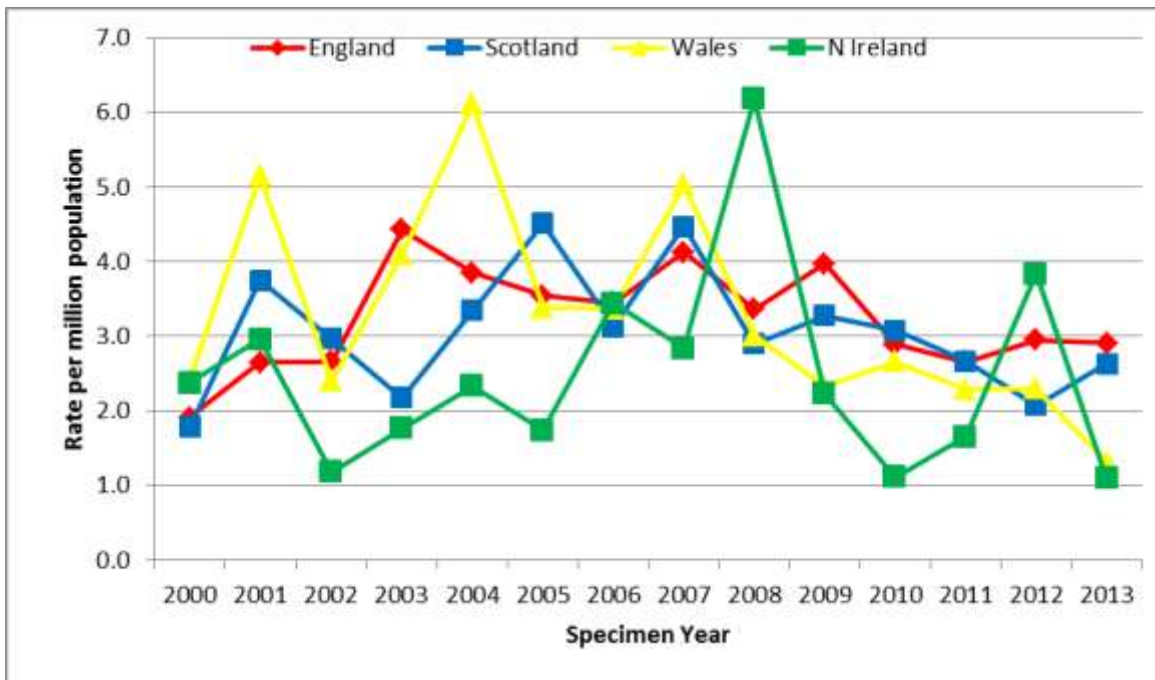
Figure 5. *Campylobacter*



Source: PHE

7. *Listeria monocytogenes* remains lower than in most recent years, though with small reported numbers the data remain particularly stochastic, with the overall rate of infection in the UK fluctuating from 1.9 cases per million population to 4.1 / million in the past 13 years (Figure 6).

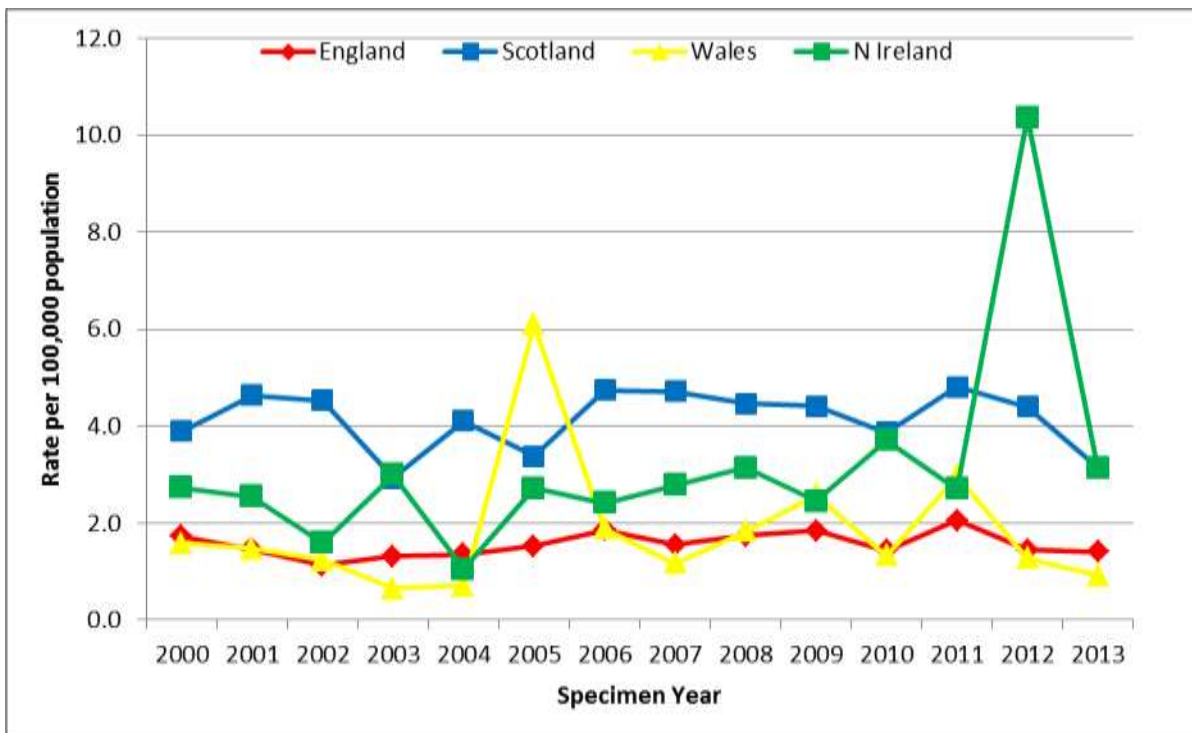
Figure 6. *Listeria monocytogenes*



Source: PHE

- The rates of VTEC O157 infection in Scotland and Northern Ireland remain higher than in England and Wales (Figure 7). In England and Wales phage types PT21/28 and PT8 remain the commonest phage types reported as in previous years.

Figure 7. *E.coli* O157



Source: PHE

Outbreak data

9. The number of outbreaks reported in 2013 returned to similar levels as those seen in 2011. Reported outbreaks of *Salmonella* continued to decline against an increasing number of reported *Campylobacter* and *Clostridium perfringens* outbreaks. In 2013 the largest outbreak reported was the *Salmonella* Agona PT40 and other GI pathogens associated with curry leaves used at food festival in the North east in February-March. Other outbreaks of interest included *Salmonella* Goldcoast associated with whelks, *Salmonella* Typhimurium DT120 associated with a hog roast, *E.coli* O157 PT2 linked to watercress and *Salmonella* Mikawasima associated with eating chicken outside the home.

Other items of interest

IID2 attribution study

10. EFSA received a presentation from Professor Sarah O'Brien on the findings of the above study. The objectives of the study were to a) determine the burden of foodborne disease that is UK-acquired and, b) estimate the burden of foodborne disease caused by contaminated food commodities using a point-of-consumption attribution model. The study report is expected to be published by end of June 2014.

Antimicrobial resistance

11. It was reported that an update on the UK antimicrobial resistance (AMR) strategy action plan is expected to be published later in the year. The recent EFSA Opinion on carbapenemase-producing bacteria was being discussed in various EU forums. It was highlighted that EFSA had recommended expansion of current EU surveillance programmes to encompass carbapenemase surveillance and would like rapid controls to be put in place should any such isolates be detected in food or companion animals. The group's attention was drawn to the European Commission implementing decision on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria in food animals and food. The Decision describes the rules for the harmonised monitoring and reporting of antimicrobial resistance to be carried out by Member States in accordance with article 7 (3) and 9 (1) of Directive 2003/99/EC concerning the monitoring of zoonoses and zoonotic agents. The work should provide useful data on AMR from both food and animal sources.

Food Surveillance

12. Public Health England (PHE) provided an update on microbiological food studies nationally, regionally and at local level. It was confirmed that the national food surveillance programme has changed since 2009 when PHE Food, Water and Environmental Microbiology Services took over this responsibility. It was recognised that completed and planned national and local studies contain a wealth of useful data in relation to food and the food preparation environment. Current or recently completed studies were:

- **STUDY 50 - Soda water study: plain soda water from soda gun or fixed dispensing point** - Sampling dates May 2013 – March 2014
- **STUDY 51 - Pre Packed Sandwiches Study: Sandwiches from unregistered premises and small/medium enterprises.** Sampling dates July 2013 – March 2014
- **STUDY 52 - Imported fresh leaves** - Sampling dates January – March 2014
- **STUDY 53 - Swabs from ready -to-use platters used to serve food** - Sampling dates April – October 2014
- **STUDY 54 - Takeaways with Food Hygiene Rating of 3 or less** – Sampling dates June 2014 – March 2015

Action

13. ACMSF Members are invited to comment on the recent trends in animal and human data and other subjects discussed by EFIG at the June 2014 meeting.

**Secretariat
June 2014**