

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

1. The group met on 9 December 2013 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 – September 2013 (provisional data)**

2. Key points from the January – September 2013 data were highlighted. The data were provisional figures and relate to numbers of incidents rather than flocks or herds. There was a reduction in reports of *Salmonella* in cattle, sheep, ducks and other bird species not subject to *Salmonella* National Control Plans (NCPs) in 2013 compared to 2012. The number of reports from pigs was roughly comparable to the same period in 2012. 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/>. 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 VLA 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 – September 2013, there were a total of 859 reports of *Salmonella* from livestock species not subject to *Salmonella* NCPs. This is almost identical to January – September 2012 (857 reports) and a 7% decrease compared to the equivalent period in 2011 (921 reports).
 - There were seven reports of *S. Enteritidis* during January – September 2013 compared with eleven reports during January - September 2012. Two reports were from cattle and one from horses.
 - There were also 86 reports of *S. Typhimurium* during January – September 2013, a 34% decrease compared with the equivalent period in 2012 (130 incidents). Phage types DT104, DT193 and U288 were the most commonly reported phage types with most isolates being from pigs or cattle.

- Reports of *Salmonella* 4,12:i:- decreased, by 13%, from 31 reports during January – September 2012 to 27 reports during January – September 2013. There were 39 incidents of *Salmonella* 4, 5, 12: i - during January – September 2013 which was similar to the same period in 2012 (39 incidents); 20 isolates were from pigs and 8 from cattle.
- There were 9% fewer AHVLA/SRUC submissions to VIDA between January and September 2013 (68,221 submissions) than in the equivalent period of both 2012 (75,000 submissions) and 2011 (74,577 submissions). Compared with January – September 2012, there were fewer submissions from cattle (13% decline), miscellaneous (9% decline) and birds (2% decline). The number of submissions from sheep and pigs was similar to that during January - September 2012.

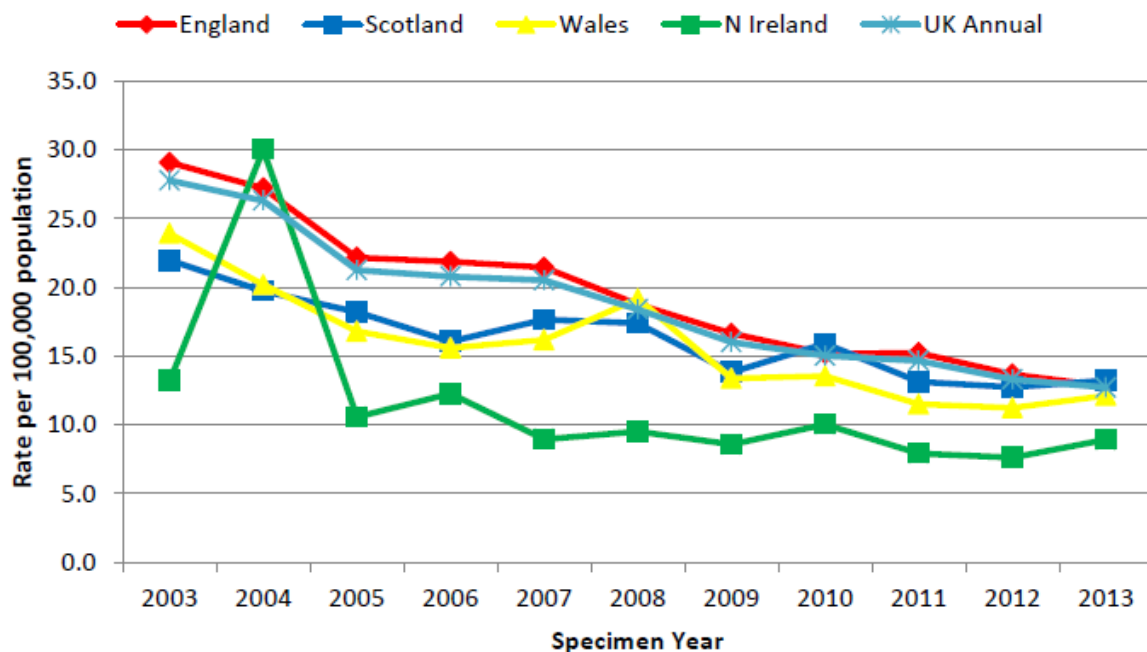
Human data

Summary for key pathogens for 2013 quarters 1-3 (January to September)

Trends in laboratory reports

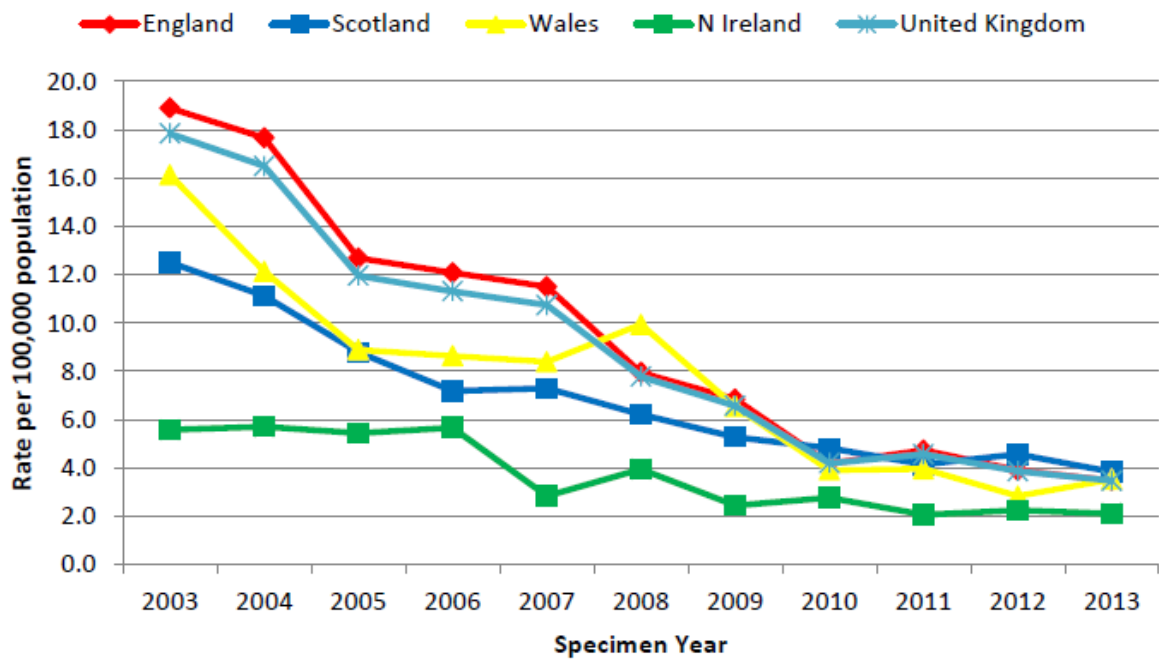
- The following figures 1-7 show the trends in laboratory reports for non-typhoid *Salmonella*, *Campylobacter*, *Listeria monocytogenes* and *E.coli* O157 in the UK 2003-2013 based on date for the first 9 months of each year.

Figure 1. Non Typhoidal Salmonellas



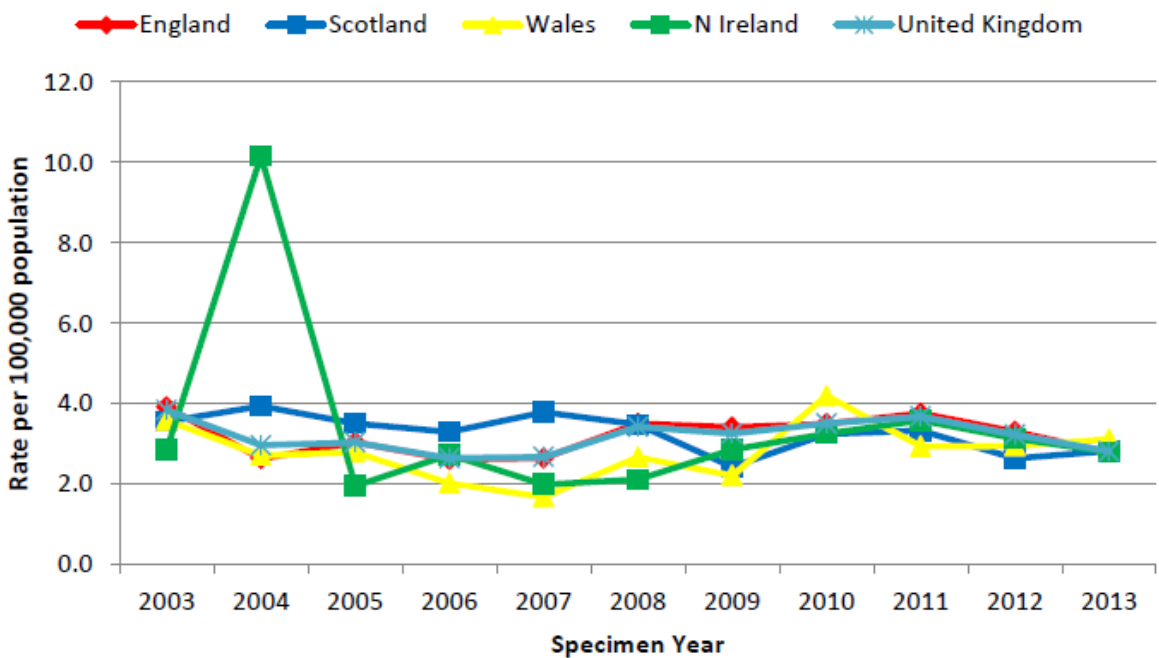
Source: PHE

Figure 2. *Salmonella* Enteritidis



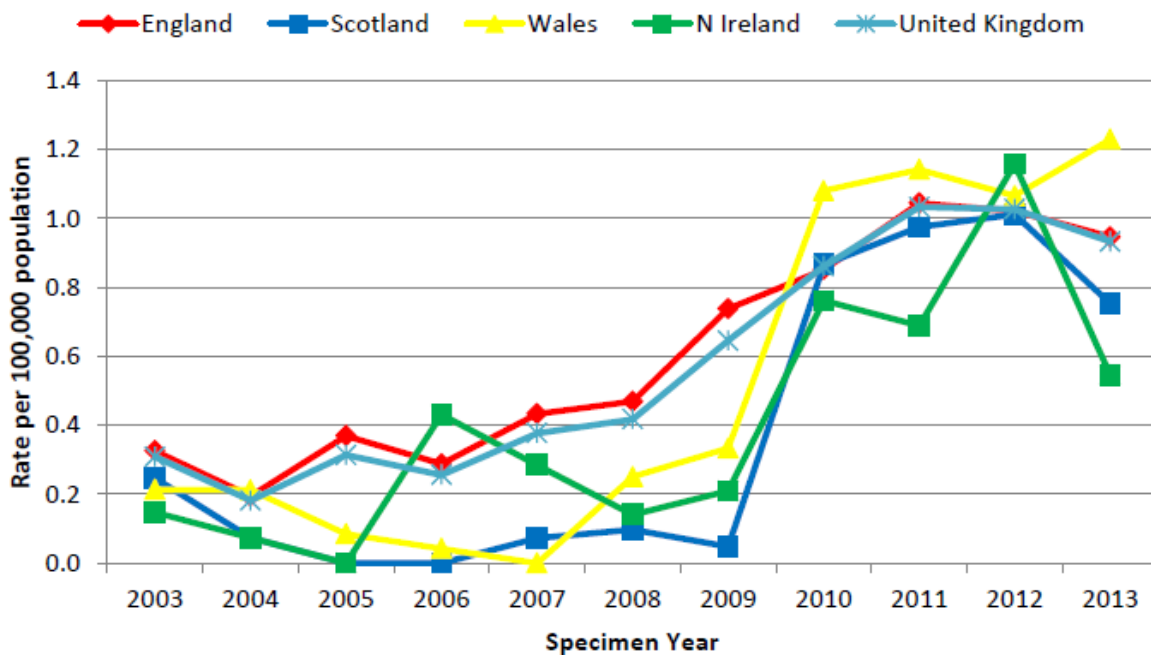
Source: PHE

Figure 3. *Salmonella* Typhimurium



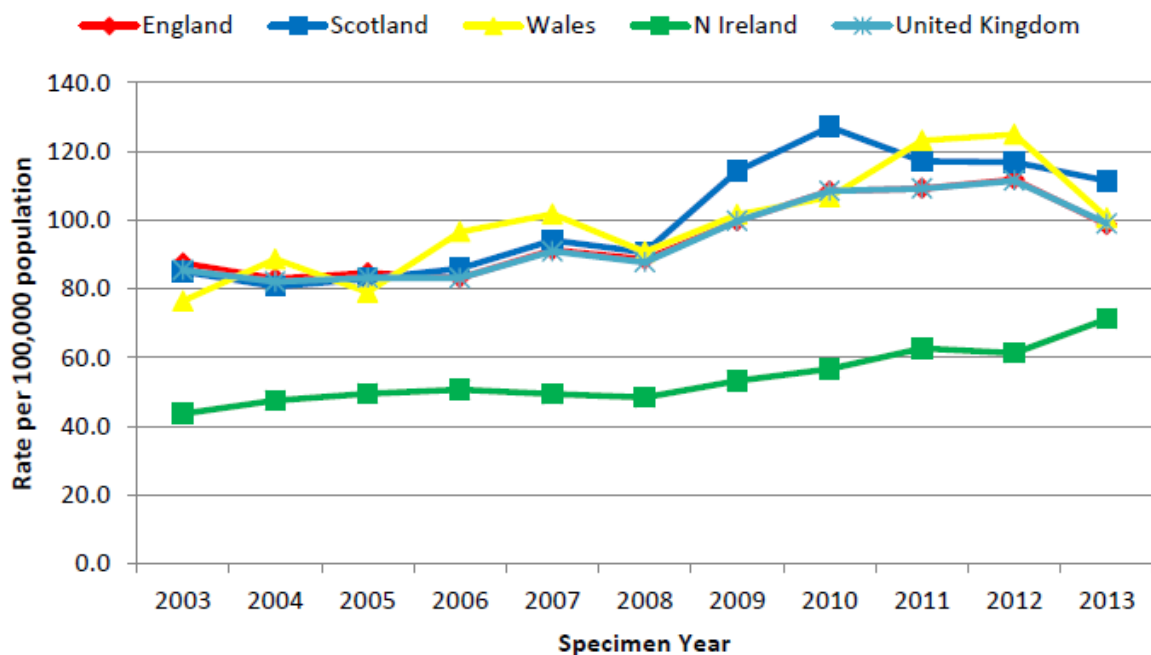
Source: PHE

Figure 4. *Salmonella* Typhimurium DT193



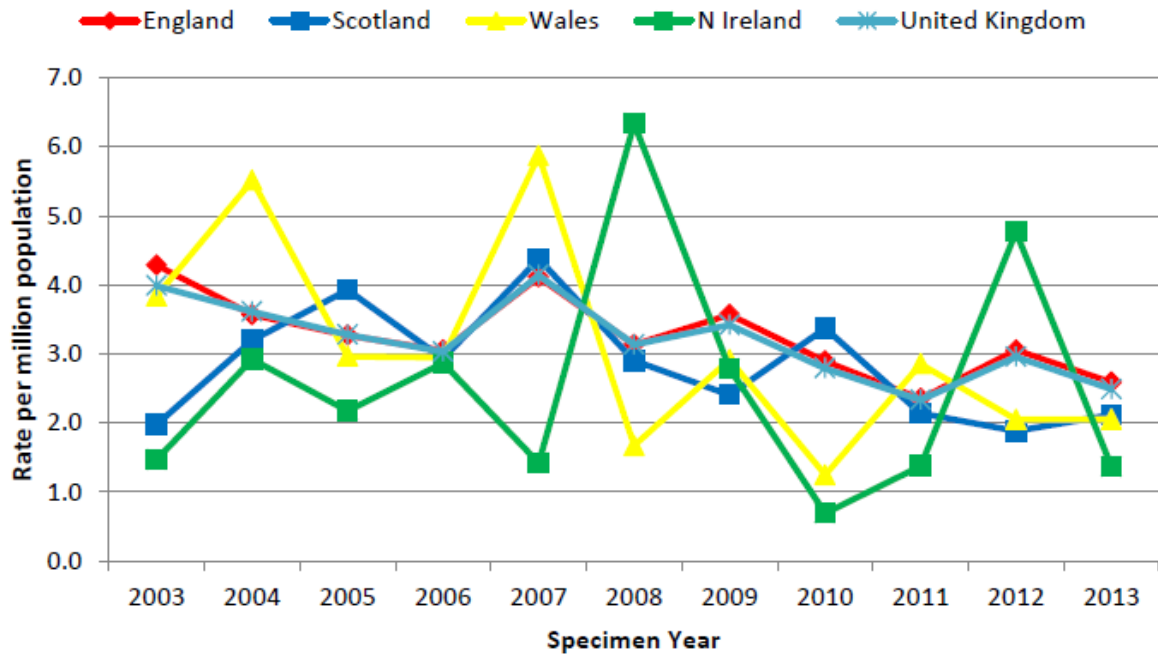
Source: PHE

Figure 5. *Campylobacter*



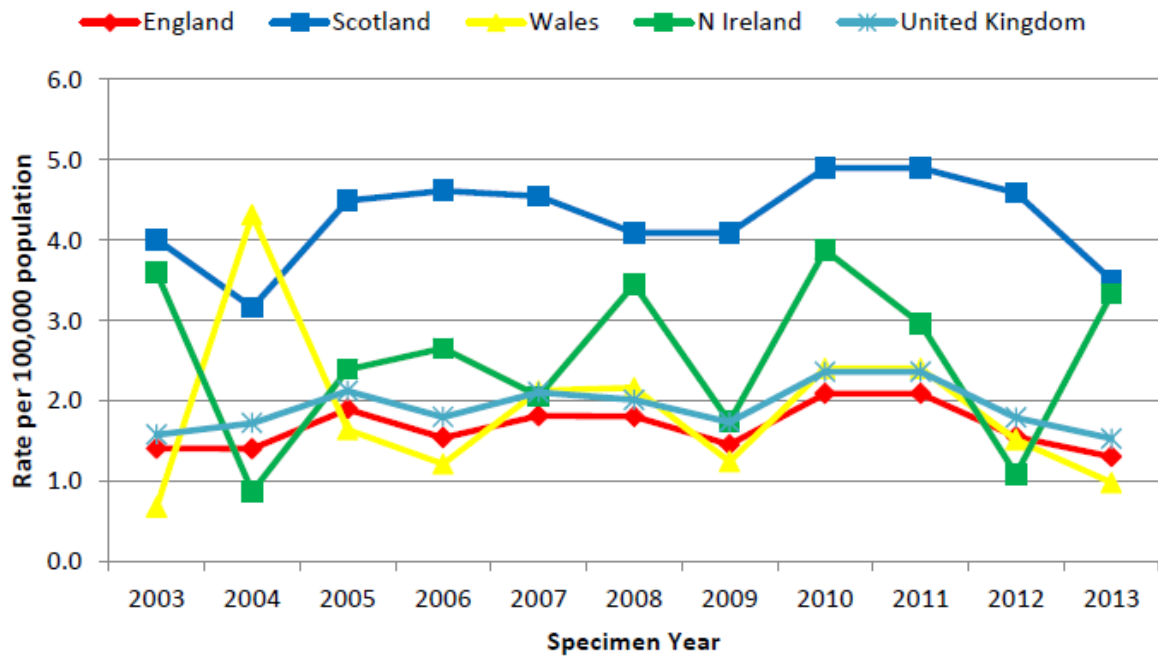
Source: PHE

Figure 6. *Listeria monocytogenes*



Source: PHE

Figure 7. *E.coli* O157



Source: PHE

- *Salmonella* reports continue to decline in frequency in 2013, with 6,412 isolates reported in the UK, a 7% reduction on the same period in 2012 (quarters 1-3) and equivalent to 47% of isolates reported in 2003. The predominant cause of the decline remains in *Salmonella* Enteritidis. Reports of *Salmonella* Typhimurium remain relatively stable, with a marginal increasing trend, exaggerated significantly for DT193, which has increased noticeably in recent years (Figure 4). The top 3 serovars in England and Wales in Q1-3 2013 were Enteritidis, Typhimurium and Infantis. The top 3 phage types of Enteritidis were PT8, PT4 and PT1 and for Typhimurium were DT193, DT120 and DT104.
- *Campylobacter* continues to decline in England, Scotland and Wales, but is increasing in Northern Ireland (Figure 5). There still remains a significant difference in the reporting rates for Northern Ireland against England, Scotland and Wales, with the rate approximately 39% less in Northern Ireland. 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.
- *Listeria monocytogenes* reports, though stochastic, due to the relatively small numbers reported annually continues to decline, with reports for Q1-3 in 2013 16% and 38% below those for the same period in 2012 and 2003 respectively (Figure 6). There remains considerable variation in the rates between the different countries, though this is partly due to the small numbers being reported.
- Rates for verocytotoxin-producing *E.coli* O157 declined by 14% in Q1-3 of 2013 compared to the same period in 2012 (Figure 7). The only country to show an increase was Northern Ireland.

Outbreak data

5. There were 33 foodborne general outbreaks reported in the first 9 months of 2013 in England and Wales. The largest outbreak reported was the *Salmonella* Agona PT 40 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 and *E.coli* O157 PT2 linked to watercress.

Comparison of the human and animal data

6. EFIG has begun looking at how the animal and human data can be better aligned to facilitate comparison of patterns and in recognition of the various caveats associated with the different datasets. At present this has only been undertaken for *Salmonella* as the data is more comprehensive than for other pathogens. More details will be presented at a future meeting.

Other items of interest to the Committee

Survey of UK pigs at slaughter

7. EFIG received a presentation from Animal Health and Veterinary Laboratories Agency on the baseline survey of pigs at slaughter. The findings are expected to be published at a stakeholder meeting scheduled for March 2014.

Antimicrobial resistance

8. EFIG were updated on the work of the ACMSF working group on antimicrobial resistance. Members were also informed about the recent finding of livestock-associated MRSA from turkeys in the UK and the UK Five-Year Antimicrobial Resistance Strategy 2013-2018 which was published in September.

Campylobacter conference

9. EFIG received a presentation on selected highlights from CHRO the 17th International workshop on *Campylobacter*, *Helicobacter* and related organisms which was held in Aberdeen 15-19 September 2013. In relation to *Campylobacter*, topics included recent experience in New Zealand, the Cam Con EU project (7th Framework 5 year project), risk factors, disease sequelae, vaccines, phage treatment, isolation methods and a workshop on omics.

HPA/LGR Co-ordinated food studies

10. EFIG was provided with a list of recent and current studies under this programme which are as follows.

- **STUDY 48 - Pâté: comparison of 'in-house' produced & large-scale produced liver-based pâté** - Sampling dates April 2012 to March 2013
- **STUDY 49- Microbiological safety of ready-to-eat meat pies**
Sampling dates January 2013 to March 2013
- **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

Action

11. ACMSF Members are invited to comment on the recent trends in animal and human data and other subjects discussed by EFIG at the December 2013 meeting.

Secretariat
January 2014