

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

The group met on 10 November 2011 and the following is a summary of the main areas that were discussed.

Review of animal data January – September 2011 (provisional figures)***Salmonella***

1. Points of interest from the **provisional** January - September 2011 data were highlighted. The data for chickens and turkeys are not comparable with data from previous years - poultry data from outside the scope of the National Control Plans (NCPs) are included but data from the NCPs is excluded.
 - The number of reports of *Salmonella* associated with animals (all species) between January and September 2011 was 18% and 23% lower than for the equivalent period in 2010 and 2009 respectively.
 - There were 2 reports of *S. Enteritidis* in layers and 1 from ducks. For *S. Typhimurium* there were 3 reports from turkeys and 12 from ducks.
 - For the monophasic *Salmonella* Typhimurium (*S.* 4,5,12:i:- and *S.* 4,12:i:-) data for 2011 until the end of September; the predominant phage type reported was DT193 (83.6% of reports). It was highlighted that *S.* 4,5,12:i:- has been found in a wide variety of species including alpacas, horses, sheep, cats, dogs, pheasants and partridges but was predominantly found in cattle and pigs.
 - Monophasic strains have become more frequent in pigs over the past three years. For the first 9 months of 2011 *S.* 4,5,12:i:- accounted for 3.9% of total cattle reports whereas *S.* 4,5, 12:i:- and *S.* 4,12:i:- accounted for 22.8% and 8.7% of total pig reports respectively. For the same period in 2009 *S.* Typhimurium accounted for 71.0% of total pig reports and *S.* 4,5,12:i:- for 6.9%; in 2010 the percentages were 58.2% and 17.9% respectively, and in 2011 they were 43.3% and 22.8% respectively.
 - In Northern Ireland *S.* 4,5,12:i:- had been reported from broilers and pigs but the predominant serovar in cattle was still *S.* Dublin.
 - Animal Health and Veterinary Laboratories Agency (AHVLA) has recently completed a study in conjunction with the Sanger Institute and the HPA which looked at the characterisation of monophasic strains using complete genome sequencing. This study will be presented to EFIG at a future meeting.

- In cattle there were three reports of *S. Infantis* (an EU serovar of public health importance) in the first 9 months of 2011 which is unusual. *S. Infantis* has also been associated with brewer's yeast which is used as a feed.

Review of trends in human data - Laboratory reports and outbreak data for January to September 2011 (provisional figures)

2. UK incidence rates for selected bacterial pathogens between 2004 and 2011 are shown in the following table*. Incidence rates are per 100,000 population, apart from *L. monocytogenes* which is per 1,000,000 population, and are for the first nine months of each year.

Pathogen	2004	2005	2006	2007	2008	2009	2010	2011
<i>Salmonella</i> (non-typhoidal)	26.9	21.8	21.5	21.3	18.8	16.3	15.3	15.0
<i>S. Enteritidis</i>	16.9	12.3	11.7	11.2	8.0	6.7	4.3	4.8
<i>Campylobacter</i>	86.8	88.4	88.4	96.6	93.0	105.9	115.4	117.0
<i>E. coli</i> O157	1.68	1.84	2.27	1.92	2.25	2.15	1.85	2.54
<i>Listeria monocytogenes</i>	3.87	3.50	3.23	4.44	3.35	3.65	2.98	1.67

* Data collected and collated by HPA

3. Key points from data for 2011:

- The increase in laboratory reports of *Campylobacter* has continued in 2011 but is now starting to level off (still 2% above last year).
- Laboratory reports of non-typhoid salmonellosis, *Salmonella* Enteritidis and *S. Enteritidis* PT4 infection continue to decline across the UK while *S. Typhimurium* and *S. Typhimurium* DT104 reports remain level. Human cases of *S. Typhimurium* DT193 have increased.
- Reports of *Listeria monocytogenes* continue to decline, particularly in England.
- The increase in VTEC *E. coli* O157 in England Wales and Scotland was mainly as a result of the outbreak attributed to unwrapped leeks and potatoes.
- General Foodborne Outbreaks:
 - *Campylobacter* overtook *Salmonella* in the number of outbreaks per year reported in 2010, and 2011 is showing a similar trend. Chicken liver or chicken liver parfait are the most common attributed food vehicles, with catered events particularly weddings featuring strongly.

- An outbreak of VTEC *E. coli* O157 PT8 began at the beginning of 2011. A case-control study showed strong associations between infection and the handling of leeks (unwrapped) and potatoes (from sacks) in the home.
- A large outbreak of *E. coli* O104:H4 in Germany affected only 3 people in the UK, all of whom had visited Germany (according to the ECDC case definition).

Other items of interest to the Committee

Campylobacter

4. At the previous meeting in May 2011 EFIG was presented with an analysis of faecal test results from Welsh laboratories 1998-2008 focussing on the faecal positivity rates for *Campylobacter* and *Salmonella* alongside denominator data. At the November meeting EFIG received an update which included new data covering 2009-2010.
5. It was concluded that stool sampling rates in Wales have risen steadily since 1998, particularly samples from hospital patients and from people aged ≥ 65 years. *Salmonella* incidence has continued to decline. By contrast, *Campylobacter* incidence after declining between 1998 and 2005, rose steadily between 2006-2008 and sharply in 2009-2010. Until 2008, the proportion of samples positive for *Campylobacter* remained fairly constant (between 4.1% and 5.5%), but in 2009 and 2010 it jumped to 7.4% and 6.7% respectively.
6. It was suggested that the rise in *Campylobacter* incidence up until 2008 may partly be a surveillance artefact largely due to the increase in stool sampling in older people. However, the sharp rise in laboratory reports of *Campylobacter* infection in 2009-2010 cannot be explained by increases in sampling rates alone.
7. EFIG was provided with an overview of the 16th International Workshop on *Campylobacter*, *Helicobacter* and Related organisms (CHRO) held in Vancouver, Canada from 28 August to 1 September 2011.

Second study of Infectious Intestinal Disease

8. A presentation was given on the key findings of the second Infectious Intestinal Disease Study (IID2), the report of which was published on the FSA website in September 2011. The main purpose of the IID2 study was to provide up-to-date data on the incidence of IID in the UK, identify the microorganisms causing illness and whether the incidence has changed since the first IID study was carried out in the mid-1990s. It was revealed that there were an estimated 17 million cases of IID per year in the UK. The rate of IID in the community in England was 43% higher in 2008-2009 (IID2) than in 1993-1996 (IID1), whilst the number of people visiting their GP about IID was 50% lower. The most commonly identified microorganisms found in stool samples from those with IID in the community were norovirus (16.5%), sapovirus (9.2%), *Campylobacter* spp. (4.6%) and rotavirus (4.1%). The study limitations and strengths were highlighted as was further work being undertaken to determine the food-related component of IID.

Defra's Antimicrobial Resistance Coordination Group

9. EFIG was provided with an overview of the work undertaken by Defra's Antimicrobial Resistance Coordination Group (DARC). DARC was established in 1999 to take forward, within Defra, recommendations made by the House of Lords Select Committee on antimicrobial resistance. DARC also considered the recommendations made by the ACMSF in their 1999 report on microbial antibiotic resistance in relation to food safety. The DARC Group works alongside other Government antimicrobial resistance related groups such as the Advisory Committee on Antimicrobial Resistance and Health Care Associated Infections (ARHAI). DARC's terms of reference is to co-ordinate, advise and review Defra activities on antimicrobial usage in animals and antimicrobial resistance in micro-organisms from feedingstuffs, animals and food. DARC's responsibility covers companion animals, pets and some element of research and development. It was mentioned that on 18 November 2011 the European Commission will launch an action plan against AMR which will state the Commission's plans for the next 5 years. The Chair indicated that EFIG could consider this action plan at its May 2012 meeting together with updates from any DARC meetings.

FSA Review of the Official Controls Delivery in the UK

10. A presentation was given on the FSA review of Official Controls Delivery in the UK. The review will evaluate the effectiveness of the current delivery model and consider the scope for making improvements to the model. The review will be evidence-based and objective with no pre-determined outcomes. EFIG commented on the feasibility and difficulties in linking public health indicators (e.g. changes in levels of foodborne disease) directly to effectiveness of the delivery of official controls.

Food Surveillance

11. The HPA Food, Water and Environmental Microbiology Laboratories have been reconfigured to five sites (from 26 sites in 2007). Although support for the Local Government Regulation/HPA study programme has been significantly reduced contact will be maintained through the Food Hygiene Focus Group with laboratories being the main contact with Local Authorities for the distribution of study related documents. EFIG was provided with an update on the 2011-2012 Study Programme. Sampling has continued on the Lightly Cooked Food Study covering sous vide foods cooked by water bath, uncooked egg dishes, rare duck meat (pink duck), chicken parfait and pate made with flash fried liver. With regard to the 2012-13 study programme these will be focussed on preparation for the Olympic Games. For further details concerning studies see <http://www.lacors.gov.uk/lacors/ContentDetails.aspx?id=3512>

Action

12. ACMSF Members are invited to comment on the recent trends in animal and human data and other subjects discussed by EFIG.

Secretariat
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