ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

INFORMATION PAPER

EPIDEMIOLOGY OF FOODBORNE INFECTIONS GROUP (EFIG)

1. The most recent meeting of this group was held on 5 March 2009.

Trends in human data for 2008 (provisional figures)

2. After 3 years in which the decrease in reports of salmonellosis levelled out, there was a decrease of almost 16% in 2008 for the UK as a whole and for England in particular. In Scotland, the general downward trend continues whilst in Wales and Northern Ireland the levelling out persists. Much of the decline was due to a 40% decrease in reports of *Salmonella* Enteritidis, with a 54% decrease in PT4. Compared with 1998, reports of all *Salmonella* have decreased by over 50%, reports of *Salmonella* Enteritidis by over 70% and *Salmonella* Enteritidis PT4 by over 90%.

3. Both *Listeria* and VTEC O157 reports show a levelling out over the last 4-5 years. The number of *Listeria* reports is still almost twice that seen in the late 1990s, whilst reporting rates of VTEC O157 then and now are broadly comparable.

4. Reports of *Campylobacter* continue to show an upward trend, increasing by around 4% in comparison with 2007[1]. A smaller increase was observed in Scotland, and in both Wales and Northern Ireland the number of reports decreased. For the UK as a whole, a downward trend from 2000 to 2004 with a subsequent rising trend is now discernible. The number of reports in 2008 is similar to the number received in 2002.

5. The number of foodborne outbreaks in 2008 fell by almost 60%. Whilst it was reported that more clusters of cases are being investigated which are not identified as outbreaks, this decrease is consistent with the fall in the number of reported cases of salmonellosis since, in the past, *Salmonella* has accounted for a majority of outbreaks.

Review of animal data for January – December 2008

6. Over the year there has been a small overall decrease (1.5%) in reports of *Salmonella* in livestock. The number of incidents in chickens and pigs has increased by 27% and 10% respectively. The increase in chickens is not surprising, owing to enhanced surveillance and more sensitive methods introduced as a result of the *Salmonella* National Control programme (NCP). These figures exclude isolates subsequently identified as vaccine strains, which have increased due to testing of layer rearing flocks under the NCP and intensive VLA sampling during advisory visits to farms.

[1] There was a 4% decrease in UK *Campylobacter* incidence in the UK in 2007. This corrects the above report.

7. The NCP requirements are also reflected in an increase in reports of *Salmonella* Enteritidis, mainly in chicken layer flocks. PT4 remains the most common phage type.

8. In contrast, there has been a decrease of almost 50% in the number of reports in turkeys. This is thought to be due to the voluntary application and improvement of *Salmonella* control measures on farms following the baseline survey in turkeys. The number of reports in ducks also fell by over 23%.

9. Reports of *Listeria* in livestock showed no overall trends. Among other non-statutory diseases, an increase in fasciolosis and cryptosporidiosis in cattle was noted.

Salmonella National Control Plans

10. The NCP for *Salmonella* in breeding hens was implemented at the beginning of 2007. The prevalence of 0.07% in the UK for 2007 was well below the agreed EU target of 1% and considerably lower than the EU average of 1.4%. Figures for 2008 are currently being collated and will be reported in the 2008 National Trends and Sources Report, to be submitted to the European Food Safety Authority (EFSA) at the end of May 2009.

11. The NCP for *Salmonella* in flocks of laying hens was implemented in February 2008 and, from January 2009, there is a requirement to send any eggs from flocks infected with *Salmonella* Enteritidis or *Salmonella* Typhimurium for heat treatment prior to human consumption. As for breeding hens, figures for 2008 are currently being collated for submission to EFSA.

12. The *Salmonella* control programme for flocks of broilers has just started and will require annual collection of official control samples from one flock of broilers on 10% of holdings with more than 5,000 birds, although the requirements of the NCP apply to all operators, with exceptions relating to supply of small quantities of product direct to the final consumer.

13. The NCP for turkeys is due to start in 2010.

14. The reduction target for *Salmonella* in slaughter pigs is not likely to be set until next year as the Commission is carrying out a quantitative microbiological risk assessment and a cost/benefit analysis. As a result, the NCP will not be implemented until 2011 at the earliest.

15. The baseline surveys for *Salmonella* and *Campylobacter* in broiler flocks at slaughter and *Salmonella* in breeding pigs have just been completed and the results for the UK are being submitted to the Commission.

Poultry meat surveillance

16. Results from the poultry meat component of the LACORS/HPA Co-ordinated Local Authority Sentinel Surveillance of Pathogens (CLASSP) 2004-2007 were reported. Results of surveillance in humans and MLST typing will be reported later.

17. Results showed that 6.5% of carcasses were contaminated with *Salmonella* spp and this was comparable with the 2001 FSA survey and other recently-published retail surveys of whole chicken in the UK and in Wales and Northern Ireland. Results showed no trend over the 3 years of sampling.

18. For *Campylobacter*, a contamination rate of just under 70% was found. Again, this was comparable with other recent surveys although it was higher than the 2001 FSA survey and there was a trend to increased prevalence over the three years of the survey.

19. Data from the new FSA chicken meat survey was also presented to the group. The report of this survey is due to be published soon. It has been discussed by the ACMSF surveillance sub-group and Professor Humphrey will provide an oral report of these discussions. Whilst results for *Salmonella* are comparable with the results from the CLASSP study, the *Campylobacter* results appear to differ.

Food surveys and surveillance

20. The group received a presentation on the UK Food Surveillance system, a national database for food sampling data from LAs, PHAs and public laboratories. This was developed in Scotland and has been taken up in Northern Ireland. It will be rolled out across England and Wales later this year. Illustrations of the sort of analysis that can be undertaken were provided. Members generally viewed this as a positive development, although they had concerns about the potential for misleading outputs if the heterogeneity of the inputs was not taken into account. They noted that surveillance systems were best at posing questions which necessitated other studies to provide the answers.

21. LACORS/HPA surveys of RTE speciality meats from markets and specialist food shops and RTE shelled nuts are currently underway. Sampling for a survey of *Salmonella* contamination of pooled raw shelled egg mix and environmental samples in catering has been completed.

22. FSA surveys of red meat and cold sliced meats and pâté have been completed. Results from both should be published in May or June.

Other items

23. Updates on current work on listeriosis and antimicrobial resistance were presented. Various factors that may contribute to listeriosis being acquired by hospital in-patients were discussed and HPA indicated that they were considering a survey of RTE foods supplied in hospitals. Main issues on the recent Defra Antimicrobial Resistance Co-ordination (DARC) group agenda were MRSA, ESBL, *Clostridium difficile* and the use of 3rd and 4th generation cephalosporins in veterinary practice. The second DARC report is currently in preparation.

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