

PAPER FOR INFORMATION

**ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY
OF FOOD (ACMSF)**

EPIDEMIOLOGY OF FOODBORNE INFECTIONS GROUP (EFIG)

1. The last meeting of this group was held on 14 January 2003.

Review of animal data for the first three quarters of 2002

2. The number of *Salmonella* reports for the first three quarters of 2002 was lower than for the same period in 2000, but 40% higher than 2001, when Foot and Mouth Disease had a major impact on the number of submissions. However, submission levels are still approximately 15% lower than in 2000 and this makes a comparison difficult.
3. There was a decline in the number of reports of *Salmonella* in turkey flocks.
4. There was some evidence of antimicrobial resistance of *S. Newport* in poultry but not in cattle. However, the strains involved did not show resistance to third generation cephalosporins and, on the basis of the absence of the CMY2 gene, differ from strains of this serotype currently giving rise to significant illness in cattle in the US.

Review of human data for the first three quarters of 2002

5. The main feature of the first three quarters of 2002 was a decline in all major pathogens with the exception of non PT4 *Salmonella* Enteritidis, which rose by 16%. The total number of reported *Salmonella* fell by 16%, whilst *S. Enteritidis* PT 4 declined by 34%. *Campylobacter* reports fell by 16% and VTEC O157 by 19%.
6. There were relatively few foodborne outbreaks reported with the exception of the emergence of non PT4 *S. Enteritidis* outbreaks in the last four months of the year. These outbreaks were confined to England & Wales.
7. Available evidence did not suggest that there had been any decrease in submission of samples. The possible contribution of poor weather during the summer months was mentioned but the decreases were observed throughout the year. Possible changes in diet were also discussed.

However, whilst there has been a large decline in the consumption of red meat, chicken consumption has not gone down.

8. It was noted that the laboratory reporting of giardia and cryptosporidium had also declined in 2002. However improvements to water treatment in the North West might have had an effect on the levels of cryptosporidiosis in this region and this may have affected the national figures.

MLC ZAP Project

9. This is an industry led project based on ELISA testing of meat juice for antibodies to *Salmonella*. On the basis of the results, those farms with the highest levels of seroprevalence will be targeted for advice and assistance to reduce the level of infection. Once the scheme is fully operational, farms with the highest seroprevalence will lose Assured British Pork status. This type of project has been very successful at reducing *Salmonella* in pigs in Denmark.

DEFRA commissioned national abattoir study

10. This is essentially a repeat of the previous abattoir survey and covers the same organisms using the same methods or methods that have been validated against the earlier method so that trends can be identified. It is a one-year survey involving 2736 cattle samples, 2828 sheep samples and 2060 pig samples, covering the prevalence of *Salmonella*, VTEC O157, thermophilic *Campylobacter*, *Cryptosporidium*, *E. coli*, *Yersinia enterocolitica*, *Enterococcus faecium* and some other VTECs and their antimicrobial resistance.

Microbiological risk assessments (MRA) - data requirements

11. The group discussed the problems associated with the epidemiological data used in many MRAs. The mathematical modellers often have a poor understanding of epidemiology and do not exercise appropriate quality control of the data they use. There is a danger that risk assessors fail to acknowledge the data gap in their models, plugging the gaps with data that is little better than guesswork. It is important that risk assessors make contact with those responsible for surveillance at an early stage so that they are aware what data is available and its quality. There may be a place for a definition of a minimum dataset without which no risk assessment should be commissioned.