MINUTES OF THE FORTY-SIXTH MEETING OF THE ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD HELD ON 5 DECEMBER 2002 IN TRINITY HOUSE, TRINITY SQUARE, TOWER HILL, LONDON EC3 AT 10.30 AM.

Present

Chairman : Professor D L Georgala

Members :
Dr G R Andrews
Dr D W G Brown
Ms S Davies
Professor M J Gasson
Professor T J Humphrey
Professor P R Hunter
Mrs P Jefford
Professor A M Johnston
Mr A Kyriakides
Dr S J O'Brien
Mr B J Peirce
Mr D J T Piccaver
Dr T D Wyatt

Assessors :
Mr P J R Gayford (DEFRA)
Dr G McIlroy (NIDARD)
Dr R Skinner (FSA)

Secretariat :
Dr J Hilton (Medical Secretary)
Mr C R Mylchreest (Administrative Secretary)
Miss C L Wilkes
Mr D Gray
Dr L Jack
Ms C Owens

Others :
Ms Ann Goodwin (FSA) : agenda item 6
Dr J P Back (FSA) : agenda item 7
Dr G K Adak (PHLS) : agenda item 9
Members of the public – see Annex I

1. Chairman's introduction

1.1 The Chairman welcomed Members to the Committee's forty-sixth meeting, its third to be held in public. He also extended a warm welcome to members of the public present, and to Dr McIlroy who was attending his first meeting as the NIDARD Assessor.

1.2 The Chairman dealt with a number of "house keeping" matters, including arrangements for the use of microphones, the recording of proceedings to assist the production of minutes, and evacuation procedures in the event of an emergency.

2. Apologies for absence

2.1 Apologies for absence were received from 4 members – Ms Lewis (on health grounds), Dr Hadley, Professor Mensah and Dr Sandifer. Apologies were also received from 1 Departmental Assessor – Dr Doherty (NIDHSSPS).

3. Declarations of interest

3.1 The Chairman reminded Members of the need to declare any financial or similar interests in respect of items on the day's agenda. Both Mr Kyriakides and Professor Humphrey declared interests in relation to agenda item 10 (see paragraph 10.1).

3.2 The Chairman also reminded Members that they should inform the Secretariat as soon as possible of their more general (ie. non agenda-related) interests so that these could be recorded in the Register of Members' Interests which would appear in the Committee's 2002 Annual Report.

4. Minutes of the 45th meeting (ACM/MIN/45)

4.1 Members approved the draft minutes as a correct record of the Committee's forty-fifth meeting.

5. Matters arising (ACM/607)

5.1 Members noted ACM/607, a Secretariat paper summarising matters arising from the minutes of the forty-fifth meeting.

6. Food law enforcement (ACM/608)

6.1 The Chairman welcomed Ms Ann Goodwin, Head of the Food Standards Agency (FSA)'s Local Authority Enforcement Division who was attending the meeting in response to a request by Members to be briefed on food law enforcement. Professor Georgala said that the Committee was grateful for the briefing paper (ACM/608) she had provided, which gave Members an extremely helpful overview of food law enforcement in the UK.

6.2 Ms Goodwin said that she had an enforcement background, having worked in local authority enforcement for 14 years before spending several years at the Chartered Institute of Environmental Health as an Assistant Secretary working on policy issues. She was currently on secondment to the FSA. Ms Goodwin said that the FSA was about

protecting public health in relation to food. The Agency operated from farm gate to fork, other Government agencies being responsible for enforcement on-farm. The FSA's role in relation to food animals at slaughterhouses and cutting plants was carried out through the Meat Hygiene Service. There was full ante-mortem and post-mortem inspection for red meat, and veterinary supervision for white meat. There was also a range of BSE controls at slaughterhouses, for public health protection. Enforcement at the manufacturing, catering and retail end of the food chain was carried out by local authorities, through environmental health officers, and trading standards officers. TSOs were mainly responsible for composition and labelling matters, although this function might be carried out by EHOs, in addition to their hygiene and other responsibilities, in some local authorities.

6.3 Miss Goodwin said that there were around 600,000 food businesses in the UK (370,000 of which were caterers), and about 2,000 inspectors (although not all of these were engaged exclusively on food law enforcement). There were 499 UK local authorities, 415 in England. All local authorities were required to draw up an enforcement policy and the hierarchy of enforcement was structured within that policy. The enforcement function was aimed at detecting, through inspection – which might be unannounced - any food law contraventions, and requiring compliance. Depending on the severity of a contravention, sanctions could range from giving advice to the food business concerned, serving a notice requiring certain work to be completed by a certain time, closure of the business, or prosecution. Enforcement officers had powers of entry, "at all reasonable times", essentially, when the business was open and trading.

6.4 In addition to their general range of inspection and enforcement duties, EHOs were also involved in other high profile issues - such as the unfit meat fraud – where food could be seized. Within London particularly, there were issues surrounding "smokies", ie. sheep or goats that had been illegally slaughtered and the hair singed. Unfit food seized could be taken before a magistrate and then destroyed. Enforcement officers also had powers to take samples which were then often analysed by the Public Analyst. Ms Goodwin hoped that her presentation provided Members with a flavour of what it meant to be engaged in food law enforcement.

6.5 In relation to the frequency of inspections, Ms Goodwin explained that food businesses were visited by local authority enforcement staff on the basis of a risk rating scheme embodied in a series of 20 codes of practice. These were currently under review with a view to their being updated, amended and rationalised, as necessary. Under the codes, each food business was risk rated. Decisions were taken on the frequency of inspections based on the status of the business in relation to a range of factors such as the type of food produced, whether the business supplied food to vulnerable groups, the quality of management, etc. At one extreme, a Category A business would be

visited every 6 months; at the other, a Category F business would receive a visit once every 5 years. Local authorities' performance against their inspection commitments was monitored by the FSA. Information about performance was reported to the European Commission, and was also published to enable the public to see the pattern of their local food businesses and the number of inspections local authorities had managed to carry out.

6.6 Ms Goodwin said that a whole raft of enforcement measures were carried out in relation to imports. Products of animal origin imported from third (ie. non-EU) countries could only legally enter through designated border inspection posts of which there were about 35 around the UK. These posts were manned by local authority-employed port health officers (usually EHOs). Shift working was common at the busiest sea and airports. Official Veterinary Officers were also likely to be deployed by local authorities at border inspection posts to supervise the inspection of products of animal origin. There was a regime of 100% documentary inspection, supplemented by a percentage of physical checks. Importers were required to pay for the inspection service and to pre-notify their import intentions. This enabled the enforcement authorities to know what was being imported and to plan their inspection activities accordingly.

6.7 Food of non-animal origin was able to enter the UK through any port. Pre-notification was not required. This made it difficult for local authorities to obtain an accurate picture of importations. The European Commission was currently being asked to consider whether the importation requirements for foods of non-animal origin should be brought into line with those for products of animal origin, to facilitate inspection and enforcement. Ms Goodwin said that the FSA Board had set up an Imports Team within the Agency to take forward a ten point plan on imported food controls. She said that the Agency would be happy to provide the ACMSF with any further information it might require.

6.8 In relation to the retail sector, Ms Goodwin said that the FSA received regular information about products in circulation which were harmful to health. Information originated from a range of sources (eg. from industry, FSA surveillance, local authority sampling activities, etc). In addition, the EU operated a Rapid Alert System. There were about 2,000 rapid alerts each year, and products imported into the UK which were the subject of such alerts were quickly investigated. At any one time, the FSA could well be involved in 30-50 on-going investigations which would also involved scientific risk assessment to inform the need for possible action to protect public health. Subsequent action could involve the issuing of a food hazard warning. Category A warnings (rare, and covering the most severe cases) were sent electronically to local authorities and required immediate action, usually the withdrawal of product from supply. At the other end of the spectrum, Category D warnings (the lowest level of alert) were usually confined to informing

local authorities of action already taken to protect the public food supply. If particular problems were containable within a designated geographical area, then hazard warnings would be confined to that particular catchment area.

6.9 Ms Goodwin also referred to high profile incidents tackled by local authority enforcement officers. One had been unfit meat fraud. This involved the recycling back into the food chain of meat unfit for human consumption which would normally have gone for, eg, pet food. Investigation and surveillance operations associated with these types of cases often imposed considerable additional resource burdens on the local authorities involved. A great deal of effort was also required in coordinating the roles of the various agencies involved in setting up action against illegal operations. Depending on the particular circumstances, action might involve local authority environmental health and trading standards officers, the police, the State Veterinary and Meat Hygiene Services, the RSPCA, etc., all of which were likely to have different enforcement requirements. As to the outcome of such action, in a recent case, the Courts imposed a 6 month custodial sentence and 2 people were banned for life from operating a food business. Lists of those banned from operating food businesses were maintained by local authorities. Around 200 people were currently banned.

6.10 In conclusion, Ms Goodwin said that the most frequently aired limiting factor in relation to food law enforcement was a shortage of local authority resources. This was not just about money, but about finding the required staff. There was a current recruitment and retention problem across all public sector enforcement which the Local Government Association and other bodies were seeking to resolve. Ms Goodwin thought that, if ACMSF Members were interested in obtaining a first hand view of enforcement on the ground, local authorities would be only too willing to help. Some FSA Board members had availed themselves of the opportunity and had found the exercise very worthwhile.

6.11 In the question and answer session following Ms Goodwin's presentation, the following points were made :-

- in the context of the recent *Salmonella* outbreaks which appeared to implicate Spanish eggs (see agenda item 10), Ms Goodwin confirmed that it was possible for national authorities to inspect EU "imports" where there was a substantive public health justification for doing so. Traceability was often a problem. At the present time, the PHLS was carrying out outbreak-related egg sampling. It was noted that the ACMSF's interest in imports ran much wider than just eggs. The safety of imported food was likely to become even more complicated as a consequence of EU enlargement;

- in relation to the importation of bush meat, legislation was recently introduced enabling Port Health Officers to search personal luggage. Following a recent Cabinet Office review of meat imports, in light of the Foot and Mouth outbreak, a decision had been taken to give Lead Department responsibility for smuggled meat to HM Customs and Excise. FSA, Customs and DEFRA were currently undertaking a major review of the implications of that decision, including what steps were required if and when smuggled meat avoided the initial, port of entry, controls. HM Customs were getting some additional resources, including sniffer dogs.

- the results of the FSA's programme of audits of local authority food law enforcement were publicly-available, through the FSA's website and in hard copy form. 40 full audits were carried out in England in 2001. Emphasis was now being placed on themed audits based on key elements emerging from the full audits (eg. differences in the frequency of local authority sampling, prosecutions, etc). Follow up visits were also taking place for those local authorities who had further work to do following the initial 40 full audits. The record of local authorities, in terms of rectifying deficiencies identified in audits, was on the whole very good, and some additional resources had been made available to permit necessary improvements to be made;

- local authority commitment to food law enforcement was seen as being generally very good and there appeared to be a genuine dedication to public health protection;

- the great majority of the annual total of rapid alerts notified to the UK required no action as the products concerned would not have been imported into the UK. The 30-50 cases investigated in the UK (which might include a proportion which were subject to a rapid alert) were risk assessed in the responsible FSA policy division, to inform decisions on the proportionate action required to protect public health. Information would be placed in the public domain (via the FSA website) if a food hazard warning was issued, although the EU Rapid Alert System was regarded as a closed system;

- although local authorities were required to comply with a large number of codes of practice, those requirements had helped authorities get additional resources to enable them to meet their food safety enforcement obligations. In most local authorities, when resources were short, priority was given to high risk food safety enforcement. This reflected both local authorities' statutory obligations, on which they were required to report systematically to Government, and the fact that decisions on the allocation of resources reflected the risk-based nature of enforcement and inspection work;

- in relation to prior notification of impending local authority inspections, authorities would be receiving notification in the next few weeks of their themed audits for January-March 2003. Audit reports

contained dates by which identified work should be competed, some of which would be required to be carried out immediately. Switching emphasis to themed audits enabled the FSA to speed up the programme (themed audits could be carried out at a rate of 20 per quarter, compared with 40 full audits a year). It was hoped that themed audits would provide much better quality information about specific areas and would enable good practice to be drawn out from those observations;

- the FSA's 10 point plan on imported food controls was being taken forward on a 2 year time frame. Regular reports on progress, which were posted on the Agency's website, were being made to the FSA Board. Some work had already been completed;

- whilst traceability was a pre-requisite for receiving orders to supply the larger food enterprises, performance in other quarters was poor and the inability of businesses to supply required information imposed a hugely onerous burden on enforcement authorities.

6.12 The Chairman thanked Ms Goodwin for her informative paper and for her willingness to respond to Members' questions. He thought that the Committee might well take up her offer of further information about the FSA's initiatives on imported food.

7. *Campylobacter* progress reports

Campylobacter Working Group (ACM/609)

7.1 The Chairman gave a brief progress report on the work of the *Campylobacter* Working Group. He recalled that the Committee had submitted a first tranche of advice (based on the Working Group's deliberations) to the Food Standards Agency focusing on the on-farm control of *Campylobacter* in chickens. The advice drew fresh attention to the important role played by chicken in exposing consumers to *Campylobacter* and the fact that the Committee felt that there were now practical ways in which the industry could begin to tackle the problem.

7.2 The Chairman reported that, since the ACMSF's previous meeting, the *Campylobacter* Working Group had taken oral evidence from Assured Chicken Production Ltd about the way in which standards might be applied to chicken production. The Group had also received an excellent presentation from a consortium of Northern Ireland interests, comprising O'Kane, Moy Park and NIDARD, on scientific studies being done there on the occurrence and the statistics of occurrence of *Campylobacter* around different production units. The Chairman said that the encouraging aspect was that some broiler units were producing *Campylobacter*-free chicken on a routine basis. Professor Georgala said that the Institute for Animal Health had also made a presentation to the Working Group, providing a broad view on the more basic aspects of *Campylobacter* research. IAH were building on their experience with

Salmonella, gathered over many years, in order to produce some quite basic indicators of how *Campylobacter* might be tackled in the future.

7.3 The Chairman reported that the *Campylobacter* Working Group was next due to meet on 11 December when there would be a presentation from the University of Nottingham on a basic research project on novel ways of tackling *Campylobacter* in chickens. The Working Group had identified further areas of work to be tackled in the shorter-term. These included detection and typing methods for *Campylobacter*; hygiene issues associated with *Campylobacter*-positive chickens entering the slaughterhouse and subsequently reaching domestic and catering kitchens; and non-poultry meat sources of *Campylobacter* in the food chain. It remained the Committee's intention to send advice forward to the FSA as and when it was developed, rather than holding it over until a final report was ready.

Sub group visit to Denmark and Norway

7.4 The Chairman noted that the Working Group had identified the need to consider how Campylobacter was being addressed overseas, particularly in Scandinavia where there was a perception that there had been rather more success in tackling the problem than in the UK. A small sub group of the Working Group (comprising Professors Humphrey and Johnston and Mr Kyriakides, accompanied by the Group's Scientific Secretary, Dr Back) had recently visited Denmark and Norway. Professor Georgala invited Professor Humphrey to report on the sub group's impressions.

7.5 Professor Humphrey expressed the sub group's appreciation of all those who had been involved in arranging and managing what had been a very useful and successful trip. It seemed that things were not markedly different in Denmark and Norway than in the UK. The best UK farms compared favourably with their Danish and Norwegian counterparts. The real difference was that the Danes and the Norwegians had had control arrangements in place for longer, and producers had thus had more time to adapt. Professor Humphrey nevertheless thought that there were lessons which UK producers could learn, and it was encouraging that the UK industry had expressed its willingness to embrace appropriate Scandinavian methods.

7.6 Professor Humphrey said that the sub group had been struck by the very different epidemiology of Campylobacter infection in the UK compared to Denmark and Norway. Whilst it was recognised that there was a summer peak in human infections in the UK, this paled into insignificance by comparison with Denmark and Norway where well over 60% of cases appeared over a 3 month peak period. The peak of human infection was mirrored by a similar peak in chicken infection. Whereas control of Campylobacter in chicken was a relatively straightforward matter in winter and spring, Denmark especially had experienced great difficulties during the summer months where, for

reasons of bird health and welfare, it was often necessary to undermine biosecurity by opening the doors of broiler houses. The sub groups general impression had, however, been that it was possible to tackle Campylobacter in chickens effectively. In the case of Norway, all farms had hygiene barriers, and if the farm visited by the sub-group was typical, there was a clear division between exterior and interior. Farmers' access to the chickens was through an enclosed area. There was dedicated clothing and footwear. On the bird side of the barrier, there were good hand washing facilities. There were also 2 windows through which the birds could be observed without entering the house.

7.7 Professor Humphrey said that the situation in Denmark was somewhat different. Not all farms had hygiene barriers – although the industry was moving towards the adoption of such barriers. The best way of preserving biosecurity was seen as ensuring that footwear and clothing were changed. Danish farms were essentially similar to farms in the UK, as were processing plants, although line speed in Denmark was well below the 200 birds per minute killed in the UK. In Norway, where control was focused primarily on the farm, the Campylobacter prevalence rate was about 7%. In Denmark, the flock prevalence rate was about 40%, possibly reflecting the higher summer temperatures and the different airflows in and out of houses. All flocks were tested, both on-farm and at slaughter, in both countries. The Danes had independently come to the same conclusion as the Working Group, that there was a link between general flock health and Campylobacter prevalence. Professor Humphrey said that attempts were made to scheduled flocks for processing, particularly in Norway, and that meat from positive flocks was required either to be frozen or sent for processing. The Norwegian goal was to reduce the level of Campylobacter in broiler chickens at slaughter (ie. broilers slaughtered at<50 days old) to as close to zero as possible. It was possible to buy "Campylobacter-free "chicken in Denmark (defined as not present in either 300 or 500 samples). The Danes had developed a rapid PCR in order to test birds on arrival at the factory.

7.8 Professor Humphrey said that scientists in both Denmark and Norway had offered the UK research community access to the data bases generated in both countries. A collaborative arrangement was being set up. In summary, Professor Humphrey said that the Danes and Norwegians had each recognised the need to tackle Campylobacter in chickens. There was no magic formula. The Danish industry was suffering precisely the same pressures as producers in the UK. As noted earlier, the industries in Denmark and Norway were probably more advanced in tackling the Campylobacter problem because they had made an earlier start than in the UK. One area where the Danish and Norwegian industries appeared to benefit over UK producers was in the very close integration between those involved in human health and those involved in animal health. This appeared to confer a measurable public health advantage, including in relation to typing. In

conclusion, Professor Humphrey said that, all in all, the visit had been very useful.

7.9 The Chairman thanked Professor Humphrey for his encouraging report, noting that, while there was a lot still to learn, the better UK producers were not far behind their Danish and Norwegian counterparts. The Campylobacter Working Group would consider the outcome of the sub group's visit in somewhat greater detail at its next meeting and would then consider whether there was a basis for formulating a further tranche of advice to the FSA.

FSA Campylobacter strategy

7.10 At the Chairman's invitation, Dr Back (FSA) gave Members a progress report on the development of the FSA's strategy for tackling Campylobacter in chickens. By way of background, the Chairman said that the ACMSF's role was to act as an independent advisory group to help the Agency in evolving its strategy through its expertise and contacts.

7.11 Dr Back said that work on poultry was very relevant to the Agency's foodborne disease strategy aimed at achieving a 20% reduction in foodborne illness by 2006. Campylobacter in poultry was a key priority area. Whilst it seemed unlikely that Campylobacter could be completely eliminated from poultry, at least in the near future, the Agency was aiming to significantly reduce Campylobacter in the final product. The ACMSF's advice was both helpful and timely. There was a great deal of other work proceeding in parallel. The FSA had put together a number of situation reports drawing together information about the UK industry. Understanding current practices was an important precursor to introducing change. The ACMSF had helpfully pointed out what should and could be done. The Agency was now considering the practicalities and devising an implementation strategy for the short, medium and long-term.

7.12 Dr Back said that the main focus of the Agency's strategy would be the control of Campylobacter in the intensively farmed and housed birds which made up the major part of the UK industry. It was felt that basic biosecurity measures needed to be addressed, together with some measures which were more Campylobacter-specific. Knowledge transfer was regarded as a key element in the strategy. The required knowledge was available. The task for the FSA was to determine how best to convey it to those who needed it, and how best to influence behaviour. Another important element of the strategy would be a mechanism for monitoring the effectiveness of any new measures adopted, especially since they were likely to carry cost implications. If research was required, the aim would be to ensure that this yielded outputs in the short-term, and that such outputs were clearly focused.

7.13 Dr Back noted that there was a great deal of existing information on biosecurity, targeted at the control of Salmonella in broiler flocks. Much of this derived from DEFRA codes of practice. It was clear that much of the available advice was not being utilised. Salmonella biosecurity was seen as a first step to improving Campylobacter biosecurity. By way of examples of current omissions, Dr Back noted that some poultry houses did not contain hand washing basins. Not all producers excluded animals from poultry houses. Producers needed to be pressed to sort out their basic biosecurity arrangements. This could be achieved through collaboration with industry, and through the medium of vehicles like the Assured Chicken Production Scheme. Other desirable elements were the introduction of hygiene barriers, the review of thinning practices, breaking the cycle of reinfection (eg. through effective crate washing), and the correlation between general flock health and the Campylobacter status of birds. The FSA intended to place particular emphasis on knowledge transfer, and small sub groups of industry experts had already been set up to advise on the best means of getting key messages to target audiences, particularly farmers and others managing poultry houses. Account would be taken of what was happening in other countries (eg. in relation to testing and scheduling, and action at the slaughterhouse) as the strategy was developed. Some aspects of what other countries were doing would serve as targets for the UK industry to embrace in the longer-term, once the fundamental elements had been sorted out.

7.14 Dr Back identified evaluation as an important area for attention as part of the strategy. Some information was available about Campylobacter flock prevalence in the UK, mainly gathered through research. However, this was by no means as extensive as work carried out in other countries and this information would be essential to inform intervention strategies. The ultimate aim of the UK strategy was to reduce Campylobacter levels in the final product. One retail survey had already been carried out and this would need to be repeated, perhaps as a rolling survey which could also identify seasonal differences. Work would be needed on method development and evaluation (eg. on most effective sampling regimes), on thinning (eg. to see whether biosecurity could be improved even if thinning continued through economic necessity), and on extensive flocks (in order to see whether steps could be taken to improve biosecurity for birds that were not housed). The Agency also needed to be aware of the economic implications of taking the strategy forward and the degree to which industry cooperation could be relied upon. Currently, there were very high levels of support from an industry keen to take matters forward, although there was an element of understandable concern about the potential economic impact. The Agency had set up a consultative group to keep closely in touch with the full range of stakeholders and there were already clear indications of support for the development of a strategy. The next steps would be for the Agency to draft a strategy for public consultation, to get ahead with research which would provide an appropriate basis for

future scheduling and testing, and to do further development work on the knowledge transfer issue.

7.15 Points to emerge from the 3 presentations made under agenda item 7 were :-

in relation to the *Campylobacter* Working Group's work programme, that :-

- the Group might need to give further consideration to the question of extensive production. To date, the Group had merely noted the contrast between what might be possible with housed birds which might not be applicable to extensively-reared birds. Housed broilers were, of course, by far the largest proportion of what was on the market, and so, in terms of public health exposure, concentrating on that element seemed an appropriate starting point. The ACMSF's first tranche of advice to the FSA was clearly applicable to housed production and might not be effective in relation to extensive production.

in relation to the sub group's visit to Denmark and Norway, that :-

- there was some thinning in Denmark but none in Norway.. There was a tendency in both countries to kill their birds earlier than in the UK – ie. at 35 days, when thinning would take place here;

- crate washing procedures in Denmark and Norway were essentially the same as in the UK;

- the Danes and Norwegians recognised the risks to biosecurity of thinning and the use of contaminated crates. While wishing to avoid thinning, they recognised that they would face pressures to adopt thinning if their industries became less economically viable;

- because of the severity of the Danish and Norwegian winters compared to those in the UK, any lessons which might be applied in a UK context needed to reflect what happened in the spring, summer and autumn only. The experience of Norway was that *Campylobacter* could be controlled in chickens on-farm using very simple interventions;

- Danish and Norwegian processors were very careful about accepting only birds from housed production systems which were subject to very high standards of biosecurity. They saw this as a very important in protecting the plant from contamination and in reducing the prevalence of *Campylobacter* in the finished product.

in relation to the FSA's strategy, that :-

- steps were being taken to establish the best means of transferring knowledge to the approximately 2,500 UK poultry farms. Amongst the options being considered were regional meetings (of eg. farmers,

processors and veterinarians); posters, CD-ROMS, and videos. Account was being taken of the Scandinavian experience (eg. in Norway, the Government and industry had set up "chicken schools" which gave farmers an opportunity of 2-3 day sessions at an agricultural college). The key consideration was what best suited producers themselves;

- it was recognised that part of the problem was that existing knowledge was not being fully utilised. The challenge, particularly in relation to *Campylobacter* where standards of biosecurity needed to be even higher than for *Salmonella*, was to engender a culture change among producers.

8. Sewage sludge risk assessment report

8.1 Dr Wyatt, in his capacity as Chairman of the *Ad Hoc* Group on Sewage Sludge, provided an oral progress report on the work of the Group. He recalled that the Royal Commission on Environmental Pollution (RCEP), in its report on the sustainable use of soil, had recommended that all sewage sludge applied to agricultural land should be treated by at least one of the methods listed in the Department of the Environment's 1989 code of practice for agricultural use of sewage sludge. RCEP had also recommended that the scientific basis for the specified periods laid down in the code between application of sludge and planting and harvesting of crops, and/or livestock grazing, should be reviewed. WRc plc (formerly the Water Industry Research Centre) had been commissioned to carry out a review which would be peer reviewed to ensure that the resultant report was authoritative and independent.

8.2 Dr Wyatt said that the ACMSF had been asked, and had agreed, to assist with the peer review of those aspects of the study relating to the microbiological risks to public health arising through food chain exposure pathways. The *Ad Hoc* Group on Sewage Sludge was set up for that purpose. The Group had first met the contractor in 1997 to discuss the scope of the project, and had offered suggestions. A further meeting had taken place in 2001 to consider the first phase of a microbiological risk assessment in respect of pathogens in biosolids. The risk assessment at that time had been demonstrated for *Salmonella* and *Listeria monocytogenes* only. The second phase of the risk assessment had been considered on 8 November 2002. This additionally covered *Campylobacter*, *E. coli* O157, *Cryptosporidium*, *Giardia* and Enteroviruses. The scope of the risk assessment had been extended to include estimated risks of human infection arising from the consumption of root crops grown in sewage sludge-treated soil.

8.3 Dr Wyatt said that the *Ad Hoc* Group had been asked for its opinion on the science underpinning the risk assessment and the relative importance of the risk estimates within the overall burden of foodborne infectious disease. The Group's preliminary view had been that the risk

assessment was based on a very conservative approach embodying large margins of safety. The risk to human health from consuming root crops grown on agricultural land on which treated sewage sludge had been spread seemed very small. However, the Group had noted that there were several important elements missing from the risk assessment for *Campylobacter* which would serve to materially reduce the estimate of the annual number of potential human infections. Further contact was required with the contractor to see how proper account could be taken of these various factors. If and when the issue had been satisfactorily resolved, it was the intention of the *Ad Hoc* Group to prepare a briefing paper for the ACMSF, recommending a formal response, which it was hoped the full Committee would be minded to adopt.

9. Burden of foodborne disease in England and Wales (ACM/610)

9.1 The Chairman welcome Dr Adak from the Gastrointestinal Diseases Division of the PHLS Communicable Disease Surveillance Centre who had kindly agreed to brief Members on the way in which the PHLS had estimated the burden of indigenous foodborne disease in England and Wales over the period 1992-2000.

9.2 Dr Adak said that the background to the work to estimate the burden of indigenous foodborne illness lay first in the FSA's target of reducing foodborne illness in the UK by 20% by 2006; and second in Gastrointestinal Diseases Division of CDSC's frustration at its inability to provide a realistic estimate, unqualified by caveat, of the level of food poisoning in England and Wales. Not only was there significant under-reporting of food poisoning, but it was the only current notification where a judgement had to be made by either a clinician or an individual on whether or not their disease was foodborne. For the important pathogens (*E. coli* O157, *Salmonella*, *Campylobacter* or viral gastroenteritis), the symptoms of illness were the same no matter how the illness was acquired. Various organisations had carried out surveys asking people whether or not they had had food poisoning in the previous year. These produced a figure of around 5 million cases per year, which contrasted with the food poisoning notification figure of around 80,000 cases per year. A further confounding factor was reporting bias which tended to increase the estimate of illness.

9.3 Dr Adak said that a paper, published in 1999 by the US Centers for Disease Control and Prevention (CDC) on food-related illness and death in the United States, suggested a way forward. CDC examined the contributions of different disease-causing agents and also took a view on the seriousness of people's illness. CDC came to the conclusion that there were 76 million cases of foodborne illness a year in the USA; 325,000 hospital admissions; and 1,800 deaths. Dr Adak explained how CDSC had adjusted the CDC approach to reflect the situation in England and Wales, and results from the Study of Infectious Intestinal Disease in England. Dr Adak said that CDSC had used the

adjusted method to derive an estimate of home-acquired non-typhoidal salmonellas in England and Wales in 2000. This had amounted to around 41,000 cases. The method had then been applied to provide *Salmonella* estimates for every year from 1992 to 2000 inclusive, and then had been repeated for a very wide range of some 30-40 bacterial, protozoal and viral pathogens. Results showed an overall fall of 53% in indigenous foodborne disease. Individual pathogens varied (salmonellas –58%; *Clostridium perfringens* –70%; *Yersinia* spp. –89%; unknown aetiology –61%; *Campylobacter* +45%; Norovirus[1] +126%). The next step had been to estimate the trends in the most important pathogens judged on the basis of hospital admissions and death. Overall hospital admissions and GP presentations had fallen by 3%, indicating a much larger fall in relatively trivial foodborne disease than in serious disease, explained almost entirely by the rise in *Campylobacter* which had served to offset the falls in *Salmonella*, *Yersinia*, *Clostridium perfringens* and disease of unknown aetiology. Dr Adak said that deaths due to infectious foodborne disease had fallen by some 48% over the period 1992-2000. The data showed that, whilst *Campylobacter* caused very serious disease, resulting in prolonged hospitalisation, it rarely resulted in death. The fall in deaths was mainly mediated by *Salmonella* and *Clostridium perfringens*. It was noteworthy that deaths from *Clostridium perfringens* were seen mainly in the sick and elderly in nursing homes and health care institutions. So, while disease related to *Clostridium perfringens* infections was not particularly severe in the general population, it could have dire consequences for those with underlying illness. A similar situation arose in relation to *Listeria*. Analysis of cases of disease for the year 2000 showed that the current surveillance arrangements only captured information on the pathogens responsible for less than half of all disease. This figure increased to nearly three-quarters once surveillance of general practice was taken into account; and practically all of those going to hospital were recorded. *Campylobacter* was again the predominant pathogen in relation to cases, those presenting to GPs, hospital admissions and length of stay in hospital. *Campylobacter* was much less important as a cause of death, where *Salmonella* was the principal pathogen involved. The conclusion to be drawn from the data was that, although surveillance did not pick up all foodborne disease, it was quite effective in picking up the severe end of the spectrum.

9.4 Dr Adak then compared CDC and PHLS estimates of foodborne disease, adjusted for populations, concluding that the US appeared to have 11 times more disease than the UK. The ratio reduced to 3.8 when known pathogens were compared; and reached near parity in respect of bacterial pathogens. The death rate appeared to be higher in the UK than in the US. Dr Adak then presented an analysis of the difference (of 69 million cases) between the CDC's estimate of foodborne illness and the PHLS' estimate, adjusted for population. He concluded that the difference in the 2 sets of figures was accounted for

[1] Formerly known as small round structured virus and Norwalk-like virus.

by 59 million cases of foodborne illness of unknown aetiology and 9 million cases of foodborne Norovirus. Dr Adak said that, while the PHLS system was more robust than the CDC system, there were still biases which he went on to discuss in greater detail.

9.5 Dr Adak said that the conclusions which could be drawn from the exercise was that *Campylobacter* infection was still the major area that needed to be tackled. *Salmonella* was still important as were Norovirus, *Clostridium perfringens*, *Listeria monocytogenes* and VTEC O157, the latter 3 particularly in relation to morbidity and mortality. The model was regarded as useful tool but one which needed to be updated on an on-going basis to reflect developments and increasing knowledge. Dr Adak added one caveat – that particular care was needed in order to avoid over-estimating the contribution of Norovirus to foodborne infectious disease. Copies of the overheads used by Dr Adak in his presentation are at Annex II.

9.6 In terms of current trends in foodborne disease, Dr Adak said that *Campylobacter* was running at about 82% of the 2001 total. Reports of most of the other foodborne pathogens had also fallen. An increase in non-PT4 *Salmonella* Enteritidis was a matter of concern. There had been an increase in outbreaks due to these strains of *S.* Enteritidis, a number associated with the consumption of eggs and egg-based products. These were not just point source outbreaks, but national outbreaks covering a large part of England and Wales. The other cause for concern was the massive increase in Norovirus infections seen in the summer (some 800 outbreaks), including in hospitals, hotels, restaurants and nursing homes. Whilst the majority of outbreaks involved person-to-person transmission, there had been a concomitant increase in foodborne Noroviral infection.

9.7 Professor Georgala expressed his appreciation to Dr Adak for his extremely valuable presentation. He noted that the 2 areas of current concern identified by Dr Adak (Norovirus and egg-related *Salmonella* outbreaks) were areas of long-standing ACMSF concern. The Committee had held a foodborne viral infections workshop some years ago, had published a Report on Foodborne Viral Infections, and might need to revisit the subject at some stage. The Committee had also produced 2 major reports on *Salmonella* in eggs.

9.8 Among points to emerge from subsequent discussion of Dr Adak's presentation were :-

- there was some surprise expressed at the number of *Yersinia* cases projected. However, the possibility was noted that not all yersinias identified in faecal samples were pathogenic strains. There could thus have been a degree of disease misclassification and it was possible that some *Yersinia* infections should more properly have been ascribed to disease of unknown aetiology. The total burden of foodborne

disease would not, however, have been affected (the cause would merely have been transferred from one category to another);

- it was noted that the US seemed to have twice as much diarrhoeal illness as the UK, based on self-reporting. The danger was recognised that, in some circumstances, self-reported diarrhoeal illness might be over-estimated (people recalling distant episodes as having occurred more recently). On the other hand, a common feature of prospective studies of diarrhoeal illness was a decline in reported diarrhoea during the course of a study. It was noted that a reporting period of 6 months had been adopted for the IID study precisely because there appeared to be no fall off in reporting over such a period;

- there was no ready explanation of the very high level of Norovirus infections seen in 2002, although it did not appear to be an artefactual effect. There was no evidence that infections were due to a new virus, and the phenomenon was not confined to the UK;

- it was noted that, although foodborne disease had fallen by 50% in 8 years, this very good news was seldom reported in the media.

9.9 Professor Georgala expressed the Committee's thanks to Dr Adak for his presentation and his contributions to the discussion of this item. He hoped that the Committee could look to PHLS for regular future progress reports.

10. Multi-strain *Salmonella* outbreaks (ACM/611)

10.1 Mr Kyriakides and Professor Humphrey declared interests in this agenda item. Mr Kyriakides said that most of the eggs sold by Sainsbury's were Lion Code. Professor Humphrey said that he had received research funding in the past from the British Egg Industry Council and had occasionally provided BEIC with advice.

10.2 The Chairman recalled the ACMSF's substantial concern and interest over the question of *Salmonella* in eggs and the 2 in-depth reports it had published on the subject. He invited Dr Hilton to update the Committee on the recent egg-associated *Salmonella* outbreaks.

10.3 Dr Hilton said that the story had begun in late September 2002 when the PHLS had been notified of an increase in laboratory isolates of *Salmonella* Enteritidis PT14b which turned out not to be the familiar anaerogenic strain associated with travel to Greece. Rather, it had been an aerogenic strain. A cluster of cases in Basingstoke had provided the opportunity for some hypothesis generation and this had led to an association of cases with bakery items and consumption of food bought from bakers. This hypothesis had later been substantiated in a case control study involving cases from across the country. A further cluster of cases in the north west (around the Cheshire area) allowed the hypothesis to be further investigated. Raw materials tested

in association with the bakery outlets proved negative. However, investigation of practices at premises linked to cases showed that advice on the handling and use of raw shell eggs was not being followed in every detail. The FSA intended to address this in the evolving Foodborne Disease Strategy and Food Hygiene Campaign.

10.4 As a result of the preliminary phase of the investigation, food businesses were reminded of the advice on the safe use of eggs by press release. At the same time, the egg supply chain to businesses linked to the outbreak was being investigated. Although by this time, the eggs in use at the time the contaminated products had been produced had long since been used up, a common supplier was identified, leading to the testing of eggs at that importer's premises. This yielded an *S*. Enteridis PT6a which was later confirmed to be indistinguishable from a 6a which had just emerged over the summer in the London area as a new strain (naladixic acid-resistant, ciprofloxacin-reduced susceptibility). Many of the cases associated with PT6a had emerged as part of a hospital outbreak. The initial investigations of hospitals had not identified a food source but when eggs in the hospital kitchen were subsequently examined, these yielded a very rich supply of different *S*. Enteritidis phage types. PT6a did not emerge from the first round of testing but PT14b did. This was shown by all methods of comparison, including PFGE, to be indistinguishable from the national outbreak strain. Subsequent testing of the eggs also identified PT6a as well as the large number of other phage types identified in ACM/611.

10.5 Dr Hilton said that, at that stage, the FSA sent letters to Chief Executives of Hospital Trusts and, subsequently, to Medical Directors, reiterating advice about use of raw shell eggs when catering for vulnerable groups. They were also asked to cascade the advice to catering and infection control colleagues. Information was also sent to the European Rapid Alert System and to the Spanish authorities, identifying the specific suppliers of eggs where positive isolates had been found. In addition, all importers of shell eggs from Spain were advised to send the eggs for commercial heat treatment before any use was made of them.

10.6 Dr Hilton said that, at the same time, a number of other *S*. Enteritidis outbreaks were identified with a range of phage types. Many of these were linked to eggs (details in the paper). These were currently being investigated. The first step was to establish whether eggs were implicated. If so, it was being established whether eggs associated with the outbreaks were available for testing. Where they were, a large number of eggs were being tested (120 eggs out of a batch of 360). Attempts were also being made, through the examination of invoices, to trace back the origin of eggs which would have been used at the time the outbreak occurred. Case isolates were also being matched with existing egg isolates or with cases from other outbreaks. The investigations were continuing. It was not yet possible to judge how effect the heat treatment advice, issued just over a month ago, had

been. There could still be cases occurring as a result of eggs distributed before that advice was given.

10.7 Dr Hilton said that, on the basis of epidemiological evidence, to date only Spanish eggs had been tested although there were plans to examine eggs from other EU Member States being imported into the UK. A retail survey of UK eggs would be carried out in parallel with the imports survey. No decisions had yet been taken on the possible need for further action in the light of developments. A leaflet had been produced for catering and food businesses on the use of eggs. This would be issued shortly and was aimed at driving home the messages about the safe use of eggs.

10.8 In the ensuing discussion, the following points were made :-

- to date, over 2,000 eggs had been tested by PHLS in 372 pooled samples of 6 whole shell eggs and 30 of those pools (8%) had tested positive. The positives had come from eggs labelled as country of origin Spain, and from some unlabelled, non-Lion Code eggs. 22 pools from UK eggs had been tested. These were all negative. Not every batch of Spanish eggs tested had been positive, but for those which were positive, positivity rates were quite high;

- autumn 2002 had been an exceptional period for *Salmonella* outbreaks – 3 national outbreaks involving over 400 cases; 19 outbreaks of *S*. Enteritidis between the beginning of September and the end of November, compared with 5 in the previous year;

- some disappointment was expressed that the FSA's UK shell eggs survey had not yet commenced, particularly as the ACMSF's Surveillance Working Group had submitted comments in connection with the planned survey back in March 2002. It was noted that the FSA had not been able to set up the packing station-based survey which both the Agency and the Committee had wanted, reflecting an inability to secure industry cooperation. A retail survey would now be carried out instead, commencing early in 2003;

- the FSA could not advocate the use of Lion Code eggs as a means of reducing exposure to *Salmonella* in advance of the results of the planned survey of UK shell eggs and in view of the fact that at least 2 of the *S*. Enteritidis outbreaks to date were associated with UK eggs which appeared to be Lion Code;

- in terms of microbial antibiotic resistance, *S*. Enteritidis tended to remain sensitive but many of the outbreak isolates displayed nalidixic acid resistance, and ciprofloxacin reduced susceptibility across different phage types. One of the strains had ampicillin resistance;

- the ACMSF's Second *Salmonella* in Eggs Report had pointed to the public health benefit of vaccination of laying hens against *S*. Enteritidis,

as carried out under the Lion Code. It was important that all suppliers of food to the public took all possible steps to use safe products;

- by and large, Spanish and other imported eggs were used by caterers and were not available in retail outlets. It was possible to get imported eggs via markets, car boot sales and other non-routine channels;

- advice on eggs was being sent to caterers. Consumer advice was being updated and posted on the FSA's website. However, there were currently no plans to promote the advice more widely;

- it was not known what proportion of egg importers had heeded the advice to heat treat imported eggs. The FSA was discussing with the Egg Marketing Inspectorate how compliance with the advice might be evaluated;

- the association of individual outbreaks with multiple phage types was unusual and was serving to complicate the investigation process;

- the use of Chief Executives of NHS Trusts and Medical Directors was regarded as the most effective means of channelling advice into hospitals. Initial indications were that this had been successful. Further consideration was being given as to how best to reach nursing homes and other groups.

10.9 In thanking Dr Hilton for her presentation, the Chairman noted that the Committee would want to keep itself informed of developments in relation to its advice on *Salmonella* in eggs. Another key ACMSF recommendation had been that the FSA should carry out an independent survey of the prevalence of *Salmonella* in UK shell eggs, because many of the conclusions in the Committee's Second *Salmonella* in Eggs Report were based on commercial information received by the Working Group. He hoped that early progress could be made with the survey.

11. Dates of future meetings (ACM/612)

11.1 The Chairman reported that all future quarterly ACMSF meetings would be held in public. Three would be held in Aviation House and some restriction might have to be placed on numbers of members of the public attending these, in view of the limited conference room space available. However, the current intention was to hold the December meeting each year at an external venue where, it was hoped, there would be no need to place restrictions on numbers attending.

12. Annual Report 2002 (ACM/613)

12.1 The Chairman drew attention to the first draft of the Committee's Annual Report 2002. He noted that this was a factual report and asked

Members to submit comments to the Secretariat. A second draft, reflecting any comments and the outcome of the forty-sixth meeting, would be prepared by the Secretariat and cleared with Members in correspondence as early as possible in the New Year. This would clear the way for early submission to the FSA Chairman and early publication in 2003.

12.2 The Chairman asked particularly that Members should carefully check the personal details contained in Annex I and Annex II and inform the Secretariat of any changes needed.

13. Role of the ACMSF

13.1 The Chairman said that, as a precursor to the public question and answer session, he thought it might be helpful if he gave a brief overview of the role and background of the ACMSF.

13.2 He recalled that the Committee had been set up in 1990 on the recommendation of the Richmond Committee to advise independently across Government on the microbiological safety of food. Since the creation of the FSA, the Agency had been the reporting route into Government across the UK. The Committee was independent. There were currently 17 members, in addition to the Chairman, drawn from a very wide spectrum of interests and expertise. All of the Committee's advice was based on solid scientific evidence. The Committee was very committed to openness. All agendas, minutes and the vast majority of papers (except in rare cases where there were commercial or other sensitivities) were available through the FSA's website. The Committee published Annual Reports and followed the Seven Principles of Public Life set out by the Committee on Standards in Public Life.

13.3 The Chairman said that the ACMSF provided advice to the FSA on the human health aspects of a wide range of food safety issues. In addition, the Committee had, on its own initiative, produced a number of in-depth, subject-specific reports on, eg. vacuum packaging, *Campylobacter*, microbial antibiotic resistance, etc. All of the Committee's reports were available through the Stationery Office. The Committee had a number of ways of working. Much of its business was conducted through the medium of its quarterly meetings. Other business was addressed through various Working and *Ad Hoc* Groups which often co-opted external expertise where this was not available within the membership of the Committee. All Working/*Ad Hoc* Group outputs were required to be considered and, if appropriate, endorsed by the full ACMSF before they could be submitted to Government. An important aspect of the Committee's work was horizon scanning which involved identifying emerging issues on which the ACMSF could provide independent advice and assistance to those charged with managing public health. There had been 2 full horizon scanning meetings at which Members identified possible candidates for action.

Three areas had been identified for further, more detailed, investigation, namely imported foods; newly-emerging pathogens; and changing social habits, including overseas travel. Three *Ad Hoc* Groups had been set up.

13.4 The Chairman invited the 3 chairs of the Horizon Scanning Groups to offer their preliminary views. Ms Davies (imported foods) said that concerns had arisen over the increasing globalisation of food markets and also over EU enlargement and the possibility that that might lead to the UK population being exposed to different pathogens. The *Ad Hoc* Group was likely to be looking at the major foodstuffs and pathogens of concern and the adequacy of controls. Members would be interested to hear what the FSA was planning in relation to food imports and on the question of product traceability. Work was expected to start in the New Year. Dr Andrews (changing social habits) though his Group would want to look at the current trend towards more and more out-of-home eating, the consequences of increased exposure to catering outlets, and the implications of increased international travel. The Group would want to consider sociological trends and the hope was that there would be progress within the next 6 months. Professor Hunter (newly-emerging pathogens) said that his Group would be trying to peer over the horizon to see whether there were any diseases currently being described anywhere in the world which could potentially become a risk to health in the UK. It was hoped that the Group could hold a first meeting within the next 2-3 months.

14. Public Q&A session

14.1 The Chairman invited members of the public present to ask any questions they had on any aspects of the Committee's work.

14.2 Dr Jacqui Russell from the Parliamentary Office of Science and Technology asked about the extent to which the Committee assessed or evaluated the impact of its reports in terms of policy changes, not just for the FSA but also for the Department of Health, DEFRA or any other Government Departments. The Chairman said that prior to the creation of the FSA, the ACMSF advised UK Agriculture and Health Departments. Advice continued to be UK-orientated, but was now channelled through the FSA. The ACMSF's role was to provide independent risk assessment and evaluation, and to carry out horizon scanning. The Committee was not primarily responsible for risk management. That was a matter for the FSA and others. The Committee provided advice on food safety management options. Its reports contained recommendations on what Government or industry should do. A very good example was the Committee's recent advice on the on-farm control of *Campylobacter* in chickens. The Committee had no powers to audit or monitor in detail the outcome of its reports. However, in cases where the Committee was not satisfied with the way things were developing, it had expressed disquiet and had instituted further work. The Chairman quoted 2 illustrative examples. The

ACMSF had issued a Report on *Salmonella* in Eggs in 1993. When it became clear, on the basis of surveillance carried out in 1996, that, despite extensive and costly measures adopted by industry, the prevalence of *Salmonella* contamination of UK shell eggs had not improved, the Committee carried out further detailed investigations and issued a Second Report. Similarly, the Committee had issued an Interim Report on *Campylobacter* in 1993. Human *Campylobacter* infections in the UK had continued to rise in the intervening period and the ACMSF had therefore decided to revisit the subject. Work was currently in hand and new advice had already been submitted to the FSA. The ACMSF had no statutory role; nor did it have the mechanism to monitor individual Government actions. But the Committee kept very much in touch with developments to enable subjects to be revisited as necessary.

14.3 Mr Alan Proctor (Zhitz International) spoke about inflammatory bowel disease. He noted the improvement in foodborne disease over the period that the ACMSF had been in existence. He recalled that, following a food scare in 1998, major dairies had increased pasteurisation holding times for milk by 10 seconds and wondered whether there was any scientific evidence to indicate that this increased holding time had had a positive effect on reducing the burden of foodborne disease. Mr Proctor made a second point, with regard to people with inflammatory bowel disease. He said that the incidence of Crohn's Disease was increasing quite rapidly – by 7% last year; 18,000 total hospital admissions. There were 100,000 victims in the UK of another inflammatory bowel disease – ulcerative colitis. Patients had been advised to follow a diet low in sulphites and preservatives because 95% of those with ulcerative colitis have sulphite-reducing bacteria in the body which convert sulphites into a toxic gas. The FSA had regulations to prevent these bacteria getting into bottled water. The question then was what was going to be done about these bacteria.

14.4 The Chairman said that, in relation to milk, the ACMSF had conducted a number of major investigations in relation to the importance of various organisms in the aetiology of Crohn's Disease. There was evidence that one organism in particular – *Mycobacterium avium* subsp. *paratuberculosis* (MAP) survived in retail pasteurised milk, albeit at very, very low levels, but was detectable in a small number of samples. The Chairman said that, notwithstanding the fact that there was no consensus on the disease-causing potential of MAP, the ACMSF had advised Government that it would be advisable to have programmes for removing the organism from milk. Government had taken that forward in terms of meeting stakeholders, researching the role of pasteurisation at different temperatures, the potential for reducing the organism in cattle, etc. Dr Hilton confirmed that the FSA had published a MAP strategy earlier in 2002 and much of the necessary work was being taken forward in the context of the Agency's Foodborne Disease Strategy. It was intended that a consultative group should be set up,

and measures to control Johne's Disease in animals was being taken forward with DEFRA.

14.5 Professor Hunter commented on Mr Proctor's point about sulphite-reducing bacteria. He said that everyone had sulphite-producing bacteria in the gut. Levels of sulphite-reducing bacteria in bottled water were standardised not because they were deemed to be a health risk but because they were one of the most stable indicators of past faecal pollution. The intention was that bottled mineral waters should not only contain no observable pathogens but should never have been in contact with animal or human sewage pollution. That was why sulphite-reducing Clostridia were legislated for in bottled water. They would also serve as the basis for some sampling of some water supplies under the new EU Drinking Water Directive.

14.6 Mrs Sheila Lakes (Zhitz International) wondered why, if MAP was a pathogen and was in milk, it was not recorded as a cause of foodborne disease in the papers considered by the Committee under agenda item 9. Professor Georgala said that the conclusion which had been drawn from evidence both from the UK and abroad was that MAP was not a proven pathogen and there was no consensus on its connection with Crohn's Disease. The papers relating to the ACMSF's detailed consideration of the MAP question were publicly-available through the website and had led the Committee to conclude that, despite the absence of consensus on the organisms pathogenicity, it would be better to remove it from milk. The FSA had accepted that advice and was addressing the difficult issues in the way described earlier by Dr Hilton. The reason it survived pasteurisation in milk was that it had displayed a raised heat resistance, possibly due to clumping of the microorganisms which allowed them to survive what was a relatively mild process. Pasteurisation was a balance between killing off microorganisms and damaging the nutritional and taste quality of the milk. It was, however, a highly valuable process in eliminating real pathogens from milk and had made a tremendous impact on eg. tuberculosis and typhoid fever over the past century.

14.7 Mrs Lakes asked whether there were any means other than the website that the public could get to know about food safety issues. Dr Skinner said that the FSA was very conscious of the need to communicate with the general public on all the work it was involved in. The Agency had a very active Communications Division which was making great efforts to do this. The FSA had been developing an approach since its inception and the public appeared to becoming increasingly aware of the Agency's activities. The Agency would be pursuing this policy with further vigour in the future. The Agency had increased its profile enormously since it had been in existence. Mr Whelan, from the FSA's Communications Division, gave a brief outline of the structure of the Division and the way in which things were being progressed.

15. Any other business

15.1 There was none.

ANNEX I

LIST OF MEMBERS OF THE PUBLIC ATTENDING THE ACMSF'S 46TH MEETING

Mr Phil Banks	Department for Environment, Food and Rural Affairs (DEFRA)
Ms Claire Boville	Food Standards Agency (FSA)
Mr David Clarke	Assured Food Standards
Mr Kevin Coles	British Egg Industry Council
Mr John Flowerdew	DEFRA
Ms Helen Griffiths	Food and Drink Federation
Mr Richard Jones	DEFRA
Mrs Sheila Lakes	Zhitz International
Richard Lawley	Leatherhead Food International
Mr Alan Lyne	ADAS
Mr Maskell	PHI Technologies Ltd
Dr Bob Mitchell	Public Health Laboratory Service
Ms Gemma Mulholland	DEFRA
Mr Alan Proctor	Zhitz International
Dr Jacqui Russell	Parliamentary Office of Science and Technology
Dr Norman Simmons	Emeritus Consultant in Microbiology, Guy's and St Thomas's Hospital Trust
Mr Shaun Walker	Falmouth and Truro Port Health Authority
Mrs Linda Ward	Public Health Laboratory Service
Mr Shaun Whelan	FSA
Mr Mark Williams	British Egg Industry Council
Mr Michael Wood	Norpath Laboratories Ltd

ANNEX II

TRENDS IN INDIGENOUS FOODBORNE DISEASE AND DEATHS, ENGLAND AND WALES : 1992-2000