THE FOOD STANDARD AGENCY’S LISTERIA RISK MANAGEMENT PROGRAMME (LRMP) 2010-2015

ISSUE

The FSA’s Strategy for 2010-2015\(^1\) includes the outcome that ‘food produced or sold in the UK is safe to eat’, and a main priority is to ‘reduce foodborne disease using a targeted approach’. The FSA’s Foodborne Disease Strategy (FDS) for 2010-2015\(^2\), established as one of the initiatives to deliver this objective, proposes a pathogen-specific approach to reducing human foodborne disease rates in the UK, and identifies \textit{Listeria monocytogenes} (\textit{L. monocytogenes}), which causes the most deaths, as a priority for action. This document outlines a strategy (i.e. approach and principles) to achieve this priority aim by 2015.

VISION

Our vision for this work is to achieve a sustained reduction in the number of human cases of, and deaths from, listeriosis in the UK by 2015, to be accomplished through consumer-, procurement/provision- and industry-focused activities, and underpinned and informed by the existing evidence base and new scientific research and surveillance.

BACKGROUND

1. Serious infection caused by \textit{L. monocytogenes} (listeriosis) generally affects people with reduced immunity, such as pregnant women, unborn and newborn babies, people aged over 60 years and patients with specific underlying medical conditions and/or undergoing certain drug treatments. Between 2000 and 2009, the annual number of laboratory-confirmed cases of listeriosis in the UK more than doubled. The increase occurred almost exclusively in the over 60s age group, was independent of demographic changes in the population and could not be explained by outbreaks recognised during this time. In 2010, there was a decrease in laboratory-confirmed cases but the numbers remained well above those observed in the 1990s.

2. The Advisory Committee on the Microbiological Safety of Food (ACMSF) and the Social Science Research Committee (SSRC) both considered this rise in reported listeriosis cases amongst the over 60s age group, to try to establish the causes and identify measures which could be taken to tackle it. Each published a number of conclusions and recommendations:

   a. Key recommendations from the ACMSF\(^3\) were to:
      • explore the impact of certain underlying medical conditions and drug treatments on listeriosis risk;
      • investigate fundamental aspects of the biology of \textit{L. monocytogenes}, including pathogenicity and virulence;
      • maintain targeted microbiological surveillance for \textit{Listeria} spp. in foods and epidemiological surveillance for listeriosis cases, including pan-European surveillance.

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\(^1\) \url{http://food.gov.uk/multimedia/pdfs/strategy20102015.pdf}
\(^2\) \url{http://www.food.gov.uk/multimedia/pdfs/fds2015.pdf}
\(^3\) \url{http://www.food.gov.uk/multimedia/pdfs/committee/acmsflisteria.pdf}
b. Key recommendations from the SSRC\textsuperscript{4} were to:
   • perform a thorough review of existing literature on domestic food storage and handling practices in the over 60s age group;
   • explore the opinions of key stakeholders on the current provision of food safety advice to the over 60s and best practice going forward;
   • establish a quantitative baseline for domestic food safety behaviours in the over 60s on which to measure any future behaviour change;
   • carry out a study exploring actual domestic food safety behaviours in the over 60s.

3. In addition to the known increase in listeriosis in people aged over 60 years, recent Health Protection Agency (HPA) studies have also suggested that in recent years there has been an increase in listeriosis in pregnant women from ethnic minority groups in England and Wales which could not be explained by changes in population structure\textsuperscript{5}, and in people living in more deprived areas of England compared to more affluent areas\textsuperscript{6}. However, it remains difficult to disentangle the effects of these listeriosis risk factors. Another HPA study has shown that cancer patients have an almost five-fold increased risk of developing listeriosis than people with other underlying medical conditions\textsuperscript{7}.

**APPREACH**

4. *L. monocytogenes* can be found in a wide-range of foods but it causes illness in only a limited subset of the population, meaning the strategy needed to tackle it will be quite different to the approach taken for the other FDS priority pathogen, *Campylobacter*, which is found in a limited range of foods but causes illness across all population groups.

5. We have developed a *Listeria* Risk Management Programme (LRMP) comprising three primary workstreams (Figure 1):

   a. Consumer behaviours/actions: We intend to undertake consumer-focused activities to promote awareness of the risk of listeriosis and behaviours and actions that can help prevent the disease to key vulnerable groups of the UK population via those involved in advising and caring for these groups.

   b. Procurement/provision of food to the vulnerable: We intend to undertake procurement/provision-focused activities to ensure that the risk of listeriosis is taken into consideration as part of public food procurement and food safety management processes in settings in which vulnerable people are cared for in the UK.

   c. Industry compliance/enforcement: We intend to undertake industry-focused activities to improve compliance of high-risk UK food industry sectors with existing legal requirements for *L. monocytogenes* in foods and ensure robust and consistent enforcement in this area.

\textsuperscript{4} http://www.food.gov.uk/multimedia/pdfs/committee/acm954ssrcrep.pdf
\textsuperscript{5} http://www.eurosurveillance.org/images/dynamic/EE/V15N27/art19610.pdf
\textsuperscript{6} http://www.eurosurveillance.org/images/dynamic/EE/V15N27/art19609.pdf
\textsuperscript{7} http://www.cdc.gov/eid/content/17/1/pdfs/10-1174.pdf
Figure 1

**LISTERIA RISK MANAGEMENT PROGRAMME (LRMP)**

**CONSUMER BEHAVIOURS / ACTIONS**

AIM: To promote awareness of the risk of listeriosis and behaviours and actions that can help prevent the disease to key vulnerable groups of the UK population via those involved in advising and caring for these groups.

Key messages:
- Foods to avoid
- Food safety behaviours

Key vulnerable groups:
- Pregnant women
- Over 60s age group
- Immunocompromised patients

**PROCUREMENT / PROVISION OF FOOD TO THE VULNERABLE**

AIM: To ensure that the risk of listeriosis is taken into consideration as part of public food procurement and food safety management processes in settings in which vulnerable people are cared for in the UK.

Consideration of population being procured for / provided to

**INDUSTRY COMPLIANCE / ENFORCEMENT**

AIM: To improve compliance of high-risk UK food industry sectors with existing legal requirements for *L. monocytogenes* in foods and ensure robust and consistent enforcement in this area.

Key control measures:
- Prevention of contamination
- Prevention of growth
- Determination of shelf-life & storage conditions

LRMP Working Group
PARTNERSHIP WORKING AND STAKEHOLDER ENGAGEMENT

7. We recognise that we can best protect UK consumers from listeriosis through partnership working and engagement with key internal and external stakeholders. Good working relationships with these partners will be vital for the success of the LRMP, enabling expertise, effort and resource to be pooled to achieve the common goal of listeriosis reduction in the most cost-effective way.

8. Stakeholder mapping exercises were held in September and December 2010 to inform development of a Communications Plan for the LRMP. This will set out our approach to partnership working and stakeholder engagement for the LRMP, including engagement channels, objectives and timeframes.

9. Within the FSA, we will need to work closely with colleagues in:
   a. Hygiene and Microbiology Division – Science and Knowledge Unit to provide the underpinning science and evidence, and Policy Unit to provide expertise on the EU regulation on microbiological criteria for foodstuffs and general food hygiene legislation;
   b. Analysis and Research Division – Social Sciences Research Unit to develop and manage necessary social science research, Economics Unit to provide economic advice, and Operational Research Unit to undertake microbiological risk assessment modelling and explore strategy evaluation activities in collaboration with social scientists and economists.
   c. Communications Division to develop messaging and develop and implement partnership working and stakeholder engagement strategies;
   d. Operations Group – particularly colleagues involved in the Food Hygiene Delivery Programme (FHDP) and Safer Food Better Business (SFBB) to ensure we engage effectively with the enforcement community and food industry, as well as colleagues working in the English regions (our Regional Team) to ensure we take into account regional partnership working, stakeholder engagement and delivery issues;
   e. FSA colleagues in Scotland, Wales and Northern Ireland to ensure we take into account the findings of relevant research and surveillance activities in the devolved nations, and national partnership working, stakeholder engagement and delivery issues.

10. Delivery of targeted messaging on listeriosis to vulnerable consumers through healthcare routes and influencing public food procurement processes will require extensive partnership working with Other Government Departments (OGDs), Health Protection Agencies across the UK, relevant Non-Governmental Organisations (NGOs), Local Authorities (LAs), including Environmental Health Teams, Health Care Professionals (HCPs) and the National Health Service (NHS). To progress this, we have established a LRMP Working Group, to bring relevant parties together to develop and deliver these activities (Figure 1).

11. To improve compliance with and enforcement of legislation to reduce the risk of *L. monocytogenes* contamination in the food chain we will need strong engagement with both LAs, including Environmental Health Teams, and food businesses, particularly Small and Medium Enterprises (SMEs) who produce those foods most commonly
associated with *L. monocytogenes* infections – chilled ready-to eat (RTE) foods, i.e. requiring no cooking or re-heating.

12. To support all these activities we will need a strong science and evidence base. We will work with scientific advisory bodies such as the ACMSF and SSRC and ensure that we seek relevant expert opinion to inform and underpin our work. We also plan to explore opportunities for working with other funders to address research gaps through forums such as the Microbiological Safety of Food Funders Group (MSFFG).

**WORKSTREAM 1: CONSUMER BEHAVIOURS/ACTIONS**

13. Many vulnerable consumers who are at increased risk of listeriosis live independently in the community and are responsible for sourcing and preparing their own meals. We intend to highlight to these consumers, and those involved in advising and caring for them, the risk of listeriosis and actions that can be taken to help prevent the disease. To progress this, we will identify key vulnerable groups to target and develop and frame key messaging encouraging these groups to take appropriate risk reduction behaviours and actions. We will also identify the most effective channels, particularly healthcare channels, to disseminate our messages. The activities we envisage taking forward to deliver this strand of work are outlined below.

**Key vulnerable groups**

14. From the existing evidence base, we have a relatively good understanding of the main population groups at increased risk of listeriosis (para.1). Further recent analyses by the HPA and others have provided additional detail on vulnerable patient groups and highlighted an increased risk of listeriosis amongst individuals suffering from a range of medical conditions including various cancers, diabetes, alcoholism and diseases of the kidney, liver, cardiovascular system (e.g. heart disease), digestive system (e.g. Crohn’s disease) and musculoskeletal/connective tissue system (e.g. Lupus). In addition, drug treatments linked with an increased risk include immunosuppressive treatments such as steroids, cytotoxic treatments such as chemotherapy and treatments that reduce gastric acid secretion such as proton pump inhibitors. Across all vulnerable groups, evidence suggests that economic deprivation compounds the risk of listeriosis, and amongst pregnant women, belonging to an ethnic minority group seems to be a risk factor.

15. We intend to target pregnant women, people aged over 60 years and people with specific underlying medical conditions (focusing on cancer patients as an initial priority, as research by the HPA has shown that these patients are almost five times more likely to develop listeriosis than people with other underlying medical conditions). We intend to work with relevant experts to identify further vulnerable patient groups that we can actively target our consumer-focused activities towards in order to achieve the greatest gains in listeriosis reduction. A key step will be to determine how patients can be grouped together from a functional medical perspective, depending on how they interact with the healthcare system and specific healthcare professionals, to aid the development of effective healthcare communication strategies.

16. The recent rise in reported listeriosis cases in the over 60s age group may be linked to an increase in certain diseases, such as certain cancers, and/or the use of certain
medications, such as proton pump inhibitors. As recommended by the ACMSF (para.2a), we plan to consider whether further research on co-morbidities and treatments associated with an increased risk of listeriosis would be beneficial. We also plan to consider the benefit that could be gained from further research into more fundamental aspects \textit{L. monocytogenes} biology, such as pathogenicity and virulence, also recommended by the ACMSF (para.2a).

**Key messages**

17. Our current advice (available via NHS Choices\(^8\)) highlights how \textit{L. monocytogenes} can cause a severe and life-threatening illness amongst vulnerable people, gives examples of who is most vulnerable, lists the foods in which \textit{L. monocytogenes} has been found and lists the foods that vulnerable people should avoid. Brief advice is also given on the critical food hygiene and safety behaviours that can prevent listeriosis such as not consuming food beyond its ‘use by’ date, storing food at the correct fridge temperature (below 5°C) and following the storage instructions on food labels.

18. We will review our advice on listeriosis to make sure it is based on the best available current evidence. On the basis of this evidence review, if necessary, we will to revise and refine the list of foods we advise vulnerable people to avoid and the vulnerable groups we specifically refer to in our advice.

19. We plan to actively target our key messages to specific vulnerable groups. We recognise that the vulnerable groups identified in para.1, particularly the over 60s age group, are not distinct and homogeneous entities so we will need to consider this when developing communications strategies. For effective communication the messages should be tailored and framed according to the vulnerable group to be targeted. For example, messages targeted at cancer patients should be framed sensitively and timed appropriately. We will also consider whether messages on \textit{L. monocytogenes} should be kept distinct from or integrated with messages relating to other food safety risks.

20. To inform the development of messaging, we will commission appropriate research into actual, as opposed to reported food safety behaviours, to assess whether there are any consumer behaviours that increase the risk of contracting listeriosis. We will explore the food purchase, storage and handling practices of the UK population, including the over 60s age group as recommended by the SSRC (para.2b), to provide an indication of whether there are any marked behavioural differences between the different age groups which could account for the recent rise in listeriosis amongst the over 60s. The results of this work should enable us to more effectively tailor our advice targeted to this group.

21. To further inform our messages on listeriosis, we hope to support the collection of data on domestic fridge temperatures and usage in the UK using observational techniques and questionnaires. We may also utilise in-house microbiological risk assessment modelling expertise to assess the impact of consumer behaviours, such as storage time and temperature, on the risk of listeriosis, the results of which could indicate where we should focus our efforts in terms of what behaviours we should try to influence to achieve the greatest reduction in listeriosis risk.

\(^8\) [http://www.nhs.uk/Conditions/Listeriosis/Pages/Introduction.aspx](http://www.nhs.uk/Conditions/Listeriosis/Pages/Introduction.aspx)
Delivery channels

22. We expect to work with relevant internal and external stakeholders to explore how best we can deliver our messages on preventing listeriosis through new and existing channels. We propose to utilise three main communication channels:

a. *Direct communication to consumers* – We will work to ensure that the information and advice we provide, via the web or in leaflets for example, is clear, appropriate and accessible to the target audience;

b. *Communication to consumers via HCPs* – We believe that an efficient and appropriate way for certain vulnerable groups to be provided with food safety advice will be via the HCPs they interact in the course of their illness. We will work to ensure that appropriate HCPs are identified and provided with food safety advice to provide to those in their care;

c. *Communication to consumers via NGOs and consumer/community associations representing vulnerable groups* – We will engage with these organisations to raise their awareness and discuss ways in which they could deliver our messages to vulnerable groups;

23. To communicate messages effectively via HCPs, we will need to increase our understanding of current systems of healthcare provision to patients who are at increased risk of listeriosis, including the interactions between these patients and HCPs. We may achieve this through engagement with relevant stakeholders or by commissioning research where a gap is identified. We plan to focus on a single patient group initially – cancer patients. This will inform the development of communications strategies as messages targeted to this large high-risk group could have the greatest impact in terms of listeriosis reduction. This approach could be expanded to encompass other vulnerable patient groups later if necessary.

24. To communicate our messages on listeriosis prevention to cancer patients directly and indirectly through intermediaries, we will work to identify and engage with appropriate teams in OGDs, specific groups of HCPs and specific NGOs who already interact with this target vulnerable group. We envisage progressing this through the LRMP Working Group.

25. At an appropriate stage in development and implementation of the strategy we will look to form links with LAs and local healthcare providers via FSA colleagues working in the English regions and Devolved Administrations to ensure we input into relevant local initiatives and pilot activities at a local level.

**WORKSTREAM 2: PROCUREMENT/PROVISION OF FOOD TO THE VULNERABLE**

26. The consumer-focused workstream detailed above aims to ensure that those vulnerable consumers at increased risk of listeriosis, responsible for meeting their own food provision needs, are able to do so safely. However, for significant numbers of vulnerable consumers these activities will not be under their own control, for example, they will be provided with meals or purchase foods whilst in institutional settings such as hospitals or care homes. Additionally, a number may access services which provide foodstuffs or meals to the vulnerable in their own homes. To ensure that these
consumers are also protected from the risk of listeriosis, we intend to work with organisations involved in the procurement and provision of foods to vulnerable people in these settings to raise awareness of the risk of listeriosis and promote practices that can be taken to reduce the risk.

**Key settings**

27. As an initial priority, we will focus on the food procurement and food safety management processes within NHS hospitals as the NHS hospital population is large and particularly vulnerable and their protection could have a large impact in terms of listeriosis reduction. This is a highly complex environment and there will be many factors to consider in developing approaches to reduce the risk of listeriosis. The hospital supply chain may include numerous intermediaries between the original manufacturer and the hospital. Additionally, patients do not just access food served by in-house or contracted out hospital catering services but may also access food sold by independent outlets on hospital sites. We intend to look at this setting holistically, and identify priority areas for action, in partnership with other organisations. Following work in the NHS setting, we may expand our approach to encompass other settings, such as care homes and care in the community, later if necessary.

**Key activities**

28. We aim to ensure that organisations responsible for procuring foods for the vulnerable, give due weight to the population group they are supplying when developing supplier specifications and contracts and auditing suppliers. For example, there is already explicit provision in current food safety legislation that allows for the population group being supplied to be considered when determining which level of stringency outlined in the microbiological criteria legislation to apply. We believe that our approach to focus on the NHS in the first instance could, if successful, result in the protection of many vulnerable people in hospitals across the UK without the need to seek any legislative change.

29. We will work closely with the FSA’s FHDP workstream on public sector food procurement to explore how we may be able to input into tools or guidance for public sector food procurers to support their efforts to ensure the supply of safe food. FHDP colleagues are currently establishing how procurement of food for the public sector works, reviewing the currently available guidance in this area and forming links with relevant external stakeholders.

30. In addition to improving procurement of food to be provided to dependent vulnerable people, we aim to ensure that appropriate and effective food safety management systems are in place in settings in which vulnerable people are cared for, to minimise opportunities for *L. monocytogenes* contamination and growth once foods are received from suppliers. We will explore opportunities for partnership working to provide support and guidance and to raise the profile of this issue, again focusing on NHS hospitals in the first instance. Investigations into recent outbreaks of listeriosis in healthcare settings, such as the 2008 listeriosis outbreak in hospitals in the Belfast Health and Social Care Trust which resulted in 7 people becoming ill and 3 deaths, have highlighted the importance of food safety once food reaches these settings.
Delivery channels

31. We will explore options for progressing this strand of work with OGDs and other organisations through the LRMP Working Group. We envisage that NHS Supply Chain and their independent auditor of suppliers, Support Training Services (STS) Solutions, will be key players in this aspect of our work, along with the Hospital Caterers Association (HCA).

WORKSTREAM 3: INDUSTRY COMPLIANCE/ENFORCEMENT-FOCUSED ACTIVITIES

32. The final workstream envisaged within this programme will concentrate on helping food businesses, particularly SMEs who produce high-risk chilled RTE foods, comply with the legal requirements for *L. monocytogenes* in foods, and ensuring that both these food businesses and enforcement officers have the knowledge and tools to ensure appropriate control measures are applied. We intend to establish the parts of the food chain where the risk of *L. monocytogenes* contamination and growth is highest and where control measures are currently least well applied. We will use this information to develop guidance, training and tools primarily for SME producers and enforcement officers to help them to manage the risk of *L. monocytogenes* contamination in particular high-risk industry sectors in order to reduce the occurrence of the pathogen in foods and hence lessen consumer exposure via the food chain. The activities we envisage taking forward to deliver this strand of work are outlined below.

Key industry sectors

33. From the existing evidence base, we have a relatively good understanding of the types of food and size of food business that present the greatest listeriosis risk to consumers:

a. *L. monocytogenes* is widespread in the environment and this means it may be present at low levels in numerous types of food. High-risk foods are generally able to support the growth of the bacterium, sold with a long shelf-life under chilled conditions, and eaten without cooking. *L. monocytogenes* has been found by UK microbiological surveillance in a range of chilled RTE foods including cooked sliced meats, meat/fish/vegetable pâtés, smoked fish, pre-packed mixed salads, pre-cut fruit, sprouted seeds, pre-cut salad vegetables and sandwiches. Most *L. monocytogenes* incidents reported to the FSA have involved RTE meat/meat products, cheese, fish/shellfish or sandwiches/sandwich fillings;

b. The recent HPA study that reported an association between neighbourhood deprivation and an increased risk of listeriosis, found that cases were more likely to purchase foods from convenience stores or local services (bakers, butchers, fishmongers and greengrocers). These food businesses generally represent the smaller end of the market in terms of business size, and this feature has been frequently linked to lower microbiological quality of foods in a number of HPA/Local Government Regulation (LGR) surveys undertaken in England and Wales.

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34. As *L. monocytogenes* can be found in a wide-range of foods, we expect to target our industry-focused activities to SMEs who deal with specific high-risk categories of chilled RTE foods. Sectors which we propose to concentrate on initially comprise SMEs who produce cooked sliced meats, smoked fish, soft mould-ripened and soft blue cheeses, and sandwiches. However, we will support continued microbiological surveillance for *L. monocytogenes* in foods, as recommended by the ACMSF (para.2a), in order to gather more evidence on the high-risk types of food and size and type of food business. We may develop activities directed at other industry sectors or other types of food business (such as distributers, processors, retailers, etc.) at a later stage of the programme.

**Key control measures**

35. The measures used by industry to prevent and control *L. monocytogenes* in foods tend to focus on preventing contamination from equipment and the environment, or preventing growth to potentially hazardous levels through product formulation and shelf-life restriction.

36. The ACMSF reported that industry hygiene practices had much improved since the 1980s, with the majority of large food businesses undergoing frequent certification audits to ensure compliance with third-party food safety standards. Smaller food businesses may not have such rigorous processes in place and this could be the reason why a number of surveys have found an inverse relationship between business size and microbiological food safety. We will target our industry-focused activities towards SMEs, thus concentrating our efforts on the food businesses most likely to present the highest risk to the consumer in terms of listeriosis.

37. A particular problem that has been highlighted is a lack of understanding by SME producers and enforcement officers with regards to the interpretation and application of the EU regulation on microbiological criteria for foodstuffs which defines a limit for *L. monocytogenes* in RTE foods. This particularly relates to determining the growth potential of *L. monocytogenes* in food and therefore determining the shelf-life and storage conditions for products. Enhancing understanding of these issues will help these food businesses to improve the safety of their products.

38. We have undertaken an in-house Food Chain Analysis (FCA) project to assess the relative risks that different types of food, at different parts of the food chain, pose to different population sub-groups. We plan to use the FCA to scope an in-house microbiological risk assessment modelling activity to assess the effect of different interventions on these relative risks. We may develop the modelling further to assess the impact of intermediaries, such as butchers and delicatessens, on the risk of listeriosis.

**Delivery channels**

39. We will progress this strand of work by developing simplified guidance tailored to high-risk SME producers and enforcement officers on the interpretation of regulatory requirements for the control of *L. monocytogenes* in RTE foods. We recognise that previous guidance documents published by the HPA, FSA and others cover all of the

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information required, but these are quite technical in nature and may not be suitable to be used effectively by smaller producers. We aim to conduct a review of the currently available guidance documents and to re-package these into a simpler and easier to use format (or range of formats) highlighting the key steps that need to be taken to comply with the requirements.

40. We will use this simplified guidance as a framework for the development and provision of training opportunities for the enforcement community and industry, particularly high-risk SME producers, to enhance understanding of the complex regulatory requirements for *L. monocytogenes* in RTE foods.

41. We also plan to support the development of a *Listeria* decision support tool to assist producers, particularly SMEs, to identify and implement appropriate monitoring and control steps for *L. monocytogenes* throughout their manufacturing processes, focusing on cooked sliced meats and smoked fish initially. Enforcement officers may also benefit from this tool.

42. We see large food businesses, and their respective trade associations, as having an important role to play in the development and implementation of our industry-focused activities aimed at SMEs. Large food businesses have access to a wealth of practical food safety expertise and we hope to be able to tap into this when exploring how best to support smaller producers. We would like to continue to work closely with organisations such as the Chilled Food Association (CFA), which requires its members to comply with and be audited against specified hygiene standards. The CFA has been actively involved in past FSA activities such as updating guidance on the date-marking of foods and developing practical guidance on carrying out *L. monocytogenes* shelf-life studies in relation to the EU regulation on microbiological criteria for foodstuffs. Additionally, as part of the development process, we plan to consult on any guidance, training and tools with SMEs and enforcement officers themselves.

43. We aim to improve practices amongst SME producers in our prioritised sectors by engaging with the food businesses directly (via local business forums, for example), through relevant trade associations, through LAs and via enforcement officers. We will initiate engagement with enforcement officers through the FSA colleagues in the English regions and Devolved Administrations and through appropriate professional bodies in each UK country.

**CONCLUSIONS**

44. A co-ordinated and actively managed strategy for the reduction of listeriosis in the UK by 2015 is a key element of work to deliver on the FSA’s strategic aim to ‘reduce foodborne disease using a targeted approach’.

45. In 2010-2011 we have concentrated on developing the overall strategy, developing detailed Action Plans for the three main workstreams, identifying and building good working relationships with key stakeholders, and taking forward a coordinated programme of research and surveillance.
46. From 2011 onwards we expect to:

a. Work in partnership with several key stakeholders and use the existing evidence base and outputs from new research and surveillance and in-house analyses to inform a range of consumer-, procurement/provision- and industry-focused activities;

b. Target our activities to particular high-risk population groups and food industry sectors in order to achieve the greatest gains in listeriosis reduction in the most efficient manner;

c. Promote awareness of the risk of listeriosis and behaviours and actions that can help prevent the disease to key vulnerable groups of the UK population by disseminating key messages through those involved in advising and caring for these groups, such as HCPs, NGOs and consumer/community associations representing vulnerable groups. As a priority, we will focus on delivering key messages to cancer patients via HCPs;

d. Ensure that the risk of listeriosis is taken into consideration as part of public food procurement and food safety management processes in settings in which vulnerable people are cared for in the UK, such as hospitals, care homes and care in the community. As a priority, we will focus on food procurement and provision practices in NHS hospitals;

e. Improve compliance of high-risk UK food industry sectors with existing legal requirements for L. monocytogenes in RTE foods and ensure robust and consistent enforcement in this area by developing guidance, training and tools tailored to producers (particularly SMEs) in these sectors and enforcement officers to enhance understanding and provide practical guidance in relation to the complex regulatory requirements for the control of L. monocytogenes in RTE foods.