

# 4C'S STRATEGY – PROMOTING FOOD HYGIENE IN THE HOME WITH A PARTICULAR FOCUS ON WORKING WITH SCHOOLS AND PROMOTING LOCAL INITIATIVES

## Summary

This paper outlines a 5-year communications strategy to promote the safe handling of food in the home using 4Cs food hygiene messages. The approach builds on successes to date and has a particular focus on schools and providing support for food hygiene initiatives at a local level in order to target those groups most likely to have the largest impact in terms of food hygiene behaviour change.

Research and evaluation outputs from initiatives carried out under the existing Food Hygiene Campaign were used to develop the proposals in this paper. Feed-back from a series of regional and national workshops involving a wide range of stakeholders were also used to inform development of the Strategy.

## Background

1. In 2001, the Agency published a Strategy to achieve its target to reduce foodborne disease by 20% by 2006, together with details of the mechanism by which trends in food poisoning levels would be monitored (FSA, 2001a). By closely working with stakeholders and partner organisations the Agency is expected to be very close to meeting that target. In its 2005-2010 Strategic Plan, the Agency stated that it wanted to reduce foodborne disease further by achieving reductions in *Campylobacter* in poultry and *Salmonella* in pigs, implementing new slaughterhouse hygiene measures and promoting safe handling of food hygiene in the home.
2. To improve food hygiene awareness, it set a target to:  
  
'develop and publish a strategy for improving awareness and application of the 4Cs (cleaning, cooking, cooling and avoiding cross-contamination) by promoting awareness of food hygiene in the home and at a local level, concentrating particularly on work with schools and support for local food safety initiatives.'
3. This target was established to build on existing Food Hygiene Campaign initiatives to raise awareness of foodborne disease and ways of preventing it and to promote changes in behaviour and improve standards of food hygiene in the home. Previous phases of the Campaign, in 2002 and 2003, primarily targeted those working in catering settings using 4 simple precautionary messages: Cook food properly, Chill food properly, Clean hands properly and avoid Cross-contamination. In 2004 and 2005, the Campaign focussed on consumers and the importance of avoiding cross-contamination. Annex 1 outlines key Food Hygiene Campaign activities carried out from 2002 to date. An evaluation of these activities is summarised in Annex 2.

4. Analysis of previous Food Hygiene Campaign initiatives has shown that specific messages targeted at those in education, parents, vulnerable groups and those who care for them are more effective in raising awareness of food hygiene messages and promoting behaviour change (FSA, 2003). Therefore the proposed Strategy develops previous initiatives to promote food hygiene in the home but with a shift of emphasis to targeting schools, education and those working with vulnerable groups and involved in local and community initiatives. These sectors are most likely to have the largest impact in terms of food hygiene behaviour change (FSA 2006).

### **Improving food handling and preparation – what we know**

5. Good food hygiene in the kitchen can reduce the risk of infection from foods contaminated with foodborne pathogens derived from food handlers and illness due to bacterial toxins. Control of cross-contamination is key to reduction of foodborne disease in both commercial and domestic kitchens. By raising awareness of food hygiene in the commercial catering and domestic sectors through promotion and reinforcement of tailored precautionary messages, food handling errors and outbreaks of foodborne disease may be reduced (FSA 2001a). In doing this we recognise that consumers perceive the home to be the least likely source of food poisoning.
6. Research has been conducted to examine the relationship between food handlers' knowledge, beliefs and attitudes and the preparation of food in the home. This has shown that their behaviour did not correlate with their knowledge of food safety or their reported behaviour and over estimated the frequency of the actions carried out to prevent food poisoning in the home, i.e. hand washing, cleaning the kitchen and using different utensils. Work to examine whether social marketing approaches ('selling' of food hygiene messages based on approaches used in selling commercial goods) can influence behaviour in the kitchen was also conducted. This showed that a significant improvement in consumers' food handling practices was observed when highly focussed measures and intervention materials were developed (FSA Projects, B02004 and B02010).

### **Shaping the strategy**

7. Findings from research to evaluate existing food hygiene information and resources available for schools and for domestic kitchen users in the UK have been used to target development of resources to impact on those groups likely to change behaviour in schools and in the home (FSA, 2006b; FSA 2006c).
8. This work has shown that there is a lack of suitable, affordable, interactive resources targeted at Key Stage 1, which is one of the most important stages in development, and also secondary schools. To increase

effectiveness of food safety education, this work has shown that messages need to be personally relevant. Children who understood the link between food hygiene and food poisoning were shown to be more likely to engage in good practice. Therefore materials should be developed to link scientific knowledge with food and food hygiene.

9. The home is perceived to be the least likely location to acquire food poisoning (FSA 2006c). Although it is more likely to acquire infections outside the home, a large number of cases are still acquired in the home. Therefore any education strategy should aim to increase consumer awareness of food poisoning risks associated with food prepared in the home. Local Authorities and Primary Care Trusts or Local Health Boards were identified as key distributors and trusted sources of consumer focussed food hygiene information. School children were identified as a key target audience. However less than 20% of Local Authorities targeted vulnerable groups, young mothers or the elderly (FSA 2006b). Working with Local Authorities and Primary Care Trusts and using existing health education channels therefore provides a mechanism for delivery of trusted food safety advice to a range of target groups at a local level.
10. Independent evaluation of existing food hygiene initiatives has been used to identify which initiatives have been most successful in terms of raising awareness of food hygiene and promoting behaviour change amongst caterers, enforcement, those in education and consumers (FSA project B20002, 2006). TV advertising was shown to be the most effective and rapid mechanism for disseminating food hygiene messages, and it also had the highest impact. Educational initiatives such as the cooking bus were also shown to have a high impact on those directly involved. There was little reported long-term recall of key messages from TV advertising. Therefore follow-up activities over a longer time period are needed to reinforce food hygiene awareness and affect long-term behaviour.
11. The work with our stakeholders has been fundamental to the success of the Food Hygiene Campaign. Over 60 grants have been awarded to Local Authorities in England and Scotland which have strengthened local partnerships and provided a mechanism to target those harder to reach audiences. By widely consulting our UK stakeholders through regional workshops we have been able to shape the strategy to ensure maximum impact.
12. This strategy aims to build on these highlighted areas and also work being carried out in the domestic strand of the Agency's Foodborne Disease Strategy to disseminate advice to consumers, raise awareness and deliver food hygiene messages to vulnerable groups. Further details outlining the work to support our approach to developing the Strategy are provided in Annex 3.

## **Strategy priorities and outline of initiatives**

13. The primary aim of the communication strategy is to:

Reduce foodborne illness further by improving awareness and application of the 4Cs food hygiene principles in the home concentrating particularly on working with schools and providing support for local food safety initiatives.

### ***Key messages***

14. Key messages for this phase of the campaign will continue to focus on the 4Cs:

- Wash hands properly and keep them clean
- Cook food properly
- Chill food properly
- Avoid cross-contamination

### ***Key Audiences***

15. Target groups are:

- Schools and education
- Vulnerable groups and those who care for them
- Those involved in local and community initiatives

16. There are a number of elements that will be pulled together to achieve the objectives outlined above. These have been grouped in four broad areas:

- Above-the-line activity (such as major TV advertising)
- Support for local initiatives
- Schools and education
- Exhibitions

17. These areas are not mutually exclusive and often link together. Working with our stakeholders will be integral to the success of these areas.

### ***Above-the-line activity***

18. TV advertising is the most effective and rapid mechanism for raising awareness and disseminating food hygiene messages and produces the highest impact and greatest level of recall. We are proposing to use seasonal reminders to reinforce and give a high profile to our messages. We intend to continue screening our existing adverts in the first instance but reviewing and revising material when appropriate.

19. By running seasonal reminders we will be able to make the media “work harder” by providing supporting material that can not only be used by the Agency but can also be used by our stakeholders including local groups/authorities. Thus we would be better placed to inform Local

Authorities of planned activities and provide greater consistency and impact of messages across all UK countries.

20. We will make use of the existing UV light advertisements as fillers, or where appropriate consider the production of new filler advertisements. Screening fillers will provide a year round TV presence and reinforce delivery of messages through below-the-line activities. This activity will be supported by use of seasonal bursts of activity such as the existing barbecue TV filler running from May to September and screening of existing or new TV adverts.

### ***Support for local initiatives***

21. Building on our links and relationships at a local level from the previous strategy will form a key element of the new strategy. Feedback from food hygiene workshops indicated a desire for a consistent and recognisable approach to food hygiene across the UK, linking in more widely with stakeholders and partner organisations such as the FDF's Foodlink. The success of local authority grants was frequently recognised and availability of grants to support local initiatives was widely sought on a UK-wide basis.
22. To address this, there are several ways of supporting local groups and projects, both in the short and longer term:

#### **Immediate**

23. The development and production of a consumer facing food hygiene leaflet. This leaflet and supporting items will be designed to dovetail with the work being taken forward in Communications Division to rationalise FSA literature. Working closely with other government departments and partnership organisations, such as the Health Promotion Reference Group, will provide a more effective way of targeting our messages and literature.
24. The development and production of UK-wide resources to support all above-the-line activities and the Good Food Show. These resources would be planned and publicised as integral parts of the activity to enable local authorities and community groups in each of the UK countries to run parallel and complimentary activity.
25. Meeting with FDF to explore opportunities to pro-actively develop and co-ordinated initiatives such as poster competitions or other initiatives where the Agency does not have the appropriate resource in house.
26. Working with other areas of the Agency such as Consumer Branch to ensure that we are making full use of the knowledge within the Agency on hard-to-reach and vulnerable groups, and explore the need for targeting other stakeholder groups in these areas as appropriate, e.g. voluntary organisations, charity groups.

### Longer term (2007 onwards)

27. The Agency annually receives a huge number of requests from many sources to attend events, shows and exhibitions. Whilst many of them may be worthwhile the Agency does not have the resources to support them. Therefore, we are proposing the development of an exhibition 'kit' for local authorities comprising of a 'pop up' stand (or similar) with supporting materials. The kit(s) would be able to be loaned out to local authorities on a case-by-case bidding system. Priority would be given to events that focus on our target audience.
28. We would explore methods for auditing and evaluating current Food Hygiene materials, available via the FSA and other organisations in order to find the best mechanism for setting up a central resource to improve accessibility to food hygiene resources.

### Local Authority grant scheme

29. Development of the existing local authority grant schemes in England and Scotland will form an integral part of the new strategy. Future grants will continue to seek proposals for specific targeted groups/sectors, possibly with a tiered funding system to allow more investment in worthwhile individual projects. This could mean opening the grants up to other stakeholder groups that may not have been previously eligible. An example of working in this way was implemented for Phase 2 of the Salt Campaign. Key stakeholders with expert knowledge of their specific audience (e.g. Age Concern and Elderly people) were approached about communicating our key messages via their own communication routes. Funding in the form a grant to carry out the work was provided following written proposals from the organisations. Consideration would also be given to broadening the scheme to cover all UK countries.

### ***Schools and education***

30. Evaluation of existing initiatives has shown that schools are an important source of food safety and hygiene information, and form an effective route for communication of key messages. Focussing on schools is also viewed as an investment for the future. Targeting children at an early age, and throughout their school career provides a mechanism for cementing public food hygiene awareness. This approach is more likely to achieve long-term behaviour change, as school children eventually become parents and instil good food hygiene practises in their own children.
31. Work is currently underway to consolidate and integrate the Agency's provision to schools for both food hygiene and nutrition awareness. The outcome of this work will be used to identify gaps in our provision for food hygiene initiatives and ensure that resources are more user-friendly and clearly linked to the curriculum. Following completion of this work in summer 2006 we will explore filling any gaps in food hygiene initiatives

that exist. This will include the possible development of a 'Cookit' a large kit comprising items of cooking equipment (see paragraph 33).

32. It is proposed that the Agency's 'education package' be launched at the Education Show in 2007. The Show will also feature the Agency's Cooking Bus.

#### Extra-curricular activities

33. Youth groups and parent and teacher associations also form one of our target audiences. It is hoped that support materials developed for local authorities and the planned schools activity will also provide resources suitable for these groups<sup>1</sup>. Other initiatives and partnerships highlighted for development may include museums and the Scout and Guide movements. The education initiatives will also identify any gaps in this area and ensure that the messages are consistent with other activity.

#### Cooking Bus

34. The Agency's sponsorship of the Cooking Bus will continue. This resource will be reviewed along side other Agency schools activity, including the possible development of a 'Cookit' i.e. a large kit comprising quality cooking equipment for schools that will be developed by 'Focus on Food'. This initiative will support and encourage the development of cooking skills, safe and hygienic food handling practices and the promotion of good food, nutrition and health messages.

#### ***Exhibitions***

35. Agency presence at other exhibitions will be considered alongside development of promotional literature and educational resources.

#### Consumer

36. The Agency will continue to exhibit at the Good Food Show. At the 2006 show, a joint food hygiene and nutrition stand will be present. Materials will also be available at the show to provide additional support for local initiatives and work with schools.
37. Food hygiene messages will also be promoted at a local level through the provision of [panels or stand materials for Local Authorities to use with the exhibition kit (see paragraph 27).

#### Education

38. Following the launch of the Agency's 'education package' at the Education Show in 2007 we will explore attendance at future education exhibitions or events.

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<sup>1</sup> For example poster materials

## **Timing**

39. The above initiatives can be divided into two phases. Phase 1 (2006) and Phase 2 (2007 onwards).

### **Phase 1**

- Screening of summer eating barbecue advert
- FHC TV filler – consider development of a new approach or using existing UV light treatment
- Review of current materials available to schools
- Development of new support materials for roll out in Phase 2
- Development of concept for the Good Food Show (November 2006)
- Publications – development and marketing through Primary Care Trusts and other groups.

### **Phase 2**

- Rolling out the above using targeted events such as the Education Show (March 2007)
- Increasing engagement with relevant stakeholders including the FDF, voluntary sector and Primary Care Trusts and other stakeholders by working with the Consumer Branch as appropriate
- Explore mechanisms for making grants made available to local authorities and other stakeholder groups on a UK wide basis

## **Evaluation**

40. Evaluation of above-the-line advertising will continue with pre- and post-evaluation to assess awareness of targeted messages. Much of the activity outlined above has adopted a social marketing approach, which is less distinctive than normal campaigns. Evaluation of the impact of these initiatives on the reduction of foodborne disease is difficult. Therefore, as endorsed by the FSA Board the outcomes of each initiative will be evaluated in its own terms, against its own objectives. The use of focus groups would also be considered to ascertain levels of awareness, knowledge and practice, at the start and end of the strategy.
41. The work to consolidate and develop the schools materials will involve research to ensure that the right materials are produced. The Education Show will provide a good opportunity to gain initial reaction and feedback from teachers to the developed materials. Follow-up research will also be carried out to assess how teachers and children have responded to initiatives in the classroom and at home. Evaluation will also form part of any individual package that is developed, where appropriate.

42. Exhibitions are difficult to evaluate. However, the tender for this year's Good Food Show includes increased focus on evaluating the results of the show. For example from a quantitative point of view in terms of numbers of people visiting stand and literature distributed, and also from a qualitative point of view in terms of likelihood to change behaviour.
43. These principles will be extended to provide a more co-ordinated approach to consolidate the feedback from all events attended by the Agency.

### **Implementation**

44. The current Food Hygiene Campaign Working Group of Agency officials reports to the Foodborne Disease Project Management Board. The Working Group will develop, co-ordinate and monitor implementation of the 4Cs Strategy in England and the devolved regions to ensure consistency across the strands of the foodborne disease strategy and timely delivery of communication initiatives. The Group will also identify and link into other relevant cross-cutting Agency publicity initiatives focussing on schools and local communities, for example in areas of healthy eating and nutrition. External stakeholders will be kept informed of developments via the Agency's stakeholder Consultative Group on foodborne disease and through regular communications to Local Authorities.

### **Budget**

45. It is estimated that implementation of the strategy across the UK will require funding of approximately £5.2 million for 2006-07 and 2007-08 (£2.2 million for 2006-07 and £3m for each subsequent year). This amount would include £1 million each year for 'below the line activity', supported by approximately £2 million each year for media/campaign advertising ('above the line') activity.

### **Next Steps**

46. Following the Project Management Board's agreement of this communication strategy, detailed plans and timings for the individual initiatives will be drawn up.
47. Stakeholders will be updated on the outcome of the regional workshops and will be kept informed of developments as the Strategy progresses.

## **FOOD HYGIENE CAMPAIGN WORKING GROUP**

**APRIL 2006**

## REFERENCES

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FSA Project Reference B02004. An evaluation of food handlers' knowledge, beliefs and attitudes about food safety and its interpretation using social cognition models.

FSA Project Reference B02010. The evaluation and application of consumer hazards and risk to food safety education.

## Annex 1

### Food Hygiene Campaign initiatives

1. As part of its Strategy to reduce foodborne disease the Agency launched a multi-media national Food Hygiene Campaign in 2002. This initiative is based on 4 simple precautionary messages (the 4Cs):
  - Wash your hands properly and keep them **clean**
  - **Cook** food properly
  - **Chill** food properly
  - Avoid **cross-contamination**
2. Key aims of the Campaign have been to raise awareness and increase understanding of food hygiene among those working in the catering industry and the general public as a precursor to achieving changes in behaviour and improvements in hygiene standards.
3. Early activities focussed on improving handling and preparation of foods commercially to achieve behaviour change in the catering and hospitality sector. This approach was taken because most reported general food poisoning outbreaks are known to be associated with catering businesses (Anon, 1998). In 2000 45% of UK prosecutions/formal cautions were taken against restaurants, of which over half were for food hygiene related reasons (FSA, 2001b). Eating out has become more frequent, as reflected by the Agency's 2001 Consumer attitudes survey, which highlighted consumer concerns about hygiene standards in catering establishments (2001c).
4. New material and resources were provided to caterers and local authorities to improve hygiene practices in commercial kitchens. These included information resource packs aimed at kitchen managers, publicity materials, new publications and web-based information. Formal evaluation of these activities showed increased awareness amongst caterers of the link between spreading germs, poor food hygiene and food poisoning, particularly in the 16-24 age group. Successful hand washing and seasonal safer eating TV advertising Campaigns significantly raised awareness of the 'defrost and cook properly' and hand washing messages amongst caterers and consumers.
5. Recent activity has focussed on communicating simple food hygiene messages about cross-contamination to key consumers most likely to change behaviour, including mothers with young children and those in the 16-25 age group. Formal evaluation of these initiatives showed excellent recall and awareness of food hygiene. Seasonal advertising has continued to promote 'defrost and cook properly' messages. The Agency also launched a biosecurity Campaign to promote awareness of *Campylobacter* amongst farmers as part of a series of initiatives to reduce the amount of contaminated chicken entering the kitchen.

6. Other successful publicity initiatives included promotion of food hygiene advice and information at conferences and exhibitions including the Community Practitioners and Health Visitors Association, Infection Control Nurses Association, Adventure show, the Scouts and an annual presentation of a spoof cookery show (Bad Food Live!) at the Good Food Show. Interactive resources were also annually exhibited at the Royal Highland Show (interactive kitchen) and the Royal Balmoral Show (in partnership with the Food Safety Promotion Board).

### **Local initiatives**

7. Forty grants have been awarded to Local Authorities in England, and 21 awards made in Scotland to support local activities to promote food hygiene in schools, local communities, ethnic and vulnerable groups including the elderly. Delivery of the award scheme through Local Authorities has strengthened local partnerships with health professional, schools and groups at a community level. The schemes have also successfully provided a cost-effective route for Local Authorities to engage with local communities that are hard to reach at a national level. Formal evaluation of these schemes showed in an increase in food hygiene awareness amongst vulnerable groups at a local level. Success of these initiatives has further been evident with several schemes being selected for FDF foodlink Communicating Food Safety awards. The Agency is currently developing one local school-based initiative ('Mission Possible') for delivery as part of a national pilot.

### **Educational initiatives**

8. The Agency's 'cooking bus', a purpose built mobile classroom, has visited over 80 schools and projects since its launch in 2003, delivering a programme designed to fit with the National Curriculum and teachers' work objectives (in association with the Focus on Food Campaign). The Bus has also been used successfully for out of school community activities in the summer holidays, and has been used to engage members of the public in more disadvantaged regions. In Wales the FSA's mobile education resource has toured extensively promoting key food hygiene messages at public events.
9. Resource materials to promote food hygiene messages developed for schools include a teaching pack and video aimed at 10-14 years age group were made available to 5000 schools and over 350 Local Authorities in England and Wales, interactive resources and web site based materials.

## Annex 2

### SUMMARY OF FOOD HYGIENE CAMPAIGN ACTIVITIES AND EVALUATIONS REPORTED, 2001 – 2006

(Source: Annex D from Foodborne Disease Strategy – Evaluation. Report prepared for the Food Standards Agency by Dr Chris Bell, March 2006)

Activity	Dates	Feedback by	Interview numbers	Brief summary of findings	Ref(s)
Bad Food Live	28 Nov – 3 Dec 2000	Interviews of attendees when exiting the show.	321	High enjoyment level. 45% watched most or all of the show. 46% respondents spontaneous recall of hand-wash message, 33% clean implements message. 21-27% recalled 4 other key messages. >70% claimed messages NOT new, 17% learned something.	1
1. TV ads <i>Chef and Hands</i> 2. Radio ads 3. National press print ad 4. Catering trade print ad	11 Feb 2002 launch – end on 14 April 2002	Pre and post evaluation	Baseline: 9 Nov-10 Dec 2001 393 managers 357 staff  Follow-up: 15 April-25 May 2002 438 managers 377 staff	Target – catering professionals Pre-launch mailout of 'sick bag' and information pack (poster, fridge sticker and campaign information). No real change in rating of good food hygiene in importance to success of the business (Q8). Spontaneous awareness of publicity post campaign +34% managers, +56% staff (highest 62% for managers) (Q33). Highest prompted awareness of TV ads rather than radio, printed ads etc. Very little increase in % (maximum +9%), (if any at all) of managers or staff spontaneously mentioning specific hygiene practices (hand washing, clean work surfaces) – highest % mention 70% (staff) <i>but</i> significant increases in % (+48% managers, +44% staff) mentioning general 'cleanliness' message although maximum % mention by either group 60%(Q10). Post campaign 56% (39% pre-) managers and 47% (39% pre-) staff gave 5+ mentions of times when hands washed (63% managers and 68% staff in NI), (Q12). In general 'correct' (highest %) awareness answers and best improvements found in NI e.g.Q10.	2
Barbeque – sausage TV ad	May – June 2002	Pre and post evaluation	2000 adults 15+	Target – general public 45% all adults lived in household that used a barbeque 31% respondents reported seen or heard barbeque publicity, most via TV. 41% respondents recall improperly cooked sausages post TV ad, 35% spontaneous awareness reported of 'cook food properly' message mid TV campaign.	3

Activity	Dates	Feedback by	Interview numbers	Brief summary of findings	Ref(s)
				Small increase in % respondents (47% to 54%) mentioning cook food (or meat) properly pre to post TV and radio campaign	
TV, catering press and ethnic radio: food hygiene	29 Oct 2002 – 24 Nov 2002	Pre and post evaluation	23-27 Oct 2002, 1841  27 Nov - 1 Dec 2002, 1948 adults 15+	Primary target – catering trade plus exposure to general public. Overall 13% increased awareness about advertising post-ad (+27% following Spring 2002 advertising campaign) but 18% increase for 16 – 25 year old group (47% increase for this group following Spring campaign). (Charts 1 and 2) Graphics more readily recalled by younger age groups. Chart 3 <or =21% of respondents mentioned any of the 3 specific contributory hygiene reasons for people getting food poisoning. Chart 5 both post-evaluations 90% of respondents agreed to some extent that food poisoning can largely be avoided. Chart 7 and Table 5 Little overall change in behaviour reported post ad. Table 6, Q8 Chart 8 (labelled 7), Tables 8, 10	4
TV, radio and press ads focus on washing hands	11 Feb, 2002 and 28 Oct 2002	Pre and post evaluation research	Managers/staff  9 Nov- 10 Dec 2001 393/357  15 April-25 May 2002 438/377  23 Sept-20 Oct 2002 388/378  18 Nov-12 Dec 2002 399/381	Target – catering professionals. Detailed breakdown of material used and distributed listed in Annex 1, ConsComm D011/03. 2 campaigns launched 11 Feb 2002 and 28 October 2002 Spontaneous awareness of Oct campaign recorded as 68% for both managers and staff. (Table 21) (62 and 56% respect for Feb campaign). The main wash hands message recalled by 42 – 43% post Oct. Bed and breakfast staff reported to have poorest recall of this message. (Table 22) 4% increase in % of managers or staff re ‘wash hands’ message from pre to post both campaigns. Staff % responding positively 7 – 13% higher than managers over both campaigns. (Table 3) After the second campaign, 66% and 39% staff indicated they washed hands after going to the toilet or handling raw meat respectively. (Table 5) Some increase over the two campaigns (7% managers-10% staff) in awareness that hand-washing helps avoid cross-contamination. (Table 6)	5, 6, 7

Activity	Dates	Feedback by	Interview numbers	Brief summary of findings	Ref(s)
				3 print ads used seen by <30% of managers or staff. (Table 24) Ethnic ad seen by 49% managers No apparent change in hand-washing behaviour post Oct campaign (Table 32) or any follow-up action (Table 33)	
Christmas turkey TV ad	20-25 Dec 2002	Pre and post evaluation	Pre- stage 13-17 Dec 2002: 1659 adults aged 16+  Post- stage 3-7 Jan 2003: 1787 adults aged 16+	Target – general public who cooked the Christmas poultry (39% respondents) Post-ad, <i>most important task</i> for 45% target respondents was proper defrosting (41% pre-ad) and for 33% ensure properly cooked (30% pre-ad) but latter task recorded <i>total</i> mentions of 76%-post (71% pre-ad) High level of awareness of reasons for cooking properly recorded pre- and post-ad. 55% of target respondents claimed to have seen advertising/publicity - 82% of these reported seeing the TV advertising; c. 30% recalled correct message and >90% of all who cooked poultry at Christmas claimed to know the information already.	8
TV campaign <i>Germs</i> Test in NW TV region (Granada) Washing hands and cross-contamination	10-31 March 2003	Pre and post evaluation	Pre:17 Feb –9 March 2003 NW-470, rest of GB-465  Post: 1-25 April 2003 NW-492, rest of GB-506	Target – mothers with children aged 10years and under. Post campaign, +9% awareness of advertising about food hygiene in NW (9% drop in rest of GB) (Chart 17). High level of awareness of TV source of advertising pre and post ad 92/93%NW (86% rest of GB) (Chart 18). 10% increase in recall of advertising about food hygiene (8% drop rest of GB), (Chart 19) and key messages (Chart 20, also 21, 26). Significant increase (NW) in prompted awareness of TV ad from 48 – 81%. No behaviour change evident in NW post campaign (possible negative change in rest of GB) (Chart 29). Positive directional influence of campaign in NW vs generally negative awareness responses in rest of GB (e.g. Charts 32-34). Approx. 90% respondents claimed to know information already (from family and/or school; Chart 43) but useful reminder or useful to	9

Activity	Dates	Feedback by	Interview numbers	Brief summary of findings	Ref(s)
				<p>others (Chart 41).</p> <p>c. 60% of respondents claim to use different chopping boards for different types of food. (Chart 46) and &gt;90% claimed to do so for a 'microbial' reason (Chart 47).</p> <p>&gt;70% respondents gave correct answer for meat storage (Chart 50) and 80% the correct reason for cooking poultry properly (Chart 57)</p>	
Cooking Bus	Sponsored since Oct 2003	Reports of findings		<p>Target – school children and teachers</p> <p>2004 visits – 27 schools, c. 2300 children and trained c. 250 teachers</p> <p>Poor retention of specific hygiene learning over time</p> <p><i>Short-term learning ratings for hygiene content</i></p> <p><u>Primary pupils</u></p> <p>76 - 88% recorded learning about hygiene. Less than 50% liked the topic best or wanted to learn more.</p> <p><u>Secondary pupils</u></p> <p>Hygiene recorded as the topic learned most about and had a high rating for interest but one of the least highly rated topics for wanting to learn more.</p> <p><u>Further education pupils</u></p> <p>Hygiene recorded as the topic learned most about and had a high rating for interest and wanting to learn more.</p> <p><u>Teachers</u></p> <p>Positive feedback concerning the facility provided, professionalism and quality of the teaching given and coverage of the lessons. Teachers able to use the experience and approaches taken in teaching others. Provided practical suggestions to help improve the Cooking Bus experience for others.</p>	10, 11
TV ad 'turkey'	Christmas 2002  20-26 Dec 2003	Pre and post evaluation	<p>Pre- 1808 adults (16+) 12-16 Dec 2003</p> <p>Post – 1805 adults (16+) 2-6 Jan 2004</p>	<p>Similar % responses in 2002 and 2003 to questions concerning proper defrosting or proper cooking of poultry both as the most important thing to do or as part of the total mentions. 5-6% increase in % positive to these questions post ad. (Table 7)</p> <p>2002: 12 and 17% increase from pre to post ad in 'correct' responses to two questions concerning checking that poultry is properly cooked. In 2003, comparable increases 11 and 13%.</p>	12

Activity	Dates	Feedback by	Interview numbers	Brief summary of findings	Ref(s)
				<p>However post ad overall % figures only similar for both years due to % drop between post 2002 and pre 2003 campaigns (Table 8). Similar high (97%) of understanding why important to cook poultry properly in both years for both pre and post ad. (Table 9)</p> <p>Higher % 16-25 year-old respondents reported to see TV ads than respondents 50+ years old. (Table 11 notes).</p> <p>TV ad correct recall 59% 2002 and 65% 2003 with 34 and 36% respectively mentioning purpose of ad. (Table 12)</p> <p>For both 2002 and 2003, c. 95% of those cooking poultry at Christmas who recognised TV ad claimed they knew the information already. (Table 15)</p>	
Response to advertising executions <i>Airport and Holiday</i>	3-4 March 2004	Determine food concerns and responses to proposed ads	40 Interviews 15- 20 mins.	<p>Target – general public</p> <p>Few spontaneous concerns expressed including avian flu. Food quality available in UK regarded as generally high – larger retailers may offer superior quality meat and likely to be less problem.</p> <p>Generally good knowledge of food safety practices and understanding of link between lax hygiene and illness reported – executions not new information</p> <p>Chicken understood as requiring extra care</p> <p>Assumed that restaurants (especially takeaways) and meat and shellfish are main sources / transmission routes for food poisoning</p> <p><i>Campylobacter</i> not mentioned as food poisoning pathogen; <i>Salmonella</i> most mentioned</p> <p>Need sensible authoritative advice.</p> <p>Parents and schools influence information communication.</p> <p>Poor recall of TV campaigns.</p> <p>Light touch advertising generally better appreciated. Germ family idea sensible for broad audience – ‘upmarket’ respondents want serious message for serious topics.</p>	13
TV ad preparing raw chicken	2 – 30 June 2004	Pre advertising 26-30 May and post advertising 30	Pre – 1995 Post - 2360	<p>Target – mothers with children + general adult public</p> <p>70% all respondents saw the ad. (79% mothers with children) (Table 4)</p>	14

Activity	Dates	Feedback by	Interview numbers	Brief summary of findings	Ref(s)
		June – 6 July evaluation		95% of these claimed they knew the information already. (Table 6) 4-8% increase in awareness of all to the two key washing messages post ad but none >40% (Table 10) Mothers with children generally higher % awareness and adopt good practices after campaign than general adult public (Tables 2, 3, 5, 9, 10, 15, 16)	
TV ad preparing raw chicken	11-31 July 2005	Pre and post advertising evaluation	Pre – 1997 (269 target) Post – 1949 (257 target)	Target – young men aged 16 – 34 27% target (24% all respondents) claimed to have seen any advertising (19% and 17% respectively. pre) (Table 1) of those who has seen ad, 96% target saw TV (91% all respondents) (Table 2) Spontaneous recall of current ad by 28% target. Message recall maximum 12% for target, maximum 17% for all adults. Prompted recall after being shown ad 47% target (41% all) (Table 4), main message thought to be about hygiene 64% target (59% all) (Table 5) specifically utensil and surface washing, 28% target (18% all) (Table 5) 89% target reported knowing information already (86% all) (Table 6) 6% increase in awareness of key ad hygiene messages post-ad by all (4-8% target) but none >19%) however, c. 90% awareness by all and target of general issues concerning reasons for getting food poisoning pre- and post-ad and hand-washing awareness increased 9% target to 18% (10% all to 24%) (Table 9) Key ad poultry handling message awareness increased 1-6% target and 6-7% all respondents (Table 10) < or =90% respondents claim to always wash chopping boards / surfaces or knives and other utensils after preparing raw chicken post-ad (Tables 15 and 16)	15
Evaluation School children's knowledge and behaviour			22 schools (pupil numbers 396 – 1501) across all 4 regions 700 pupils, 11-14 years of age	England 410 (59%), Wales 80 (11%), Scotland 122 (17%), Northern Ireland 88 (13%) 88% respondents claimed to always wash hands after going to the toilet. Hand-washing prior to preparing food higher % at school (84%) than home (69%). Much lower % prior to eating lunch (13% school, 31% home) (Table 3)	16

Activity	Dates	Feedback by	Interview numbers	Brief summary of findings	Ref(s)
				<p>Generally good understanding that finger-licking and sneezing over food is unhygienic.</p> <p>Poor understanding of control of bacteria – assumptions re: surfaces, belief that freezing and washing will kill them. 63% understood that proper cooking would kill. (Fig.2) 77% identified chilling as means for slowing growth 54% chose correct fridge operation temperature (Fig.3) 42% knew that you cannot identify food contaminated with food poisoning bacteria (Fig.4)</p> <p>General awareness of importance of food hygiene.</p> <p>Highest % awareness and reported practice of 'good behaviour' by Scottish pupils, lowest by NI pupils (Curriculum) (Table 5)</p>	
Grants to Local Authorities			<p><u>E&amp;W</u> 03/04, 10 grants 04/05, 15 grants 05/06, 15 grants <u>Scotland</u> 04/05 9 grants</p>	<p>Different target audiences by different initiatives including school children, ethnic caterers/communities, mothers/families with new babies and children &lt;4years, local businesses, vulnerable and other specific community groups. Methods used include local TV campaign, video, training packs, teaching games.</p> <p>Positive interaction of LAs with variety of communities generating local publicity (therefore wider audience). <i>Resources produced that can continue to be used.</i></p> <p>Lessons to be learned recorded.</p>	17, 18, 19, 20

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### Developing the Strategy - Approach

#### *Evaluation*

1. To support development of the strategy, existing UK Food Hygiene Campaign resources and activities were independently evaluated. This research showed a raised awareness of food hygiene amongst caterers and consumers (Annex 1). TV and media was shown to be the most effective and rapid mechanism for disseminating food hygiene messages and for producing the highest impact and greatest level of recall. Other forms of media resource such as videos were highly rated but suffered from a low usage rate. Graphic images were most readily recalled. Interactive resources such as Bad Food Live! were enjoyed by audiences although some consumers claimed not to learn anything new. Printed and web-based information generally suffered from poor recall of food hygiene messages compared with information publicised using other media.
2. Schools were identified as an important source of food safety and hygiene information and were shown to provide an effective route for communication. Educational initiatives such as the cooking bus were shown to have a high impact on those directly involved and in the home. Teachers also reported carrying their experiences forward in delivering other parts of the curriculum. However there was little reported long-term recall of key messages.
3. It is not clear whether this raised awareness of food hygiene amongst target groups has produced behaviour change sufficient to contribute to reducing UK levels of foodborne disease. This increased awareness has also been shown to be short-lived. However there is evidence to suggest that repeated campaigns lead to higher levels of awareness than that reported in earlier campaigns. Follow-up activities to reinforce food hygiene messages were highlighted as a mechanism to cement public food hygiene awareness and affect long-term behaviour. The success of existing educational initiatives was recognised although these resources were limited. Development of high impact visual materials and educational resources with reinforcement elements for use over short time scales were identified as an approach to target children through their entire school career to establish long-term behaviour change (FSA, 2002b).
4. Stakeholders including professional bodies, local authorities, industry and community groups were recognised as fundamental to the success of the Food Hygiene Campaign and provided a mechanism to target wider and harder to reach audiences such as vulnerable and ethnic groups, and those at a local level. Award-based schemes such as 'Eat Safe' and local authority grant schemes also provided opportunities to develop relationships within the community. Different audiences were seen to require different targeted information and delivery systems. It was recognised that a wide range of consumer information on food hygiene was available at a local and national level. However this information was uncoordinated and difficult to locate on, for example, local authority web sites. Development of a co-ordinated

programme which engaged trusted gatekeeper organisations and stakeholders would provide a mechanism to ensure delivery of consistent advice on a UK-wide basis (FSA, 2006a):

### *Research*

5. Research findings from projects to evaluate existing food hygiene information and resources available for schools and for domestic kitchen users in the UK have been used to target development of resources to impact on those groups most likely to change behaviour in schools and in the home (FSA 2006b; FSA 2006c).
6. Research related to schools found that within primary schools there was a lack of suitable resources targeted at Key Stage 1 (or equivalent in Scotland). There was an identified need for development of free resources or for resources made available to schools at an affordable price. For the younger age group games or group activities were required, together with puppets and big books for story telling. Resources such as DVDs or CD-ROMs with worksheets, tablemats and food equipment could be used to reinforce the key messages. Within the secondary schools, food safety messages could be put across using educational games about food hygiene, teaching materials such as worksheets, short television clips such as the FSA adverts and as 'gory' stories to tell were perceived as effective ways of showing how bacteria are transferred.
7. Findings from the schools study showed that consumers from different age groups, social classes, genders and family circumstances have differing perceptions of risk, trust, respect and differing preferences for intervention formats and design. The home was perceived to be the least likely location to get food poisoning therefore, any future UK consumer food safety education strategies should aim to increase consumer awareness of the food poisoning risks associated with preparing food at home. To increase the effectiveness of food safety education and to reduce the perceived invulnerability of consumers, the research suggested that the messages should be personally relevant. Aspects of perceived risk and control should be addressed during the development of future strategies to inform consumers about food safety risks as failure would result in people believing that these messages are for 'other people' and never one-self.
8. Overall educational resource should be affordable and provide practical activities and ideas, e.g. videos and CD-ROMs especially for use with key stage 1. It was evident that not all classrooms had access to the internet therefore there should not an over reliance on web based formats. The resources should be age appropriate and materials to reinforce the messages such as posters or stickers for display with the key messages should be developed. One way to provide tools would be to establish a central resource library that could contain UV light boxes and other up to date resources.

9. Food hygiene knowledge, attitudes and behaviour of school children have also been considered. Children recognised the importance of food hygiene, and many could articulate why it was important in relation to human disease. Those who better understood the connections were more likely to always engage in good practice. All ages demonstrated a good knowledge of food hygiene and knew when they should wash their hands however they lacked knowledge of how and when to clean surfaces, the key temperatures for cooking and chilling and the nature of micro-organisms. Therefore materials should be developed that link scientific knowledge of micro-organisms with food and food hygiene.
10. The research relating to homes showed that there was a vast quantity of food safety information either available or provided to UK consumers. It was also highly variable in quality and between geographical regions, and it was rarely evaluated.
11. Local Authorities (mostly environmental Health Departments) were the most significant distributors of consumer food hygiene information in the UK with an increase in provision over the last five years. Leaflets were the most commonly used information with most being distributed in response to consumer enquiries. School children were the most common targeted consumer audience with less than 20% of Local Authorities targeting parents, young mothers, single parents and the elderly. Half the UK consumers surveyed were unaware that Environmental Health Departments provided advice on safe food preparation in the home so the research identified that there was scope to raise awareness in this area.
12. About one third of Primary Care Trusts (PCTs) in England reported providing food safety information to consumers within the scope of other health promotion activities. Collaboration with PCTs would provide a route for provision of credible food safety advice to consumers through existing health education channels.
13. Consumers viewed the home as one of the least likely places to get food poisoning with the majority of responders being confident in their hygiene practices and unconcerned about food poisoning in the home. Therefore the research identified a need to raise awareness about the risks of getting food poisoning from foods prepared in domestic kitchens, and particularly in a way that redressed the perception that the advice was for 'other people' and never oneself.
14. The research showed that the FSA TV adverts using UV light to demonstrate cross-contamination were remembered by a large number of respondents in focus groups and in >60% of national interviews. Perceptions of the advertisements were positive although respondents reported that any behavioural changes were short-lived.

## *Consultation*

15. To shape the strategy to ensure maximum impact, stakeholders were widely consulted on the Agency's approach to food hygiene promotion in the home. Views were sought via a series of 8 regional workshops that took place in England, Wales, Scotland and Northern Ireland during the latter half of 2005. The Agency's stakeholder consultative Group on foodborne disease was also consulted.
16. Feed-back from these work shops highlighted a desire for a consistent and recognisable approach to food hygiene across the UK, linking with stakeholders and partner organisations such as FDF's Food Link. The success of local and community-based initiatives funded through Local Authority grants was recognised, and availability of grants to support local initiatives was widely sought on a UK-wide basis. The Agency's cooking bus was viewed as a highly successful initiative in England and Wales, with suggestions for the Bus to be piloted (possibly using smaller buses for rural areas) in Scotland and Northern Ireland.
17. Other mechanisms considered for promoting food hygiene at a local level included engaging with parents and Parent Teacher Associations at local school and college events, mother and toddler groups, after school clubs, youth and sport groups, and by working with celebrities, local businesses and commerce. The need for availability of local resources in a range of languages appropriate for local ethnic communities was also recognised.
18. Practical and interactive and incentive-based activities were viewed as highly effective mechanisms to increase food hygiene awareness and knowledge in school children and young people. Stakeholders identified that there was a need to identify food hygiene more clearly in the curriculum and to develop appropriate tools for teachers to assist its delivery, for example easy to use teachers resource packs suitable for use in short lessons. It was recognised that a large amount of material to promote hand washing was already available in schools, and that more focus needed to be given to developing resources to promote cooking, chilling and cross-contamination messages (which were not well understood). Stakeholders identified a need for development of an easily accessible central database or directory of existing UK wide food hygiene resources and information sources.
19. The continued focus on primary age school children was welcomed, as this target group was identified as being highly receptive to food hygiene messages. Effective communication of food hygiene messages to secondary school children was recognised to be more difficult, identifying that the 11-18 years age group was more likely to relate to a recognised outcome or achievement such as a curriculum-based hygiene qualification. Suggestions to target sixth formers and students and other age groups included developing a 'healthy eating' resource package focussing on cookery, diet, nutrition and food hygiene, and by promoting key messages via student Freshers' week activities. Popular media (TV and cinema advertising, magazine publications, mobile phones) were viewed as an appropriate

mechanism to promote food hygiene messages to school children and students. There was also support for improving easily accessible publicity resources such as literature, web site materials, guidance and demonstration resources.

#### Domestic sector

20. The Agency has formulated and disseminated useful and practical advice to consumers for various aspects of food hygiene, such as the storage of food, pregnancy advice and steps that can be taken to reduce the risk of food poisoning acquired in the home. Key 'gatekeeper' organisations have also helped deliver food hygiene messages to vulnerable groups. Attendance at conferences where 'gatekeeper' organisations including representatives from the education sector, health care professionals and the voluntary sector were present helped to raise awareness of the Agency's Food Hygiene Campaign messages and demonstrated how these organisations could help to reduce foodborne disease.