FSA: Balance of Risks & Responsibilities

TNS-BMRB Citizens’ Forum Research with consumers

July 2014
Executive Summary

TNS-BMRB was commissioned by the FSA to conduct deliberative ‘Citizens’ Forums’ workshops with consumers to:

- understand risk perceptions around behaviours to manage food safety
- establish consumer views about the balance of responsibility for food safety
- explore response to communications and interventions designed to facilitate change

Perceptions of risk
Consumers do not perceive food poisoning to be a high risk in relation to home-prepared food; and if they do encounter it, they expect it to have limited consequences. They are confident they can manage the risk from food poisoning when preparing the food themselves. Consumers voiced greater concern about 1) the long term impacts of poor diet and the use of chemicals and additive in food, and 2) what happens outside the home, both in terms of restaurant hygiene and the safety of food production processes.

Balance of responsibility
Consumers are generally content with the current balance of responsibility between consumers/Government and industry. Overall, they are positive about the measures that Government takes to protect them from the risk of food harm.

There is however a belief that the Government should educate consumers so they know what the recommended behaviours are – even if they may not act on this information. They also maintained that Government has a responsibility to monitor industry to ensure that standards are maintained and/or improved.

There was limited support for industry interventions to reduce food poisoning where this impacted on cost or choice for consumers.
Communications challenges
Effective communication with the public about in-home food safety risks is challenging, particularly where that communication seeks to challenge ingrained behaviours and commonly accepted truths. This can lead people to reject rational, risk based communications messages, especially where the risk highlights general food safety risks they feel they already manage effectively. Rational arguments around risk are too easily counter-argued and consumers believe that if these are over-stated there is a danger of creating unnecessary panic.

Consumers also voiced a need for multi-channel message saturation to change social norms and engrained behaviour. They expected that within this, there would be a role for a wide variety of channels and voices to play in bringing home the message - including supermarkets, food labels and packaging, doctors and health authorities, schools and media partners.

Conclusions and recommendations
Activity related to food preparation and storage is highly habitual and ingrained and therefore people do not tend to make logical, reasoned judgements for action but rely on their ‘instinct’ about the right thing to do. It may be that behaviour will only change after a slow road to social norming via saturation methods for harder to sell messages. Building up messaging through public relations, news and entertainment media may in the long run create a ‘tipping point’ in social norms.

Directly challenging strongly held beliefs and habitual practices around food in the home undermines the link between ‘home’, safety and personal efficacy in a way that people often find unacceptable. In developing approaches to in-home behaviour change it may be helpful to look at campaigns that have successfully alerted people to hidden dangers in their homes without undermining their sense of personal efficacy or more general safety.

Education from the FSA and government is desired and felt to be a ‘right’ – even if it is a ‘right to ignore’. In this context, emotional messaging was more effective than rational argument. However, there are risks around ‘risk’ messaging and a careful balance needs to be struck between creating emotionally impactful messages and maintaining the credibility of the FSA.
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1. Introduction

The FSA commissioned TNS-BMRB to conduct research with UK consumers to understand

- How people perceive risk around food hygiene
- How this influences views about their responsibilities for managing this risk themselves, and
- Expectations about how industry and the Government/Food Standards Agency should manage risk on their behalf.

Overall, consumers indicated a high degree of comfort in terms of taking on responsibility for managing risk around the safety of food prepared in their own homes – although they desired education to help guide safe practice, and management of out-of-home risk. In light of this, research also included an exploration of a communications ‘test case’ to understand consumer response to education materials aimed at changing consumer behaviour.

1.1 Aims of the research

The specific research objectives were to:

- Explore consumer risk perceptions around food handling and behaviours to manage food safety.
- Establish consumer views about the balance of responsibility for food safety in light of the above – including what consumers accept as their own responsibility and what they feel is the responsibility of others (industry and government).
- Identify and test what needs to happen - having explored consumers’ beliefs and expectations about the balance of responsibility for ensuring food safety, to consider a range of levers to facilitate change including communications messages to inform or persuade, or changes to the way that food is produced which would reduce the need for consumers to adopt safe food handling practices, where this is appropriate and/or viable.

The research was designed so that participants were able to reflect on their own beliefs and habits in relation to food safety. These reflections were used to inform subsequent discussion about the types of
interventions which might help them and other consumers to manage risk more effectively.

The project also built upon existing knowledge about beliefs about risk and the influence these have on behaviour and choice, for example avoiding certain foods or outlets. We therefore drew on previous FSA research on consumer views about the food industry, how it operates and is regulated, as well as consumer understanding of food borne illness and safe food handling practice in order to inform topic coverage and analysis, particularly in relation to attitudes to food risk and food safety practices.

1.2 The approach

A multi-stage deliberative approach was chosen to achieve the research objectives and is summarised below:

1.2.1 Literature review

We conducted a brief review of research identified by ourselves and the FSA on attitudes to food risk and how this shapes behaviour, or reported behaviour, and beliefs about food safety. The review brought together learnings on consumers’ attitudes to risk in relation to food and how they respond to information about food risk. Materials for review included reports of primary research for the FSA, published academic papers and
FSA advice and discussion documents. This was used to inform the development of discussion materials and to ensure that the research was grounded in what was already known. The review will be cited throughout this full report, the full bibliography and short summaries of key learnings from each of the papers can be found in the appendix 7.

1.2.2 Wave 1

Wave 1 consisted of 12 deliberative workshops with consumers conducted between 26 November and 4 December 2013. Two workshops per evening were conducted across 6 locations: London; Birmingham; Oldham; Cardiff; Belfast and Edinburgh.

Each workshop was made up of around 10 participants. The sample was designed to reflect the spread of the local population, thus ensuring a mix of age, gender, ethnicity, rural/urban, and family status. The workshops were split according to socio-economic group and income in order to better understand the influence of financial circumstance on consumer attitudes and behaviour. Each workshop was 90 minutes long.

The purpose of these workshops was to begin the conversation about food safety risk and consumers’ management of this. Specifically, this included:

- Exploration of the sources consumers receive food safety knowledge from, how they assess them and what messengers are most trusted and listened to
- Exploration of consumer behaviour and attitudes in relation to food safety
- Introduction of the concept of ‘food safety responsibility’, including case study examples and risks arising from internal and external food safety practice
- Drawing out any changes in attitudes to risk and responsibility in light of the recent financial climate and effects of this.

1.2.3 Wave 2

Participants from Wave 1 were reconvened for Wave 2, two to three weeks later (with fieldwork therefore being conducted in December 2013).
The purpose of these workshops was to build on findings from the previous discussions as a basis for defining consumer perceptions of the balance of responsibility. Specific objectives included:

- Bringing the process of risk (and safety) management to life, e.g.:
  - Clarifying and identifying what consumer responsibilities currently are;
  - Where provider and industry responsibilities start and end;
  - Where Government (FSA) responsibility is; and
  - Where any manoeuvre for change would be.

- Assessment of consumers’ understanding of their responsibility for food safety, e.g.:
  - Exploring how consumer responsibility can best be supported
  - Understanding public desire for changes to provider responsibility.

- Generation of an ‘ideal’ solution – followed by ‘reality testing’ and re-adjustment

### 1.2.4 Interim analysis

Following the first two Waves of research, an analysis was held with the TNS-BMRB research team and the FSA on January 22nd 2013 to discuss the emerging findings and to agree a suitable approach for Wave 3.

### 1.2.5 Wave 3

Wave 3 consisted of 6 deliberative workshops with consumers, conducted in February 2014. Each session was 90 minutes long, with 2 workshops per evening across 3 locations: London, Birmingham and Edinburgh. Participants were all freshly recruited for this Wave of research.

The purpose of these workshops was to gain initial understanding of consumer responses to food safety communications – using the test case of trying to discourage consumers from washing chicken, in order to reduce risk of campylobacter poisoning. Specifically, this wave focused on:

- Testing hypotheses around risk based messaging using mock up campylobacter messaging as a test case
- Further explore views about responsibility to minimise risk outside the home
1.3 The report outline
Following this outline, Section 2 focuses on perceptions of risk of food poisoning inside and outside of the home. Section 3 explores the balance of responsibility between the public, industry and the government in protecting the public from food poisoning. Section 4 summarises some of the challenges in communicating with people about in-home food safety with the specific case study of chicken washing and campylobacter. Section 5 presents some final recommendations.

All quotations are verbatim, drawn from audio recordings of the workshops.
2. Perceptions of Risk

In this section we discuss consumers’ perceptions of risk in relation to food, including risk from food poisoning as well as other perceived risks – such as the consequences of ingesting ‘chemicals’ used in food and the long term impacts of an unhealthy diet.

Key findings:
- Consumers did not perceive food poisoning to be a high risk in home-prepared food – and if they did encounter it, they expected it to have limited consequences.
- There was greater concern about the long term impacts of poor diet and the use of chemicals and additive in food.
- People were confident they could manage the risk from food poisoning when preparing the food themselves.
- There was a higher perception of risk and concern about what happens outside the home, both in terms of hygiene in restaurants and the safety of food production processes.

2.1 Perceptions of risk from food

Participants were asked what they saw as the main risks associated with food. Overall, food poisoning was considered the most likely risk from food. However there was high perceived control of this risk, at least when preparing food at home.

Consumers were more concerned about the long term health impacts of changes to people’s diets. In particular, they felt uneasy about the shift from natural food cooked from scratch to processed foods – containing 1) high salt and fat content and 2) ‘chemicals’ which were considered potentially harmful.

- Eating more unhealthy foods, including those high in fat and salt and processed foods was known to lead to long term serious health impacts.
- Chemicals and additives to food are seen as inherently risky and possibly leading to unknown impacts e.g. cancer rates attributed to contact with chemicals and pesticides.
- There are concerns about the ingredients in processed food and the way in which it is prepared.
The literature review revealed that anxiety around the content of food is heightened by perceptions of unknown risk.\(^1\) Consumers rely on sensory cues to make judgements about food safety and feel that because artificial additives in food cannot be detected in this way they pose an insidious threat that heightens the perception of risk.

### 2.2 Perceptions of risk in relation to food poisoning

Risks were strongly influenced by beliefs around likelihood and severity. Food poisoning was felt to be something that ‘everybody’ got. Prior food poisoning was a common experience for respondents, although very few believed that they had contracted it in the home – most thought that they had got it from eating out at restaurants or from take away outlets. They were fairly confident about where they had contracted these illnesses, for example, because they had not eaten anything else that day, because the illness had come on so suddenly, or the business had been known to be involved in a food poisoning outbreak.

The following diagram illustrates the way in which consumers’ perceptions of risk are strongly influenced by beliefs around likelihood and severity:

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because they believe they know the correct ways to handle food to avoid this. If this were to happen, they similarly do not expect the result to be anything more severe than a ‘mild tummy bug’.

The language that consumers used to describe the most likely form of food poisoning (e.g., “tummy bug”), indicates its low perceived risk and an inclination to downplay it. Consumers tended to gloss over symptoms that they may find embarrassing. People do recognise that food poisoning can have more severe consequences, resulting for example in hospitalisation. However, they assume that this would only happen to ‘vulnerable’ people (e.g. younger / older / ill people who were more susceptible than them) and therefore do not consider this a likely risk or something that is relevant to them.\(^2\)

There was also a strong counter-narrative that worrying too much about food hygiene was not necessary – or could even be harmful. There was a feeling amongst some that exposure to germs and viruses actually helped a person’s immune system and it was therefore important not to be ‘overly’ hygienic. This counter-narrative was bolstered by participants’ belief that older generations had safely prepared food without some modern conveniences and regulations around food management (e.g. refrigeration, packaging, use-by dates).\(^3\)

"I think anti-bacterial wipes do more harm because children don’t build up a resistance.” ABC1, Oldham

2.2.1 Food poisoning in the home

The majority of consumers felt confident that they had sufficient knowledge to prevent food poisoning when preparing food for themselves, and there was a good basic understanding of foodborne illnesses and how they occur. However, confidence does not necessarily correlate with safe practice; some were very confident that they could prevent illness by

\(^2\) Maarten J. et al, “Food Safety in the Domestic Environment: The Effect of Consumer Risk Information on Human Disease Risks”, Risk Analysis 28 (2008), No. 1

\(^3\) Taché J., Carpentier B. “Hygiene in the home kitchen: Changes in behaviour and impact of key microbiological hazard control measures”, Food Control 35 (2014) 392-400
‘following common sense’ yet evidenced some unsafe behaviour or confusion around best practice.⁴

People felt more confident about eating in their own homes than in other environments because they felt in control. For example, they knew for sure how clean they were, whereas they could never be certain about ‘other people’ and restaurants.

"If I dropped a sausage on the floor I would pick it up and give it to them [children] because I know how clean my floors are." ABC1, Oldham

All groups spontaneously mentioned bacteria and several people identified cross contamination as causes of food borne illness. Cross-contamination was not typically mentioned in previous research and this suggests that FSA messaging is coming through to consumers in some areas.⁵ Specific advertising was also mentioned in most groups (namely, Christmas turkey and Summer BBQ adverts).

A range of ways in which someone might get food poisoning were easily identified. The most commonly mentioned causes related to incorrect handling of foodstuffs, particularly meat. This included not cooking meat for long enough; not storing food properly and particularly allowing raw meat to contaminate other foods in the refrigerator; and cross-contamination by using the same utensils and surfaces to prepare raw meat and other foods. Certain foodstuffs were considered high risk, particularly chicken and seafood, but rice and eggs were also mentioned by some. Finally, not washing hands or keeping the kitchen clean enough was another commonly identified risk for food poisoning.

"He used the same utensils to pick up the cooked chicken as he would the raw meat and I went absolutely ballistic." ABC1, Oldham

"I’m a bit hysterical about cooked meat and raw meat in the fridge. If I go to someone’s house and they’re in the fridge together then I’m like aghh". ABC1, Cardiff

⁵ Lessons from the Citizens Forums: Review of forums and consumer engagement cycle (2011)
Commonly adopted precautionary measures included keeping meat on lower shelves in the fridge, washing hands, and keeping the kitchen clean. People exercised particular caution with certain food types such as chicken and shellfish, but ways of combatting this risk were seen as slightly different – with chicken the importance of cooking properly was paramount, whereas with seafood it was most important to buy fresh, high quality produce in the first place.

Despite the fact that people knew that there was a lot of information available to them, this information was only accepted where it was intuitive and fitted in with their practice. There were a number of areas that consumers knew less about or where they ignored advice.

**Washing chickens** was the focus of a great deal of discussion and debate and the official advice elicited surprise from many. This issue is further discussed in section 4 of this report.

"I’d always have to wash it not because I necessarily think there’s anything wrong with not washing it but because I’ve always done it and it wouldn’t feel right not to do it." ABC1, Cardiff

**Use by dates** created some confusion about what could and could not be safely ignored. The fact that supermarkets use ‘best before’, ‘sell by’ and ‘use by’ dates was identified as the main source of confusion and some suspicion. Some felt that such dates were used by retailers to make more money and that they were over-cautious. People trusted their own senses to determine whether food was safe to use.

People regularly ignored advice to **defrost meat in the fridge** rather than on kitchen surfaces because it was not practical and took too long. Some participants were also aware of advice to **check fridge temperatures** but very few knew the optimum temperature and most were unaware and unconcerned about this lack of knowledge. While many participants **washed vegetables** before cooking, some were sceptical about advice to wash vegetables before peeling them.

"My nan and my Mum used to leave meat out to defrost because I remember seeing it and none of us ever, it didn’t do any harm to us.” C2DE, Birmingham
Participants acknowledged that, despite their best intentions, it was likely that they unthinkingly displayed poor hygiene practices when dealing with **pets around food**. For example, stroking the dog mid-food preparation or allowing cats to walk across kitchen surfaces.

"*You know it’s a rule but you don’t always follow it*” ABC1, Oldham

Consumers tended to feel that they might not necessarily know about everything they could be doing, but they knew enough to keep themselves safe. They felt that they followed what they considered to be the most important rules, and therefore it did not necessarily matter if they did not follow everything to the letter all of the time. For example, several felt uncertain about **how long to store left over food**, and people’s rules varied across and within the discussion groups, but they were not unduly concerned about these.

"*I always find it a bit hazy actually how long I can leave things in the fridge after I’ve cooked it*” C2DE, Oldham

In addition to following what they considered to be safe food handling practices in the home, consumers also had a number of other strategies to avoid foodborne illnesses. They **relied on their own judgement** in terms of what they buy and eat, such as whether it looks, feels or smells right. They **bought from trusted sources**, such as their local butcher’s, and **better quality produce** where possible (e.g. organic). They also felt that **cooking from scratch** was safer than buying processed foods. Because these practices were perceived as generally successful, consumers felt that they were ‘doing enough’ to keep safe.

"*He’s my local butcher, I know him. The meat is cut in front of me.*” C2DE, Oldham.

Where food poisoning had happened in the home, participants tended to feel it was their own ‘bad luck’ rather than due to poor hygiene practices. For example, you could be incredibly hygienic but still eat a ‘dodgy’ prawn or contaminated meat, and this was out of their control.
### 2.2.2 Food poisoning outside the home

Consumers were less confident in their ability to avoid food borne illness outside of the home because of the perceived lack of control over practices and environment in non-domestic locations.

When eating out of the home, particularly in unfamiliar restaurants, people claimed to use their **lived experience and judgment** to make decisions about whether a place was risky or not, for example, by observing the cleanliness of the staff or toilets. Familiar restaurants where people had eaten before were felt to be ‘safe enough’ if they had not had a negative experience. In addition people trusted others’ **recommendations** and chain restaurants where they were familiar with the offer.

Some used **food hygiene ratings** displayed in the restaurant as a barometer of riskiness. They were aware that this meant that the restaurant had been independently inspected and this gave them a higher level of confidence in the quality of the food available. Others **avoided certain foods**, such as seafood.

> “*She always touches her face and hair in between touching the food so I try my hardest to make sure she doesn’t serve me when I go to my local café.*” ABC1, Oldham

> “*I think seafood is a gamble, every time you’re eating it you’re taking a huge risk*”. ABC1, Edinburgh

Participants acknowledged that they ran a risk eating at certain places, for example, street food, but were prepared to take that risk on occasion. They also understood that there was a trade-off between price and risk, which meant they were sometimes prepared to take a greater risk for a cheaper meal.

> “*I wouldn’t want to be obsessive about food hygiene and not eat in certain places.*” C2DE Oldham
2.3 Beliefs about making safe food choices

Range of behavioural drivers of food safety behaviours

Discussions revealed a wide range of drivers of behaviour around food handling and food safety choices – both rational and less so. Perceptions of risk in relation to food were shaped by deeply held beliefs and experiences about what constituted ‘safe’ choices.

These are summarised below against the TNS Behaviour Web – with more reflective, logical drivers of behaviour on the left side of the ‘web’, and more automatic, emotional drivers of behaviour on the right side.

The wide range of behavioural drivers at play presents a significant challenge for communications. Although consumers say they want ‘education,’ an education-only approach will have difficulty shifting more automatic drivers of current practice. Consumers readily admitted that they often ignored food safety advice currently – because, for example:

- **Habits die hard**: Consumers were strongly wedded to ‘tried and trusted behaviours’ and reluctant to change. People make ‘questionable’ food choices every day and don’t get ill.
- **Lived practice is persuasive**: Consumers had perceived little or no ‘cost’ of any current unsafe practice – and weren’t convinced that adopting ‘safer’ behaviours would make any difference for them personally.

- **Government is not the most persuasive messenger**: With other ‘voices’ (such as the opinions friends and family) often considered more trusted and legitimate than scientific knowledge.

- **Embedded heuristics ‘feel’ right**: People trust their ‘rules of thumb’ such as relying on smell or touch to determine if food is safe; these (false) assessment practices are more persuasive than those that require the visualisation of invisible risk.
3. Balance of responsibility

The section below details consumers’ views on whose responsibility it is to prevent food borne illnesses.

Key findings:
- There is a perception that consumers can manage risk from food poisoning when preparing food themselves at home.
- Therefore, there was limited support for interventions to reduce food poisoning where this impacted on cost or choice for consumers.
- They believed the Government should educate consumers so they know what the recommended behaviours are, even if they may not act on this information.
- Government also had a responsibility to monitor industry to ensure that standards are maintained.

3.1 Views about the balance of responsibility

The following diagram indicates where consumers feel responsibility lies:

<table>
<thead>
<tr>
<th>In home</th>
<th>Consumer</th>
<th>Government</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cleanliness</td>
<td>Monitoring/regulating</td>
<td>Adhering to regulations</td>
</tr>
<tr>
<td></td>
<td>Safe food preparation/</td>
<td>industry</td>
<td>Improve food safety standards</td>
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<tr>
<td></td>
<td>handling</td>
<td>Educating consumers</td>
<td></td>
</tr>
<tr>
<td>Outside of home</td>
<td>Using common sense</td>
<td>Monitoring/regulating</td>
<td>Adhering to regulations</td>
</tr>
<tr>
<td></td>
<td>to make judgments</td>
<td>Protecting vulnerable</td>
<td>Improve food safety standards</td>
</tr>
<tr>
<td></td>
<td>FHRS to chose safe</td>
<td>consumers</td>
<td></td>
</tr>
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<td></td>
<td>outlets</td>
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</tbody>
</table>

In general, consumers think the current balance of responsibility is right and were largely satisfied when they understood what industry and the Government (FSA) do to control risk.

This was underpinned by a number of beliefs discussed in previous chapters:
- Consumers largely believe they know what they’re doing and how to keep themselves safe.
- It is impossible to get rid of risk completely and in fact some germs are good for you / build your immunity.
• Natural risk (from bacteria) is less harmful that unnatural risk (from changing the way food is produced)

Consequently, consumers tended to focus government responsibility on raising awareness and helping consumers to make safer choices and adopt safer behaviours. This is indicative of assumption that people will make rational decisions based on a convincing argument – but also resistance to changing practices.

However, need for education was often deferred to other people. Individuals were very confident that their own practices were safe and were resistant to changing them.

3.2 The responsible consumer

Inside the home consumers are willing to take responsibility for the level of ‘natural risk’ they perceive in day-to-day food storage and preparation practice. The idea of the ‘responsible consumer’ was ingrained in people’s attitudes to preventing in-home instances of food poisoning.

It was widely believed consumers were able to manage risk themselves – underpinned by a sense that their own hygiene practices had not led to poisoning in the past. Consumers felt that people should take responsibility for their own handling practices, and there was a strongly held view that consumers were entirely responsible where their practices led to food poisoning. However, very few participants were willing to accept that they would poison themselves. They therefore tended to talk about other people taking responsibility for their (rather than my) poor practices. Therefore, people felt that neither industry nor government bore the responsibility to change practices in order to minimise risk for consumers.

In order to challenge views about consumer responsibility, we presented a series of case studies on possible impacts and outcomes of ‘risky’ behaviours that participants had said they routinely adopted.

The first case study related to the practice of washing chickens. There was widespread surprise that this presented a risk of food poisoning and sympathy for those who contracted food poisoning as a result of this practice which ‘felt like the right thing to do’.
The second case study related to eating food past its ‘use by’ date. People felt that they were able to judge whether food was safe to eat and were more likely to use the evidence of their senses than the information on the packaging.

Responses to both case studies indicated a resistance to receiving information or evidence that would require them to reconsider deeply held beliefs or commonly accepted practices. Participants felt that the risks were overstated for the general population, but that it might be important for vulnerable groups (i.e. others) to take them on board.

We also challenged notions of a ‘responsible consumer’ by discussion of the disconnection between reported and actual food hygiene practices; contagious food poisoning; and responsibility for reporting food businesses where unsafe practices were suspected or observed. There was surprise at the notion that Norovirus could be linked to food poisoning and no existing perception that individuals who had contracted Norovirus had any duty to protect others from contagion. When exposed to information about viral risk, consumers were however happy to take responsibility for some appropriate isolation and containment. However, people did not feel that they would stay home from work if they were suffering from food poisoning because they knew that employers and others were also not aware of this issue. They felt work needed to be done to change social awareness and norms around safe practice to enable individuals to take full responsibility.

These examples demonstrate how entrenched the notion of the ‘responsible consumer’ is and the difficulty of challenging this idea through information and communications.

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6 Maarten J. et al, "Food Safety in the Domestic Environment: The Effect of Consumer Risk Information on Human Disease Risks", Risk Analysis 28 (2008), No. 1
3.3 Consumer expectations for Government responsibility

Consumers feel that Government’s main responsibility lies in overseeing and setting standards for what happens to food before it gets to people’s houses and when it is prepared outside of the home.

Outside the home, consumers have limited perceived control over what happens to the food that they consume. This includes hygiene standards in food outlets and the addition of chemicals and additives to processed foods. Therefore, the FSA and government are perceived to have a responsibility to ensure that standards are rigorous and are upheld. Consumers were especially concerned about oversight of food outlets which prepared foods for vulnerable groups, for example kitchens serving schools, hospitals and care homes. As vulnerable groups were especially at risk from food poisoning, there was an expectation that the FSA or government would closely monitor these outlets and that additional precautions would be taken to ensure that food hygiene risk was as low as possible. There is an expectation that industry should try to maintain and/or improve safety standards, but consumers are not always confident that this does take place. They therefore considered it the FSA’s responsibility to monitor and regulate.

“Spot checks... I imagine they do something like that but maybe do it more regular, try and catch more people out.” ABC1, Birmingham

“[The FSA] are the ones that should set the guidelines and if those were adhered to we wouldn’t be talking about food poisoning.” C2DE, Oldham

Participants agreed that the FSA and government should inform them about safe food handling practices so that they have all the information they need to prevent unnecessary risk. However, they also reserved the right to ignore that advice if they feel it does not fit with their own views or presents too onerous a burden in changing behaviour.

“The Government can give you information, it’s up to you if you follow it or not.” ABC1, Belfast
"The Government can only do so much. At the end of the day, you’re the one putting it in your mouth, you’re the end user.” ABC1, Edinburgh

3.4 Response to Interventions

There was minimal support for changes to production processes to minimise levels of food borne illness, particularly if this increases cost or adds an extra layer of complexity to the food production process. People felt that introducing new and unfamiliar production processes could introduce new risks and that they were able to manage existing risks effectively themselves.7

"I’d pay more for zero risk but there’s always going to be a risk so why pay more.” ABC1, Edinburgh

Once participants had received more information about the danger of campylobacter there was more support for interventions to reduce risk, especially where this then eliminated the need for consumers to change behaviour.

"If there was a way of restricting the levels, something should be done about it, if there are so many deaths and so many cases... I think there should be more tighter restrictions in place” ABC1, Birmingham

We presented two alternative interventions to reduce the risk of campylobacter in chicken: rapid surface chilling and reducing thinning. Initial responses to both processes were not very positive. Participants felt that rapid surface chilling, while highly effective, sounded an unnatural process that could increase other unknown risks. Thinning was a difficult process to comprehend but one that felt less ‘unnatural’. It was however felt to increase the complexity of food production but with less overall benefit to consumers than rapid surface chilling.

On balance, people generally preferred the idea of rapid surface chilling, mainly because this was felt to be the most effective treatment and a

7 A Quantitative assessment of consumers’ attitudes towards raw meat decontamination treatments (Spring 2013)
95% reduction in risk felt significant enough to justify the possible extra expense to consumers and the perceived ‘unnaturalness’ of the intervention. However, participants still felt that consumers should have the choice about whether their food underwent this process or not.

In the next chapter we discuss challenges for communications around safe food handling practices and what might be done to shift behaviour.
4. Challenges for communications

This section discusses the challenges for communications about safe food handling practices and possible approaches to changing behaviour. We used chicken washing and campylobacter education messaging as a test case to identify challenges for promotion of positive behaviour change.

Key findings:
- There is strong defensiveness around an engrained behaviour that leads people to reject the message
- There is an acknowledged need for message saturation to change social norms and engrained behaviour
- People perceive there is a role for supermarkets, labelling, doctors, schools and media partners in bringing home the message
- Rational arguments around risk are too easily counter-argued and if over-stated there is a danger of creating panic

4.1 The challenge for behaviour change

As the previous chapters have discussed, there are a number of challenges for changing entrenched consumer behaviour in relation to in-home food handling.

Food poisoning is generally perceived to be a low risk and one that is under the control of the consumer when in the home. There is a perceived high cost of changing behaviour as consumers feel they may lose the perceived benefits of current practice (e.g. washing chicken) and changing behaviour may require hard work and more mindful behaviour than they are used to. It is therefore difficult to persuade them to consider alternative behaviours where the benefit is not perceived to match the difficulty of adopting new practices, which may conflict with their own beliefs.

Consumers readily admit they may ignore safety advice. They are confident to do this because they feel they have not experienced adverse consequences in the past and may feel that some advice (such as defrosting food in the fridge) is not realistic.
As a consequence, it is widely felt that ‘mere education’ is not enough to change behaviour. Some consumers verbalised that persuasion was required to shift practice.

4.2 Communications channels

To break habits, consumers wanted a consistent message ‘drummed home’ via a range of channels. They saw a role for government, industry and other public sector partners in delivering these messages.

Communications channels spontaneously mentioned included:

- TV and the media: for example via cookery shows, advertising campaigns and influential messengers
- Supermarkets
- Trusted advisers: for example GPs, schools and government
- Labelling: to remind people at the point of preparation

Supermarkets were felt to be the logical channel to reach saturation. They are the places where most people buy their food and therefore the FSA would easily be able to reach them, and it is a key decision point about what food to buy.

The benefits of a supermarket campaign were that it would indicate that business is being responsible and maintaining standards. However, the disadvantage of such a campaign is that it may get lost in other marketing noise or worry consumers about the safety of the produce being sold.\(^8\) There was recognition that presenting the risks of campylobacter was risky for supermarkets, but some felt that this would demonstrate their commitment to protecting the consumer rather than their own sales.

"You’d think they were looking after their food standards keeping it up to scratch” ABC1, Birmingham

"It might make people think ‘why are you telling me that there could be something wrong with the chickens – is it your chickens in particular?… But then you can see on the other hand ‘We’re taking care... we want you to be well’... so it could work both ways.” ABC1, London

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\(^8\) Using interdisciplinary scientific evidence in policy: A FSA SSG discussion document
Chicken packaging was also considered an obvious choice. It was felt that the information must be hard to miss rather than ‘hidden’ in cooking instructions. This approach was felt to be useful in engaging a large number of people with the advice, particularly individuals with less established knowledge and habits around safe food handling. However, as previously noted, not everyone reads or pays attention to instructions, particularly more experienced and confident cooks.

Schools and institutions of education were consistently raised as an effective communication channel because they were able to prevent bad habits before they become engrained. In addition, parents felt that information brought home by children about health and wellbeing was particularly effective in changing their own behaviours because they felt guilty about unhealthy habits noticed by their own children. Specifically, anti-smoking and Change 4 Life campaigns were mentioned as having ‘filtered up’ to them via their children.

4.3 Campylobacter message testing

We presented participants with a range of mocked up information to help prevent the spread of campylobacter. Written/verbal information alone was not enough to influence engrained behaviour. Sensory cues and visuals were more effective in engaging people to reconsider their behaviour.

Sensory cues provide heuristics for safe behaviour in practice and are therefore more likely to be accepted. In addition, visuals provide message clarity where the written messages do not. They help people visualise bacterial spread and can engage on emotional rather than intellectual responses.

*You need something at the top to make you think. And even if it’s gory – a horrible germ or an infected chicken... It makes you then look at the poster.” C2DE, Birmingham*

4.3.1 Route testing

We tested the following communication routes with consumers:
Route 1 worked best in engaging participants. It was clearly about food and specifically poultry or chicken. It helped participants to visualise cross-contamination and made the counter-intuitive message not to wash chicken more accessible. It also reinforced the ‘easy to spread’ message. However there was some risk of misinterpretation on surface reading as some thought it was inviting people to wash the chicken to reduce the risk.

“It’s saying raw chicken is full of bacteria until you cook it. You wash it, you’ll splash all the bacteria all over the place.” C2DE, Birmingham

Routes 2 and 3 worked less well. Route 2 was striking but some thought it was telling them not to buy chicken. Route 3 was felt to invoke spreading germs and dirt but the execution was unclear. Some thought the dirt marks were smudges. In addition, it was not clear that the poster related to a risk in preparing chicken.

4.3.2 Straplines

Four straplines were also tested:
- Easy to kill
- Easy to spread
- Easy to avoid
- Easy to deal with
‘Easy to kill’ was received as a hard-hitting message, even ‘too harsh’. The word ‘kill’ was impactful but it was not clear whether the message related to campylobacter or to people.

‘Easy to spread’ was the only strapline to raise the issue of cross-contamination, which is most relevant to the ‘don’t wash’ message. However it only worked alongside visuals and action advice.

‘Easy to avoid’ was felt to be an encouraging message, but to decrease the urgency to act. ‘Easy to deal with’ was felt to give the same message but in a less catchy way.

Overall, consumers prefer the ‘kill’ and ‘avoid’ messages, however there were some strong negative responses to the ‘kill’ strapline. ‘Easy to spread’ was felt to effectively encourage some re-consideration of practice where some of the other straplines reassured consumers that all was well. However, if preceded by ‘Campylobacter’ all of the straplines could be missed or ignored, because many found the word hard to read and understand and felt they would switch off immediately.

4.3.3 Messages and copy

We also tested responses to messages and information about campylobacter presented alongside the visuals in each stimulus. In general this information was not effective in persuading people to change behaviour.

As expected, awareness around campylobacter is low. Comparisons with E-Coli and salmonella provide clarity around what campylobacter is, but can raise unhelpful associations and concerns. Both comparisons raise large-scale public health scandals and suggest that people should have been informed about this risk before. On the other hand, the copy employs familiar terminology, such as ‘food poisoning’ and ‘germs’ and places the message within the realm of risks people are already aware of and can therefore tend to minimise.

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9 See Appendix
10 A Quantitative assessment of consumers’ attitudes towards raw meat decontamination treatments (Spring 2013)
Messages about not washing chicken and the risk of splashing did not cut through or persuade people that this was an unsafe behaviour. People read them to mean ‘be careful’ rather than to stop their current practice. They do not visualise the uncontained spread of contaminated water and therefore feel that they just need to be careful and clean up, as they already do.

“That one’s saying ‘don’t wash your chicken’. And that aint happening!” C2DE, Birmingham

4.4 Barriers to accepting messages

‘Don’t wash your chicken’ is a particularly difficult message for people to accept. Despite a multi-stage deliberative process, layered information, devil’s advocate probing, communications and visuals, illness and deaths statistics and exposure to official guidelines, there was very little movement in people’s attitudes to washing chicken. Those who wash chicken tend to either ignore or dispute the information they are given. This is because this kind of practice is deeply embedded in people’s cultural and familial norms. It is an engrained habit that helps people self-identify with a certain way of cooking and social norm that they learnt from their parents.

“If you’ve washed your chicken all your life, why are you going to change? You’re doing it for a psychological reason aren’t you?” ABC1, Birmingham

The message also goes against sensory cues that suggest chicken ‘needs cleaning’, such as the smell, blood and ‘bits’. It contradicts commonly held assumptions about washing suggesting that washing makes chicken less safe. The habit of washing is often deeply ingrained in people’s physical cooking practice, something they do ‘without thinking’. Washing in general is associated with cleanliness, keeping the family safe, eradicating unpleasant smells and controlling risk and therefore people are very resistant to hearing information that contradicts this.

“I know there’s bacteria – that’s why I wash it!” C2DE, Birmingham
In addition, people are keen to point out ‘evidence’ which contradicts this message including their own experience and practices they see on television and more generally. This leads them to hold up other trusted voices against the official information and to conclude that they are being given ‘mixed messages’. This lived experience also makes it difficult for people to accept that washing their own chicken poses bears any relation to wider statistics about deaths in the population.

“*I think if you’re not being ill on a regular basis then you’re doing something right so do you really need to always follow these rules*”

*ABC1, Cardiff*

A rational, information driven approach seems to stand little chance against more automatic drivers of behaviour, particularly given the fact that people perceive low risks to themselves and their families in current practice.

“*Alright you’ve got the figures there, that’s no proof.*” *ABC1, Birmingham*

As a result, there were some calls for ‘scare tactics’ to increase the impact and persuasiveness of campylobacter messages.

Moving campylobacter into the high likelihood/high severity space is more likely to engage their attention and make them feel that it is something they ‘need to care about’. For example, using harder danger messages such as the number of cases or deaths per year may create a greater
impact. Words such as ‘poisoning’, ‘germs’ and ‘bacteria’ were felt to have a high impact. There were some calls for case studies of people who died, demonstrating how real the threat is.

“I think the tagline has been developed to go with the name of the bacteria. Whereas maybe if you’re trying to get people to sit up and really think, I might say something like ‘100,000 people get food poisoning this week – will you be one of them?’” C2DE, Birmingham

People recognised that a higher perceived risk was necessary to provide a reason to change behaviour and that invoking an emotional response could bypass rational, considered reactions and provoke changed behaviour.

However, a ‘scare tactics’ approach also carries risks. There is a certain fatigue and cynicism about scare tactics. People feel as though their emotions are being manipulated and, as there is such low concern about this risk, a risk of loss of credibility for the FSA. It also causes people to pose questions about the authorities’ responsibility to manage high risks to public health.

4.5 Role of the FSA reconsidered

After seeing the communications about campylobacter, some people felt it was important for the FSA to step in and protect the public from the risks posed. It was evident to participants that the public would not respond to the messages about the risks of washing chicken and therefore the government would have to intervene on our behalf, if it is very concerned about this risk.

Therefore, following the message testing, there was greater support for interventions to reduce risk. The benefits of this approach were felt to be government and industry taking responsibility for reducing risks to the public, improved hygiene standards and reduced risk of campylobacter. However, questions still remained about whether production processes would be natural and safe and whether they would increase the cost of meat.
5. Conclusions and recommendations

The meaning of ‘home’
People feel very confident in their ability to keep themselves and their families safe within the confines of their own homes. Their sense of safety and security is greater and their perception of risk is lower in the home than when outside of the home. This is related to how people experience and conceptualise the idea of ‘home’ in opposition to ‘outside’.

Directly challenging strongly held beliefs and habitual practices around food in the home undermines the link between ‘home’, safety and personal efficacy in a way that people can find unacceptable. This tends to result in one of the following reactions:

- Ignoring the message – passively refusing to engage
- Questioning the message – refusing to believe what they have been told
- Questioning the government/food industry – message acceptance leading to angry responses and a sense of undermined trust in the fact that dangerous practices have been allowed to continue without government intervention

None of these responses naturally leads to sense of individual responsibility for change or to the desired behaviour change. In developing approaches to in-home behaviour change it may be helpful to look at campaigns that have successfully alerted people to hidden dangers in their homes without undermining their sense of personal efficacy or home safety more generally. For example, campaigns to prevent fires caused by smoking in bed or deep fat fryers. Communications approaches to household cleaning products may also provide some clues for effective messaging in this area.

The culture of food preparation
Activity related to food preparation and storage is highly habitual and ingrained and therefore people do not tend to make logical, reasoned judgements for action but rely on their ‘instinct’ about the right thing to do. This instinct is often built up over years of acculturation and is deeply linked to personal values and identity.
Therefore, as the literature review suggests, in-home food preparation practices are particularly difficult areas for government agencies to effect change.\textsuperscript{11} The fact that hours of research discussion and varied stimulus did very little to change attitudes or opinions suggest that something more than a communications campaign is required to change behaviour. It may be that behaviour will only change after a slow road to social norming via saturation methods for harder to sell messages. Building up messaging through public relations, news and entertainment media may in the long run create a ‘tipping point’ in social norms.

\textbf{The role of Government}

Despite the fact that people acknowledge they do not always listen to government information about in-home food safety, education from the FSA and government is desired and felt to be a duty of government to ensure consumers had the information they needed to be safe, with with some participants even suggesting it was part of their ‘rights’ – even if they had a ‘right to ignore’.

Given the difficulties in engaging the public with campylobacter messaging and in encouraging behaviour change in this aspect of food preparation, we recommend looking for other ways to engage people with the topic. Emotional messaging was more effective than rational argument,\textsuperscript{12} and the FSA could adopt a similar approach to public health messages about smoking and substance abuse, which focus on negative images that invoke a strong response.

There are however, risks around ‘risk’ messaging and a careful balance needs to be struck between creating emotionally impactful messages and maintaining the credibility of the FSA. In addition, risk messaging may not be enough in itself to promote behaviour change.

Careful strategic targeting of key messages to specific audiences is also required. Educational approaches could be effective for those lacking knowledge and skill, for example, people in ‘receptive’ life phases, such as school age children, new parents and those moving into independent living for the first time.


\textsuperscript{12} Maarten J. et al, "Food Safety in the Domestic Environment: The Effect of Consumer Risk Information on Human Disease Risks", Risk Analysis 28 (2008), No. 1
It may also be beneficial to target specific ‘at risk’ groups, such as those who rarely cook, young men under 30 and over 65s.\(^\text{13}\)

For other audiences, who are happy and confident in their practice, it will be important to understand drivers for behaviour and the barriers to gaining a better understanding of drivers for behaviour and which methods may be effective in prompting positive behaviour change.

## Appendix

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Appendix 1: Discussion guide Wave 1

FSA: Balance of Risks and Responsibilities
Topic Guide: Wave 1 – Stage 1

Objectives:

- To explore how consumers think about risk in relation to food (to ground further discussion) – and begin them thinking about risks which they have a role in managing
- To prompt consideration of behavior and understand what drives risk perceptions, and generate areas where consumers feel uncertain about how they should manage risk
- To begin to examine beliefs about food safety and what consumers, food outlets and food manufacturers are responsible for

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<th>Approx timing</th>
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<td>1. Introduction</td>
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<td>1.1 CHAIR introduction</td>
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<td>5 mins</td>
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<td>- Introduce research – a study on food risk and food safety – what people need and are willing to do to manage this and what they think is the responsibility of others</td>
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<tr>
<td>- Wave 1 – exploring consumer views on food risk</td>
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<td>- Wave 2: exploring who is responsible for managing risk and how to make this happen</td>
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<td>- It’s ok if it’s not a topic they think much about currently – we are speaking to a wide range of people, and are interested in the general public’s views</td>
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<tr>
<td>- Introduce TNS-BMRB – independent research company; research carried out on behalf of FSA</td>
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<td>- Confidentiality – their views will be used, but not identifiable</td>
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<td>- Recording – recordings only available to the research team</td>
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<td>- Length of discussion approx. 90 mins</td>
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<td>1.3 Group introductions and icebreaker</td>
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<tr>
<td>- Participants introduce themselves to the group</td>
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<td>- Name</td>
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<td>- Who they live with – partner; number / age of children</td>
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<td>- What they do – work or hobbies</td>
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<td>- Icebreaker: What is your favourite dish? And where does it come from? (e.g. ingredients from supermarket; take-away from local restaurant)</td>
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<tr>
<td>2. How I know what I know</td>
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<td>25 mins</td>
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FSA Risk and Responsibility – TNS-BMRB 2014
2.1 EXPLORE what they think about around risk and food

- What do they think of as ‘risks’ in relation to food? What has worried them in the past about food?
- Explore spontaneous first responses then hand out cards to prompt, ask respondents to identify the three biggest issues in relation to food which they feel raise risks (they can add ones that were raised and are not on the card; can be risks for them, risks more generally eg environmental, etc)
  - Additives / chemicals
  - Allergens
  - Unhealthy foods
  - Food borne illnesses / Food poisoning
  - Food quality/content (e.g. horse meat in beef products, what animals are fed)
  - Safety in the kitchen e.g. burns, sharp knives
  - Increasing cost of foods
  - Animal welfare/health
  - Others?
- For each probe on:
  - Reasons for choice
  - When do they think about these risks/what raises these as issues for them? (day to day? media? other?)
  - How big an issue is this for them/why?
  - Which ‘risks’ do they feel able to manage themselves and which they think the Government or industry should have responsibility for managing?

2.1 Explore understanding of food borne illness / food poisoning

- What do you know about food borne illness / food poisoning? Why does it happen?
  - Explore spontaneous, then have respondents generate ‘the typical story’ re: food poisoning – and alternatives – re: when this would occur (e.g. to who? What circumstances?)
- What are the most likely sources? How and when might it happen depending on the following:
  - Type of food – what is more / less risky and why?
  - Type of cooking / food preparation e.g. storage, cleaning, cooking etc. – what is more / less risky and why?
  - Processed food – what types are more / less risky and why?
  - Restaurants – what would make a restaurant or cafe more / less risky and why?
- What do you do at home to ensure food safety?
- What cues do you use to decide if something is risky/safe? E.g. food smells/looks bad; sell-by dates; packaging; price etc.
- What do you do to ensure food safety when shopping? And when

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<tr>
<th>2.1 Explore understanding of food borne illness / food poisoning</th>
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<tr>
<td>What do you know about food borne illness / food poisoning?</td>
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<td>Why does it happen?</td>
<td>5 mins</td>
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<td>- Explore spontaneous, then have respondents generate ‘the typical story’ re: food poisoning – and alternatives – re: when this would occur (e.g. to who? What circumstances?)</td>
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<td>- What do you do to ensure food safety when shopping? And when</td>
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eating out?
- How do you know that these are the right things to do?
- (Explore efficacy) How confident do you feel in preventing foodborne illness when preparing food for yourself?
  - Where are your ‘question’ points? How certain/uncertain are you?
  - Does this differ for different types of food
  - What do you do when you are not certain about how to handle food safely?

2.3 Explore sources of safety knowledge
- How do you know the right things to do around food safety?
  - Spontaneous then prompt: taught by family/others? Observed others? Guesswork? Public safety guidance (eg from FSA)? Packaging? Formal education (eg food safety classes/work training)?
- What messages do you see now about food safety? On packaging / advertisements / media / food hygiene ratings in restaurants etc.
- Who do / don’t you trust? E.g. retailers, friends and family, media
  - Why?
- Has your understanding of food safety changed over time? What has changed? Why?

3. Understanding beliefs about food risk

3.1 Current beliefs

*Researcher to introduce task: We’re going to begin by thinking about how you would manage food in a few different scenarios – we’re going to generate some ‘dos’ and ‘don’ts’ and then talk through those.*

- Mini groups to brainstorm out what they think they should be doing in terms of managing food safety, using scenarios such as
  - Making a roast chicken
  - Shopping in a supermarket
  - Storing and eating leftover food
  - Choosing where to eat out
- Group asked to find ‘points of difference’
  - eg approaches that vary within the group, or barring that to brainstorm differences in practice they think others might have in the same situation
- Discussion:
  - Exploring any differences within groups about what was considered safe and unsafe
    - Why do they think people disagree/ have different opinions?
    - Is it a problem that people do not all follow the same rules? Why/Why not

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<tr>
<th>3. Understanding beliefs about food risk</th>
<th>15 mins</th>
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<tr>
<td><strong>3.1 Current beliefs</strong></td>
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<tr>
<td><em>Researcher to introduce task: We’re going to begin by thinking about how you would manage food in a few different scenarios – we’re going to generate some ‘dos’ and ‘don’ts’ and then talk through those.</em></td>
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<td>- eg approaches that vary within the group, or barring that to brainstorm differences in practice they think others might have in the same situation</td>
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<td>- Discussion:</td>
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<td>- Exploring any differences within groups about what was considered safe and unsafe</td>
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<td>- Why do they think people disagree/ have different opinions?</td>
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<tr>
<td>- Is it a problem that people do not all follow the same rules? Why/Why not</td>
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</table>
- Looking at your lists of do’s and don’ts, how confident are you that these are correct/recommended practices.
- How confident are you that following these rules would stop you from getting food poisoning?
- To what extent do you always follow these rules?
  - When/why not? Why do you/would people not follow the ‘best practice’?
  - Are there any times where you follow these more strictly? Why?

### 4. Demonstrating differences in food risk perceptions

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<th>4.1 Pop quiz on food safety</th>
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<tbody>
<tr>
<td>Researcher to introduce task: We’ve seen that people can approach food safety and preparation differently from person to person. Now we’re going to see how much you know about current recommended practice in relation to food safety.</td>
</tr>
<tr>
<td>- True or false quiz (see below) – split group in two and ask them to identify in/correct food handling processes</td>
</tr>
<tr>
<td>- Go through results</td>
</tr>
<tr>
<td>- What’s surprising/new?</td>
</tr>
<tr>
<td>- Questions they got right – how did you know this?</td>
</tr>
<tr>
<td>- Questions they got wrong – why did you think this?</td>
</tr>
<tr>
<td>- Where do you think others would have trouble with this?</td>
</tr>
<tr>
<td>- Any other examples of you/other people learning that they were not handling food in the recommended way?</td>
</tr>
<tr>
<td>- Did you / they change the way they handled food</td>
</tr>
<tr>
<td>- Why / why not</td>
</tr>
<tr>
<td>- Looking at Handout 2 and Handout 3</td>
</tr>
<tr>
<td>- How important is it that you always follow these rules</td>
</tr>
<tr>
<td>- What types of people are more/less likely to follow these rules?</td>
</tr>
<tr>
<td>- In what types of situations are people more/less likely to follow these rules?</td>
</tr>
<tr>
<td>- Are these practices necessary to avoid food poisoning?</td>
</tr>
<tr>
<td>- Do you agree with them?</td>
</tr>
<tr>
<td>- Are these practices worthwhile?</td>
</tr>
<tr>
<td>- would any increase the time taken to prepare food</td>
</tr>
<tr>
<td>- would any cost them money</td>
</tr>
</tbody>
</table>

### 5. Minimising risks from food borne illnesses

As you know, we are doing this research on behalf of the Food Standards Agency which is an independent government department responsible for food safety and hygiene across the UK. It works with businesses to help them produce safe food, and with local authorities to enforce food safety regulations. It is responsible for the strategy for

<table>
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</tr>
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<tbody>
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</tr>
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</table>

| | | HANDOUT 4 |
| | | case studies x 2 |
reducing foodborne illness, and it’s the FSA’s job to provide guidance for producers, retailers, caterers and the general public.

5.1 Case studies
- Go through Campy / norovirus case studies in turn
- What is new / surprising?
- Do you already adopt these safe handling practices? Why / why not?
- Anything you disagree with?
- Do you think everyone knows how to avoid these risks
  - Who is not aware
- Is it reasonable for consumers to be expected to take these precautions?
- Should the food manufacturers do more to reduce the risk of these illnesses? Why / why not
- Should food outlets do more to reduce the risk of these illnesses? Why / why not?
- **Should the FSA / government do more to reduce the risk of these illnesses? Why / why not? How?**
  - Moderators to challenge as necessary – eg
    - industry/government cannot guarantee ‘safe food’ full stop on these issues, cannot control consumer behaviour

6. Reflection and next steps

| **Thinking back on discussion so far, how able are consumers to manage the risk from food poisoning themselves** |
| **To what extent should people be responsible for managing risk themselves?** |
| o What might get in the way of this/what makes this difficult? |
| o How could this be overcome? |
| What more should the FSA / Government do enough to ensure people adopt safe practice? |
| What more should the food industry do to ensure people adopt the right practices? |
| Remind about dates for next wave |

THANK AND CLOSE
## Appendix 2: Stimulus Wave 1

### 2.1 True or False Quiz

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Related info</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can tell whether food is safe by its look or smell</td>
<td>False</td>
<td>Potentially dangerous germs like E. coli and Salmonella don’t always make food smell ‘off’ and do not affect the appearance of food</td>
</tr>
<tr>
<td>You should wash chicken and other poultry before cooking it</td>
<td>False</td>
<td>Consumers risk spreading harmful bacteria around their kitchen by doing this</td>
</tr>
<tr>
<td>Food cooked in the microwave will be safe because the microwave kills bacteria</td>
<td>False</td>
<td>Microwaves don’t kill bugs, it just makes the food hot, and it’s the heat that kills them, which is why it’s important for microwaved food to be hot all the way through – following instructions usually achieves this.</td>
</tr>
<tr>
<td>Food is no longer safe to eat once it’s passed its Use By date</td>
<td>True</td>
<td>The Use By date is calculated as the longest that the food can be stored and still be sure to be safe. It’s used on perishable foods and is required to help people manage food effectively and safely.</td>
</tr>
<tr>
<td>It’s OK to put cooked and raw foods next to eat other in the fridge as long as they aren’t touching each other</td>
<td>False</td>
<td>Not touching or dripping on each other can’t be guaranteed. Cover raw meat and store on the bottom shelf to avoid dripping onto other foods, especially ones that are already cooked or won’t be cooked before they’re eaten.</td>
</tr>
<tr>
<td>It’s OK to thaw meat on the counter. Since it starts out frozen, bacteria isn’t really a problem</td>
<td>False</td>
<td>Bacteria grow rapidly at room temperatures, so you should thaw frozen food in the fridge</td>
</tr>
<tr>
<td>Fruits or vegetables must be washed before peeling them even if I’m going to peel them</td>
<td>True</td>
<td>It’s easy to transfer bacteria from the peel or rind you’re cutting to the inside of your fruits and veggies</td>
</tr>
</tbody>
</table>
2.2 Case Study 1

Campylobacter

Causes and Symptoms

Campylobacter is a type of bacteria and is widely found in the environment and in some foods. It is the most common cause of food poisoning in the UK, causing more cases each year than Salmonella and E.coli 0157 put together. It is considered to be responsible for around 460,000 cases of food poisoning, 22,000 hospitalisations and 110 deaths each year. The majority of these cases can be traced back to raw poultry.

People who get campylobacter food poisoning suffer severe diarrhoea, abdominal pain, and vomiting to a lesser extent. As little as one drop of contaminated raw chicken juice can cause illness. Poor kitchen hygiene when handling or cooking raw poultry (e.g. not washing hands after handling raw meat) can result in food poisoning. Eating undercooked meat (especially poultry) is often associated with illness. Campylobacter can also be found in red meat, unpasteurised milk and untreated water.

What the food industry is required to do

Legal requirements for industry in reducing risk

Currently, there are no specific legal requirements for industry with respect to Campylobacter. There are requirements for standards in the slaughter and processing of poultry and all plants engaged in these activities are required to have an official (FSA) vet in attendance to ensure that expected standards are being adhered to. These standards
relate to welfare, prevention of diseased animals entering the food chain and hygienic operation.

General food hygiene legislation places clear responsibility on food businesses for the safety of the food they place on the market. In the case of raw poultry, this responsibility rests with poultry producers, processors and retailers. These businesses are also best placed to take the action needed to reduce the risks and many of them work to the requirements of industry-own standards and assurance schemes, such as the Red Tractor scheme.

Proposals are shortly expected to be published by the European Commission to update the inspection of poultrymeat, which might include limits or thresholds for contamination.

*What is considered fit for consumption and how this is monitored (i.e. oversight / safeguards)*

There are currently no specific legal requirements concerning Campylobacter or what level on foods would be considered fit for consumption. Since 2010, the industry has been working towards achieving a voluntary target for Campylobacter levels on UK-produced whole chickens and both the FSA and industry have monitoring schemes in place to check progress against this target. However, there is no restriction on chicken contaminated with Campylobacter above this target level entering the food chain as thorough cooking will destroy Campylobacter.

➢ **Safe handling practices for consumers**

- Do not wash raw poultry
- Wash your hands thoroughly with soap and warm water:
  - before preparing and eating food
  - after handling raw food
  - after going to the toilet or changing a baby's nappy
  - after contact with pets and other animals
  - after working in the garden
- Keep cooked food away from raw food to avoid cross contamination
- Store raw foods below cooked or ready-to-eat foods in the fridge to prevent contamination.
- Cook food thoroughly, especially meat, so that it is piping hot, as this will destroy any campylobacter.
- Keep all kitchen surfaces and equipment including knives, chopping boards and dish cloths clean.
- Do not drink untreated water from lakes, rivers or streams.

You should pay special attention to hygiene during farm visits, washing hands after any contact with animals, and eating only in designated areas.

If someone has campylobacter, all dirty clothes, bedding and towels should be washed on the hottest cycle of the washing machine. Toilet seats, toilet bowls, flush handles, taps and wash hand basins should be cleaned after use with detergent and hot water, followed by a household disinfectant.
2.3 Case Study 2

Norovirus

- **Causes and Symptoms**

Norovirus, sometimes known as the *winter vomiting bug*, is the most common stomach bug in the UK, affecting people of all ages. The virus is highly contagious and causes vomiting and diarrhea, but the illness is mild and people usually recover within 2-3 days. The virus is easily spread by contact with an infected person, especially through their hands. Although person to person spread is considered the most significant route of transmission, you can also catch it through contaminated food or drink or by touching contaminated surfaces or objects. *Raw or lightly cooked shellfish*, such as oysters, can be a source of viral contamination. However, fresh produce such as leafy green vegetables and soft fruits and infected food handlers are also a source.

- **What the food industry is required to do**

_**Legal requirements for industry in reducing risk**_

Currently, there are no specific legal requirements for industry with respect to norovirus. The European Commission has recently convened a group of interested Member States to discuss this issue and to develop proportionate controls in this area. However, these discussions
are still in their infancy and it is clear that more information is needed before any specific rules can be set.

General food hygiene legislation places clear responsibility on food businesses for the safety of the food they place on the market. In the case of shellfish, this responsibility rests with shellfish harvesters, processors and retailers. These businesses are also best placed to take the action needed to reduce the risks and many of them work to the requirements of industry-own standards.

*What is considered fit for consumption and how this is monitored (i.e. oversight / safeguards)*

Controls before and after commercial harvesting provide good protection against harmful bacteria but it can be difficult to remove viruses from live shellfish. The FSA and shellfish industry are working together to improve methods for reducing the risk of viruses from live shellfish.

➢ Safe handling practices for consumers

The FSA advises that older people, pregnant women, very young children and people who are unwell should avoid eating raw or lightly cooked shellfish to reduce their risk of getting food poisoning.

Getting norovirus cannot always be avoided, but good hygiene can help to limit the virus spreading.

Tips to help stop the virus spreading:

- Wash your hands frequently and thoroughly with soap and water, particularly after using the toilet and before preparing food.
- Do not share towels and flannels.
- Disinfect any surfaces or objects that could be contaminated with the virus. It is best to use a bleach-based household cleaner.
- Wash any clothing or bedding that could have become contaminated with the virus. Wash the items separately and on a hot wash to ensure that the virus is removed.
- Flush away any infected faeces or vomit in the toilet and clean the surrounding toilet area.
- Avoid eating raw, unwashed produce and only eat raw or lightly cooked shellfish from a reliable source.
Appendix 3: Discussion guide Wave 2

FSA: Balance of Risks and Responsibilities
Topic Guide: Wave 2

Objectives:
- To establish consumer views about the balance of responsibility for food safety in light of discussions from Wave 1
- To understand what information or support consumers need to manage responsibility
- To understand what else is needed from government / industry
- To explore trade offs

<table>
<thead>
<tr>
<th>Key Questions</th>
<th>Stimulus/ tasks</th>
<th>Approx timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Introduction</td>
<td></td>
<td>10 mins</td>
</tr>
<tr>
<td>1.1 CHAIR introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Remind of purpose of research – a study on food risk and food safety – what people need and are willing to do to manage this and what they think is the responsibility of others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Provide further detail about the reasons for the research – trying to understand if Government is doing enough to keep people safe when it comes to food handling practices</td>
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<td>- Remind of confidentiality, recording and length of discussion</td>
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<tr>
<td>- Warm up – who has had food poisoning and where did they get it from? Probe around how they define food poisoning – does it count if they don’t go to the doctors? Do they have to be ill for a certain amount of time? Does it have to be a certain level of severity?</td>
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<tr>
<td>1.2 Recap on last session</td>
<td></td>
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<tr>
<td>- Moderator to provide brief recap of what was discussed in Wave 1 (their views on food poisoning, the ‘rules’ for avoiding it, a discussion on norovirus and campylobacter, some initial thoughts on whose responsibility it is to keep people safe from food poisoning)</td>
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<tr>
<td>- What did they take away from the groups?</td>
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<tr>
<td>- What was the most interesting / surprising thing they remembered?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Did they do anything differently as a result of what was discussed?</td>
<td></td>
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<tr>
<td>- Did they talk to anyone about the things they discussed?</td>
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<tr>
<td>- Did their views change at all over the past few weeks?</td>
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<tr>
<td>- About their own practices and how confident they are about them?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- About whose responsibility it is to help people to avoid risky behaviour with regards to food handling?</td>
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</tr>
</tbody>
</table>
3. Level of concern and views on responsibility

2.1 Views on severity of food poisoning

- Overall, how much of an issue do you feel food poisoning is? Why?
  Go round group and ask everyone to say whether their level of concern is low, medium or high. Moderator to note responses.

- Hand out fact sheet on foodborne illnesses
  - How do you feel about these figures?
  - Concerned? Why / why not?
  - How likely do you think you are to contract food poisoning? Why?

- Same exercise: Go round group and ask everyone to say whether their level of concern is low, medium or high. Moderator to note responses. Who has changed their opinions? Why?

- Do you think enough is currently done to tackle food poisoning in this country?

2.2 Overview of views on responsibility balance

- When it comes to food risks, who should take responsibility?
  - Inside the home?
  - Outside the home?

- What is the responsibility of:
  - Consumers
  - Industry i.e. food manufacturers, food producers, retailers etc.
  - Government

- To what extent is the balance about right at the moment? (Remind participants of current FSA role - Food Standards Agency is an independent government department responsible for food safety and hygiene across the UK. It works with businesses to help them produce safe food, and with local authorities to enforce food safety regulations. It is responsible for the strategy for reducing foodborne illness, and it’s the FSA’s job to provide guidance for producers, retailers, caterers and the general public.)

- How / should it shift?

4. Case studies

Note for moderator: please focus on Case Studies 1, 2 and 3.

3.1 Case studies to explore different scenarios

- Go through each case study in turn

- Whose fault was it? Whose responsibility was it to avoid the risk in this situation?
  - What more could the individual have done?
  - What more could the food industry have done?
    - PROMPT around: better labelling of safe practices, changes to the way they present / sell / package food that would encourage safer practices
  - What more could Government / the FSA have done?
  - At what point could / should Government / industry intervene?
Specific questions for different case studies:
- Case Study 1 (norovirus) – do people relate norovirus to oysters? Do consumers understand the risk of eating shellfish? Are they willing to take it? What information do they have that informs their perception of risk?
- Do people realise that food poisoning can be contagious? How would you feel if you contracted norovirus from someone who got it from contaminated food? How would you feel if you got it from contaminated food and passed it on to someone else?

3.2 Further information / trade offs to explore what people are / aren’t willing to accept

- After each case study, go through further information in turn (on the other side of the case study) – NB not relevant for Case Study 1 (norovirus)
  - How do you feel about this?
- Specific questions for different case studies:
  - Case Study 1 (norovirus) – what (if anything) would you want Government to do about norovirus in oysters? Should oysters be banned?
    - to what extent is getting food poisoning as a result of eating oysters an ‘occupational hazard’?
    - Whose responsibility is it to discourage people from going to work i.e. should doctors or employers have a responsibility when it comes to contagious food borne illnesses?
  - Case Study 2 (restaurant) – have you ever reported a restaurant / eating establishment?
    - How likely would you be to do this?
  - Case Study 3 (campy) – how much would you be prepared to pay to reduce the risk of a chicken being contaminated with campylobacter? *(For moderator – price increase would be less than 5%)*
    - How do you feel about the idea of buying frozen chicken?

4. Create ideal solution

4.1 Explore ideal solutions

- *Moderators to give out Case Studies 4, 5 and 6 as background information*
- Participants to work in smaller groups to generate an ‘ideal’ solution based on the case studies. If you were in charge of reducing the risk of food borne illnesses what would you do?
  - What would work to ensure consumers can make confident choices and be aware of the risks?
  - What are the key messages to be telling consumers?
  - What, if anything, should the FSA encourage the food industry to
do differently?
- Producers
- Manufacturers
- Retailers
- Restaurants
  - What should the FSA do to protect vulnerable consumers (e.g. babies / children, elderly people, people with weaker immune systems etc.)?

  - Note for moderator – if participants need extra help, ask them to think about the following from additional case studies:
    - Case Study 4 (e coli) – should consumers be prepared to wash pre-packaged vegetables / salads? Should equal efforts be made to reduce the risk of food poisoning from contaminated vegetables (as opposed to meat)?
    - Case Study 5 (salmonella) – should manufacturers make stronger / tougher packaging? Would consumers be willing to pay more for this?
    - Case Study 6 (listeria) – if you got food poisoning from food that had passed its use-by date (even if it looked fine), whose responsibility would this be?

  - Present back to rest of group and discuss

7. Closing

- Thinking about everything we’ve already covered, how do you feel about the overall balance of responsibility across consumers, industry and Government?
- What should change? How? Why?
- Going round the group, ask each who should have the ultimate responsibility (one answer only)
- Remind about dates for next wave if relevant

THANK AND CLOSE
Food Borne Illnesses

It is estimated that each year in the UK:
• around a million people suffer a foodborne illness
• around 20,000 people receive hospital treatment due to foodborne illness
• there are around 500 deaths caused by foodborne illness
• it costs us nearly £1.5 billion

The FSA estimate that each 1% reduction in case numbers would mean around 10,000 fewer cases and save the economy around £15 million per year
4.2 Handout 2: Case Studies

Case study 1

At the weekend Max went to an expensive seafood restaurant and decided to try oysters for the first time. Unfortunately he contracted norovirus from a contaminated oyster and suffered from vomiting and diarrhoea for the 24 hours. He felt well enough to go back to work on Monday. Later in the week a couple of his colleagues contracted norovirus; in turn, this spread to some members of their families.
Further information
Eating raw oysters can carry a risk of food poisoning because shellfish can contain harmful bacteria and viruses because of the way they feed. Oysters filter large volumes of water to get their food and any bacteria and viruses that may be in the water can build up within the oyster. As many as three quarters of UK oysters contain norovirus, but the virus may only be detected at low levels. A safe limit for norovirus in shellfish has not been established.
The virus can survive for several days on surfaces or objects touched by an infected person. A person with norovirus may continue to be infectious for a short period after symptoms stop. However, the majority of infections are spread from person to person.
Case study 2
Martin went out for dinner for his birthday with a group of friends. They went to a restaurant that they had been to before and he ordered his favourite steak dish. The restaurant had sign saying it had passed its food hygiene inspection. The restaurant was under new management and didn’t seem to be up to standard – the toilets were not as clean as usual, one of their group’s dishes didn’t seem to be cooked properly and their waitress had a cold and kept blowing her nose. Martin had a slight stomach upset the next day and decided not to go back to that restaurant as he hadn’t enjoyed the experience as much as he used to. However, he couldn’t be sure where he got his stomach upset from, so didn’t think much further about it. A few weeks later Martin read in the local paper that the restaurant had been closed down after someone had been hospitalised with severe food poisoning. He felt guilty that he hadn’t followed up on his misgivings and reported the restaurant to someone.
Further information

If you think your food poisoning has been caused by a restaurant or other food-related business, you can report it to your local environmental health department. Environmental health officers will investigate and, if necessary, ensure that the business involved improves its standards of hygiene to prevent it happening again.
Case study 3

Archana’s mother taught her to always wash her meat before cooking it and although she has heard that it shouldn’t be washed, she would feel uncomfortable if she didn’t. One day she bought a chicken and washed it as per usual. Although she cleaned the sink afterwards, she didn’t realise that some bacteria had splashed onto the kitchen surfaces and the fruit bowl nearby. Archana’s 18 year old son later ate an apple from the fruit bowl which resulted in him contracting campylobacter – two days later he had a 24 hour bout of diarrhoea and vomiting. Archana assumed that he got ill from eating dodgy food at his friend’s house and continued to wash her chickens.
**Further information**

- Bacteria present in poultry can travel from where meat is washed
- Campylobacter symptoms tend to come on within 2-5 days of eating contaminated food

Campylobacter causes the largest number of cases of foodborne illness in the UK and case numbers are still rising. 60-80% of cases can be attributed to poultry and the majority of these are likely to be linked to raw poultry meat; FSA work suggests that 65% of shop bought chickens in the UK are contaminated with Campylobacter. Organic chickens are more likely to carry the bug. Even when a flock is identified as having the bacteria, the birds can still be sold for human consumption on the grounds that, properly handled and properly cooked, they present no risk to human health. The prevalence of Campylobacter is higher in chilled chickens than frozen. The FSA is looking at other ways to reduce the levels of campylobacter in chicken but this may increase the price of chicken.
Case study 4

Earlier this year, a number of people became ill with e-coli, and five people were hospitalised after eating packaged salad from a leading supermarket.
Further information

There are a number of different types of E. coli and while the majority are harmless, some can cause serious food poisoning and serious infection and may be life threatening. Harmful bacteria can get onto fruit and vegetables in several ways. They may be present in water used for irrigation, organic fertilisers and droppings from birds and other animals that go into fields. Washing fruit and vegetables before eating them can help to ensure that they are clean, and to help remove germs that might be on the outside. Peeling or cooking fruit and vegetables can also remove these germs.
Case study 5

Samantha bought some mince from the supermarket and put it in her fridge on the top shelf. Because it was in its packaging, she didn’t worry about it touching any of the other items in the fridge. However, the packaging was slightly split, and some juice from the mince dripped down onto the cake that was on the shelf below (it was on that shelf because that was the only place it would fit). Samantha’s 4 year old daughter later had a slice of cake and contracted Salmonella from the contaminated cake. She was very ill and ended up in hospital as a result of the dehydration from loss of fluids.
Further information
Anyone can get salmonella, but young children, the elderly and people whose immune systems are not working properly have a greater risk of becoming severely ill.
Symptoms include watery diarrhoea, stomach cramps and sometimes vomiting and fever. These symptoms usually last for four to seven days and clear up without treatment, but if you become seriously ill you may need to be treated for dehydration (fluid loss) caused by the illness.
Transmission occurs by eating contaminated food, mainly of animal origin, or by faecal contamination from an infected person or animal.
Case study 6

Sandra is 63. She bought some sliced ham from the supermarket and kept it in the fridge. When Sandra was a child, they didn’t have ‘use by’ dates, so she tends to trust her instincts and check whether something looks and smells alright before eating it. When she came to eat the ham later that week, it was a couple of days past its use by date, but it looked fine, so she thought she’d risk it. Unfortunately, Sandra went on to develop listeria – this spread to her nervous system and she had to be treated with antibiotics in hospital for several weeks.
Further information

- Listeria is relatively rare but causes more deaths from food poisoning than other foodborne bugs.
- One in three of the people who get food poisoning caused by listeria die as a result.
- The number of cases of listeria in people over 60 has doubled in the past nine years.
- The disease costs the UK economy an estimated £245 million a year.
4.3 Handout 3: Ideal Scenario Instructions

Imagine you were in charge of reducing the risk of food borne illnesses in the UK. What would you do?

Please think about:

- What would work to ensure consumers can make confident choices and be aware of the risks?
- What are the key messages to be telling consumers?
- What, if anything, should the FSA encourage the food industry to do differently?
  - Producers / manufacturers e.g. farms, factories etc.
  - Retailers e.g. supermarkets, butchers, bakers etc.
  - Restaurants
- What should the FSA do to protect vulnerable consumers (e.g. babies / children, elderly people, people with weaker immune systems etc.)?
Appendix 5: Discussion guide Wave 3

FSA: Balance of Risks and Responsibilities
Topic Guide: Wave 3

Objectives:
- To explore response to communications around Campylobacter, specifically around:
  - Food safety messages
  - Influence of channel
- To explore views on industry / FSA responsibility outside the home, specifically:
  - Response to interventions to reduce Campylobacter
  - Attitudes to industry / FSA responsibility for driving safety standards in industry
  - Views on responsibility to vulnerable groups

<table>
<thead>
<tr>
<th>Key Questions</th>
<th>Stimulus/ tasks</th>
<th>Approx timing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5. Introduction</strong></td>
<td></td>
<td>5 mins</td>
</tr>
<tr>
<td><strong>1.1 CHAIR introduction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Introduce research – a study on food risk and food safety – what people need and are willing to do to manage this and what they think is the responsibility of others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Provide further detail about the reasons for the research – trying to understand if industry or government is doing enough to keep people safe when it comes to food handling practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Remind of confidentiality, recording and length of discussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Warm up – who has had food poisoning and where did they get it from? Probe around how they define food poisoning – does it count if they don’t go to the doctors? Do they have to be ill for a certain amount of time? Does it have to be a certain level of severity?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6. Communications testing</strong></td>
<td></td>
<td>35 mins</td>
</tr>
<tr>
<td><strong>2.1 Views on Campylobacter messaging</strong></td>
<td></td>
<td>20 mins</td>
</tr>
<tr>
<td>Moderator to introduce 4 straplines with accompanying explanation. Rotate so that straplines are introduced in a different order in each group. For each version, ask the following questions:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Initial impressions</td>
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</tr>
<tr>
<td>- What works / what does not work? Why?</td>
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<tr>
<td>- Is the message clear?</td>
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<tr>
<td>- Did you learn anything you didn’t know before?</td>
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<tr>
<td>- What is the message trying to communicate?</td>
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<tr>
<td>- Did any questions spring to mind?</td>
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</tbody>
</table>
- What, if anything, would you do as a result of seeing a poster with this message? PROBE around: finding out more; changing behaviours; discussing with someone else etc.

*After all versions have been discussed:*
- Overall, which is your preferred strapline? *Go round group in turn and ask them to choose their favourite (out loud) and rank them (on paper)*
- Why? PROMPT: around clarity; ‘catchiness’ etc.

*Explore alternative comms executions*
- Overall impressions
- How does this compare to the first ad you saw? What’s better / worse?

### 2.2 Influence of channel
- Who would you want / expect to hear this type of message from?
- And who would you want / expect to hear messages about food safety more generally from? Spontaneous feedback then PROMPT around:
  - Retailers / supermarkets
  - Manufacturers (via labelling)
  - Doctors / hospitals
  - Schools
  - Cookery shows
  - Anywhere else?
- For each channel, what impact would this have on:
  - Perceptions of that organisation
    - More / less positive? Why?
  - Trust in the message
    - Would you believe the message if it came from this channel? Why / why not?
  - Willingness to act on message?
    - How likely would you be to do anything if you saw this message in this place? Why?
- Overall, what is the most appropriate channel for these types of messages?

### 3. Interventions

#### 3.1 Overview of Campylobacter and interventions
- Provide handout on Campylobacter
  - Any questions?
  - What is new / surprising?
  - Do you already adopt these safe handling practices? Why / why not?
  - Anything you disagree with?
  - Do you think everyone knows how to avoid these risks?
  - Who is not aware?
Is it reasonable for consumers to be expected to take these precautions?

Should the food industry do more to reduce the levels of bacteria? Why / why not

Should the FSA / government do more to reduce the risk of these illnesses? Why / why not? How?

- There are two potential interventions that have been identified that could help reduce levels of Campylobacter.

  - No thinning - Thinning is the removal of a portion of the flock before the whole of the flock in the shed is removed to be sent for slaughter. It is a common practice throughout the UK poultry industry, allowing farmers to maximise the use of space for rearing birds while meeting the necessary welfare requirements for stocking density and consumer demands for birds of different sizes. It can result in a breach of biosecurity on farm and is considered to be a factor that increases the likelihood of campylobacter – therefore a no-thin policy could reduce the risk.

  - Rapid surface chilling - A novel ‘rapid surface chilling’ process which exposes processed carcases to extremely cold gases for a short period of time has achieved a significant reduction of Campylobacter.

Moderator to read out description of each (NB Moderator to be clear that these are just proposals and their impact is not totally certain). After each, ask the following:

- Based on what you have heard so far, how do you feel about the idea of this?
- What do you like / dislike?
- What questions do you have?
- To what extent do you feel that this is a suitable way of reducing levels of Campylobacter?
- What other information would you need to decide whether this was acceptable to you?

3.2 No thinning

- Moderator to provide more detailed description of intervention

  - How does this information change your views?
  - How much more would you be prepared to pay for a chicken that had been through this intervention? PROBE: % increase vs maximum increase willing to pay?
  - How do you feel about industry as a result of hearing about this intervention? And how do you feel about the FSA?
    - Do you feel that they are taking enough responsibility to reduce the risk of Campylobacter?

3.3 Rapid surface chilling

- Moderator to provide more detailed description of intervention

  - How does this information change your views?
<table>
<thead>
<tr>
<th>4. Attitudes to industry / FSA responsibility for driving safety standards in regards to Campylobacter</th>
<th>20 mins</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.1 Attitudes to industry / FSA</strong></td>
<td>10 mins</td>
</tr>
<tr>
<td>• Do you think enough is currently done to tackle food borne illnesses like Campylobacter in this country? What else could be done?</td>
<td></td>
</tr>
<tr>
<td>• Overall, whose responsibility do you feel it is to reduce food borne illnesses?</td>
<td></td>
</tr>
<tr>
<td>• To what extent do you feel that a) Government / the FSA and b) industry have a responsibility to try to improve standards further? PROBE around whether it’s enough for them to do what they already do i.e. maintain current standards (given that consumers can cut the risk of food borne illness by following safe handling practices) or whether they should be doing more to bring general levels of Campylobacter etc. down i.e. drive standards improvement?</td>
<td></td>
</tr>
<tr>
<td><strong>4.2 Vulnerable groups</strong></td>
<td>10 mins</td>
</tr>
<tr>
<td>• Who / which groups of people do you think are particularly vulnerable when it comes to food borne illnesses?</td>
<td></td>
</tr>
<tr>
<td>• Whose responsibility is it to reduce the risk of these groups of people getting food borne illnesses?</td>
<td></td>
</tr>
<tr>
<td>• The individuals themselves</td>
<td></td>
</tr>
<tr>
<td>• Their carers</td>
<td></td>
</tr>
<tr>
<td>• Government</td>
<td></td>
</tr>
<tr>
<td>• Industry</td>
<td></td>
</tr>
<tr>
<td>• What more should be done to help vulnerable groups? PROMPT around: in hospitals; schools / nurseries; old people’s homes etc.</td>
<td></td>
</tr>
<tr>
<td><strong>5. Closing</strong></td>
<td>5 mins</td>
</tr>
<tr>
<td>• Having heard more about Campylobacter, do you have any further comments about the communications messages and how / if they could be improved?</td>
<td></td>
</tr>
<tr>
<td>• What else, if anything, should Government / industry do to reduce the risks of food borne illnesses amongst consumers?</td>
<td></td>
</tr>
<tr>
<td>• Any other comments</td>
<td></td>
</tr>
<tr>
<td><strong>THANK AND CLOSE</strong></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 6: Stimulus Wave 3

6.1 Handout 1: No thin policy

**No thin policy**

- **What is it?**

  Thinning is the removal of a portion of the flock (partial depopulation) that is sent for slaughter part-way through the rearing period and in advance of the rest of when the remainder of the flock in the shed is removed (flock clearance). It is a common practice throughout the UK poultry industry and involves teams of ‘catchers’ entering the chicken sheds to remove a certain number of birds. It allows farmers to maximise the use of space for rearing birds while meeting the necessary welfare requirements for stocking density and consumer demands for birds of different sizes. However, by its nature, thinning is likely to result in a breach of biosecurity on farm (because people/equipment enters the shed) and studies have indicated that it frequently results in colonisation of the remaining flock. The catching teams are not always direct employees of the farm and may be contracted to a range of different farms, meaning they move between a number of different sites each day. Research has detected Campylobacter on poultry-catching crews: on hands, shoes and their vehicles, as well as on transport lorries and crates etc. which indicates that these are potential areas of risk. Thinning is, therefore, considered to be a factor that increases the likelihood of Campylobacter colonisation of live birds arriving at slaughterhouses.

- **What would this intervention mean?**

  **Impact on levels of Campylobacter**
  
  It has been suggested that by not thinning, Campylobacter levels (on farm) could be reduced by approximately 30-40%. (However, results from trials so far have not been clear cut and further work is needed to establish the true potential that stopping this practice could have on Campylobacter levels.)

  **Impact on poultry**
  
  This practice would be unlikely to have any effect on quality, taste, appearance or shelf-life.

  **Impact on industry**
  
  Not thinning would make it difficult for farmers / producers to:

  - Supply birds of different sizes (as demanded by their retailer customers)
  - Meet minimum space (stocking density) guidelines for flocks
- Maximise efficient space utilisation

This practice would add cost to the industry. This would result in higher fixed costs and reduced cash flow for producers as they would have lower stocking densities and a less regular supply of birds. Not thinning could cost individual producers (i.e. companies, not individual farmers) somewhere in the region of £150-250m per year.
6.2 Handout 2: Rapid surface chilling

➢ What is it?

‘Rapid surface chilling’ is a new technology which exposes outside surfaces of processed and dressed carcases to extremely cold gases for a short period of time. This technology can be applied ‘in-line’ with the normal processing operations and, as such, would be installed as an additional, integral part of the existing processing machinery. While birds are normally subject to ‘chilling’ at the end of processing, this technology subjects them to an additional extremely cold (close to -200°C) for a short period (20-30 seconds), which produces a ‘cold shock’ to the bacteria present on the surface of carcases.

The relevant UK authorities consider the process to be compliant with the EU hygiene and poultry meat marketing regulations, meaning that birds that have been processed using this new technology can be marketed as ‘fresh’ (as opposed to frozen).

Application of this technology would be voluntary, allowing processors to apply it to only the most heavily contaminated birds received (which present the highest risk of causing illness in consumers) rather than applying it to all birds processed.

➢ What would this intervention mean?

Impact on levels of Campylobacter

On the basis of industrial trials to date, it is expected that this technology could reduce Campylobacter levels by 90-95%, which is considered sufficient to make a significant impact on the number of human cases each year.

Impact on poultry

This practice would not have any effect on quality, taste, appearance or shelf-life.

Impact on industry

There would be additional cost to industry. It is likely that industry using the process would rent (rather than buy) the equipment and have to pay to store and pay for liquid nitrogen used. The costs for each plant are also likely to differ as the equipment will be custom made to fit the plant size and layout and the process may not be applied to all birds processed by the plant.
6.3 Communications testing: Routes 1-3
Don’t wash raw chicken

It can spread Campylobacter – the most common cause of food poisoning in the UK.

There is no need to wash raw chicken before cooking. Splashing can spread Campylobacter onto surfaces, clothing and equipment which can lead to serious illness.

Campylobacter. Hard to say. Easy to spread.

food.gov.uk/chicken
Campylobacter is the most common cause of food poisoning in the UK. With more reported cases than Salmonella, E-coli and Listeria put together.

There is no need to wash raw chicken before cooking. Splashing can spread Campylobacter onto surfaces, clothing and equipment which can lead to serious illness.

For more information on campylobacter in chicken visit food.gov.uk/chicken
Campylobacter is the most common cause of food poisoning in the UK. Campylobacter causes more cases of food poisoning than Salmonella, E-coli and Listeria put together.

There is no need to wash raw chicken before cooking. Splashing can spread Campylobacter onto surfaces, clothing and equipment which can lead to serious illness.
Campylobacter. Hard to say. Easy to spread.

Campylobacter is the most common cause of food poisoning in the UK. Campylobacter causes more cases of food poisoning than Salmonella, E-coli and Listeria put together.

There is no need to wash raw chicken before cooking. Splashing can spread Campylobacter onto surfaces, clothing and equipment which can lead to serious illness.
Campylobacter.
Hard to say. Easy to deal with.

Campylobacter is the most common cause of food poisoning in the UK. Campylobacter causes more cases of food poisoning than Salmonella, E-coli and Listeria put together.

There is no need to wash raw chicken before cooking. Splashing can spread Campylobacter onto surfaces, clothing and equipment which can lead to serious illness.
Campylobacter. Hard to say. Easy to avoid.

Campylobacter is the most common cause of food poisoning in the UK. Campylobacter causes more cases of food poisoning than Salmonella, E-coli and Listeria put together.

There is no need to wash raw chicken before cooking. Splashing can spread Campylobacter onto surfaces, clothing and equipment which can lead to serious illness.
6.5 Communications testing: Message Testing

Example

Campylobacter. Hard to say. Easy to kill.

Campylobacter is the most common cause of food poisoning in the UK. Campylobacter causes more cases of food poisoning than Salmonella, E-coli and Listeria put together.

We know you know to cook your chicken through. Did you also know there is no need to wash raw chicken before cooking? Splashing can spread Campylobacter onto surfaces, clothing and equipment which can lead to serious illness.
## Appendix 7: Summary of review documents

<table>
<thead>
<tr>
<th>Source</th>
<th>Main Findings</th>
</tr>
</thead>
</table>
| Lessons from the Citizens Forums: Consumer engagement cycle            | • Gut feelings about food risks – if it looks/smells OK it must be  
  = Less open to safety messages  
  = Can miss invisible risks (cross contamination)  
• Influences on consumer behaviour include:  
  • Handling and preparing food  
  • Who’s eating  
  • Habits and routine  
  • Cost and convenience  
  • Food scares  
• Food is expected to be safe – subconsciously assume that regulations keep them safe  
  = Feel less personal responsibility for food hygiene at home  
• Why mess about with food (e.g. nanotechnology)?  
  • Consumers are suspicious around the need to use new technologies to make ‘better’ foods  
  • Needs stringent regulation and transparency about motives for using it  
• In whose interest?  
  • Though consumers know businesses are motivated by profit, they expect the government to address this by regulating the industry, keeping consumers informed, and representing their interests  
• Better regulation or cost cutting?  
  • If some of the regulatory responsibility was shifted on to industry, FSA must maintain regulatory oversight and ensure consumers are not ‘kept in the dark’ |
| Social Science Research Committee (SSRC) advice paper: Making sense of risk and uncertainty: public engagement, communication and risk assessment policy | • Numerical and verbal quantifiers of risk and uncertainty are subject to highly variable interpretations and qualifications based on varied social contexts  
• It is therefore vital to understand how risk and uncertainty are understood by experts and non-experts before a communication strategy is devised.  
• Risk and uncertainty pronouncements are judged on their ‘realism’, their fit to known circumstances, and on the trustworthiness of the regulator. If judged poorly, they are more likely to be ignored.  
• People rarely engage in detailed calculative individual behaviour. Actions are often socially sanctioned, responding to retailers, peers, media, full and busy lives etc. (Horlick-Jones & Prada 2009). The focus for communication may be more successfully focused on these practical communities rather than on individual readers. |
- Food and food choices have cultural, symbolic, familial and religious contexts, and these must be taken into account when developing risk messages. Habits and routine may prevent people changing behaviour to reduce food risks.
- Communicating about the risks of a particular food product may result in stigmatisation of products or the associated supply chain, which may have local or general socio-economic impacts.
- People have high risk perceptions about:
  - what animals are fed (e.g. GM fodder) and use of precautionary antibiotics in animal production systems.
  - **emerging or newly identified pathogens** in food production e.g. link between BSE and vCJD.
  - **carcinogenicity** of foods – re: food additives and preservatives
  - emerging technologies applied to food production (e.g. **GM foods**). Ethical concerns, and perceptions of unnaturalness, were found to influence societal and/or consumer acceptance. Trust (in regulatory institutions & information about GM animals) was highly relevant to acceptance.
  - mutagenic risks in association with chemicals in food is also likely be perceived as uncontrollable, involuntary in terms of exposure, and dangerous.
  - **Chemical contamination** of foods is likely to be linked to high levels of risk perception and concern. Accidental contamination or deliberate fraud = rapidly escalate into societal controversy, elevated risk perceptions, and media debate about the underpinning science and associated uncertainties e.g. the melamine contamination in Chinese milk powder - risk perceptions were amplified by perceptions that the risk was "hidden " to promote vested economic interests.
- **Food risks and nutrition**: Some foods are associated with (perceptions of) both food safety risk and nutrition benefit, which may be perceived differently e.g. risks of mercury in fish vs. benefits of consuming omega 3 fatty acid – pregnant women more at risk from mercury but if everyone eats less fish they miss out on benefits of omega 3
- **Food allergy**: The incidence of perceived food allergy is much higher than that identified by prevalence data while low perceptions of risk by workers in catering and retail sectors may result in failure to identify food allergens in products. This may result in failure to identify food allergens in products and therefore to reduced quality of life and economic functioning of food allergic consumers

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| A Quantitative assessment of consumers’ attitudes towards raw meat decontamination treatments: | Lit review, qual groups and quant survey by FSA in early 2013: a scoping study and consumer survey to investigate public understanding and awareness of Campylobacter, and attitudes towards potential slaughterhouse decontamination treatments for poultry and beef, focussing on lactic acid.
| | Public understanding of Campylobacter risk is low, though consumers are more generally aware that raw meat products are a potential food poisoning risk, and understand that raw chicken |
For FSA respondents recognised that Campylobacter presented a significant public health risk and therefore they supported interventions designed to reduce the level of the bacteria on chicken sold to the public, which they felt would be reassuring to consumers. However, they felt it would be important to promote hygienic handling of chicken to ensure that the public do not become complacent about their responsibility to protect themselves. 

- Some public resistance to innovative decontamination treatments - from a lack of awareness and understanding and an unfamiliarity of those processes. The language and context of information on innovative food processes is important to further public acceptance.
- Awareness of the degree of control over their risk of food poisoning differed by gender and age, and more thought they were at risk outside of the home than in the home.
- Little enthusiasm among participants for four possible forms of in-slaughterhouse treatment to reduce the Campylobacter risk. After additional info about lactic acid treatment a majority considered it acceptable. The fact that lactic acid is a natural substance had most impact on changing opinion. 2/5 supported lactic acid treatment and 1/3 were opposed, while 1/10 found it acceptable. Similar proportions would choose lactic acid treated chicken vs non-treated chicken.
- **Food labelling**: Some people look beyond product, price and special offers (33%). Almost all thought it important to label raw meat products that had been treated with lactic acid, and they wanted a lot of detail.
- Respondents were negative towards chemical methods of decontamination and were more positive about physical treatments but more info made them more positive about both.

<table>
<thead>
<tr>
<th>Mintel report – Consumer Trust in Food – UK, June 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Ignorance about how food arrives on Supermarket shelves</td>
</tr>
<tr>
<td>- Only half of consumers trust the food industry to provide safe food signalling a widespread breakdown of trust in the agriculture-food chain</td>
</tr>
<tr>
<td>- Horsemeat Scandal flung open the issue of lack of control over the sourcing of meat in the furthest reaches of international supply chains supplying UK food industry.</td>
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<tr>
<td>- Due to Horsemeat scandal a growing importance of food to be sourced from the UK. Nearly half of adults note British origin as a source of trust in food</td>
</tr>
<tr>
<td>- Industry plans to respond to this by switching their suppliers to UK operators and farms. Ministers have called for better labelling around the origin of processed meat.</td>
</tr>
<tr>
<td>- Consumers see Supermarkets role as ensuring that as much food as possible is sourced from the UK but hold government and manufacturers as responsible for food safety</td>
</tr>
<tr>
<td>- Consumers hold regulation and monitoring in high regard and rate schemes and certification as helping to elevate their trust in food e.g. Animal welfare certification</td>
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</tr>
<tr>
<td>• 600 adults in Turkey were interviewed face to face using a structured questionnaire about their food safety perceptions and awareness of food-borne illnesses, sources of food safety information and confidence. This study indicated the need for more consumer education regarding safe food handling practices in the domestic environment.</td>
</tr>
<tr>
<td>• Six factors (Brewer, Sprouls and Craig) that dominate consumer’s beliefs towards food safety</td>
</tr>
<tr>
<td>1. Chemical issues (hormones and food additives)</td>
</tr>
<tr>
<td>2. Health issues (cholesterol and nutritional imbalance)</td>
</tr>
<tr>
<td>3. Spoilage issues (micro-biological load and contaminations)</td>
</tr>
<tr>
<td>4. Food regulatory issues (food inspection and labels)</td>
</tr>
<tr>
<td>5. Deceptive practices (anorexia)</td>
</tr>
<tr>
<td>6. Ideal situations (length of time for pesticide safety assessment)</td>
</tr>
<tr>
<td>• Identified that the most common food handling mistakes (Badrie, Gobin, Dookeran &amp; Duncan, 2006) were:</td>
</tr>
<tr>
<td>o serving contaminated foods</td>
</tr>
<tr>
<td>o inadequate cooking</td>
</tr>
<tr>
<td>o heating and re-heating food</td>
</tr>
<tr>
<td>o obtaining foods from unsafe sources</td>
</tr>
<tr>
<td>o cooling and storage of foods in inappropriate ways</td>
</tr>
<tr>
<td>o allowing too much of a time lapse</td>
</tr>
<tr>
<td>• Consumers concerned that irradiated foods are harmful to their health – associated with high intake of radiation and therefore cancers and will not buy foods that have been irradiated (Anon, 2010; Frenzen et al., 2001)</td>
</tr>
<tr>
<td>• Consumers trying to buy foods that are free from risks.</td>
</tr>
<tr>
<td>o 66% consumers declared they were trying to purchase safe foods free from pesticides</td>
</tr>
<tr>
<td>o 67% trying to buy foods free from micro organisms</td>
</tr>
<tr>
<td>o 70% free from toxic chemicals and heavy metals</td>
</tr>
<tr>
<td>o Limiting poultry meat consumption because of hormone residues</td>
</tr>
<tr>
<td>• One way to try and buy less risky foods was to buy from trusted places and or limit the steps in the food journey – to buy local (supported in wave 1 research – using local butcher)</td>
</tr>
<tr>
<td>• Only 17% revealed their knowledge about food safety was excellent but the majority felt it was ‘good enough’</td>
</tr>
<tr>
<td>• Behaviours not everyone is adopting or gaps in knowledge</td>
</tr>
<tr>
<td>o Only 34% check temperature of freezer in shop and that meat is in a frozen state!</td>
</tr>
<tr>
<td>o Only 57% always wash utensils and counter before preparing food</td>
</tr>
</tbody>
</table>
|  o Over half thought food could be left for 4-5 hours (rule
is 2 h)

- Over half did not think using same equipment for both raw and cooked foods had a harmful effect
- 42% used the rule of tasting and smelling the food to check if it had spoiled or not
- As much as 36% said they were thawing foods in an incorrect way (in nylon bags and running under hot water)
- 25% had no idea what colour beef steak should be when cooked
- 42% thought that freezing destroys all pathogens
- 35% of consumers under age of 20 did not know about the subject of cooling foods before refrigeration

- According to Rohr, Luddeck, Griffith, and Loader (1999), government is seen as being mainly responsible to educate consumers about food safety
- Messengers such as consumer or environmental organisations, nutritionists or physicians were perceived to be more trustworthy than information from the government, Food manufacturers or the media

<table>
<thead>
<tr>
<th>Phthalate exposure Through Food and Consumers’ Risk Perception of Chemicals in Food, Risk analysis, Vol 29, No 8, 2009</th>
<th>Phthalates are a group of organic compounds that are used to soften polyvinylchloride (PVC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phthalates are a group of organic compounds that are used to soften polyvinylchloride (PVC)</td>
<td>- Food chemicals ranked second (behind Food Poisoning) in European consumers’ associations, with possible problems and risks related to food (European Commission – Eurobarometer Heath and food, 2006).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hygiene in the home kitchen: Changes in behaviour and impact of key microbiological hazard control measures, 2013 Food Control 35 (2014) 392e400, J. Taché, B. Carpentier</th>
<th>Societal changes causing an increase of hazards and risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Societal changes causing an increase of hazards and risk</td>
<td>- Waste reduction concerns - Waste reduction becoming a priority – European Directive 2998/98/EC 19 November 2008, which establishes the measures to reduce waste and to change current consumption habits</td>
</tr>
<tr>
<td></td>
<td>- Poverty - risky behaviours such as non-compliance with sell-by dates encouraged by growing poverty in many Western countries since the economic crisis in 2008</td>
</tr>
<tr>
<td></td>
<td>- Eating habits changed / more processed food consumed / more frozen and raw foods consumed</td>
</tr>
</tbody>
</table>

<p>| |</p>
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<tbody>
<tr>
<td>• Awareness of risks not sufficient to incite individuals to apply good hygiene practices - <strong>A lack of knowledge</strong> about foodborne illnesses is a barrier to changing the high-risk practices of consumers (Angelillo, Foresta, Scozzafava, &amp; Pavia, 2001), since this means they have little incentive to change their behaviour due to poor understanding of the nature, source and frequency of these diseases (Unusan, 2007).</td>
</tr>
</tbody>
</table>
A “Hygiene hypothesis” (Strachan, 1989) happening - a belief that decreased exposure to pathogens causes an increase in allergies

**The optimism bias (It won’t happen to me)** In recent decades, improvement in the microbiological quality of food may explain the optimistic bias or feeling of invulnerability (Hillers, 2003; Redmond & Griffith, 2004; Wright, Canham, & Masrani, 2011).

**Archaic beliefs regarding food safety** - Debucquet, Fischler, and Merdji (2007) e.g. poultry is considered to be less of a risk because it contains less blood than red meat

Still lots of uncertainties around food rules and non-compliance
- Marklinder, Lindblad, Eriksson, Finnson, and Lindqvist (2004) revealed in a Swedish survey, that, even if they knew the recommended storage temperatures for products, 74% of the respondents did not know the temperature of their refrigerator and for many, the location of foods in the refrigerator was based on convenience more than on hygiene considerations
- Hand washing being done but not thoroughly and sometimes before preparing a meal only rather than in between the stages of handling different raw ingredients
- half of respondents reported never using an insulated bag for transporting refrigerated or frozen foods

Jevsnik, Hlebec, and Raspor (2008)


- A lit review written for HCP to inform future food safety interventions
- Experts agree that the home is a primary location for food poisoning to occur but consumers don’t think of the home as risky place.
  - Out of the reported foodborne illness outbreaks reported in the U.S between 1998 and 2008, 9 to 15% were from food-related incidents in the home, with Norovirus and Salmonella being responsible for more than a third of these illnesses
  - In 2011, only 8% of consumers thought the home was a place where foodborne illness was likely to occur. Just 12% of consumers believe it is very common for people to get foodborne illness at home, and only 7% of those who thought they had had a foodborne illness in the past year reported that home prepared foods were the most likely culprit. Similarly, only 12% of Europeans who suffered a foodborne illness felt it came from home prepared food
- Reaching and engaging consumers is challenging because they have misinformation or misperceptions about safe food handling, and engage in culturally-driven food handling practices that are at odds with current food safety recommendations
<table>
<thead>
<tr>
<th><strong>Food safety protection strategies and non-compliant behaviour</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clean</strong></td>
</tr>
<tr>
<td>o <em>Not washing hands thoroughly</em> - Despite awareness of the</td>
</tr>
<tr>
<td>importance of hand washing, people are not washing their</td>
</tr>
<tr>
<td>hands thoroughly. For example, after handling raw chicken,</td>
</tr>
<tr>
<td>73 to 100% of hands of those who reported washing their</td>
</tr>
<tr>
<td>hands after touching the meat in a research study were</td>
</tr>
<tr>
<td>contaminated with <em>Campylobacter jejuni</em>.</td>
</tr>
<tr>
<td>o Of the 92% of consumers who used <em>sponges and dishcloths</em>,</td>
</tr>
<tr>
<td>just 9% reported changing dishcloths or sponges daily, 44%</td>
</tr>
<tr>
<td>changed them at least weekly, the remainder changed them</td>
</tr>
<tr>
<td>less often, with 5% waiting until they fall apart.</td>
</tr>
<tr>
<td>o Kitchen utensils and cutting boards also are key cross</td>
</tr>
<tr>
<td>contamination routes. Research suggests that 14% of all</td>
</tr>
<tr>
<td>foodborne illnesses may be due to inadequately cleaned</td>
</tr>
<tr>
<td><em>chopping boards and knives</em>. Although nearly all</td>
</tr>
<tr>
<td>consumers report they wash these items after using them</td>
</tr>
<tr>
<td>with raw meat or produce, observational data indicates that</td>
</tr>
<tr>
<td>the vast majority of consumers do not clean cutting boards</td>
</tr>
<tr>
<td>and utensils sufficiently to prevent cross contamination.</td>
</tr>
<tr>
<td>**Separate (keeping raw meat, poultry, and seafood separate</td>
</tr>
<tr>
<td>from ready-to-eat foods like salads and cooked meat)**</td>
</tr>
<tr>
<td>o About a quarters of consumers report not keeping raw</td>
</tr>
<tr>
<td>meat, poultry, and seafood separate from ready-to-eat food</td>
</tr>
<tr>
<td>products</td>
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<tr>
<td><strong>Chill</strong></td>
</tr>
<tr>
<td>o Studies indicate that refrigerators in many households</td>
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<tr>
<td>are not clean.</td>
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<tr>
<td>o Many refrigerators are also not cool enough, with</td>
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<tr>
<td>average temperatures exceeding the recommended 5°C (40°F).</td>
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<tr>
<td>Only one-quarter of consumers report regularly checking</td>
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<tr>
<td>refrigerator temperatures, and another quarter do not even</td>
</tr>
<tr>
<td>have a refrigerator thermometer.</td>
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<tr>
<td>o Compounding the cooling problem is that refrigerators</td>
</tr>
<tr>
<td>often are packed so tightly with food that air circulation</td>
</tr>
<tr>
<td>is restricted.</td>
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<tr>
<td>o There also is a common misconception that cooked foods</td>
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<tr>
<td>should be cooled to a room temperature before being placed</td>
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<tr>
<td>in the refrigerator.</td>
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<tr>
<td><strong>Cook</strong></td>
</tr>
<tr>
<td>o Uncertainty about the colour of meat when cooked</td>
</tr>
<tr>
<td>o Less than a quarter validate the accuracy of the</td>
</tr>
<tr>
<td>cooking temperature with a thermometer. Consumers</td>
</tr>
<tr>
<td>report that thermometers are inconvenient and</td>
</tr>
</tbody>
</table>
difficult to use, especially with small cuts of meat. Also, recipes seldom give endpoint temperatures recommending colour as an indicator of meat being cooked

- **Risky foods**
  - More than half of U.S. consumers report eating raw cookie dough (made with raw eggs).
- **Food prepared in the home and eaten outside**
  - Many workers eat lunch at their desks.
  - Only half of workers report always washing their hands before lunch

**Who is most at risk?**

- Those most likely to mishandle food are men, adults younger than age 30 years or older than 64 years

**Barriers to adopting safe food practices**

- Food preparation, for many, is a repeated or habitual behaviour. The more often a task like preparing food is repeated, the more “automatic” it becomes—that is, less cognitive effort is needed. Intervening to break this chain of events by introducing a new procedure (e.g., using soap to wash hands instead of just rinsing them, using a thermometer to judge doneness instead of just assessing colour) is challenging.
- **Responsibility Deflection** - “It’s not my responsibility.” Some consumers feel food safety is the responsibility of others. As a result, they deem food safety as not important in the home environment and may not accept their role in preventing foodborne illness in the home
- **Risky Preferences** - “I enjoy eggs with a runny center.” “I prefer the taste of rare meat.” These consumers are concerned the new behaviour will change the taste of foods and diminish their pleasure.
- **Cost: Benefit Miscalculations** “That takes too much time!” “It’s inconvenient.” Some feel the time, effort, and resources needed to change are not convenient. Foodborne illness often is mild and of short duration, thus many consumers may not be aware of its sometimes devastating and deadly outcomes when they (mis)calculate the value of safe food handling procedures
- **Social Fears** - “What would my family think if I checked their burgers with a thermometer?” Will this affect their ego?...would diminish the opinions others have of their skills as a cook
- **Faulty Outcome Expectations** - “I’ve always done it this way and haven’t gotten sick.” These consumers do not perceive that the current way of behaving is problematic (or making them susceptible) to foodborne illness (supported by wave 1). Compounding this problem is that few believe that home prepared foods are a likely cause of foodborne illness
### Consumer Responses to Integrated Risk-Benefit Information Associated with the Consumption of Food

- **Optimism Bias** - “It won’t happen to me.” Nearly 6 out of 10 consumers believe their chances of getting foodborne illness are low. Some consumers believe that they have a small chance of getting a foodborne illness compared to others.
- **Illusions of Control** - “We take the necessary precautions in my home.” Two-thirds believed they exerted high levels of control over safe food handling when they prepared food. When asked what grade a food safety expert would give them for food preparation all but 2% gave themselves passing grades. However, when this was compared with a kitchen evaluation their grade was a lot lower.

### Food Safety in the Domestic Environment: The Effect of Consumer Risk Information on Human Disease Risks

- Trade-off between the risks and benefits. For example, fish represents a product where consumers will need to balance the health benefits of Omega three fatty acids against the risks of toxins.
- Various methods been developed of evaluating the impact of both risks and benefits on public health and well-being. Some of these metrics focus on health-related quality of life indices that combine the impact of a disease on life expectancy and quality of life, such as disability-adjusted-life-years (DALYs) and quality adjusted-life-years (QALYs).
- The study shows QALYs as a useful tool for describing both health risks and benefits associated with food consumption. Information about the impact of food consumption on QALYs may also facilitate informed decision making by consumers, as it is likely to influence risk and benefit perceptions as intended by the information.

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- From the late 1980s onward there have been various attempts to develop interventions based on public information interventions to increase the motivation of the consumer to process the risk message.
- Their study proved that the addition of emotions (disgust) to the message content or presentation increased motivation to prevent FP. This is based on the hypothesis that inclusion of emotion may increase both the personal relevance of the hazard, and an individual’s motivation to respond.
- Who is most at risk - According to Fisher and colleagues, “People who prepare food least frequently...are...the most dangerous cooks”