R&D REPORT No. 151

Risk factors associated with the handling of meat: qualitative research

2001

Campden BRI

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Chipping Campden Gloucestershire GL55 6LD, UK

Tel: +44 (0)1386 842000 Fax: +44 (0)1386 842100 www.campden.co.uk

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H Newsholme

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EXECUTIVE SUMMARY

The number of reported food poisoning incidents originating in the domestic kitchen appears to be on the increase. In England and Wales there has been an increase in the reported incidence of food poisoning in recent years (CDR 1996; 2000) and it has been suggested that 15% of cases originate in the home (Djuretic,1996). Red meat and poultry are known carriers of food poisoning bacteria and are believed to be the food vehicles responsible for a large proportion of food poisoning outbreaks. This study aimed to investigate consumer practices regarding the domestic handling of meat in order to help identify those practices which may contribute to this increase in food poisoning.

A qualitative study consisting of 9 discussion groups in 4 city locations was undertaken. Participants from a range of life-stages, social class and gender were recruited for the study. A discussion guide covering all aspects of domestic handling of meat, from purchase to actual cooking, was used to ascertain practices and gain an insight into levels of knowledge and awareness of the safe practices.

The results revealed that reported **consumer** practices regarding the **domestic** handling of meat were mainly based on a certain awareness of how things should be done and tended not to differ between life-stages, but more between individuals in groups. Choice of meat and therefore cooking methods did, however, depend to some extent on the life-stage. Those with children were often influenced by the children's choice, and the pre-family group by the size of household and convenience.

Across all the groups, by far the most frequently consumed meat was reported to be chicken and the majority bought their meat pre-packed from the supermarket.

The reported behaviour of those who were more aware of the risks associated with handling raw meat tended to be towards a higher degree of vigilance. However, some practices, such as hand washing, were seen by everyone as important, though it was not always clear the extent to which this was carried out. When discussing matters that are of a somewhat delicate nature, such as cleanliness, there may have been a

certain lack of disclosure on the part of **those** who perhaps did not feel that their behaviour matched that of others in the group. Other preparations made before handling of raw **meat** relating to personal hygiene, such as the wearing of aprons and keeping hair out of the way, were not common practice in the domestic kitchen.

The awareness that certain practices should be undertaken was not always coupled with an understanding of why it was good practice, and so leaves areas for concern. The majority were aware of keeping raw and cooked meat separate and had the propensity to do so, but few fully understood the implications. Thus, even for those undertaking such practice the importance of preventing cross contamination from raw to cooked meat and other high risk foods may have been underestimated. The common practice of washing meat was considered to be beneficial, but there were no considerations to the implications of the risk of contamination. The use of separate chopping boards and utensils for raw meat was reported by many; however, only few had one designated specifically for raw meat. The rinsing of boards and knives under the tap or wiping with a cloth after use was commonly reported and could be an area of risk of contamination. The potential for spread of bacteria with improperly cleaned cloths and surfaces is great and despite the fact that dish cloths were claimed to be disposed of, or sterilised regularly, the effectiveness of these techniques cannot be certain. The use of antibacterial spray was common; however, the mode of application and the areas it was used may compromise its effectiveness.

With few exceptions, a real understanding of the way in which food poisoning can occur was not apparent. People were concerned about bacteria and cross-contamination, but were not certain of what this actually meant. Many believed, however, that most food poisoning occurred as a result of meals eaten outside the home, or the handling and storage of meat before entering the home. Attributing the responsibility elsewhere gave some people a false sense of security regarding safe practices in the domestic kitchen.

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1. INTRODUCTION

1.1 Background

In England and Wales there has been an increase in the reported incidence of food poisoning in recent years. Notification of cases has risen from 70,130 in 1993 (CDR 1996) to 86,316 in 1999 (CDR 2000). It has been suggested that 15% of cases originate in the home (Djuretic,1996).

Raw red meat and poultry can be vehicles for the carriage of pathogenic bacteria which cause food poisoning. Raw meat, in particular poultry, may act as a source of *Salmonella* which is a cause of food poisoning. Other food poisoning bacteria, including some strains of *Escherichia coli* and *Campylobacter*, may also be common in raw meat. It has been suggested that many people do not consider the domestic environment a place with a high risk of food poisoning and feel that the responsibility of lowering risks of food poisoning lies with the food manufacturers or restaurants (Worsfold and Griffith, 1997). Thus, the implications of incorrect handling of raw meat may not be apparent to the consumer and so risks may be increased.

There have been relatively few studies into the domestic handling of raw meat, although it has been shown that risky food handling behaviours are prevalent in the home. Worsfold and Griffith (1997) studied food safety behaviour of 100 people in their own homes and showed that basic food handling practices indicated great potential for cross contamination, of which the participants seemed to be unaware. A previous study by the same authors identified the principal causes of cross contamination in domestic food preparation as faulty food handling techniques, poor personal hygiene and a lack of facilities for the segregation of raw and cooked foods (Worsfold and Griffith, 1997). Further work on the identification of food safety risks in the home, quantification of these practices and verification of microbiological contamination in the domestic environment are essential to support the adoption of successful methods of reducing food poisoning incidence in the home.

1.2 Aims

- To **establish** a greater knowledge of consumer practices regarding the domestic handling of meat.
- To highlight similarities and differences between different life-stage groups and determine whether different levels of risk are apparent between groups.
- To gain a general insight into current levels of knowledge regarding **kitchen** hygiene with emphasis on the handling of meat and poultry.

1.3 Scope

This report constitutes the initial qualitative research for the FSA funded project: Microbiological Risk Factors Associated with the Domestic Handling of Meats. The findings will form the basis of a questionnaire which will quantitatively address the practices identified to establish the extent to which these behaviours exist in the population. Further practical kitchen work and laboratory microbiological study will complete this project.

2. METHOD

2.1 Research Method

The method of research used in the study was qualitative in nature using discussion groups. Due to the low numbers and nature of the study, these findings cannot be used as a representative sample of the whole population. However, the results can be used to identify certain practices, awareness and knowledge, which will be used to formulate a questionnaire that will enable quantification of these factors.

2.2 Recruitment of Participants

Recruitment of participants was undertaken by qualified market research interviewers in accordance with a recruitment questionnaire (see Appendix 1). Specific recruitment criteria for respondents were as follows:

- must be partly or solely responsible for the main household shopping;
- must purchase and prepare meat and meat products;
- must purchase either poultry or red meat (or both) at least once a week;
- must not have taken part in food related market research in the last 6 months;
- must not work in food related industry.

In addition, respondents agreeing to attend the group were asked to partake in a pregroup exercise (see Appendix 2). This involved the recruiter asking if the respondent's friend or partner would be interested in completing a short exercise to be returned with the respondent on the day of the discussion. The pre-group exercise was handed to participants in a sealed envelope containing the exercise itself, instructions for completion and an envelope in which to return it.

2.3 Sample Details

A total of 9 groups (including 2 mini groups) were undertaken in 4 city locations, Birmingham, Leeds, Newcastle and London, encompassing a range of life stages, social class, gender and age. Details of the groups are shown in Table 2.1. The total number of attendees was **64**.

Table 2.1: Details of focus groups

Group	Lifestage	Age	Gender	Class	Location	No.
						Attending
1	Young family	25-40	F	B/C1	Birmingham	5
2	Young family	25-40	F	B/C1	Birmingham	5
3	Older family	30-45	F	C2/D	Leeds	7
4	Post-family/empty nester	45-60	F	B/C1	Leeds	7
5	Young family	25-40	F	C2/D	Newcastle	8
6	Post-family/empty nester	45-60	F	C1/C2	Newcastle	8
7	Older family	30-45	F	C2/D	London	8
8	Mixed	25-45	M	C1/C2	London	8
9	Pre-family/young builders	23-35	F	B/C1	Birmingham	8

2.4 Fieldwork

2.4.1 Venues

The fieldwork was carried out over a 2-week period commencing on 15th January 2001. The first 2 **miri** groups in **Birmingham** took place in professional viewing facilities providing video and audiotapes at the end of the groups. The remainder of the groups took place in private homes belonging to the recruiters and both audio and visual recording was carried out by the moderator. Six of the discussions took place during the day with the exception of the final 3 groups: older families, men and pre-

family. These were organised as evening groups in order to aid with the recruitment of these respondents, who may more than likely have been working during the day. An incentive of £20 per respondent was given at the end of the groups with an extra £5 for those completing the pre-recruitment exercise.

2.4.2 Discussion Guide

The discussion guide was developed to cover all stages of shopping, storage, freezing, defrosting, washing, soaking, preparation, cooking, storage and re-heating of meats. The key sections and rationale behind them are highlighted below (see Appendix 3 for full discussion guide):

• Introducing meat - types of meat purchased

- Introduce the topic and warm up on the subject of meat, and ascertain the different types and cuts of meat purchased.
- Ascertain the amount of preparation people were likely to be doing judging by the type of meat purchased.

Shopping for meat

- Determine where and why meat was purchased in particular places.
- Understand consumer requirements and **concerns** when purchasing meat.
- Determine buying practices such as when meat is purchased in relation to other foods and conditions in which meat is placed before returning home.

• Getting home

- Determine consumer practices once meat has been purchased.
- Investigate if consumers are aware of risks and if practices reflect awareness.

• Refrigeration

- Investigate consumer practices regarding storage of meat in a refrigerator.
- Examine the reasons and investigate consumer awareness and knowledge of refrigeration.

• Freezing

- Examine freezing practices and methods of defrosting.
- Examine awareness and knowledge of risks associated with freezing/defrosting and re-freezing.

• Preparation

- Use an exercise to elicit unprompted perceptions of good and bad practices in the preparation of meat.
- Bring the group together to discuss each list and prompt further suggestions.
- Ascertain awareness and knowledge of hygienic/non-hygienic practices.
- Ascertain actual practices.

• Cooking meat

- Determine actual practice and knowledge of risks at the cooking stage
- Investigate the use of leftovers, re-heating, awareness of safety aspects and attitudes towards safe practices.

2.4.3 Exercises

Pre-group exercise

The pre-group exercise was to be completed by someone other than the person recruited for the discussion group. The task involved a simple observation exercise carried out without input from the person attending the discussion group. Those undertaking the exercise were asked to observe the person recruited for the discussion group during the preparation of a dish containing meat and detail from start to finish every action undertaken. Instructions were provided and an example of the preparation of a non-meat product was given, as a guide, in order to give an indication of the detail required. The observer was asked to place the exercise in the envelope provided and hand to the respondent to bring with them to the group discussion. An example of the pre-group exercise can be found in Appendix 2.

Discussion group exercises

During the discussion groups, two exercises were undertaken. In the first half of the discussion, an individual exercise was used to ascertain where people generally stored their raw and cooked meat in the **fridge**. This involved each member in the group marking on a laminated picture of an open **fridge** where they would normally store several items including cooked and raw meat (see Appendix 4). This was carried out in order to ascertain actual individual practices and to prompt investigations into awareness and attitudes towards hygienic storage of both cooked and raw meats.

To aid investigations into preparation practices, a group exercise was carried out. One half of the group was asked to make a list of all the good kitchen practices they could think of relating to the preparation of meat, and the other half listed the bad practices. The items on the lists were then discussed within the group. This exercise was used to evoke attitudes towards good and bad kitchen practices, which were then put into the context of respondents' own practices.

3. REASEARCH FINDINGS

3.1 Type of Meat Consumed

3.1.1 Raw Meat

When discussing the purchasing of different types of meat, chicken was nearly always mentioned first and was by far the most commonly consumed meat. The most popular ways to buy chicken were as chicken fillets or whole chickens and occasionally chicken legs. Chicken was a popular choice for roast dinner at the weekend and for meals during the week. For those with families at home it was often chosen because of the children's preference.

"My boys like a roast chicken dinner...we will have it about 3 times a week"

F, young family, B/C1, Birmingham

"Sunday roast chicken for kids....we have beef"

F, young family, C2/D, Newcastle

"The kids will only eat roast chicken"

F, young family, B/C1, Birmingham

"Chicken is a favourite with the kids....they like the chicken legs"

F, young family, B/C1, Birmingham

For many it was the versatility of chicken that appealed, in particular the use of chicken breasts or diced chicken to make up a variety of dishes.

""Usually buy a lot of chicken...diced chicken for curries"

F, post-family, C1/C2, Newcastle

"Chicken breasts for curries.."

M, C1/C2, London

"A lot of chicken for stir-fries and pasta dishes"

M, C1/C2, London

"Chicken fillets to marinade or dice up for stir fry"

F, pre-family, B/C1, Birmingham

Turkey was enjoyed by a few as an alternative to chicken or as something bought for a change, either as fillets, mince or turkey roll. The low price and low fat content influenced the purchase of turkey.

"Mostly chicken and turkey breasts at the weekend...more economical and you can have a salad the next day"

F, post-family, C1/C2, Newcastle

"Turkey occasionally...use turkey roll with **stuffing** and sauces – makes it taste better....turkey is a bit bland"

M, C1/C2, London

"I buy turkey mince .. because of less fat"

F, pre-family, B/C1, Birmingham

"...turkey all year round....turkey stir fry....turkey breasts.."

F, older family, C2/D, London

Beef was also purchased in one form or another by most people, with only one lady mentioning her reservations about eating beef following the BSE crisis. Generally beef was consumed as a joint for Sunday dinner, and was alternated with other meats. Topside was a popular cut, with silverside, brisket and rib of beef also cooked for Sunday roast. Steaks were enjoyed occasionally by a few people.

"Mostly chicken apart from weekends when we do a beefjoint normally"

F, post-family, C1/C2, Newcastle

"...joints of meat.. mainly beef topside.... occasionally fillet steaks"

M, C1/C2, London

"(we have) beefjoints but sometimes I would sooner have a nice steak.."

M, C1/C2, London

Braising and stewing and mince beef were popular with many to make up a variety of dishes such as stews, casseroles, steak and kidney pies, shepherd's pies and chilli.

"Braising steak.....we like steak and kidney pies"

F, post-family, C1/C2, Newcastle

"Minced beef to make Italian meals and curries"

M, C1/C2, London

"I always get 2 or 3 things of mince for spaghetti bolognaise or chilli" M, C1/C2, London

"My husband makes up his own burgers with mince"

F, young family, C2/D, Newcastle

Lamb was enjoyed by some but not consumed as much as beef and often only mentioned when prompted. For those **consuming** lamb it was mainly as a leg for the Sunday roast or as lamb chops.

"The kids like lamb chops"

F, young family, B/C1, Birmingham

"I don't buy it very often but I do like lamb"

F, young family, B/C1, Birmingham

"I love lamb, but it must be the middle fillet of the leg"

F, Post-family, B/C1, Leeds

Some disliked lamb for several reasons apart from simply taste:

"cos it is fatty and expensive.. and difficult to carve"

F, young family, B/C1, Birmingham

"Lamb can be very fatty (eaten) cold so that's why a lot of people don't eat it"

F, post-family, C1/C2, Newcastle

"Lamb seems a bit dear.."

M, C1/C2, London

Pork was not widely consumed although some ate a pork joint for Sunday dinner, alternating with other meats, and others enjoyed pork chops and pork fillets occasionally.

"We mix it...we eat pork, lamb, beef or chicken.."

F, post-family, C1/C2, Newcastle

"....buy pork because it is ever so cheap"

M, C1/C2, London

One lady did not eat pork for religious reasons and others for a variety of reasons

"don't eat pork very often.. occasional joint and pork chop... I find pork hard to digest"

F, young family, B/C1, Birmingham

"I love pork but pork does not agree with me"

F, post-family, C1/C2, Newcastle

Sausages were fairly popular **among** some groups, in particularly those with families at home; for others it was more of an occasional purchase.

"The kids love sausages so we eat them quite often"

F, young family, B/C1, Birmingham

"I buy them more for the children"

F, young family, B/C1, Birmingham

"My husband will buy sausage occasionally for a fry up, but I don't buy them regularly"

F, post-family, C1/C2, Newcastle

"Sometimes for a cooked breakfast"

F, post-family, B/C1, Leeds

Burgers were **not** as popular as sausage and eaten **mainly** by those with families living at home. Gammon and ham to cook were purchased by only a few, although for one group all claimed to eat gammon joints and gammon steaks occasionally.

"Occasionally use gammon for tagliatelli"

F, post-family, C1/C2, Newcastle

"... boil a gammon joint and use the stock for soup"

F, post-family, C1/C2, Newcastle

3.1.2 Cooked Meat and Ready Meals

With only one exception, everyone purchased cooked meat to a greater or lesser extent. The fact that raw ham and gammon were purchased fairly infrequently could be explained by the fact that the majority of people purchased ready cooked pre-sliced ham for use in sandwiches. Other popular cooked meats were wafer-thin turkey and

chicken and corned beef. Some bought cooked chickens occasionally for convenience.

"Sometimes when we are in a rush on a Sunday I will buy a ready cooked chicken"

F, young family, B/C1, Birmingham

Ready meals were purchased by some, mainly for convenience, and were not eaten regularly by most, with one lady only buying them when she was on a diet (Weight Watchers).

" I buy them and put them in the freezer to have when I can't be bothered to cook one night"

F, young family, B/C1, Birmingham

Ready meals including cottage pies, lasagne, shepherd's pie and chicken ready meals were mentioned. Only one lady admitted to buying them all regularly, others claimed to use them only occasionally, when they were in a rush, or did not feel like cooking.

3.1.3 Frozen Meat

Frozen meat was not a frequent purchase by most people as they preferred to buy fresh and then freeze it. Frozen minced lamb, beef and minced turkey were mentioned. Occasionally chicken breasts were purchased because they were cheaper, but the quality of frozen meat was questioned and this was probably the reason for its lack of popularity.

"I think you lose out on the taste a bit"

M, C1/C2, London

"It's not something I do much – it's like buying blind"

M, C1/C2, London

3.1.4 Demographic Differences

Lifestage/gender

The pre-family group of females purchased the smallest range of meats of all the groups, with chicken mainly in the form of chicken breasts being the most popular item. Large pieces of meat were rarely used by most of this group as they were either only one or two in the household. Only one in the group ate Sunday roast fairly regularly, but only in the summer months, and the others only very occasionally if at all. This contrasted with all other groups who ate joints of meat (including whole chickens) fairly regularly, if not every week.

The female groups with children living at home, particularly the young families, tended to buy what the children liked. Hence these groups tended to buy more sausages, burgers and chicken than the others. Although all groups ate chicken, older families did not tend to eat burgers and sausages to the same extent. In fact one lady was quite disgusted at the thought:

"I call that rubbish food!"

F, post-family, B/C1, Leeds

Sausages and bacon were popular only for the weekend breakfasts in the pre-family and for some in the post-family groups.

The post-family female groups and the men tended to buy a greater range of meats. The post-family groups did not have children to consider and so ate what they wanted.

"I buy everything in the meat range"

F, post-family, C1/C2, Newcastle

"I like experimenting with recipes if I have got the time"

F, post-family, C1/C2, Newcastle

"We mix it, we eat pork, lamb, beef or chicken"

F, post-family, C1/C2, Newcastle

The men tended to buy a variety of meat and those with children did **not** mention their likes and dislikes.

"Chicken, beef, lamb, pork, the lot basically"

M, C1/C2, London

The men consumed more of the good quality steaks such as rump and fillet but this was only an occasional purchase.

Regions

With the exception of the popularity of gammon purchase being apparent only in Newcastle, there were no obvious regional differences between purchasing of meats.

3.1.5 Summary

From the discussion groups, it was reported that chicken was by far the most commonly purchased meat and generally cuts that needed little preparation were used. Beef was the most popular red meat and was commonly bought for roasting, stewing and as minced beef. Lamb and pork were **consumed** less frequently. Cooked meats were frequently purchased by most and ready meals were the occasional purchase of many. Frozen meat was not commonly purchased. Thus the type of meats generally consumed tended to need minimum preparation for the oven or for the recipe intended. It was apparent by the cuts of meat that more involved preparation practices such as boning (e.g. leg of pork), rolling and racking (e.g. lamb) were not common practice.

3.2 Shopping

3.2.1 Where Meat was Purchased

Most people bought their meat from the supermarket or a mixture of the supermarket and the butcher. Only a few bought their meat entirely **from the** butcher. For many people it was the convenience that dictated where they bought meat

"I buy from the butchers or the supermarket, it depends where I am" F, older family, C2/D, London

"I shop mainly at the supermarket for convenience and price"

F, older family, C2/D, London

For those buying mainly from the supermarket it was the practicalities of having everything under one roof or the closeness of the store. For some, the butcher was used to buy meat occasionally when there was no time for a supermarket shop

"Basically because its nearer and my time is limited"

F, post-family, B/C1, Leeds

"I think its easier"

F, young family, B/C1, Birmingham

"I just find it easier to do it all in one shop"

F, young family, B/C1, Birmingham

"Sometimes I just run in there (the butcher) in my dinner hour for a couple of pieces of chicken"

F, young family, B/C1, Birmingham

"The butchers are nearer to buy just what you want for the day"

F, young family, C2/D, Newcastle

There were several reasons why people bought meat from the butcher. Some people had relations or friends who supplied their meat:

"Iget my meat from my brother-in-law who is a butcher"

F, , older family, C2/D, Leeds

"I get whole lamb evey so often because I know the supplier"

F, older family, C2/D, Leeds

"My dad was a butcher and he retired last year so now Iget it from my sister-in-law's dad"

F, young family, B/C1, Birmingham

Some believed that meat from the butcher was superior to that from the supermarket or had a bad experience with supermarket meat.

"I believe it is better quality from the butchers"

F, young family, C2/D, Newcastle

"My husband goes to the wholesalers with a few others to buy meat in bulk ...it just seems nicer..."

F, post-family, C1/C2, Newcastle

"At the farm butchers everything is reared locally.... It's beautiful" F, post-family, B/C1, Leeds

"Sometimes I have been to the supermarket and the meat has been off"

F, young family, B/C1, Birmingham

Some were influenced by the price.

"I shop mainly at the supermarket for convenience and price"

F, young family, C2/D, Newcastle

"Mostly supermarket but occasionally butchers but it is more expensive in the butchers than the supermarket"

F, older faniily, C2/D, London

"I can't afford to go to the butchers all the time"

F, young family, C2/D, Newcastle

3.2.2 Pre-packed or Loose

Many people bought their meat pre-packed because of convenience, aesthetic appeal and habit. For some, pre-packed meant the choice of size and price. The feeling that it gave people a **chance** to look at the meat and decide on the aniount and the price without any pressure was conveyed by many.

"You can see how much it costs"

F, post-family, B/C1, Leeds

('You can choose the size you want"

F, post-family, B/C1, Leeds

"It's a price factor you can buy just what you want"

F, older family, C2/D, London

"You can pick them up and look at them"

M, C1/C2, London

"I like pre-packed because I don't like all the blood"

F, young family, B/C1, Birmingham

"I must admit it looks better pre-packed"

F, young family, B/C1, Birmingham

On the other hand some of those buying unpacked meat had opposing views and preferred to buy meat loose from the butcher's counter or the butchers.

"One thing about pre-packed is that you can never see what you are getting...you can never see the other side"

M, C1/C2, London

"At the butchers you can see what you are buying"

M, C1/C2, London

"I don't like it prepacked I don't know why..but you don't know how long it has been packed for"

F, post-family, C1/C2, Newcastle

"They will cut you any size you want (at the butchers counter)"

F, post-family, C1/C2, Newcastle

"Sometimes you have a pile of rubbish underneath the good stuff if it is prepacked, that's why I prefer the butchers"

F, young family, B/C1, Birmingham

3.2.3 What was Looked at when Buying Meat

Many people stated that the first thing they would look at on prepacked meat was the date.

"I like to think I can keep it for a week"

F, young family, B/C1, Birmingham

"Do I bung it in the freezer or can I keep it in the fridge until I want to cook it"

M, C1/C2, London

For some, although the use-by dates were looked at, it wasn't a major issue as there was a belief that the supermarkets give plenty of leeway.

"A lot of sell-by-dates are so much in advance...they are supposed to be only a guide aren't they?"

F, young family, B/C1, Birmingham

For those buying meat from the butcher's shop or butcher's counter, the fact that there were no dates on was not an issue – it was all a matter of trust.

"I've always used the same butchers for years and I trust him 100%"

F, older family, C2/D, London

"That's why you come to trust your butchers"

F, post-family, C1/C2, Newcastle

"I put my full trust in people because...they have laws to stick to.."

F, young family, B/C1, Birmingham

For some the use-by date wasn't always the first priority and it depended on the type of meat they were buying. Many agreed that the amount of fat was important with only one exception who claimed:

"The more fat the better"

F, older family, C2/D, Leeds

Most chose the leanest pieces and for some the amount of blood was important. The colour of the meat was also an important aspect for some when selecting meat.

"I like to look at it as well to see if there is not much fat on it"

F, young family, B/C1, Birmingham

"I just can't stand blood at all"

F, pre-family, B/C1, Birmingham

"I look at the veins and the blood....I just go for the cleanestpiece of meat"

F, pre-family, B/C1, Birmingham

"If it is sort of pasty looking/anaemic I wouldn't buy it.. you can tell can't you"

F, older family, C2/D, London

"I look at the colour of meat; it must be really red"

F, young family, C2/D, Newcastle

3.2.4 Hygiene

The look of the meat and the use-by dates were the first things people tended to look at when selecting meat; however, most people admitted to being concerned about hygiene when prompted. Some were aware and concerned about bad hygiene and cross contamination.

"If you know about places with bad hygiene you just wouldn't go in there"

M, C1/C2, London

"I wouldn't buy meatfiom a butcher with bike grease up his arms"

M, C1/C2, London

"I always look at finger nails"

F, young family, B/C1, Birmingham

"When buying from the meat counter I would look at the person serving ...to see if their hair was hanging down or they were touching their face...that would put me off" F, pre-family, B/C1, Birmingham

"He sold someone cooked meat and then he touched the cheese, I told him to wash his hands"

F, post-family, B/C1, Leeds

"I have refused to have cooked meat because I wasn't convinced that the previous customer's bacon had not touched the scales"

F, pre-family, **B/C1**, Birmingham

Some felt that good practices were enforced in most places, which alleviated some concerns, although it was generally felt that bad practices would be noticed and would prompt action.

"Generally they use the tongs or pick it up with paper"

F, post-family, **B/C1**, Leeds

"(In supermarket x) they are all (cooked and raw meats) separate"

F, post-family, B/C1, Leeds

"Normally if they take the money, they wash their hands afterwards"

M, C1/C2, London

"You see it happen all the time [goodpractice] and ifsomeone didn't do it you would notice...you wouldn't have it"

M, C1/C2, London

"Most of them wear hats in the supermarket"

F, young family, B/C1, Birmingham

"They all go on courses don't they"

F, post-family, C1/C2, Newcastle

One lady felt that **this** was important as:

"You have to take out all the dangers"

F, post-family, B/C1, Leeds

Only one person admitted that it was not really a **concern** as their main purchase was pre-packed. However, although this was a singular view it possibly accounted for several others who did not voice their opinions.

"You don't really think about it buying pre-packed"

M, C1/C2, London

3.2.5 Duration of Shopping Trip and Getting Home

Most used their car for their main shopping trip. Shopping trips took between half an hour and 2 hours. In general, those who liked to shop would take longer and those who did not would get it over and done with as quickly as possible. Some mentioned that it depended on whether the children (and husband) were with them.

"It takes me about ½ an hour .. I don't like shopping"

M, C1/C2, London

"It takes longer when you've got the kids"

F, older family, C2/D, London

All claimed to pack things away as soon as they returned home. If there were any distractions or they had to go somewhere, they would make sure that the cold and frozen food was packed away first. Only a few used cool boxes or bags to bring refrigerated and frozen items back; however, for some this was a little bit hit and miss.

"I use it now and again but half the time I forget to take it with me'

F, post-family, C1/C2, Newcastle

Others claimed that the shops were very near and things were transported straight back home in a short time.

3.2.6 Demographic Differences

Lifestage/gender

There were no apparent differences in where or how meat was purchased between the different lifestages or between men and women. In general, however, men seemed less concerned about hygiene when purchasing their meat, mostly as they believed good hygiene standards were adopted by most places. The older groups tended to reflect on how much worse it was in the past and felt that, although they took notice, people were obliged to have hygienic working practices. Those with young families tended to be the most concerned about hygiene and the pre-family group contained a couple of female respondents who were extremely concerned about hygiene whilst the others did not consider it too deeply.

Social class

Price was mentioned only by those in the lower social bracket as a reason for buying from the supermarket and not the butchers. However, as the majority of all groups bought meat from the supermarket this did not reflect a greater trend in the lower class groups. Hygiene of premises and staff were mentioned less in the C2/D groups than in the other groups, although there was a tendency for there to be one or two in every group who was more aware and knowledgeable and more concerned than the others.

3.2.7 Summary

In general, the majority of people reported that they bought most of their meat prepacked from the supermarket with considerations more towards the look of, and fat content of the meat rather than safety concerns. Concerns for hygiene, however, particularly for staff working on meat counters, were to some extent apparent, although many believed good practices were enforced in most places. Cross contanlination and an awareness of keeping cooked and raw meat separate was mentioned by a small minority. People were, therefore, generally concerned about hygiene but would tend to notice only if something was particularly bad. Those buying meat from butchers tended to do so because of family connections, quality considerations and dislike of pre-packed meat. For these people, quality and hygiene were less of a concern as a certain trust was placed in the butcher to provide good quality safe product. Although most claimed to put away refrigerated and frozen produce as soon as they returned, few had provisions for keeping food cool in the car and did not appear to be aware of risks associated with the length of time between buying food and bringing it home.

3.3 Storage of Meat

3.3.1 Refrigeration

Position of meat in the fridge

When asked to mark on a diagram depicting a **fridge** where raw meats and cooked meats were normally kept, with few exceptions, raw meat was placed at the bottom and cooked meat above it. There appeared to be a general awareness that raw meat should be placed at **the bottom** of the **fridge** coupled with a basic lack of understanding as to why this was so. The most **common** reason given by every group was the need to prevent blood dripping onto other things.

"So meat doesn't drip onto things"

F, older family, C2/D, London

"You don't want the raw meat dripping onto anything else"

M, C1/C2, London

"Ive done it on top before and it has dripped"

F, young family, B/C1, Birmingham

Some admitted that it was a routine habitual thing they had always done or something that their mothers had done.

"Its habit, I've always done it"

F, pre-family, B/C1, Birmingham

"Cos my mum always did it"

F, pre-family, B/C1, Birmingham

"Grew up seeing it there -it's just a habit Ipicked up from there"

F, older family, C2/D, London

Some were concerned with the fact that raw and cooked meat must be kept separate, although this was learnt **from** observation, or something they felt they had picked up at school or **from** a television programme.

"You see it at the butchers, kept separate, so you know it must be kept separate" M, C1/C2, London

"I don't know ..it's what we learnt at school that you aren't supposed to mix raw and cooked meat"

F, older family, C2/D, London

"It's also the biggest gap in my fridge, but I do rememberfiom cookery school that raw meat should be kept on the bottom"

F, young family, B/C1, Birmingham

"There was a thing on the news a couple of years ago about hygiene.....about storing raw meats"

F, pre-family, **B/C1**, Birmingham

A few were actually aware of cross contamination between raw and cooked meats; however, bacteria was mentioned on one occasion (although picked up by the rest of the group when mentioned by one) and *Salmonella* was actually named on another.

"Think it's to do with contamination, if it drips it will contaminate"

F, young family, B/C1, Birmingham

"There are so many programmes on W - they tell you that raw and cooked meat must be kept separate to prevent cross contamination"

F, young family, B/C1, Birmingham

"I've never had foodpoisoning but that's what it is – it's a bacteria thing"

F, young family, B/C1, Birmingham

A few admitted that they may not store raw meat at the bottom away from cooked meats all the time.

"Itry and do that but if I haven't got enough room I just shove it wherever I have the space"

F, post-family, B/C1, Leeds

"I don't think about it really, if I knew it was going to drip I would put it on the bottom... I wouldn't put something like chicken breast that is wrapped up on the bottom"

F, pre-family, B/C1, Birmingham

"I see what you mean but I don't do it – it ain't going to be dripping much in the fridge"

M, C1/C2, London

Storage of meat in the fridge

In many cases meat was removed from the package and put on a plate or container and covered with cling film or paper towel. For meat from the butcher, some put it in another bag.

"If it's from the butchers, I stick it in a bag to save the mess"

M, C1/C2, London

For others pre-packed meat was kept in the packet and either put directly in the fridge, on a plate, or in a bag.

"I must admit I would never open it until I am ready to use it"

F, young family, B/C1, Birmingham

For most, **fresh** meat was normally not kept longer than a day or two. Meat that was intended to be eaten later on in the week was generally **frozen** rather than kept in the fridge. Cooked meat and bacon were **often** kept longer.

"I normally freeze it if I am not going to eat it within 2 days"

F, pre-family, B/C1, Birmingham

"(Raw meat).... normally kept in overnight but bacon is kept in longer"

F, older family, C2/D, London

"I will buy raw meat to use that day more or less – if not it will go in the freezer"

F, older family, C2/D, London

Some people would use meat before or on the use-by-date and throw it away if it was past the date, but would always check meat regardless of the date.

"I usually make sure I use it the day before the use-by date so when I am shopping I work out what day I must use it"

F, older family, C2/D, London

"If it had use-by the 18th it would have been eaten the day before"

F, young family, C2/D, Newcastle

"The sell-by date is only the say so of someone else"

F, young family, C2/D, Newcastle

"Even within the sell-by date I would always look at the colour and smell the meat before eating it"

F, young family, C2/D, Newcastle

Others were less strict about the date; however, most said they would check the meat and smell it and look at the appearance before cooking and eating it.

"I always feel the supermarkets are covering themselves by putting a date on"

F, young family, B/C1, Birmingham

"It's just a guideline isn't it?"

F, post-family, C1/C2, Newcastle

"You've still got 2 or **3** days after the use-by date"

F, older family, C2/D, London

"I think they (supermarkets) probably give themselves a couple of days as well"

F, pre-family, B/C1, Birmingham

"Always use it the day after"

M, C1/C2, London

"You can tell by the look of it....by the smell...the discoloration.."

M, C1/C2, London

"If it was in date but looked or smelled funny I would throw it away or give it to the dog or my husband"

F, young family, B/C1, Birmingham

"You can tell by the look of it"

F, young family, B/C1, Birmingham

"If it looks funny... fit is sweaty....shiny....if the colour changes"

F, post-family, B/C1, Leeds

An exception was one lady who took little notice of the date as she dowsed' everything before she ate it and by doing this she believed she could tell if it was safe to eat.

Refrigeration temperatures

When questioned about the temperature of the **fridge**, **most** were aware of their dial and the number it was on but only a few had an idea of the actual temperature and some had their own unique way of assessing the temperature.

"Hand on my heart, I wouldn't know what it was meant to be".

F, post-family, B/C1, Leeds

"I think it should be at a certain temperature ... but there again, I never check mine" F, young family, B/C1, Birmingham

"I can tell by the milk – to be honest I wouldn't know what temperature it should be at"

F, post-family, C1/C2, Newcastle

"I normally know when something is wrong when it starts to smell when you open it"

M, C1/C2, London

"Cold beer is the only way to tell isn't it?"

M, C1/C2, London

Many mentioned that their dial was adjusted between summer and winter as a matter of course.

¹ Dowse-similar to divining

" I always change it from summer to winter because it feels a little warmer in the summer"

F, young family, B/C1, Birmingham

One lady believed it should be between 4°C and 5°C purely because it had broken down recently and the engineer had told her so. Several had fridge thermometers and were aware of the temperature their fridge should be running at.

"It shouldn't go above 8°C"

F, post-family, C1/C2, Newcastle

"My children are in and out of the fridge and it is surprising how the temperature goes up in a short time"

F, young family, B/C1, Birmingham

"It's best around 5°C"

F, post-family, C1/C2, Newcastle

Others with fridge thermometers did not take much notice of them.

"I have one but I never look at it'

F, post-family, B/C1, Leeds

"I've never looked at the temperature since I bought it.. but it is squealing for help"

F, young family, C2/D, Newcastle

"I can never see it because it is at the back"

F, older family, C2/D, London

A few had a fridge with a warning light which was red if the temperature needed adjusting and green when it is OK. Only one lady reported that the temperature fluctuated more if there was more in the **fridge**.

People tended to have the opinion that putting food in the **fridge** kept it fresh. A few people mentioned germs or bacteria **but** they were not associated immediately by most people.

"To keep things fresh"

F, pre-family, B/C1, Birmingham

"It was kept in the fridge at the supermarket"

F, pre-family, B/C1, Birmingham

"To stop germs breeding"

F, older family, C2/D, London

"Keeps stuff fresh doesn't it"

F, older family, C2/D, London

"So bacteria can't live well the bacteria is always living as it warms up it becomes active"

M, C1/C2, London

"The food will go off if the temperature is any higher"

F, young family, C2/D, Newcastle

Cleaning the fridge

Many cleaned their fridge out once a week, tending to run stock down before the next shopping trip, and a few were fanatic about cleaning their **fridge** and cleaned it without fail at least once a week.

"As soon as I open it I wipe on the shelves.. its spotless in there..."

F, pre-family, B/C1, Birmingham

"My Missus does it every week"

M, C1/C2, London

"If you wipe down every week its not really a cleaning job"

F, post-family, C1/C2, Newcastle

"I clean the fridge regularly because yoghurts and things get spilt'

F, young family, C2/D, Newcastle

Others admitted they were less enthusiastic and cleaning the **fridge** was not a routine task, it was just done when it was necessary.

"If I spilt anything I would clean it up.."

F, pre-family, B/C1, Birmingham

"It's a lot quicker when I do it I use DettoxI use the proper stuff but I don't take everything out, I sort of go around it"

M, C1/C2, London

"I wouldn't say I cleaned it out every week but it gets generally wiped often"

F, young family, B/C1, Birmingham

"I do it every 6 weeks or so - it doesn't seem to get that dirty really"

M, C1/C2, London

"The only thing I clean regularly is the two salad trays"

F, pre-family, **B/C1**, **Birmingham**

3.3.2 Freezing and Defrosting

Freezing

Everyone had a freezer with some having more than one. Although not much frozen meat was purchased, most people reported they had bought fresh meat and put it the freezer. Many used the fkeezer as temporary storage for meat they had purchased for the week, whereas others bought meat in bulk or when on special offer. Some had freezers that defrosted themselves, which came highly recommended as most people did not like the job of defrosting their freezer and mainly defrosted it when it was iced up.

"It's a pain of a job actually"

F, post-family, B/C1, Leeds

"You know when it needs doing when the drawers start sticking"

M, C1/C2, London

There were various methods of defrosting a freezer.

"I just put the hair dryer in"

F, post-family, **B/C1**, Leeds

"I use bowls of water"

F, post-family, B/C1, Leeds

"I have a special spray from the Betterware man"

F, post-family, B/C1, Leeds

It was mentioned that they tried to defkost when they had not much in it or when it was a winter's day and things could be stored outside. Others used cool boxes or 'mum's' freezer or their second freezer to store food whilst defrosting.

Many had quite a quick turnover of meat in the freezer and were not particularly concerned about the length of time meat was frozen. They tended to be more worried

about the length of time in the freezer in respect of loss of nutritional value and flavour rather than safety.

"I don't think I would probably worry (about the time in the freezer), I think because it's frozen it's ... OK.

F, young family, B/C1, Birmingham

"I don't take much notice (of time in the freezer) because I know we are going to eat it"

F, young family, B/C1, Birmingham

"I do a monthly shop so I know by the end of the month that it is going to be used" F, post-family, C1/C2, Newcastle

"I don't think it is particularly harmful..."

F, young family, B/C1, Birmingham

A few were concerned and dated everything in the freezer and rotated stock. Some took notice of the guidelines on the door to indicate the recommended time for various foods to be in the freezer.

"I've got a little thing on my door with a picture of a cow and I normally check it by that'

F, young family, B/C1, Birmingham

"I usually look on the door cos it tells you doesn't it'

F, older family, C2/D, London

"It didn't have a date on I wouldn't trust it'

F, older family, C2/D, London

Defrosting

Some people defrosted their meat by putting it on a plate and into the fridge over-night. For larger joints some defrosted in a cool place and then put it in the fridge over night. Most simply left it on the side on a plate or on the draining board, generally in the bag or covered.

" Iwouldn't leave it all day in the kitchen"

F, post-family, B/C1, Leeds

"Iput it on the side in one of those nets to keep the flies off"

F, older family, C2/D, London

"Iput it on aplate on the side"

M, C1/C2, London

A couple mentioned soaking in water to finish off the defrosting process and one man had his own unique way of **defrosting** meat quickly.

"Iput boiling water in a bowl and put the meat on a plate [over the bowl] and a plate on top and it defrosts quickly, no need for 8 hours, I don't see that I am doing anything dangerous"

M, C1/C2, London

Only a few people defrosted their meat in the microwave and for most this was an occasional occurrence. There was a general mistrust of thawing meat in the microwave and feeling that it did not do the job thoroughly, was not particularly safe and tended to spoil the meat in some way. The microwave appeared to be more popular simply to hold the meat (without switching it on) than for defrosting.

"Very occasionally I microwave – not a joint but maybe apiece of steak)"

F, older family, C2/D, London

"Occasionally $\emph{defrost}$ in the microwave $\emph{if }I$ have left it too late"

F, young family, B/C1, Birmingham

"I never use the microwave"

M, C1/C2, London

"Doesn't seem natural way to do it"

F, pre-family, B/C1, Birmingham

"I don't like to use the microwave because it part cooks it M, C1/C2, London

3.3.3 Demographic Differences

Lifestage/gender

There was little reported difference between groups regarding storing of raw and cooked meat in the fridge and awareness and knowledge of cross contamination. The differences lay mainly within rather than between groups, where there were one or two in each group who seemed to have more knowledge and awareness of cross contamination, fridge temperatures and general hygiene regarding meat storage.

The fieezer was of little concern, perhaps more so in the pre-family group possibly because of the smaller quantities of meat they were freezing.

The male group tended to have less to do with the cleaning of the fridge and organisation of the freezer as that was, in many cases, left to their wives.

3.3.4 Summary

The general awareness that raw meats should be stored at the bottom of the fridge was consistent throughout the groups and most claimed that this was where they were actually stored. Cross contamination between raw meat and cooked meat was also inferred; however the contamination of other high risk foods was mentioned infrequently. The general awareness was coupled with a lack of understanding of cross contamination. The reasons for refi-igeration were somewhat vague and although most were aware that the fridge should be running at a certain temperature, very few

had the means to check this, and even fewer actually knew what it should be. Cleaning of the refiigerator generally comprised of wiping it down once a week, although many cleaned it only when something was spilt or it was getting particularly grubby. Apart from one or two very vigilant individuals, the freezer was not particularly an area of concern and was defrosted only when necessary. The temperature of the freezer was not a concern and this suggested that safety of frozen food was not an issue with most people. However, most people would take care and make contingency arrangements when defrosting the freezer. Defrosting practices varied, but generally people were aware that the meat should be tlioroughly defrosted. Soaking of meat in water to defrost was rarely undertaken.

3.4 Good and Bad Kitchen Practices

The following details the issues raised in response to the group exercise conducted to ascertain what people considered to be good and bad practices in the kitchen regarding the preparation of a meat dish. The results from the pre-recruitment exercise, which required the documentation of the preparation of a meat dish, are considered in relation to the points that were raised (see section 2.4.3 for details of exercises).

3.4.1 Washing Hands

Washing hands was considered without exception to be a good kitchen practice. It was raised by all groups at or near the top of the list. Although this was not a prioritisation exercise, the fact that most people wrote this down first indicated the relative importance. In some groups, all participants claimed to wash their hands before they commenced preparation. For those with children and/or pets it was stressed as important, for some it was just done routinely out of habit without much thought process going on behind it.

"I would just automatically wash my hands before I mess with anything in the kitchen"

F, young family, B/C1, Birmingham

"You don't know what you have picked up previously"

F, post-family, C1/C2, Newcastle

"I would definitely wash my hands before I start"

M, C1/C2, London

"It's second nature"

F, post-family, C1/C2, Newcastle

"Even if they look clean they are not"

F, post-family, B/C1, Leeds

"Its important especially with kids as you may have been changing nappies"

F, young family, B/C1, Birmingham

"I come in and Ipat two dogs...."

F, young family, B/C1, Birmingham

"Your hands have a lot of germs...messing with hair...toilet...kids...if you have a cold"

F, young family, B/C1, Birmingham

"I would wash my hands before preparing any food"

F, young family, B/C1, Newcastle

It became clearer on further probing that many would perhaps not always wash their hands before starting preparations with meat, but the majority would was their hands after touching meat. For many it was a case of getting rid of the unpleasant meat residues from their hands.

"To be honest I don't wash my hands if I am going toprepare potatoes for example"

F, young family, C2/D, Newcastle

"If I was handling cooked food I would wash my hands but for other things I may not...I am being honest"

F, older family, C2/D, London

"I don't like the feel of meat on my hands"

F, young family, C2/D, Newcastle

"It's just rinsing really to get the (meat residue) off your hands"

M, C1/C2, London

"To get stuff off your hands"

F, older family, C2/D, London

"I wash them after meat because of slime on my hands"

F, pre-family, **B/C1** Birmingham

A minority of people related washing hands in between handling raw meat and other foods to cross contamination with bacteria.

"With vegetables they are going to reach a high temperature...but with a salad you are not going to cook that salad so it is important that you wash your hands then from handling raw meat':

F, post-family, C1/C2, Newcastle

"Don't want to transfer the **bacteria from** meat to vegetables. I know a bit about vegetables"

M, C1/C2, London

Despite claims by most people to wash their hands before they commenced with food preparation of a **meat** dish, the pre-recruitment exercise showed that only **3**, out of the 15 completed, recorded that hands were washed on entering the kitchen. **A** greater number of people claimed to wash their hands at least once during the preparation, but

by no nieans all. The pre-recruitment exercise was intended to be completed by an observer in order to get the true picture of kitchen practices in relation to the preparation of a meat dish. The validity of the results, however, can never be certain due to the nature of the exercise. However, it may indicate that although people think or claim to wash their hands before preparation, this may not always occur. In a group situation people may not always want to own up to something that may be seen by others as a bad practice and when the first person proclaims that they always wash their hands before preparation the others may feel obliged to agree.

Demographic differences

There were no startling differences in hand washing practices although in the male group only one claimed to always wash his hands before food preparation which was notably less than all the other groups. This suggests that men are less concerned about this aspect of hygiene, although they all claimed to wash their hands during cooking.

3.4.2 Washing Meat

The majority of people washed meat before they cooked it. This was carried out, with only one exception, by washing the meat under the cold tap. One lady washed meat by dipping in salty water. There was a general uncertainty as to why some were actually undertaking this practice. Most of those who could find a reason for their actions were doing it to wash the blood off the meat.

"If it is red meat I couldn't stand to put the bloody meat into a casserole with vegetables..."

F, young family, B/C1, Birmingham

"I wouldn't wash chicken breasts but I would wash anything that was bloody"

F, pre-family, B/C1, Birmingham

"I suppose I do it because my mum has always done it"

F, young family, B/C1, Birmingham

Many referred to whole chicken as something they would always wash, mainly because of the inside of the chicken.

"If it is fresh chicken Iput my hand inside and get the bloody bits out".

F, young family, B/C1, Birmingham

"I only wash birds, its just a personal thing"

F, post-family, C1/C2, Newcastle

"I always wash chicken breasts because they are slimy"

F, post-family, B/C1, Leeds

"I only wash chicken or turkey cos I don't like the thought of the giblets inside"

F, post-family, **B/C1**, Leeds

Some were concerned **about** the handling of meat and were under the impression that they were cleaning it by putting it under the cold tap, although for some they were not certain if it made a difference but it made them feel better.

"Well you don't know who has handled it"

F, post-family, C1/C2, Newcastle

"Psychologically its clean"

F, pre-family, B/C1, Birmingham

"I don't think it does anything really"

F, young family, **B/C1**, Birmingham

"I always wash meat -for peace of mind"

F, young family, B/C1, Birmingham

Most **claimed** to pat it dry with a paper towel whilst several would rinse it and shake it dry before cooking, concerned that using a paper towel might defeat the object of washing it. For the few who did not wash meat, it was generally a case of "not

washing the goodness out of it". Only a couple of people mentioned bacteria in the context of washing meat.

"Don't wash steak, don't want to wash all the goodness down the sink"

F, older family, C2/D, London

"When you put it in the oven, the idea of cooking is to kill the bacteria that are on it"

M, C1/C2, London

"It doesn't matter what you wash it with you won't wash the bacteria off"

F, post-family, C1/C2, Newcastle

The pre-recruitment exercise revealed that the washing of **meat** was common practice with all except those cooking mince or sausages confirming that meat was washed (and in some instances dried) before cooking.

Demographic differences

Although no differences were apparent in the habit of washing meat, it appeared that the younger groups were less sure as to the purpose of their actions, possibly doing it because their parents had done it before them and never really questioning why.

3.4.3 Chopping Boards

All groups mentioned the use of separate chopping boards for raw and cooked meats and the majority of people had more than one chopping board. The majority of people used plastic or wooden chopping boards with a few having glass, marble and steel. There were conflicting views over the relative attributes of different chopping boards. Some felt that wooden ones were bad as they could not be washed at high temperatures like plastic ones. Others felt that wooden ones were superior because they didn't get as scratched as plastic ones and they have natural antibacterial properties in them. A few had the antibacterial chopping boards (Microban) mainly

because of the advertising campaigns in their supermarket, but only one believed it was safer. Although it was seen as good practice to have separate chopping boards there were relatively few who had a designated chopping board for raw meat.

"Once bought a Microban chopping board because it was a gimmick at the time"

F, young family, B/C1, Birmingham

"I have a Microban but wouldprefer a wooden one"

M, C1/C2, London

"I must admit I have various chopping boards, but I don't use them for specific things"

F, post-family, C1/C2, Newcastle

"Plastic ones get grooves in and always look tatty"

F, older family, C2/D, London

For those with only one chopping board they would clean it by wiping or rinsing under the tap after cutting up raw meat. A few merely turned it over onto the other side when cutting up vegetables after cutting meat. Some would always cut up the meat first and then either wipe or change the chopping board.

"It's not for any reason, it's just what I do"

F, pre-family, B/C1, Birmingham

"You cut the meat first as it takes longer"

M, C1/C2, London

"I would use it for one and then wipe it down"

F, pre-family, B/C1, Birmingham

"I would cut meat up on the glass top and then it goes under the tap" F, older family, C2/D, London

"Just to wipe the juice off it"

F, pre-family, **B**/C1, Birmingham

Some did not use a chopping board at all for raw meat and would cut their meat up with scissors on a plate.

"I don't use raw meat on a board. I use scissors and put meat on a plate"

F, post-family, B/C1, Leeds

Demographic differences

With only one exception, the use of scissors for cutting up meat on a plate was mainly in the post-family groups, suggesting that it was perhaps more common practice in this older generation.

3.4.4 Knives

In the majority of cases, people reported to use separate knives for cutting up raw meat and other foods purely because of the fact that they possessed different knives for different purposes.

"It's a personal thing.... that is my veggie knife"

F, young family, B/C1, Birmingham

"I have different knives for different things"

F, young family, C2/D, Newcastle

Others were concerned of putting blood onto the vegetables and a few mentioned the transfer of bacteria from raw meat.

"I wouldn't use a knife that I have cut up meat with to peel my potatoes"

F, young family, B/C1, Birmingham

"You don't start chopping up your veg and meat with the same knife... .. you transfer bacteria don't you"

M, C1/C2, London

"Don't want blood on your broccoli"

M, C1/C2, London

"Because of contamination from raw meat"

F, young family, B/C1, Birmingham

Some claimed to cut up the vegetables first and then cut up the meat with the same knife. Only one lady pointed out that vegetables may contain bacteria too.

"You can get germs from vegetables as well...there is dirt on vegetables"

F, young family, B/C1, Birmingham

Those using the same knife would wash or wipe the knife in between use.

"I always have a sink full of hot water.. I would rinse the blade, then wash the knife properly later"

F, young family, C2/D, Newcastle

'(I've got a favourite knife that I use for everything... I wipe it and start again"
M, C1/C2, London

Only a couple of people expressed a concern about the cleanliness of the **knife** handle and where the handle meets the blade.

3.4.5 Kitchen Hygiene

Cleaning agents

The most popular method of cleaning the kitchen was using some type of antibacterial spray. This was more often than not sprayed on and wiped off with kitchen paper. Antibacterial wipes were not commonly used mainly because of cost factor and this was reflected in the fact that their use was concentrated in the younger respondents in the higher social bracket. Bleach was also fairly popular for use in the kitchen and some used hot soapy water to clean their work tops. Those with animals and children were more concerned about sterilising their surfaces and those who had suffered or knew someone who had had food poisoning were more hygiene conscious.

"I've started doing it (using Dettox) as 2 years ago I ended up in hospital with a parasite in my stomach. Now I'm fanatic about it"

F, post-family, B/C1, Leeds

"Its different once you have kids -you are more careful"

F, young family, C2/D, Newcastle

"I use it 'cos of the grandchildren - got one who is allergic to everything and gets eczema"

F, post-family, C1/C2, Newcastle

"I picked up a tip from my mum...use an old Windolene bottle and half fill it with bleach and water...its really good"

F, young family, B/C1, Birmingham

Some used antibacterial spray simply for ease and convenience with an underlying feeling that everything was cleaner.

"Its great, you can spray it all over. It doesn't do anything to the food" F, post-family, C1/C2, Newcastle

"I love my spray...it just consciously makes you feel clean doesn't it"

F, pre-family, 23-35, Birmingham

"I buy it 'cos its easy"

M, C1/C2, London

"It smells clean and it **looks** clean...we use antibacterial everything...they feel clean in your mind I suppose"

M, C1/C2, London

For those who used bleach they also had peace of mind about cleanliness.

"I always think everything is clean if it smells of bleach"

F, young family, C2/D, Birmingham

Some people claimed to wipe their surfaces down before cooking; this was not, however, reflected in the pre-recruitment exercise where only one person noted that work surfaces were cleaned before preparing their meat dish. Some claimed not to wipe the surfaces down before they started but would wipe if they had any spillages or after using meat.

"I wouldn't wipe down before I start"

F, older family, C2/D, London

"I always wipe down after I have finished so it is ready for the next time"

M, C1/C2, London

Some were concerned about all the antibacterial products on the market which were driving people to become overly cautious about cleanliness. These concerns stemmed mainly from recent media coverage.

"I was reading that in some ways we are all too clean"

F, post-family, B/C1, Leeds

"I think we are making ourselves too clean"

F, young family, C2/D, Newcastle

Dishcloths

Keeping dishcloths clean was regarded as good kitchen practice and an important aspect of kitchen hygiene by the majority. Dishcloth use was divided between disposable cloths and cotton dishcloths. For those using disposable cloths, the length of time they were in use before they were disposed of varied. Generally the men tended to keep them longer than the women.

"I use something similar to J cloths and throw them away every 2 days"

F, older family, C2/D, London

"I use J cloths and throw them away usually eve y day"

F, 45-60, Post-family B/C1, Leeds

"Depends on how much I am cooking"

F, pre-family, 23-35, Birmingham

"I use J cloths and soak them in bleach and change them about once a week unless it gets tatty"

F, older family, C2/D, London

"I use disposable J cloths, they last about 3 days"

M, C1/C2, London

"J cloths last about a week to ten days"

M, C1/C2, London

For those using cotton dishcloths they were generally left in bleach overnight or boiled or put in the washing machine every night and occasionally for one at least put in the washing machine. However, some had concerns over putting dishcloths in the washing machine.

"I leave mine in the basin in bleach"

F, post-family, C1/C2, Newcastle

"Every so often (bleach it)...about once a week...depends on what my husband has done with it"

F, post-family, C1/C2, Newcastle

"I bleach it every night"

F, young family, B/C1, Birmingham

"I quite often change my dishcloths and Iput them in the washing machine"

F, older family, C2/D, London

"The only thing is if you don't use very hot water you are not getting rid of your germs."

F, 45-60, Post-family B/C1, Leeds

"I hate to see the kitchen cluttered"

F, 45-60, Post-family B/C1, Leeds

"I spray the sponge every night, and assume that kills whatever is on it"

F, young family, B/C1, Birmingham

"I like to clean as I go"

F, Post-family, B/C1. Leeds

For some, dishcloths were not used for the washing up because they had dishwashers.

"Its just a case of wiping down - I have a dish washer"

F, older family, C2/D, London

Pets

Several people had pets. Dogs tended to be allowed in the kitchen, but not at meal times. There was little concern over the hygiene aspect of dogs in the kitchen for most dog owners especially those without children at home. Those with children and dogs tended to clean the floor more regularly and bleach it. Some people, particularly in the older groups, tended not to like the thought of cats roaming over the work surfaces and those with cats tended to be more vigilant if they had children.

"The dogs are in the kitchen all the time but they don't jump up"

F, pre-family, B/C1 Birmingham

"I wouldn't like that you know, lots of people let their cats on the side"

F, older family, C2/D, London

"(when the cat has been on the work top) then you just have to wipe it down and throw the cloth in the wash straight away".

F, young family, B/C1, Birmingham

3.4.6 General Personal Hygiene

Washing hands has already been discussed and was considered to be a very important aspect of personal hygiene. The following section looks at other points that were mentioned relating to personal hygiene

Aprons

The use of aprons was not common practice among the respondents. Those wearing aprons regularly were in the older age groups. The following statement from one lady in Newcastle sums up the general attitude towards aprons.

"Sometimes – not all the time. I do cake decorating and to be honest I have lost a few jumpers with frying grease and it splashes up. That's the reason, it's got nothing to do with hygiene, it's somewhere to wipe your hands."

F, post-family, C1/C2, Newcastle

The male groups were particularly sarcastic towards people wearing aprons.

"I thinkpeople who wear aprons can't actually cook!"

M, C1/C2, London

Smoking

The smokers were in the younger end of the lower social class and the men. There was a general feeling that smoking was not good practice in the kitchen among smokers and non-smokers alike. In practice, however, most of the smokers did smoke in the kitchen as this was the room in the house which they spent most of their time. Concerns centred around dropping ash into the food or tainting the food with smoke. The question of hygiene regarding washing hands after smoking was brought up only once by a non-smoker to the only smoker in one particular group:

"Do you was your hands afterwards"

F, older family, C2/D, London

"Yes I do!!"

F, older family, C2/D, London

Sneezing and coughing

Sneezing and coughing over food was highlighted by most groups as bad kitchen practice. The awareness that when you had a cold, you could spread germs over the food was the main reason for this to be mentioned as bad practice. It was to most

people simply obvious that coughing and sneezing over food was unhygienic and you would endeavour not to do it over food.

"You just wouldn't do it would you – you would turn away" F, older family, C2/D, Leeds

Hair

Never touching hair was mentioned by one group as a good practice, but in reality this was not happening in the domestic kitchen. Generally people were not too concerned about hair, and only a couple of people actually tied their hair up intentionally to cook. There was some concern about getting a hair in the food and the embarrassment that it may cause if it happened when you had guests. On the whole, hair was not a particular issue when it came to personal hygiene and deemed important only for those working in a commercial catering environment.

"May unintentionally touch hair"

F, older family, C2/D, London

You don't put white coats and hats on like in a commercial kitchen F, older family, C2/D, London

3.4.7 Summary

Many good and bad practices were identified as a result of the exercise and through further discussion. An awareness of good kitchen practices in relation to the domestic handling of meat was seen across all groups. A deeper understanding of these practices was found only in certain individuals within each group. Those who had suffered from food poisoning tended to be more knowledgeable and concerned. There appeared to be a discrepancy between what people said they did and what they actually did, particularly regarding washing hands. Peer group pressure may have influenced others in not admitting certain practices and it was certainly apparent at the end of some groups that those with a greater knowledge and hygienic practices had

given the others some food for thought. It is uncertain whether the males were actually less stringent when it came to kitchen hygiene or in fact just more honest!

3.5 Cooking and Re-heating

3.5.1 Cooking

Different cooking methods were used by most people and included roasting, frying, grilling, stewing, baking and stir-fry. With few exceptions, the microwave was not used for cooking meat or meat dishes. The most common way of determining if meat was cooked was to insert a knife or some sharp implement into the meat and look at the juices. Some tended to go a little further by actually cutting into the meat or even cutting it in half.

"I stick a fork in and (its ready) when the juices run clear"

F, older family, C2/D, Leeds

"I stick a skewer in and squash it and see how the juices come out"

F, pre-family, B/C1Birmingham

"I would cut them open and if the meat is white its cooked"

F, pre- family, B/C1Birmingham

"I tend to slice down both legs"

F, post-family, C1/C2, Newcastle

Those who perhaps had less experience with cooking (mainly in the pre-family and young family groups) tended to go more by the instructions on the packet and with only one exception, they all added a little extra on to the time.

"I tend to do it 20 minutes per poundplus 20 minutes, but I always tend to go slightly over"

F, pre-family, B/C1Birmingham

"You read the instructions on the packet don't you, then give it a bit more" M, C1/C2, London

"Even on the instructions I would still go 15-20 minutes over"

F, young family, C2/D, Newcastle

One had a rather unique way of judging it:

"Iput mine on my bottom lip if it looks cooked to see if it is hot enough" F, young family, C2/D, Newcastle

For the older and post-family groups, familiarity with cooking meant that little conscious consideration was taken when judging if it was cooked. Years of cooking for the families had given these groups more experience to judge instinctively when meat was cooked.

'Tjustput it in and forget about it"

F, older family, C2/D, Leeds

"It's just habit"

F, post-family, C1/C2, Newcastle

"I don't time it, it's just common sense ain't it"

F, older family, C2/D, London

"You just know when its done, don't you"

F, older family, C2/D, Leeds

"A lot of it is just common sense"

F, post-family, C1/C2, Newcastle

Temperature probes were not common and although a few people owned them, they were not actually often used. Lack of understanding of how to use them, and the fear that they might not actually be accurate anyway contributed to their lack of use in the domestic kitchen.

"I don't think they are accurate because they don't get to the centre"

F, older family, C2/D, Leeds

I've used it a couple of times but didn't really understand it – I think I should have read the instructions"

F, older family, C2/D, London

The reasons for wanting meat to be cooked properly were **often** a matter of taste. Chicken was regarded without a doubt as the most important meat to ensure thorough cooking and the general feeling that the meat should never be pink was consistent throughout the groups. For beef eaters it was different and although most enjoyed it well done, some preferred it rare and would insist that it was red.

'(It's important because you couldn't eat it raw"

F, young family, C2/D, Newcastle

"I hate it when you cook it (chicken) and its still pink"

F, older family, C2/D, Leeds

'(It's the look of it ...looks revolting...I don't like pink meat^w

F, young family, B/C1Birmingham

"With beef I wouldn't worry about clear juices, but pork and chicken it is more important"

F, pre-family, B/C1Birmingham

"(chicken) could be a bit dicey when its pink. I always remember you are not supposed to. Ive no idea why"

M, C1/C2, London

"Iwould never riskpoultry at a low temperature"

F, young family, B/C1Birmingham

"I think I am more fussy about chicken"

F, post-family, C1/C2, Newcastle

"Ithink the only thing you have got to be careful with is chicken"

F, older family, C2/D, London

Further investigation into why meat should be cooked properly and why there was more concern with chicken revealed that some people were aware of bacterial sources and sources of food poisoning. Chicken tended to be associated with *Salmonella* and undercooked chicken as a potential source of food poisoning. For those who had suffered food poisoning there was a heightened awareness.

"Also Salmonella...you hear so many horror stories"

F, young family, C2/D, Newcastle

"I think chicken carry Salmonella bacteria"

F, pre-family, **B/C1**, Birmingham

"Salmonella, foodpoisoning, its all there isn't it"

F, older family, C2/D, Leeds

"Thave had food poisoningso I think I am a bit cautious"

F, young family, B/C1Birmingham

Others suggested that bacteria may be transferred to the meat whilst handling or packaging and so thorough cooking of chicken was seen as a safeguard against food

poisoning by killing potentially dangerous bacteria. This awareness came from recent television programmes and press coverage of food poisoning outbreaks.

"Could be someone handling or packing it"

F, older family, C2/D, London

"You don't know who has handled the meat..."

F, young family, C2/D, Newcastle

"I think it starts at the beginning of the food chain"

F, post-family, C1/C2, Newcastle

All groups were generally aware of bacteria that may cause food poisoning. In addition to *Salmonella*, E *coli*, *Campylobacter* and *Listeria* were all mentioned. However, apart from the knowledge that *Salmonella* is inherent in chicken, many were not clear about the sources of other bacteria.

"There is bacteria everywhere"

F, young family, B/C1, Birmingham

"I live near an airport and I'm sure its in the atmosphere"

F, post-family, B/C1, Leeds

'(Bacteria come from food''

M, C1/C2, London

"E coli...that's on cooked meats...I don't know how it happens"

F, post-family, B/C1, Leeds

A small minority were more conscious of the sources of bacteria.

"We have bacteria on us...what about the common cold"

M, C1/C2, London

('Isn't E coli found in faeces?'' F, post-family, B/C1, Leeds

"They are on us....if we had to go under a microscope we would be diabolical"

F, post-family, B/C1, Leeds

It was generally felt that food poisoning incidents did not derive from anything that occurred in the domestic kitchen.

"(Its due to) poor hygiene of people who handle it rather than in our own kitchens" F, post-family, B/C1, Leeds

"I think its comingfiom badly prepared food before it goes into the supermarket"

F, young family, B/C1, Birmingham

"I get cross when they imply that outbreaks come from home...when you get an upset stomach I'm sure it's on the food when you bring it home"

F, post-family, B/C1, Leeds

3.5.2 Re-heating

For the families with children at home, there was not much re-heating of meat generally because everything would get eaten that day or fed to the dog. For others who did not reheat, they preferred to eat any cooked meat that was left over cold.

"I would never have any left"

F, older family, C2/D, Leeds

'(Don't often have left **overs** but **if I** cook a chicken I will use it to make sandwiches for packed lunches"

F, young family, B/C1, Birmingham

For those who did re-heat, the majority would use the microwave to reheat meat dishes and without exception to heat ready meals. Others may use cold meat to make

up dishes such as curry and heat it on the top of the stove, with the occasional use of the oven mentioned.

"Might chuck cold meat in a curry"

M, C1/C2, London

"If there is a lot of chicken left over I make a curry for the next day"

F, post-family, C1/C2, Newcastle

"When I reheat I just stick it back in the oven"

F, post-family, C1/C2, Newcastle

"My husband works shifts so he eats a big dinner when he comes off his shift, which has been previously prepared"

F, post-family, C1/C2, Newcastle

Some were concerned about re-heating meat and in particular chicken. The need for meat to be piping hot was apparent although the reasons for this were **often** vague. The safety aspect was mentioned by only a few.

"I would always make sure it was thoroughly hot"

F, post-family, B/C1, Leeds

"I heat it so that steam is coming off"

F, post-family, C1/C2, Newcastle

"It would definitely have to be piping hot...must be because of bacteria and you wouldn't really want to eat it luke warm"

F, young family, B/C1, Birmingham

"I didn't think you could re-heat chicken"

F, post-family, B/C1, Leeds

3.5.3 Safety Risks

When considering the safety risks of raw meat, cooked meat and ready meals, raw meat was thought of as the greatest risk as it could contaminate other things. This was the initial reaction by most, with cooked meats being of least concern for the majority.

"Cooked meat is generally contained so you rely on the fact that the meat was **fresh** when they cooked it"

F, pre-family, B/C1, Birmingham

"You can't go wrong with it (cooked meat), I wouldn't have thought F, young family, C2/D, Newcastle

Those who **considered** that the heating process that raw meat must go through makes it safer than cooked meat or ready meals were in the minority. Other members of the group were influenced by this idea and started to consider ready meals. The fact that there was always instructions on them to ensure they were thoroughly heated brought some doubt in to minds that they may not be that safe.

With cooked meats you are doomed...once it is cooked bacteria can get on to that meat"

F, pre-family, B/C1, Birmingham

"With ready-meals they always say make sure it is piping hot...with raw meat you know you are going to cook it"

F, older fanily, C2/D, London

Again differences of knowledge and understanding of safety risks were not seen between groups.

3.5.4 Summary

Most methods of **cooking** were reported to be used for meat. Few people, however, used the microwave for **cooking** meat, with concerns for quality, rather than safety of the end product, and slow cookers were not in popular use. Most people aimed to **ensure** that meat was thoroughly cooked and had concerns particularly for poultry. Re-heating of meat was not undertaken regularly by most and when it was, it was more often than not done in the microwave. Most were concerned that their reheated food **must** be piping hot and would always ensure that it was. Knowledge and awareness of bacteria and potential sources of food poisoning was heightened in those who had suffered **from** food poisoning. Others seemed to have more knowledge because of the number of television documentaries and cooking programmes watched.

4. CONCLUSIONS AND IMPLICATIONS

Reported consumer practices regarding the domestic handling of meat were mainly based on a certain awareness of how things should be done. This awareness came from various sources including: an instinctive knowledge that may have been passed down through generations, or something that was learnt at school; an awareness gleaned from the media; and a heightened awareness because of having suffered with food poisoning. Practices tended, therefore, not to differ between life-stages, but more between individuals in groups. Choice of meat and therefore cooking methods did, however, depend to some extent on the life-stage. Those with children were often influenced by the children's choice, and the pre-family group by the size of household and convenience. Other practices did not differ greatly between groups, although there was a tendency for the male group to appear less concerned about hygiene in the kitchen.

Chicken, which is the type of meat that is possibly the most likely to carry the food poisoning bacterium Salmonella, was by far the most popular meat consumed, mainly in the form of chicken fillets or whole chickens. The most popular red meat consumed was beef, mainly in the form of joints, stewing steaks and mince. The cuts of meats generally purchased were reported to need minimum preparation and older methods of more involved preparation were not taking place in the domestic kitchen. Thus, although raw meat was frequently purchased, handling of raw meat during preparation was minimised by the cuts used, suggesting less chance for occurrence of contamination.

Discussions indicated that the type of meat enjoyed, the appearance, the amount of fat and the use-by date dictated purchase of meat. The use-by date was only a concern to ensure the date was long enough for planned consumption. For many it was considered that a certain safety net must be provided by the supermarkets and so if the meat looked all right they would eat it after the date had expired. For these people, considerations of safety were mainly based on the appearance of the food; the fact that food can look and taste perfectly all right, yet cause food poisoning was not something considered.

The potential for growth of bacteria from point of purchase to domestic storage was greater for some than others. Some reported to take as long as **2** hours to complete their shopping trip. In the summer months, the possibility of bacteria multiplying to dangerous levels could be increased and may be of particular concern in cooked meats which would receive no further cooking.

Refrigeration temperatures were generally not considered by most people and not known by nearly all. The growth of harmful bacterial in foods stored in refrigerators running at incorrect temperatures was therefore a potential risk.

The general awareness that raw meats should be stored at the bottom of the **fridge** was consistent throughout the groups and most claimed that this was where they were stored. The inference of cross contamination from raw meat to cooked meat was also apparent; however, the contamination of other high-risk foods was mentioned infrequently.

The defrosting techniques of some participants were a potential cause of contamination. Some left meat on the draining board or work top to defrost. The juices running out, particularly clear juices from chicken, may not be ,thoroughly cleaned up if not clearly visible. The length of time the meat was left out to thaw, in some cases up to 24 hours, may permit the multiplication of bacteria which could be potentially harmful.

All were concerned with hand washing, although nobody knew of *Staphylococcus aureus*, a bacterium which is carried by many people on the skin, the nose and in cuts and abrasions, which can be a cause of food poisoning. Hand washing was generally a case of removing the physical grime that could be seen. Many would wash hands after handling meat, but not after raw vegetables. Although hand washing was carried out frequently by some, there was some uncertainty as to whether this was the case for most people. Thus, the potential for transfer of bacteria via the hands to equipment and food was apparent.

A majority of people washed meat by rinsing under the cold water tap. Most dried the meat on a paper towel whilst a few simply shook off the excess moisture. Meat was

reportedly washed mainly to get rid of extraneous matter such as blood and slime. For those who were concerned about people handling the meat, washing under the tap was more of a psychological significance - they simply felt that it must be cleaner if it had been put under the tap. The potential spread of bacteria by shaking meat dry or the splashes caused by rinsing under the tap was not recognised by individuals. Therefore, there was a risk of contamination of sink areas, taps and work tops by bacteria inherent in the meat during this process.

Transfer of bacteria from raw meat via equipment was reportedly minimised in many cases by using separate chopping boards and knives for cutting raw meat. Those with boards designated specifically for use with raw meat were in the minority. Many, however, simply turned over the chopping board or rinsed it under the tap or wiped it with a dishcloth after cutting up raw meat. The potential for contamination of the next item of food to be cut up, in such circumstances, would be increased.

Although many people claimed to ensure dishcloths were changed or bleached regularly, the potential for bacterial growth in such a warm moist environment is great. For those who were not so stringent with their dishcloths, the possibility of spread of potentially harmful bacteria could be high. The use of antibacterial spray was common; however, the mode of application and the areas it was used **may** have compromised its effectiveness.

Many of the **cooking** methods involved use of the oven or quick high temperatures such as stir **frying** or grilling. The long slow **method** of **cooking** using slow cookers was not popular. Most people aimed to ensure that meat was thoroughly cooked and had concerns particularly for poultry. Re-heating of meat was not undertaken regularly by most and when it was, it was more often than not done in the microwave. Most were aware that their reheated food should be piping hot and would always ensure that it was. Some, however, would heat more slowly in the oven or on the top of the cooker.

Knowledge and awareness of bacteria and potential sources of food poisoning was heightened in those who had suffered from food poisoning. Others seemed to have more knowledge because of the number of television documentaries and cooking

programmes watched. Poultry was considered to be the most risky of meats. *Salmonella* was mentioned several times in association with chicken; however, direct links between red meat and food poisoning organisms were more uncertain. Due to this, many people were more concerned about safe practices when dealing with chicken, in particularly the thorough cooking, than other meats. Thus the potential for red meats to be the cause of food poisoning may be greater in the domestic kitchen due to the less significance placed by the consumer of the comparative dangers.

With few exceptions, a real understanding of the way in which food poisoning can occur was not apparent. People were concerned about bacteria and cross contamination, but were not certain of what this actually meant. Many believed, however, that most food poisoning occurred as a result of **meals** eaten outside the home, or the handling and storage of meat before entering the home. Attributing the responsibility elsewhere, perhaps gave some people a false sense of security regarding safe practices **in** the domestic kitchen.

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APPENDIX 1: RECRUITMENT QUESTIONNNAIRE

INSTRUCTIONS:

Please use a blue or black pen Please fill in the box like this or like this

RECRUITMENT QUESTIONNAIRE P.56633



				GL33 6LD
Group: Young familie	s Older families	Men □ Re	spondent ID	
Pre-family/Young builder	s□ Post family/Empty	y nester 🗆		
Location: Newcastle	Birmingham □	Leeds	London	
Good Morning/Afternoon, I am conducting a survey on beh market research company. We as	re carrying out a survey	y in this area. M	lay I ask you	
-				-
				_
Telephone Number —				LADATION
nterviewers name		INTERVIE	WERS DEC	<u>LARATION</u>
Date of interview	//	with the writ		www.carriedout in accordance ons with the person named here own to me.
Signed				
Working Status	Marital Status		Socioeco A/B 🗆	
Non-working (0 • 7 hrs/wk) □	Single		1112	
Part time (8 - 29 hrs/wk) □	Married/living toget	her \square		REFER TO QUOTA
Full time (30 + hrs/wk) ☐ Student/retired/unemployed ☐	Divorced/separated/	widowed □	D □	•
Gender	Household	d Composition (PLEASE WI	RITE IN NUMBER)
Male □ REFER TO QUOTA	Total Nur	mber of adults in	Household	
Female D QUOTA		Number of Cl	aildran 0 12	
		rumoer of Cl	maich v-12	
		Number of Chi	ldren 13-17	
	Number of Child	lren no longer liv	ving at home	



INSTRUCTIONS:

Please use a blue or black pen Please fill in the box like this or like this

RECRUITMENT QUESTIONNAIRE P.56633



	I				Re	esponden	t ID				
1.	Do you or any of y	your family or close f	Fiiends work in any o	of the i	ndustri	es shown	on this C	ard?(S	SHOW	CARE	A)
	Media	Market Research	Marketing Pu	ublic R	elation	S	IF 'YES' THANK AN		ND		
	Journalism	Advertising	Food Industry (ma	anufacti	ureor s	sales)	CLOSE INTERVIEW			W	
2.	2. Have you participated in any food related Market Research in the last 6 months? IF YES THANK AND CLOSE INTERVIEW										
3.	Are you solely or p	partly responsible for	shopping and cooki	ing in y	our ho	usehold?					
	IF NO - THANK	AND CLOSE INT	ERVIEW								
4.	Do you buy and pr	repare meat and meat	t products?								
	IF NO - THANK	AND CLOSE INT	ERVIEW								
5.	Which of the follow	wing do you buy on a	ı regular basis (at le	east onc	e a we	ek)?					
		Cooked me	eats e.g. wafer thin l	ham	U						
			Canned vegetal	bles							
	Prepared	meat products e.g. sa	usages, burgers, bac	con							
			Oven-baked c	chips							
		Offa	ıl e.g. liver, kidney, t	tripe							
			Frozen vegeta	ables							
	Poultry fre	esh or frozen e.g. chic	cken, turkey, duck, g	goose		MUST C	ONSUM	E)	REFI	ER TO	
	F	Red meat fresh or fro	zen e.g. beef, lamb,	pork		ONE OF		}	QUO)TA	
	Meat-based read	dy meals e.g. Roast b	eef dinner, shepherd	ds pie							
	Vegetarian ready n	neals e.g. Vegetarian	lasagne, vegetable p	pizza							

CHECK QUOTA & ASK RESPONDENT IF THEY WOULD BE INTERESTED IN ATTENDING A GROUP DISCUSSION ON MEAT



INSTRUCTIONS:

Please use a blue or black pen Please fill in the box like this or like this (XI

RECRUITMENT QUESTIONNAIRE P.56633



Respondent ID

1. Invite to attend group discussion on	at
2. Explain duration and nature of discussion	
3. Give out invite with map and directions	

PRE-GROUP EXERCISE • REFER TO QUOTA (aim for 2 per group)

Would your partner (or whoever is with you) be interested in assisting with the research by undertaking a simple exercise before you attend the discussion group?

IF NO • THANK RECRUITED RESPONDENT AND PARTNER (REFER TO QUOTA)

IF YES

1. Hand over envelope.

4. Make respondent aware of incentive

- 2. Explain that instructions are in envelope. Assure anonymity/confidentiality.
- 3. Task must be completed by partner, preferably without input **from** person attending discussion group and returned with that person in envelope provided on the day of the discussion. **Only** person recruited attends discussion group not assistant.
- 4. Emphasis that if the exercise for some reason is not be completed by the date of the focus group, the respondent should be encouraged to attend without it.

APPENDIX 2: PRE-RECRUITMENT EXERCISE

INSTRUCTIONS FOR ASSISTANT

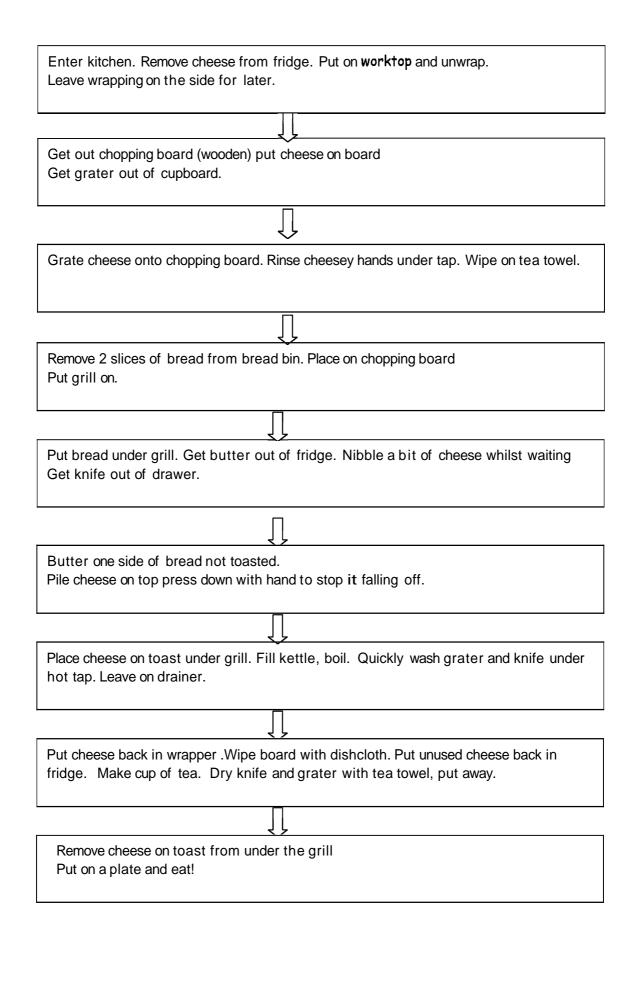
Thank you for agreeing to assist with **our** research. At some point between now **and** the date of the discussion group could you please complete **this** simple exercise and place it in the envelope provided. Please give it to whoever is attending the focus group in order that they can bring it along with them.

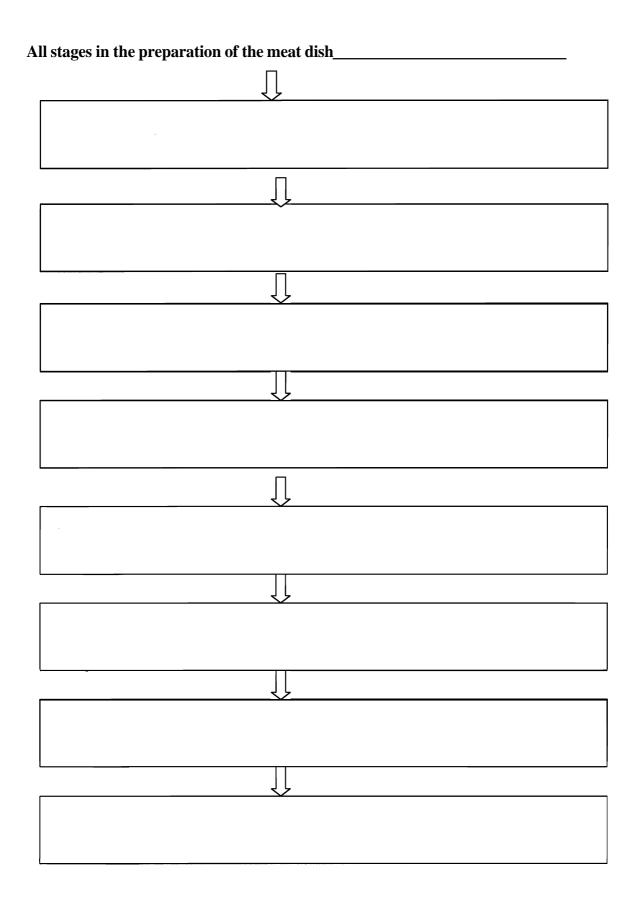
We would like you to undertake a simple observation exercise ideally without input from the person attending the discussion group. For the purpose of the exercise we would like you to:

- 1. Organise to be in the **kitchen** as an observer when the person attending the focus group is preparing a meat dish.
- 2. The dish must include the use of raw meat (any type) and **not a** convenience product or ready meal.
- 3. In the boxes provided, write down each stage of preparation of the dish in order of occurrence.
- 4. The preparation of the meat, use of equipment and actions of person preparing the dish are especially important.
- 5. It is not necessary to note down details of the recipe (e.g. weights of ingredients).
- 6. Please note down every action that is undertaken in short statements.
- 7. The task is completed when the dish is completed and ready to serve.
- 8. Use as many boxes as you need continue on other side if necessary.
- 9. An example of such an exercise from a previous study has been included. This is the preparation of a non-meat product and should be used as a guide only and an indication of the kind of detail required.
- 10. Please try not to encourage the person **cooking** to see the example or what you are writing in order to help them perform the task in their usual way.
- 11. On completion of the exercise please place in the envelope provided and hand it to the person attending the focus group for them to bring with them on the specified date.
- 12. Thanks and good luck!!!

Example for guidance only

All stages in the preparation of cheese on toast





Continue overleaf if necessary



APPENDIX 3: DISCUSSION GUIDE

Microbiolopical Risk factors Associated with the Domestic Handlinp of Meat - Discussion Guide

INTRODUCTION

Welcome and introduce self

Thanks for coming.......
My name is ... I work for CCFRA......

Explain why they are here and how group discussion will work

As you know you are here to help us with our research into the use of meat in the home. Today (this evening) what we will be doing is having a relaxed informal chat about different aspects of meat handling. We all have our own ideas and our own way of doing things and there are no right or wrong answers so please don't be afraid to have your say - everyone's opinion counts

Explain equipment and confidentiality

You will have noticed a video recorder set up here. Please do not worry about it. The recording is made strictly for my use only in order for me to help remember and analyse the results. The video will not be seen by any one else and we can assure strict confidentiality.......

Time scale

The discussion will last around 11/2 (2) hours and we will stop for a short break for about 10 minutes for a cup of tea and biscuits.

WARM-UP-INTRODUCTIONS

We will start off by just getting to know each other a little bit
In pairs just spend a minute or two introducing yourselves to each other and telling
each other a little bit a bout yourselves such as family, pets, hobbies, interests...
I will then ask people in turn to introduce their partner to the rest of us.

Ok then that's great Thank you.

WARM-UP-GETTING INTO SUBJECT

Introducing Meat

We will start off by talking for a few minutes about types of meat you buy

What type of meat do you buy (pork, lamb, beef, chicken, game, convenience meat products, burgers, sausages, ready meals, offal....)

Do you usually buy the same cuts or variety (e.g. prepared chopped chicken, chicken legs whole chicken, stewing beef, chops etc...

How often?(regularly every week, special occasion, buy in bulk for fieezer or daily, weekly).

Move into meat shopping

Do you buy your meat where you buy everything else or separately? (e.g. supermarket, butchers, deli etc)

Where do you buy cooked meats, fresh meat, fiozen meat?

What do you look for when buying meat —what's important? (best before dates, quality, price, convenience, wrapped /unwrapped, cleanliness of shop, blood!! cleanliness of handler?)(Is hygiene a factor?)

Why are these things important?

When do you buy your meat in relation to other food (Do you buy meat before, same time, after other products).

Getting home

How do you get meat home (taxi/car/bus, home delivery - in cool box/bag/-kept in car/cleaned recycled bags)

Do you normally go straight home after meat shopping or do other things (meet friend, go to other shops, have a coffee?)

What happens normally when you get home - any distractions? (Unload straight away, leave bags in car, leave bags in kitchen whilst you have a cup of tea - put meat in fridge freezer straight away -distractions?)

How long would you say it was from the time you purchased to the time it was put in fridge/freezer?

Do habits change in summer/winter? Or depend on the weather (e.g. rain, hot sun)

Refrigerator

Lets talk about our refrigerators...

Thinking about your refrigerator where do you normally keep foods (Individual exercise - Picture of refrigerator. Ask people place to write down where they normally store raw meat, cooked meat, cheese, salad and milk) Why do you keep these foods here and those here?

How do you store meat in the **refrigerator** (container on plate in package, covered)?

Why?

Any idea what temperature is you **fridge?** What temp should it be? Why do you think it needs to be below a certain temperature?

How long would you keep meat/cooked/raw/ready meals in the fridge/? Do you take notice of use before date?

What do you do with meat if it has gone past its use before date?

Do you discard meat and meat products for any other reasons (smell, look, taste strange/off funny)

How often do you clean your fridge - What with?

Freezing

When you buy frozen food, what do you do with it (straight in freezer, on top of other stuff, rotates, move around

Do you know what's in your freezer -

Does it need defrosting regularly, How often do you defrost. Is it always empty or do you refreeze food after defrosting

What do you think happens to bacteria in frozen food?

How do you defrost food (where, under what conditions, if in **fridge**, whereabouts, soaking in water, leaving on the side, microwave, cook from frozen).

Preparation

We are now going to discuss preparation of meat and meat dishes and we are going to start off by conducting a little exercise. In two groups I would like group A to make a list of all the good kitchen practices you can think of regarding preparation of meat and meat dishes and group B to write down all the bad practices. I want you to think about everything involved in the preparation of a meat dish including the person who is preparing the dish, the utensils and equipment used, the actual meat and other ingredients that may be used and the kitchen environment.

When do you tend to prepare your meat for cooking (immediately before cooking, in advance? In the middle of other jobs?)

How much preparation of meat do you tend to do (slicing, de-boning, stuffing, racking (beef), rolling (lamb) open packet)

How do you prepare yourselves What do you wear (apron, rubber gloves?)

Why, what uses have they (protect clothes, use apron as hand wiper?)

(Are you likely to wash your hands before /during preparation)

Why? (Cross contamination?)

Do you wash meat - where? (Kitchen sink, other sink, soak, under running tap?)

Where do you prepare your raw meat what do you use (chopping boards, knives, work tops etc)

Where do you prepare cooked meat (separate chopping boards for raw and cooked meats, wooden chopping boards, glass, plastic, etc)?

What if you drop utensils, food etc on the floor?

Why?

What do you do when you have finished preparations (wash hands utensils, chopping boards, wipe surfaces?)

What kind of cloths do you use (dish cloths J cloths, disposable, washable do they get washed regularly). What do you do with them after you have wiped down eg blood (rinse, throw in sink, wash thoroughly...)

What kind of kitchen cleaner do you use (Antibacterial?etc).

Cooking Meat

Moving on to actual cooking..

What kind of cooking methods do you generally use

How do you test if your meat is cooked (Do you tend to follow instructions on packets/recipes for cooking times and temperatures)

Why do you want to ensure your meat is cooked thoroughly (see if bacteria are mentioned?)

What bacteria do you associate with meat or what food poisoning organisms have you heard of.

Where do you think the main causes of food poisoning originate?

When reheating meat and meat dishes, how do you do that (Microwave slowly in oven, under grill etc)?

Why do you use such methods?

What order would you put these cooked meat, chilled ready meal, raw meat as far as food safety risks go?

For what reasons

If you don't eat all the meat, what do you do with the left overs (cool then refkigerate, refrigerate, throw away, freeze?)

If refrigerate, where in the fridge (go back to fridge picture and use stickers) Why do you do this?

Do pets get leftovers -are pets in kitchen during preparation cooking?

ROUND-UP

Confirm main points that have been made, maybe evoke a little more information Ask if anyone has any thing to add

Thank them for coming

APPENDIX 4: REFRIGERATOR EXERCISE

MY FRIDGE

